



TSMC Global Ltd.

US\$400,000,000 4.375% Notes due 2027

US\$600,000,000 4.625% Notes due 2032

Unconditionally and Irrevocably Guaranteed by
Taiwan Semiconductor Manufacturing Company Limited

TSMC Global Ltd., the Issuer, is offering US\$400,000,000 in aggregate principal amount of its 4.375% notes due 2027, which we refer to as the 2027 Notes, and US\$600,000,000 in aggregate principal amount of its 4.625% notes due 2032, which we refer to as the 2032 Notes and, together with the 2027 Notes, the Notes. Interest on the Notes will accrue from July 22, 2022 and be payable semi-annually in arrears on January 22 and July 22 of each year, beginning on January 22, 2023 until redemption or maturity. The 2027 Notes will mature on July 22, 2027, and the 2032 Notes will mature on July 22, 2032.

The Issuer may, at its option, redeem the Notes, of either series, at any time, in whole or in part, at the redemption prices set forth under "Description of the Notes and the Guarantees – Optional Redemption". The Issuer may also redeem the Notes, of either series, in whole but not in part, upon the occurrence of certain events related to tax law.

The Notes will be issued only in registered form in denominations of US\$200,000 and integral multiples of US\$1,000 in excess thereof.

The Notes will constitute senior unsecured obligations of the Issuer and will rank at least equally with all other present and future senior unsecured obligations of the Issuer, except as may be required by mandatory provisions of law.

Taiwan Semiconductor Manufacturing Company Limited, or the Guarantor, will fully, unconditionally and irrevocably guarantee the full and prompt payment of all amounts payable by the Issuer in respect of each series of the Notes pursuant to the guarantees, which we refer to as the Guarantees. The Guarantees include, without limitation, guarantees of the redemption amount owing in the event the Issuer exercises its redemption rights. The Guarantees will constitute senior unsecured obligations of the Guarantor and will rank at least equally with all other present and future senior unsecured obligations of the Guarantor, except as may be required by mandatory provisions of law. See "Description of the Notes and the Guarantees".

Approval in-principle has been received for the listing and quotation of the Notes on the Singapore Exchange Securities Trading Limited (the "SGX-ST"). The SGX-ST assumes no responsibility for the correctness of any statements made or opinions expressed or information contained in this offering circular. Approval in-principle granted by the SGX-ST for the listing of the Notes on the SGX-ST is not to be taken as an indication of the merits of this offering, the Issuer, the Guarantor, the Group (as defined herein) or any of their respective subsidiaries or affiliates or the Notes. Prior to this offering, there has been no market anywhere for the Notes. The Notes will be traded on the SGX-ST in a minimum board lot size of US\$200,000 for so long as the Notes are listed and quoted on the SGX-ST and the rules of the SGX-ST so require.

The Notes are expected to be rated "Aa3" by Moody's Investors Service and "AA-" by Standard & Poor's Rating Services, a division of the McGraw-Hill Companies, Inc. Such ratings do not constitute a recommendation to buy, sell or hold the Notes and may be subject to revision or withdrawal at any time by such rating organizations.

Investing in the Notes involves risks. See "Risk Factors" beginning on page 14 of this offering circular.

**Issue Price for the 2027 Notes: 99.951%
Issue Price for the 2032 Notes: 99.124%
plus accrued interest, if any, from July 22, 2022**

The Notes are expected to be delivered in book-entry form only through the facilities of The Depository Trust Company for the accounts of its participants, including Euroclear Bank NV/SA and Clearstream Banking S.A. on or about July 22, 2022.

The Notes and the Guarantees have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), the securities laws of any state of the United States or the securities laws of any other jurisdiction. The Issuer has not been and will not be registered as an "investment company" under the U.S. Investment Company Act of 1940, as amended (the "Investment Company Act"), in reliance on the exemption provided by Section 3(c)(7) thereof. Accordingly, the Notes may be offered and sold only (1) in the United States and to U.S. persons (as defined in Regulation S under the Securities Act), each of whom is reasonably believed to be both (A) a qualified institutional buyer ("Qualified Institutional Buyer") (as defined in Rule 144A under the Securities Act) and (B) a qualified purchaser ("Qualified Purchaser") (as defined in Section 2(a)(51) of the Investment Company Act and related rules), purchasing for its own account (or the account of one or more Qualified Institutional Buyers, each of whom is also a Qualified Purchaser over which account it exercises sole investment discretion), in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A thereof; or (2) to persons that are not in the United States and are not acting for the account or benefit of U.S. persons, in offshore transactions in accordance with Regulation S under the Securities Act, and in each case, in accordance with any other applicable laws, regulations and directives. Prospective purchasers are hereby notified that the seller of the Notes may be relying on the exemption from the provisions of Section 5 of the Securities Act provided by Rule 144A thereunder. The Issuer will likely be a "covered fund" as defined in Section 13 of the Bank Holding Company Act of 1956, as amended (together with the rules, regulations and published guidance thereunder, as amended (the "Volcker Rule")). The Notes and the Guarantees may constitute an "ownership interest" within the meaning of the Volcker Rule. See "Risk Factors – Risks Relating to the Notes and Guarantees".

Each purchaser of the Notes will be deemed, by its acceptance of such Notes, to have made certain representations and agreements intended to restrict transfers of the Notes as described under "Transfer Restrictions". No holder or beneficial owner of the Notes may transfer the Notes except to a transferee who can make the same deemed representations and agreements as set forth in the "Transfer Restrictions" on behalf of itself and each account for which it is purchasing. Any transfer in breach of the transfer restrictions set forth in "Transfer Restrictions" will be null and void *ab initio*, and will not operate to transfer any rights to the transferee. **The Notes are not transferable except in accordance with the restrictions described under "Plan of Distribution – Selling Restrictions" and "Transfer Restrictions".**

Sole Global Coordinator and Sole Bookrunner

Goldman Sachs International

This offering circular is dated July 19, 2022.

TABLE OF CONTENTS

| | Page |
|--|------|
| SUMMARY | 1 |
| RISK FACTORS | 14 |
| CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION | 31 |
| USE OF PROCEEDS | 33 |
| THE ISSUER | 34 |
| CAPITALIZATION | 35 |
| MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS | 36 |
| BUSINESS | 57 |
| MANAGEMENT | 71 |
| MAJOR SHAREHOLDERS | 85 |
| RELATED PARTY TRANSACTIONS | 86 |
| DESCRIPTION OF THE NOTES AND THE GUARANTEES | 88 |
| FORM, DENOMINATION AND TRANSFER | 107 |
| TAXATION | 111 |
| PLAN OF DISTRIBUTION | 115 |
| TRANSFER RESTRICTIONS | 125 |
| R.O.C. FOREIGN EXCHANGE CONTROL | 133 |
| SUMMARY OF CERTAIN MATERIAL DIFFERENCES BETWEEN TAIWAN-IFRSS AND IFRSS | 134 |
| LEGAL MATTERS | 137 |
| INDEPENDENT AUDITORS | 138 |
| CONTROLS AND PROCEDURES | 139 |
| INDEX TO CONSOLIDATED FINANCIAL STATEMENTS | F-1 |

NOTICE TO INVESTORS

You should rely only on the information contained in this offering circular. Neither the Issuer, the Guarantor nor the Initial Purchaser (as defined in “Plan of Distribution”) have authorized anyone to provide you with information that is different than or make any representation other than as contained in this offering circular in connection with the offering of the Notes. If anyone provides you with different or inconsistent information, you should not rely on it.

You should assume the information in this offering circular is accurate only as of the date of this offering circular. The business, financial condition, results of operations and prospects of the Issuer or the Guarantor may have changed since that date. Neither the delivery of this offering circular nor any sale of the Notes made in connection with this offering circular will, under any circumstances, constitute a representation or create any implication that the information in this offering circular is correct as of any date subsequent to the date of this offering circular or that there have been no changes in the affairs of the Issuer or the Guarantor since the date of this offering circular. Statements contained in this offering circular as to the contents of any contract or other documents referred to in this offering circular may not set forth all of the terms and conditions of such contracts or other documents.

In making an investment decision, prospective investors must rely on their own examination of the Issuer and the Guarantor and the terms of the Notes, including the merits and risks involved. Neither the Issuer, the Guarantor nor the Initial Purchaser is making any representation to any purchaser of the Notes regarding the legality of an investment in the Notes by such purchaser under any legal investment or similar laws or regulations. This offering circular should not be considered as a recommendation or constituting an invitation or offer by the Issuer or the Guarantor that any recipient of this offering circular should purchase the Notes. You should not construe the contents of this offering circular as legal, business, accounting or tax advice. You should consult your own attorney, business advisor and tax advisor for legal, business and tax advice regarding an investment in the Notes.

The Issuer and the Guarantor have furnished the information contained in this offering circular. No representation, undertaking or warranty, express or implied, is made by the Initial Purchaser or the Trustee or any of their respective affiliates or advisers as to the accuracy or completeness of the information contained in this offering circular, and nothing contained in this offering circular is, or shall be relied upon as, a promise or representation by the Initial Purchaser or the Trustee or any of their respective affiliates or advisers. Neither the Initial Purchaser nor the Trustee assumes any responsibility for the accuracy or completeness of any of the information contained in this offering circular or any other information (financial, legal or otherwise) provided by the Issuer or the Guarantor in connection with the issue of the Notes or their distribution. Each person receiving this offering circular acknowledges that such person has not relied on the Initial Purchaser or the Trustee or any of their respective affiliates or advisers in connection with such person’s investigation of the accuracy of such information or such person’s investment decisions.

This offering circular may only be used where it is legal to sell the Notes. None of the Issuer, the Guarantor or the Initial Purchaser is making an offer to sell the Notes in any jurisdiction where the offer or sale is not permitted. This offering circular may not be used for, or in connection with, any offer to, or solicitation by, anyone in any jurisdiction in which it is unlawful to make such an offer or solicitation. The distribution of this offering circular and the offering of the Notes in certain jurisdictions may be restricted by law. Persons into whose possession this offering circular may come must inform themselves about and observe these relevant restrictions. No action is being taken in any jurisdiction to permit an offering to the general public of the Notes or the distribution of this offering circular in any jurisdiction where action would be required for those purposes.

This offering circular is confidential. This offering circular has been prepared by the Issuer and the Guarantor solely for use in connection with the proposed offering of the Notes described in this offering circular. This offering circular is personal to each prospective investor and does not constitute an offer to any other person or to the public generally to subscribe for, or otherwise acquire, the Notes. Distribution of this offering circular to any person other than the prospective investor and any person retained to advise such prospective investor with respect to its purchase is unauthorized and any disclosure of any of its contents, without the prior written consent of the Issuer and the Guarantor, is prohibited. Each prospective investor, by accepting delivery of this offering circular, agrees to the foregoing.

IN CONNECTION WITH THIS OFFERING, GOLDMAN SACHS INTERNATIONAL (THE “STABILIZATION MANAGER”) (OR PERSONS ACTING ON ITS BEHALF) MAY OVER-ALLOT OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE NOTES AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL. HOWEVER, THERE IS NO ASSURANCE THAT THE STABILIZATION MANAGER (OR PERSONS ACTING ON ITS BEHALF) WILL UNDERTAKE STABILIZATION ACTION. ANY STABILIZATION ACTION MAY BEGIN ON OR AFTER THE DATE ON WHICH ADEQUATE PUBLIC DISCLOSURE OF THE FINAL TERMS OF THE OFFER OF THE NOTES IS MADE AND, IF BEGUN, MAY BE ENDED AT ANY TIME, BUT MUST END NO LATER THAN THE EARLIER OF 30 CALENDAR DAYS AFTER THE ISSUE DATE OF THE NOTES AND 60 CALENDAR DAYS AFTER THE DATE OF ALLOTMENT OF THE NOTES.

PROHIBITION OF SALES TO EEA RETAIL INVESTORS: The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area (“EEA”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, “MiFID II”); or (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the “Insurance Distribution Directive”), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II. Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the “PRIIPs Regulation”) for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

PROHIBITION OF SALES TO UK RETAIL INVESTORS: The Notes are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (“UK”). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (the “EUWA”); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (as amended, the “FSMA”) and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA. Consequently, no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA (the “UK PRIIPs Regulation”) for offering or selling the Notes or otherwise making them available to retail investors in the UK has been prepared and, therefore, offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

Notification under Section 309B of the Securities and Futures Act 2001 of Singapore, as modified or amended from time to time (the “SFA”): The Notes are prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) of the Investment Company Act, which excludes from the definition of an “investment company” any issuer whose outstanding securities are held by (1) non-U.S. persons and (2) only those persons in the United States or that are U.S. persons, each of whom is a Qualified Purchaser (as defined in Section 2(a)(51) of the Investment Company Act and related rules). Each purchaser and transferee of the Notes in making its purchase or in accepting transfer will be deemed to have made certain representations, warranties and agreements as set forth under “Transfer Restrictions” in this offering circular. In addition, each purchaser and transferee of the Notes will agree that, other than in compliance with the purchase and transfer restrictions described under “Transfer Restrictions”, it will not offer, sell, pledge or otherwise transfer the Notes. Any transfer in breach of the transfer restriction set forth in “Transfer Restrictions” will be null and void *ab initio*, and will not operate to transfer any rights to any transferee. As a prospective purchaser, you should be aware that you may be required to bear the financial risks of this investment for an indefinite period of time. See “Plan of Distribution” and “Transfer Restrictions”.

CERTAIN VOLCKER RULE CONSIDERATIONS: The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception provided by Section 3(c)(7) thereof. Consequently, the Issuer will likely be a “covered fund” for purposes of the “Volcker Rule”. See “Risk Factors – Risks Relating to the Notes and Guarantees” and “Transfer Restrictions”.

In connection with this offering, the Initial Purchaser and its affiliates may effect transactions with a view to supporting the market price of the Notes at a higher level than that which might otherwise prevail. However, there is no obligation on the Initial Purchaser to effect such stabilizing transactions, and such stabilizing, if commenced, may be discontinued at any time. For a description of these activities, see “Plan of Distribution”.

NOTICE TO PROSPECTIVE INVESTORS IN THE UNITED STATES

The Notes and the Guarantees have not been and will not be registered under the Securities Act, the securities laws of any state of the United States or the securities laws of any other jurisdiction. The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) thereof. Accordingly, the Notes can only be offered and sold (i) within the United States and to U.S. persons, each of whom the seller reasonably believes to be both a Qualified Institutional Buyer and a Qualified Purchaser, purchasing for its own account (or for the account of one or more Qualified Institutional Buyers, each of whom is also a Qualified Purchaser over which account it exercises sole investment discretion), in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A thereof, or (ii) to persons that are not in the United States and are not acting for the account or benefit of U.S. persons, in offshore transactions in accordance with Regulation S under the Securities Act. The Initial Purchaser has acknowledged and agreed that, except as permitted by the preceding sentence, it will not offer or sell the Notes (i) as part of its distribution at any time within the United States or to, or for the account or benefit of, U.S. persons or (ii) otherwise until 40 days after the later of the commencement of this offering and the closing of this offering, within the United States or to, or for the account or benefit of, U.S. persons. The Initial Purchaser has also agreed that it will send to each dealer to which it sells the Notes during the distribution compliance period a confirmation or other notice setting forth the restrictions on offers and sales of the Notes within the United States or to, or for the account or benefit of, U.S. persons. Terms used in this paragraph but not otherwise defined have the meanings given to them by Regulation S.

In addition, until 40 days after the commencement of this offering, an offer or sale of the Notes within the United States by a dealer (whether or not participating in this offering) may violate the registration requirements of the Securities Act if that offer or sale is made otherwise than in accordance with Rule 144A.

To the extent the Initial Purchaser makes any offers or sales of the Notes in the United States, or to nationals or residents of the United States, it will do so only through one or more registered broker-dealers in compliance with applicable securities laws and regulations, as well as with applicable laws of various states.

Each purchaser of the Notes will be deemed to have made acknowledgments, representations and agreements as described under “Transfer Restrictions”.

NOTICE TO PROSPECTIVE INVESTORS IN THE UNITED KINGDOM

This offering circular is directed solely at persons who are “qualified investors” within the meaning of Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA, who are also (i) investment professionals, as such term is defined in Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (as amended, the “Financial Promotion Order”), (ii) persons falling within Article 49(2)(a) to (d) (“high net worth companies, unincorporated associations, etc.”) of the Financial Promotion Order, or (iii) outside the United Kingdom (all such persons together being referred to as “relevant persons”). This offering circular must not be acted on or relied on by persons who are not relevant persons. Any investment or investment activity to which this offering circular relates is available only to relevant persons and will be engaged in only with relevant persons. Any person who is not a relevant person should not act or rely on this offering circular or any of its contents.

NOTICE TO PROSPECTIVE INVESTORS IN THE EEA

This offering circular has been prepared on the basis that any offer of the Notes in any Member State of the EEA (each, a “Relevant State”) will be made pursuant to an exemption under Regulation EU 2017/1129 (as amended, the “Prospectus Regulation”) from the requirement to publish a prospectus for offers of the Notes. This offering circular is not a prospectus for the purposes of the Prospectus Regulation.

ENFORCEABILITY OF CIVIL LIABILITIES

The Guarantor is a corporation with limited liability organized under the laws of the R.O.C. Most of the Guarantor’s directors and officers reside in the R.O.C., and a significant portion of the assets of the directors and officers and a significant portion of the assets of the Guarantor are located in the R.O.C. As a result, it may not be possible for you to effect service of process within the United States upon such persons or to enforce against them or against the Guarantor in U.S. courts judgments predicated upon the civil liability provisions of U.S. federal securities laws or the securities laws of any state within the United States (“blue sky” laws). There is doubt as to the enforceability in the R.O.C., either in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities predicated on the U.S. federal securities laws. Any final judgment obtained against the Guarantor in any court other than the courts of the R.O.C. in respect of any legal suit or proceeding arising out of or relating to the Notes or the Guarantees will be enforced by the courts of the R.O.C. without further review of the merits only if the courts of the R.O.C. where enforcement is sought is satisfied that:

- the court rendering the judgment had jurisdiction over the subject matter according to the laws of the R.O.C.;
- the judgment and the court proceedings resulting in such judgment are not contrary to the public order or good morals of the R.O.C.;

- if the judgment was a default judgment rendered against the Guarantor or such persons, (i) the Guarantor or such persons were duly served within a reasonable period of time within the jurisdiction of such court in accordance with the laws and regulations of such jurisdiction, or (ii) process was served on the Guarantor or such persons with judicial assistance of the R.O.C.; and
- judgments of the courts of the R.O.C. are recognized in the jurisdiction of the court rendering the judgment on a reciprocal basis.

A party seeking to enforce a foreign judgment in the R.O.C. would, except under limited circumstances, be required to obtain a foreign exchange approval from the Central Bank of the Republic of China (Taiwan) ("CBC"), for the remittance out of the R.O.C. of any amounts recovered in respect of such judgment denominated in a currency other than the NT dollar.

The Issuer has been advised by Harney Westwood & Riegels, its B.V.I. legal advisors, that the courts of the B.V.I. would recognize as a valid judgment, a final and conclusive judgment *in personam* obtained in U.S. courts against the Issuer under which a sum of money is payable (other than a sum of money payable in respect of multiple damages, taxes or other charges of a like nature or in respect of a fine or other penalty) and would give a judgment based thereon provided that (a) such courts had proper jurisdiction over the parties subject to such judgment, (b) such courts did not contravene the rules of natural justice of the B.V.I., (c) such judgment was not obtained by fraud, (d) the enforcement of the judgment would not be contrary to the public policy of the B.V.I., (e) no new admissible evidence relevant to the action is submitted prior to the rendering of the judgment by the courts of the B.V.I., and (f) there is due compliance with the correct procedures under the laws of the B.V.I.

AVAILABLE INFORMATION

To permit compliance with Rule 144A under the Securities Act in connection with sales of the Notes and the Guarantees, the Guarantor will be required under the terms of the Notes and the Indenture (as defined in this offering circular) to furnish, upon the request of any holder of a beneficial interest in a Note, such information as is specified in paragraph (d)(4) of Rule 144A, to such holder or beneficial owner or to a prospective purchaser of the Notes designated by such holder or beneficial owner who is also a Qualified Institutional Buyer within the meaning of Rule 144A, to the extent required to permit compliance by such holder or beneficial owner with Rule 144A in connection with the resale of the Notes or beneficial interest therein in reliance on Rule 144A unless, at the time of such request, the Guarantor is subject to the reporting requirements of Section 13 or 15(d) of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"), or is exempt from the registration requirements of Section 12(g) of the Exchange Act pursuant to Rule 12g3-2(b) under the Exchange Act. As of the date of this offering circular, the Guarantor is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act. In accordance with the Notes and the Indenture, the Trustee (as defined in this offering circular) will also make available for inspection by holders of the Notes or, in certain cases, arrange for the mailing to such holders, certain documents or communications received from the Issuer or the Guarantor, as the case may be. See "Description of the Notes and the Guarantees".

CERTAIN DEFINED TERMS AND CONVENTIONS

All references to the "Issuer" and "TSMC Global" in this offering circular are to TSMC Global Ltd. All references to "we", "us", "our", "Company", "Group", "our company" or "TSMC" in this offering circular are to Taiwan Semiconductor Manufacturing Company Limited and its consolidated subsidiaries, unless the context otherwise requires. All references to the "Guarantor" in this offering circular are to Taiwan Semiconductor Manufacturing Company Limited, unless the context otherwise requires.

All references to “R.O.C.” and “Taiwan” are references to the Republic of China, and all references to the “Government” refer to the government of the R.O.C., unless the context otherwise requires. All references to “U.S.” or “United States” are references to the United States of America. All references to “B.V.I.” are references to the British Virgin Islands. All references to “China” and “P.R.C.” are references to the People’s Republic of China.

All references to “2027 Notes” in this offering circular are to the US\$400,000,000 in aggregate principal amount of the Issuer’s 4.375% notes due 2027. All references to “2032 Notes” in this offering circular are to the US\$600,000,000 in aggregate principal amount of the Issuer’s 4.625% notes due 2032. All references to “Notes” in this offering circular are references to “2027 Notes” and “2032 Notes”, collectively.

All references to the “Guarantees” in this offering circular are to the Guarantor’s full, unconditional and irrevocable guarantee of all amounts payable by the Issuer in respect of each series of Notes. All references to the “Guaranteed Amounts” in this offering circular are to Guarantor’s obligation to pay all amounts payable by the Issuer in respect of the Notes pursuant to the Guarantees.

All references to the “Securities Act” in this offering circular are to the U.S. Securities Act of 1933, as amended. All references to the “Investment Company Act” in this offering circular are to the U.S. Investment Company Act of 1940, as amended.

All references to “Moody’s” in this offering circular are to Moody’s Investors Services. All references to “S&P” are to Standard & Poor’s Rating Services, a division of the McGraw-Hill Companies, Inc.

All references to “NT”, “NT\$” and “NT dollar” in this offering circular are to the lawful currency of the R.O.C., and all references to “U.S. dollar” or “US\$” are to the lawful currency of the United States of America. This offering circular contains translations of certain NT dollar amounts into U.S. dollars at specified rates solely for the convenience of the reader. Translations for financial data derived from our audited consolidated financial statements as of and for the year ended December 31, 2021 were made at the rate of NT\$27.74 to US\$1.00, the exchange rate set forth in the H.10 statistical release of the Federal Reserve Board on December 30, 2021. Unless otherwise noted, all other translations were made at the rate of NT\$28.62 to US\$1.00, the exchange rate set forth in the H.10 statistical release of the Federal Reserve Board on March 31, 2022. On July 15, 2022, the exchange rate was NT\$29.93 to US\$1.00.

PRESENTATION OF FINANCIAL AND OTHER INFORMATION

The selected audited consolidated statements of profit or loss and other comprehensive income data and other consolidated financial data for the years ended December 31, 2019, 2020 and 2021, and the selected audited consolidated statements of financial position data as of December 31, 2020 and 2021, set forth in this offering circular, are derived from our audited consolidated financial statements included herein, and should be read in conjunction with, and are qualified in their entirety by reference to, these audited consolidated financial statements, including the notes thereto, which have been prepared in accordance with International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC) and SIC Interpretations (SIC) issued by the International Accounting Standards Board (IASB) (collectively, “IFRSs”). The selected audited consolidated statements of financial position data as of December 31, 2019, set forth in this offering circular are derived from our audited consolidated financial statements not included herein, which have been prepared in accordance with IFRSs.

The selected unaudited consolidated statements of profit or loss and other comprehensive income data and other consolidated financial data for the three months ended March 31, 2021 and 2022, and the selected unaudited consolidated statements of financial position as of March 31, 2022, set forth in this offering circular, are derived from our unaudited consolidated interim financial statements included herein, and should be read in conjunction with, and are qualified in their entirety by reference to, these unaudited consolidated interim financial statements, including the notes thereto, which have been prepared in conformity with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IAS 34 “Interim Financial Reporting” endorsed and issued into effect by the R.O.C. Financial Supervisory Commission (“FSC”) and reviewed by our independent auditors. The unaudited consolidated interim financial statements do not present all the disclosures required for a complete set of annual consolidated financial statements prepared under the IFRSs endorsed and issued into effect by the FSC (collectively, “Taiwan-IFRSs”). Neither such data nor the format in which it is presented should be viewed as comparable to information prepared in accordance with IFRSs or generally accepted accounting principles elsewhere. Please see “Summary of Certain Material Differences Between Taiwan-IFRSs and IFRSs”.

The summary balance sheet data of the Issuer set forth in this offering circular as of March 31, 2022 has been derived from the Issuer’s financial statements which have been prepared and presented in accordance with Taiwan-IFRSs.

All financial information, operational data, descriptions and other information in this offering circular regarding activities, business operations, market shares, financial condition and results of operations of the Company are, unless otherwise indicated or required by context, presented on a consolidated basis.

Any discrepancies in the tables between the sums of the amounts listed and the totals in this offering circular are due to rounding.

SUMMARY

The following summary highlights information contained elsewhere in this offering circular and is qualified in its entirety by the more detailed information and the financial statements appearing elsewhere in this offering circular. This summary does not contain all of the information that you should consider before investing in the Notes. You should read the entire offering circular carefully, including “Risk Factors” and the financial statements contained in this offering circular.

The Company

We believe we are currently the world’s largest dedicated foundry in the semiconductor industry. We were founded in 1987 as a joint venture among the R.O.C. government and other private investors and were incorporated in the R.O.C. as a company limited by shares on February 21, 1987. Our common shares have been listed on the Taiwan Stock Exchange since September 5, 1994, and our American Depository Shares (“ADS”) have been listed on the New York Stock Exchange since October 8, 1997.

As a foundry, we manufacture semiconductors using our manufacturing processes for our customers based on proprietary integrated circuit designs provided by them. We offer a comprehensive range of wafer fabrication processes, including processes to manufacture complementary metal oxide silicon (“CMOS”) logic, mixed-signal, radio frequency (“RF”), embedded memory, bipolar complementary metal oxide silicon (“BiCMOS”, which uses CMOS transistors in conjunction with bipolar junction transistor) mixed-signal and others. We also offer design, mask making, TSMC 3DFabric™ advanced packaging and testing services. We produced 26 percent of the world semiconductor excluding memory output value in 2021, as compared to 24 percent in the previous year.

We count among our customers many of the world’s leading semiconductor companies, ranging from fabless semiconductor companies, system companies to integrated device manufacturers, including, but not limited to, Advanced Micro Devices, Inc., Broadcom Limited, Intel Corporation, MediaTek Inc., NVIDIA Corporation, NXP Semiconductors N.V., OmniVision Technology Inc., Qualcomm Inc., and Renesas Electronics Corporation.

We currently operate one 150mm wafer fab, six 200mm wafer fabs, five 300mm wafer fabs, and four advanced backend fabs. Our corporate headquarters and seven of our fabs are located in the Hsinchu Science Park, two fabs are located in the Central Taiwan Science Park, four fabs are located in the Southern Taiwan Science Park, one fab is located in the United States, one fab is located in Shanghai, and one fab is located in Nanjing. We manufacture semiconductors on silicon wafers based on proprietary circuitry designs provided by our customers. Two key factors that characterize a foundry’s manufacturing capabilities are output capacity and fabrication process technologies. Since our establishment, we have possessed the largest capacity among the world’s dedicated foundries. We also believe that we are the technology leader among the dedicated foundries in terms of our net revenue of advanced semiconductors of 7-nanometer and below, and we are one of the leaders in the semiconductor manufacturing industry for mainstream and specialty technologies. We were recognized with the 2021 IEEE Corporate Innovation Award for our leadership in 7-nanometer semiconductor foundry technology, enabling customers’ innovation in a widespread of applications. Additionally, our 5-nanometer technology successfully entered volume production in 2020. We are continuing to make progress on the development of 3-nanometer technology, which we expect to enter volume production in the second half of 2022.

For the year of 2020 and 2021, our production capacity was approximately 13 million and 14 million 12-inch equivalent wafers, respectively. For the three months ended March 31, 2022, our production capacity was approximately 3.6 million 12-inch equivalent wafers.

Our capital expenditures in 2019, 2020 and 2021 were NT\$460,422 million, NT\$507,239 million and NT\$839,196 million (US\$30,039 million, translated from a weighted average exchange rate of NT\$27.94 to US\$1.00), respectively. Our capital expenditures in 2022 are expected to be closer to the lower end of the range of US\$40 billion and US\$44 billion, which, depending on market conditions, may be adjusted later.

Our principal executive office is located at No. 8, Li-Hsin Road 6, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China. Our telephone number at that office is (886-3) 563-6688. Our website is www.tsmc.com. Information contained on our website is not incorporated herein by reference and does not constitute part of this offering circular. The U.S. Securities and Exchange Commission (the “SEC”) maintains a website at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers, including the Guarantor, that file electronically with the SEC.

The Issuer

TSMC Global Ltd., a B.V.I. business company with limited liability, or the Issuer, is a wholly-owned subsidiary of TSMC, established primarily as an investment holding vehicle. The Issuer had total assets of US\$19,919 million and total equity of US\$13,361 million as of March 31, 2022, which consisted primarily of cash and cash equivalents and financial assets at fair value through other comprehensive income.

THE OFFERING

The following is only a summary description of the Notes, which are more fully described in “Description of the Notes and the Guarantees”. The “Description of the Notes and the Guarantees” prevails to the extent of any inconsistency with the summary description set out in this section. Terms used and not otherwise defined in this summary have the meaning given to them in “Description of the Notes and the Guarantees”.

| | |
|-----------------|---|
| Issuer | TSMC Global Ltd. |
| Guarantor | Taiwan Semiconductor Manufacturing Company Limited |
| Offering | The US\$400,000,000 4.375% notes due 2027 (the “2027 Notes”) and the US\$600,000,000 4.625% notes due 2032 (the “2032 Notes”, together with the 2027 Notes, the “Notes”) may be offered and sold (a) to a person who is both (i) a Qualified Institutional Buyer (as defined in Rule 144A under the Securities Act (“Rule 144A”)) and (ii) a Qualified Purchaser (as defined in Section 2(a)(51) of the Investment Company Act and related rules), in each case, purchasing for its own account or the account of a Qualified Institutional Buyer who is also a Qualified Purchaser as to which the purchaser exercises sole investment discretion, in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A; or (b) to a non-U.S. person (as defined in the Securities Act) in offshore transactions in reliance on Regulation S, and in each case, in accordance with any other applicable laws, regulations and directives. |
| Maturity | In the case of the 2027 Notes, July 22, 2027. In the case of the 2032 Notes, July 22, 2032. |
| Ranking | The Notes will constitute senior unsecured obligations of the Issuer and will (a) at all times rank <i>pari passu</i> and without any preference or priority among themselves; (b) rank at least equally with all other present and future senior unsecured obligations of the Issuer, except as may be required by mandatory provisions of law, (c) be senior in right of payment to all future subordinated obligations of the Issuer and (d) be effectively subordinated to secured obligations of the Issuer, to the extent of the assets serving as security therefor. |

| | |
|------------------------|---|
| Guarantees | <p>The Guarantor will fully, unconditionally and irrevocably guarantee (the “Guarantees”) to each holder of a 2027 Note and each holder of a 2032 Note the full and prompt payment of the principal of, and premium (if any) and interest on, such Notes (including any Additional Amounts payable in respect thereof) when and as the same shall become due and payable as provided in such Notes. See “Description of the Notes and the Guarantees”.</p> <p>The Guarantees will constitute senior unsecured obligations of the Guarantor and will (a) rank at least equally with all other present and future senior unsecured obligations of the Guarantor, except as may be required by mandatory provisions of law, (b) be senior in right of payment to all future subordinated unsecured obligations of the Guarantor and (c) be effectively subordinated to secured obligations of the Guarantor, to the extent of the assets serving as security therefor.</p> |
| Offering Price | 99.951% of the principal amount of the 2027 Notes and 99.124% of the principal amount of the 2032 Notes, plus, in each case, accrued interest, if any, from July 22, 2022 (the “Issue Date”). |
| Size of Offering | The aggregate principal amount of the 2027 Notes to be issued in this offering is US\$400,000,000, and the aggregate principal amount of the 2032 Notes to be issued in this offering is US\$600,000,000. |
| Denomination | The Notes will be issued in minimum denominations of US\$200,000 and integral multiples of US\$1,000 in excess thereof. |
| Interest | The 2027 Notes will bear interest at the rate of 4.375% per annum and the 2032 Notes will bear interest at the rate of 4.625% per annum. Interest on the Notes will be payable semi-annually in arrears on January 22 and July 22 of each year, beginning on January 22, 2023. |

| | |
|-------------------------------|--|
| Additional Amounts | <p>All payments by the Issuer in respect of the Notes of any series and by the Guarantor in respect of the Guarantees (or, in each case, their paying agents) will be made without withholding or deduction for, or on account of, Taxes imposed or levied by or on behalf of a Relevant Jurisdiction (as defined below) unless such withholding or deduction is required by law or by regulation. In such event, the Issuer or the Guarantor, as applicable, will pay Additional Amounts (subject to certain exceptions) in respect of Taxes as will result in the payment of amounts otherwise receivable absent any withholding or deduction on account of such Taxes.</p> |
| Optional Redemption | <p>The Issuer may, at its option, redeem the Notes, of either series, at any time, in whole or in part, prior to the Applicable Par Call Date, at a redemption price equal to the greater of (i) 100% of the aggregate principal amount of the Notes to be redeemed and (ii) the sum, as determined by the Independent Investment Banker (as defined in “Description of the Notes and the Guarantees”) based on the Reference Treasury Dealer Quotations (as defined in “Description of the Notes and the Guarantees”), of the present values of the Remaining Scheduled Payments (as defined in “Description of the Notes and the Guarantees”), discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) using a discount rate equal to the Treasury Rate (as defined in “Description of the Notes and the Guarantees”) plus 20 basis points, in the case of the 2027 Notes, and 30 basis points, in the case of the 2032 Notes, plus, in the case of each of clause (i) or (ii), accrued and unpaid interest thereon to, but not including, the redemption date for such Notes.</p> <p>The Issuer may, at its option, redeem the Notes, of either series, at any time, in whole or in part, on or after the Applicable Par Call Date, at a redemption price equal to 100% of the aggregate principal amount of the Notes to be redeemed, plus accrued and unpaid interest thereon to, but not including, the redemption date for such Notes.</p> <p>“Applicable Par Call Date” means, with respect to the (i) 2027 Notes, June 22, 2027, and (ii) 2032 Notes, April 22, 2032.</p> |

| | |
|-----------------------------|--|
| Tax Redemption | <p>At any time, the Issuer may redeem the Notes, of either series, in whole but not in part, at a redemption price equal to 100% of their principal amount plus accrued but unpaid interest, if any, to, but not including, the date fixed for redemption if the Issuer or the Guarantor, as applicable, has or will become obliged to pay Additional Amounts in respect of any Taxes in respect of any payments under such Notes or the relevant Guarantee. The Issuer will give not less than 10 days' nor more than 60 days' notice to holders of the Notes of the relevant series of any such redemption.</p> |
| Form of the Notes | <p>Each series of the Notes sold in offshore transactions in reliance on Regulation S will be represented by one or more global Notes (the "Regulation S Global Notes") issued to the Depository Trust Company ("DTC") and registered in the name of Cede & Co. as nominee of DTC, and held in New York, New York for the accounts of Euroclear Bank SA/NV ("Euroclear") and Clearstream Banking S.A. ("Clearstream"). Each series of the Notes sold in reliance on Rule 144A will be represented by one or more global Notes (the "Rule 144A Global Notes" and, together with the Regulation S Global Notes, the "Global Notes") issued to DTC and registered in the name of a nominee of DTC. Euroclear, Clearstream or DTC, as the case may be, will credit the account of each of its participants with the principal amount of the Notes being purchased by or through such participants. Interests in the Global Notes will be shown on, and transfers thereof will be effected only through, records maintained by DTC and its direct and indirect participants, including Euroclear and Clearstream. Except in the limited circumstances described in this offering circular, certificates in respect of the Notes will not be issued in exchange for interests in the Global Notes.</p> <p>The Global Notes will each bear a legend, and such Global Notes, or any interest therein, may not be transferred except in compliance with the transfer restrictions set forth in such legend. In addition, no interest in the Rule 144A Global Notes may be transferred to a person that takes delivery thereof through the Regulation S Global Notes unless the transferor provides a transfer agent with a written certification regarding compliance with certain transfer restrictions.</p> |

| | | |
|--|--|--|
| 2027 Notes | Rule 144A CUSIP 872882 AM7 ISIN US872882AM74 | Regulation S CUSIP G91139 AK4 ISIN USG91139AK43 |
| 2032 Notes | Rule 144A CUSIP 872882 AN5 ISIN US872882AN57 | Regulation S CUSIP G91139 AL2 ISIN USG91139AL26 |
| Trustee | Citicorp International Limited acts as the trustee (the “Trustee”) under the indenture governing the Notes, dated as of April 3, 2013, as amended and supplemented by a supplemental indenture dated as of September 28, 2020 (the “Indenture”). | |
| Paying Agent, Transfer Agent and Registrar . . . | Citibank, N.A., London Branch. | |
| Governing Law | The Notes, the Guarantees and the Indenture will be governed by New York law. | |
| Listings/Applications | Approval in-principle has been received for the listing and quotation of the Notes on the SGX-ST. For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, the Notes will be traded on the SGX-ST in a minimum board lot size of US\$200,000. | |
| Use of Proceeds | The Guarantor and the Issuer intend to use the net proceeds from this offering for general corporate purposes. | |

SUMMARY FINANCIAL INFORMATION AND OTHER DATA

The Company

The summary audited consolidated statements of profit or loss and other comprehensive income data and other consolidated financial data for the years ended December 31, 2019, 2020 and 2021, and the summary audited consolidated statements of financial position data as of December 31, 2020 and 2021, set forth below, are derived from our audited consolidated financial statements included herein, and should be read in conjunction with, and are qualified in their entirety by reference to, these audited consolidated financial statements, including the notes thereto, which have been prepared in accordance with IFRSs. The summary audited consolidated statements of financial position data as of December 31, 2019 set forth in this offering circular are derived from our audited consolidated financial statements not included herein, which have been prepared in accordance with IFRSs.

The summary unaudited consolidated statements of profit or loss and other comprehensive income data and other consolidated financial data for the three months ended March 31, 2021 and 2022, and the summary unaudited consolidated statements of financial position as of March 31, 2022, set forth below, are derived from our unaudited consolidated interim financial statements included herein, and should be read in conjunction with, and are qualified in their entirety by reference to, these unaudited consolidated interim financial statements, including the notes thereto, which have been prepared in conformity with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IAS 34 “Interim Financial Reporting” endorsed and issued into effect by the FSC and reviewed by our independent auditors. The unaudited consolidated interim financial statements do not present all the disclosures required for a complete set of annual consolidated financial statements prepared under Taiwan-IFRSs. Neither such data nor the format in which it is presented should be viewed as comparable to information prepared in accordance with IFRSs or generally accepted accounting principles elsewhere. Please see “Summary of Certain Material Differences Between Taiwan-IFRSs and IFRSs”.

| | Three months ended March 31, | | |
|---|---|-----------|---------|
| | 2021 | 2022 | |
| | NT\$ (in millions, except for earnings per share and per ADS; unaudited) | NT\$ | US\$ |
| Consolidated Statements of Profit or Loss and Other Comprehensive Income Data: | | | |
| Net revenue | 362,410 | 491,076 | 17,158 |
| Cost of revenue | (172,571) | (217,873) | (7,612) |
| Gross profit | 189,839 | 273,203 | 9,546 |
| Operating expenses | (39,112) | (48,611) | (1,699) |
| Other operating income and expenses, net | (189) | (802) | (28) |
| Income from operations | 150,538 | 223,790 | 7,819 |
| Non-operating income and expenses, net | 4,526 | 3,042 | 107 |
| Income before income tax | 155,064 | 226,832 | 7,926 |
| Income tax expense | (15,325) | (23,959) | (837) |
| Net income | 139,739 | 202,873 | 7,089 |
| Other comprehensive income for the period, net of income tax | 5,967 | 15,412 | 538 |
| Total comprehensive income for the period | 145,706 | 218,285 | 7,627 |
| Net income attributable to shareholders of the parent | 139,690 | 202,733 | 7,084 |

| | Three months ended March 31, | | |
|---|---|---------|--------|
| | 2021 | 2022 | |
| | NT\$ (in millions, except for earnings per share and per ADS; unaudited) | NT\$ | US\$ |
| Net income attributable to non-controlling interests | 49 | 140 | 5 |
| Total comprehensive income attributable to shareholders of the parent | 145,657 | 218,284 | 7,627 |
| Total comprehensive income attributable to non-controlling interests | 49 | 1 | — |
| Basic/Diluted earnings per share | 5.39 | 7.82 | 0.27 |
| Basic/Diluted earnings per ADS equivalent | 26.94 | 39.09 | 1.37 |
| Basic/Diluted weighted average shares outstanding | 25,930 | 25,930 | 25,930 |

| | As of March 31, 2022 | |
|---|---|---------|
| | NT\$ (in millions, except for cash dividend per common share; unaudited) | US\$ |
| Consolidated Statements of Financial Position: | | |
| Current assets | 1,722,238 | 60,176 |
| Property, plant and equipment | 2,104,331 | 73,527 |
| Deferred income tax assets | 53,904 | 1,883 |
| Total assets | 3,992,677 | 139,507 |
| Current liabilities | 822,868 | 28,751 |
| Long-term bonds payable | 629,650 | 22,001 |
| Total liabilities | 1,671,208 | 58,393 |
| Capital stock | 259,318 | 9,061 |
| Equity attributable to shareholders of the parent | 2,314,430 | 80,868 |
| Non-controlling interests | 7,039 | 246 |
| Cash dividend paid per common share | 2.75 | 0.1 |

| | Three months ended March 31, | | |
|--|---|-----------|----------|
| | 2021 | 2022 | |
| | NT\$ (in millions, except for percentages and operating data; unaudited) | NT\$ | US\$ |
| Other Consolidated Financial Data: | | | |
| Gross margin | 52.4% | 55.6% | 55.6% |
| Operating margin | 41.5% | 45.6% | 45.6% |
| Net margin | 38.6% | 41.3% | 41.3% |
| Capital expenditures | 248,029 | 262,135 | 9,159 |
| Depreciation and amortization | 100,900 | 111,102 | 3,882 |
| Net cash generated by operating activities | 227,816 | 372,170 | 13,004 |
| Net cash used in investing activities | (244,251) | (288,074) | (10,065) |
| Net cash generated by (used in) financing activities | 14,618 | (19,086) | (667) |
| Effect of exchange rate changes and others | 6,374 | 21,590 | 754 |
| Net increase in cash and cash equivalents | 4,557 | 86,600 | 3,026 |
| Operating Data: | | | |
| Wafer (12-inch equivalent) shipment ⁽¹⁾ | 3,359 | 3,778 | 3,778 |

(1) In thousands.

| | Year ended December 31, | | | |
|---|--|-----------|-----------|----------|
| | 2019 | 2020 | 2021 | |
| | NT\$ | NT\$ | NT\$ | US\$ |
| | (in millions, except for earnings per share and per ADS) | | | |
| Consolidated Statements of Profit or Loss and Other Comprehensive Income Data: | | | | |
| Net revenue | 1,069,985 | 1,339,255 | 1,587,415 | 57,225 |
| Cost of revenue | (577,283) | (628,125) | (767,878) | (27,681) |
| Gross profit | 492,702 | 711,130 | 819,537 | 29,544 |
| Operating expenses | (119,505) | (145,056) | (169,223) | (6,100) |
| Other operating income and expenses, net | (496) | 710 | (333) | (13) |
| Income from operations | 372,701 | 566,784 | 649,981 | 23,431 |
| Non-operating income and expenses, net | 17,161 | 17,962 | 13,055 | 471 |
| Income before income tax | 389,862 | 584,746 | 663,036 | 23,902 |
| Income tax expense | (35,835) | (73,738) | (70,155) | (2,529) |
| Net income | 354,027 | 511,008 | 592,881 | 21,373 |
| Other comprehensive loss for the year, net of income tax | (11,824) | (30,322) | (7,620) | (275) |
| Total comprehensive income for the year | 342,203 | 480,686 | 585,261 | 21,098 |
| Net income attributable to shareholders of the parent | 353,948 | 510,744 | 592,359 | 21,354 |
| Net income attributable to non-controlling interests | 79 | 264 | 522 | 19 |
| Total comprehensive income attributable to shareholders of the parent | 342,125 | 480,422 | 584,737 | 21,079 |
| Total comprehensive income attributable to non-controlling interests | 78 | 264 | 524 | 19 |
| Basic/Diluted earnings per share | 13.65 | 19.70 | 22.84 | 0.82 |
| Basic/Diluted earnings per ADS equivalent | 68.25 | 98.48 | 114.22 | 4.12 |
| Basic/Diluted weighted average shares outstanding | 25,930 | 25,930 | 25,930 | 25,930 |

| | As of December 31, | | | |
|---|--|-----------|-----------|---------|
| | 2019 | 2020 | 2021 | |
| | NT\$ | NT\$ | NT\$ | US\$ |
| | (in millions, except for cash dividend per common share) | | | |
| Consolidated Statements of Financial Position Data: | | | | |
| Current assets | 822,614 | 1,092,185 | 1,607,073 | 57,934 |
| Property, plant and equipment | 1,352,377 | 1,555,589 | 1,975,119 | 71,201 |
| Right-of-use assets | 17,233 | 27,729 | 32,734 | 1,180 |
| Intangible assets | 20,653 | 25,768 | 26,822 | 967 |
| Deferred income tax assets | 17,928 | 25,958 | 49,154 | 1,772 |
| Total assets | 2,264,725 | 2,760,601 | 3,725,302 | 134,294 |
| Current liabilities | 598,364 | 631,899 | 758,353 | 27,338 |
| Long-term bonds payable | 25,100 | 254,105 | 610,071 | 21,992 |
| Total liabilities | 650,338 | 924,837 | 1,573,620 | 56,728 |
| Capital stock | 259,304 | 259,304 | 259,304 | 9,348 |
| Equity attributable to shareholders of the parent | 1,613,706 | 1,834,811 | 2,149,260 | 77,479 |
| Non-controlling interests | 681 | 953 | 2,422 | 87 |
| Cash dividend paid per common share | 10.0 | 10.0 | 10.3 | 0.4 |

| | Year ended December 31, | | | |
|--|--|-----------|-----------|----------|
| | 2019 | 2020 | 2021 | |
| | NT\$ | NT\$ | NT\$ | US\$ |
| | (in millions, except for percentages and operating data) | | | |
| Other Consolidated Financial Data: | | | | |
| Gross margin | 46.0% | 53.1% | 51.6% | 51.6% |
| Operating margin | 34.8% | 42.3% | 40.9% | 40.9% |
| Net margin | 33.1% | 38.2% | 37.3% | 37.3% |
| Capital expenditures | 460,422 | 507,239 | 839,196 | 30,252 |
| Depreciation and amortization | 286,884 | 331,725 | 422,395 | 15,227 |
| Net cash generated by operating activities | 615,139 | 822,667 | 1,112,161 | 40,092 |
| Net cash used in investing activities | (458,802) | (505,782) | (836,366) | (30,150) |
| Net cash generated by (used in) financing activities | (269,639) | (88,615) | 136,608 | 4,925 |
| Effect of exchange rate changes and others | (9,114) | (23,498) | (7,584) | (274) |
| Net increase (decrease) in cash and cash equivalents | (122,416) | 204,772 | 404,819 | 14,593 |
| Operating Data: | | | | |
| Wafer (12-inch equivalent) shipment ⁽¹⁾ | 10,068 | 12,398 | 14,179 | 14,179 |

(1) In thousands.

The Issuer

The summary balance sheet data of the Issuer set forth below as of March 31, 2022 has been derived from the Issuer's financial statements which have been prepared and presented in accordance with Taiwan IFRSs.

| | As of March 31, 2022 |
|--------------------------------------|-------------------------|
| | (in US\$ millions) |
| Balance Sheet Data | |
| Working capital ⁽¹⁾ | 19,191 |
| Long-term investments | 638 |
| Total assets | 19,919 |
| Total liabilities | 6,558 |
| Shareholders' equity | 13,361 |

(1) Working capital equals total current assets minus total current liabilities.

Recent Developments

Unaudited Financial Results for the Second Quarter of 2022

On July 14, 2022, we announced our unaudited financial results for the second quarter ended June 30, 2022. The unaudited financial results set forth below for the second quarter ended June 30, 2022 have been prepared and presented in accordance with Taiwan IFRSs.

| | 2Q22 | 1Q22 | 2Q21 | 2Q22 over 1Q22 | 2Q22 over 2Q21 |
|---|---|---------|---------|-------------------|-------------------|
| | (In NT\$ billions unless otherwise noted) | | | | |
| Selected Items from Statements of Comprehensive Income: | | | | | |
| Net revenue (US\$ billions) ⁽¹⁾ | 18.16 | 17.57 | 13.29 | +3.4% | +36.6% |
| Net revenue | 534.14 | 491.08 | 372.15 | +8.8% | +43.5% |
| Gross margin | 59.1% | 55.6% | 50.0% | +3.5ppts | +9.1ppts |
| Operating expenses | (53.38) | (48.61) | (40.58) | +9.8% | +31.5% |
| Operating margin | 49.1% | 45.6% | 39.1% | +3.5ppts | +10.0ppts |
| Non-operating items | 3.88 | 3.04 | 3.72 | +27.4% | +4.0% |
| Net income attributable to shareholders of the parent company | 237.03 | 202.73 | 134.36 | +16.9% | +76.4% |
| Net profit margin | 44.4% | 41.3% | 36.1% | +3.1ppts | +8.3ppts |
| Earnings per share (NT dollar) | 9.14 | 7.82 | 5.18 | +16.9% | +76.4% |

(1) Translated from a weighted average exchange rate of NT\$29.42, NT\$27.95 and NT\$28.01 to US\$1.00 in 2Q22, 1Q22 and 2Q21, respectively.

| | 2Q22 | | 1Q22 | | 2Q21 | |
|---|--------------------|---------------|-----------------|---------------|-----------------|---------------|
| | Amount | % | Amount | % | Amount | % |
| | (In NT\$ billions) | | | | | |
| Selected Items from Balance Sheets: | | | | | | |
| Cash & Marketable Securities . . . | 1,425.57 | 32.8% | 1,282.06 | 32.1% | 870.84 | 28.2% |
| Accounts Receivable | 222.07 | 5.1% | 213.43 | 5.3% | 178.26 | 5.7% |
| Inventories | 217.44 | 5.0% | 200.12 | 5.0% | 170.44 | 5.5% |
| Long-term Investments | 64.44 | 1.5% | 45.74 | 1.2% | 29.06 | 1.0% |
| Property, Plant and Equipment . . | 2,248.32 | 51.7% | 2,104.33 | 52.7% | 1,722.68 | 55.7% |
| Total Assets | 4,345.94 | 100.0% | 3,992.68 | 100.0% | 3,092.82 | 100.0% |
| Current Liabilities | 845.24 | 19.4% | 822.87 | 20.6% | 647.75 | 20.9% |
| Long-term Interest-bearing Debts | 757.21 | 17.4% | 632.74 | 15.8% | 413.64 | 13.4% |
| Total Liabilities | 1,835.48 | 42.2% | 1,671.21 | 41.9% | 1,098.85 | 35.5% |
| Total Shareholders' Equity | 2,510.46 | 57.8% | 2,321.47 | 58.1% | 1,993.97 | 64.5% |

| | 2Q22 | 1Q22 | 2Q21 |
|--|----------|--------------------|----------|
| | | (In NT\$ billions) | |
| Selected Items from Cash Flow Statements: | | | |
| Beginning Balance | 1,151.59 | 1,064.99 | 664.73 |
| Net cash generated by operating activities | 338.85 | 372.17 | 187.44 |
| Capital expenditures | (217.73) | (262.13) | (166.97) |
| Cash dividends | (71.31) | (71.31) | (64.83) |
| Short-term loans | (26.48) | 30.53 | 3.55 |
| Bonds payable | 108.84 | 19.60 | 136.71 |
| Investments and others | (30.57) | (2.26) | (12.65) |
| Ending balance | 1,253.19 | 1,151.59 | 747.98 |

Our unaudited financial results for the second quarter ended June 30, 2022, may not be indicative of our results for the full year or future quarterly periods.

SEC-registered Debt Offering of U.S. Dollar-denominated Senior Unsecured Notes

On April 22, 2022, TSMC Arizona Corporation, our wholly-owned subsidiary, completed its underwritten SEC-registered public offering of US\$3.5 billion aggregate principal amount of U.S. dollar-denominated senior unsecured notes, unconditionally and irrevocably guaranteed by TSMC, details of which are set forth in the table below. For information on corporate bonds payable as of March 31, 2022, please refer to note 18 and note 29 to our consolidated financial statements for the three months ended March 31, 2022.

| <u>Issue date</u> | <u>Aggregate principal amount (US\$ billion)</u> | <u>Interest rate (%)</u> | <u>Term (years)</u> |
|----------------------|--|------------------------------|-------------------------|
| April 22, 2022 | 1.0 | 3.875 | 5 |
| | 0.5 | 4.125 | 7 |
| | 1.0 | 4.250 | 10 |
| | 1.0 | 4.500 | 30 |

Offering of NT Dollar-Denominated Unsecured Corporate Bonds in the R.O.C.

During May 2022, we offered NT dollar-denominated unsecured corporate bonds in the R.O.C. to fund our green buildings and environmental protection related expenditures, details of which is set forth in the table below. For information on corporate bonds payable as of March 31, 2022, please refer to note 18 and note 29 to our consolidated financial statements for the three months ended March 31, 2022.

| <u>Offering date</u> | <u>Offering size (NT\$ billion)</u> | <u>Interest rate (%)</u> | <u>Term (years)</u> |
|----------------------|---|------------------------------|-------------------------|
| May 20, 2022 | 6.1 | 1.50 | 5 |

RISK FACTORS

You should carefully consider the risks described below in addition to all other information contained in this offering circular before making an investment decision. The occurrence or realization of the events underlying these risks may have a material and adverse effect on the Company and the trading price of the Notes, and you could lose part or all of your investment.

Risks Relating to Our Business

Any global systemic political, economic and financial crisis (as well as the indirect effects flowing therefrom) could negatively affect our business, results of operations, and financial condition.

In recent times, several major systemic political, economic and financial crises negatively affected global business, banking and financial sectors, including the semiconductor industry and markets.

Since 2018, there have been political, and trade tensions among a number of the world's major economies. These tensions have resulted or may result in the implementation of tariff, non-tariff trade barriers and sanctions, including the use of export control restrictions and sanctions against certain countries and individual companies. These trade barriers and other measures have been particularly impactful to the semiconductor industry and related markets. Prolonged or increased use of trade barriers and such measures may result in a decrease in the growth of the global economy and the semiconductor industry, and could cause turmoil in global markets that often result in declines in electronic products sales from which we generate our income through our products and services. Also, any increase in the use of export control restrictions and sanctions to target certain countries and entities, any expansion of the extraterritorial jurisdiction of export control laws, or complete or partial ban on semiconductor products sales to certain entities could impact not only our ability to continue supplying products to those customers, but also our customers' demand for our products, and could even lead to changes in semiconductor supply chains. For example, in May 2020 and again in August 2020, the U.S. tightened its export control measures against Huawei Technology Co. Ltd. and its affiliates (collectively, "Huawei"), including an expanded license requirement for providing Huawei with items subject to the U.S. export control jurisdiction. To comply with relevant laws and regulations, we have discontinued shipment of products to Huawei since September 15, 2020. On the other hand, measures adopted by an affected country to counteract the impact of another country's actions or regulations could lead to significant legal liability to multinational corporations including our own. For example, in January 2021, China adopted a blocking statute that, among other matters, entitles Chinese entities incurring damages from a multinational's compliance with foreign laws to seek civil remedies. In February 2022, several countries and regions began to impose various measures, including sanctions and export controls, against Russia, including certain individuals and entities, as a result of the military conflict in Ukraine. As of the date of this offering circular, our current results of operations have not been materially affected by the expanded export control regulations or the novel rules or measures adopted to counteract them. Nevertheless, depending on future developments in global trade tensions and military conflicts, such regulations, rules, or measures may have an adverse impact on our business and operations, and we may incur significant legal liability and financial losses as a result.

Any future systemic political, economic or financial crisis or market volatility, including but not limited to interest rate and foreign exchange rate fluctuations, inflation or deflation and changes in economic, fiscal and monetary policies in major economies, could cause revenue or profits for the semiconductor industry as a whole to decline dramatically, and if the economic conditions or financial conditions of our customers were to deteriorate, the demand for our products and services may decrease and additional accounting related allowances may

be required, which could reduce our operating income and net income. Further, in times of market instability, sufficient external financing may not be available to us on a timely basis, on commercially reasonable terms to us, or at all. If sufficient external financing is not available when we need such financing to meet our capital requirements, we may be forced to curtail our expansion, modify plans or delay the deployment of new or expanded services until we obtain such financing. In conclusion, any future global systemic crisis, including further escalation of trade tensions as described above, could materially and adversely affect our results of operations.

Our global manufacturing, design and sales activities subject us to risks associated with political, economic, financial, military or other conditions or developments in various jurisdictions, including in particular the R.O.C., as well as in international trade, which could negatively affect our business and financial status and therefore the market value of your investment.

The majority of our principal executive officers and our principal production facilities are located in the R.O.C., and the majority of our net revenue is derived from our operations in the R.O.C. In addition, we have operations worldwide and a significant percentage of our revenue comes from sales to locations outside the R.O.C. Operating in the R.O.C. and overseas exposes us to changes in laws, rules, regulations and the enforcements of such laws, rules and regulations in certain key areas that could have a material impact on our operations, such as intellectual property, labor, antitrust, export control, import restrictions, and trade barriers or disputes. In addition, deterioration in general political, economic, financial or social conditions, military conflicts, the risk of outbreak of war or hostilities, terrorism events, security risks, social unrest, health conditions and possible disruptions in transportation networks in the various jurisdictions in which we operate or elsewhere, could have an adverse impact on our business and results of operations as well as the market price and the liquidity of our Notes. Furthermore, any major change in economic, fiscal and/or trade policies in the U.S. from which we derive a substantial portion of our revenue or in another major jurisdiction could severely affect our business, financial condition and results of operations. For example, recent political and trade tensions among major economies as well as military conflicts (such as the conflict in Ukraine since early 2022) have resulted in the imposition of trade barriers, such as sanctions and import and export controls, which could increase our manufacturing costs, limit our access to certain supplies, make our pricing less competitive, and limit our ability to offer our products and services in some markets or source key materials and key production equipment, which may have adverse direct or indirect effects on our sales.

Any law or government policy that encourages our customers to relocate their manufacturing capacity or supply chain to their own countries or require their respective contractors, subcontractors and relevant agents to do so could also impair our ability to sustain our current level of productivity and manufacturing efficiency. An important aspect of our business operation is an ecosystem of interconnected semiconductor fabs, employees and suppliers in the R.O.C. that provides us with significant operational synergies, flexibility and efficiencies. For example, we are able to temporarily reassign thousands of our engineers and other relevant personnel from one manufacturing site to another to refine specific designs and adapt manufacturing processes in a timely manner. These advantages permit us to operate our manufacturing fabs efficiently and resolve any technical or commercial difficulties quickly to maintain our competitive edge. Restrictions on our ability to transfer people among our operations in the R.O.C., the United States, the P.R.C. and Japan efficiently due to, for example, immigration or travel restrictions may impair or reduce these advantages, and we may not be able to sustain our current ability to supply our customers with goods and services at the current level of cost, quality, quantity and delivery schedule to which our customers have been accustomed.

In addition, the financial markets have viewed certain past developments in relations between the R.O.C. and the P.R.C. as occasions to depress general market prices of the securities of R.O.C. companies, including our own. Also, the R.O.C. government has not lifted some trade and investment restrictions imposed on R.O.C. companies on the amount and types of certain investments that can be made in the P.R.C. Our plans, investment applications and/or any relevant regulatory approvals to establish or possibly expand operations in the P.R.C. may be delayed, interrupted, suspended or cancelled due to unforeseeable social and political factors in the R.O.C. or the P.R.C.

Decreases in demand and average selling prices for products that contain semiconductors may adversely affect demand for our products and may result in a decrease in our revenue and earnings.

A vast majority of our revenue is derived from customers who use our products in smartphones, high performance computing, Internet of things (“IoT”), automotive, and digital consumer electronics. Any deterioration in or a slowdown in the growth of such end markets resulting in a substantial decrease in the demand for overall global semiconductor foundry services, including our products and services, could adversely affect our revenue. Further, semiconductor manufacturing facilities require substantial investment to construct and are largely fixed cost assets once they are in operation. Because we own most of our manufacturing capacities, a significant portion of our operating costs is fixed. In general, these costs do not decline when customer demand or our capacity utilization rates drop, and thus declines in customer demand, among other factors, may significantly decrease our margins. Conversely, as product demand rises and factory utilization increases, the fixed costs are spread over increased output, which can improve our margins. In addition, the historical trend of declining average selling prices (or “ASP”) of end use applications places downward pressure on the prices of the components that go into such applications. Decreases in the ASP of end use applications may increase pricing pressure on components produced by us, which, in turn, may negatively impact our revenue, margin and earnings.

Since we are dependent on the highly cyclical semiconductor and electronics industries, which have experienced significant and sometimes prolonged periods of downturns and overcapacity, our revenue, earnings and margins may fluctuate significantly.

The electronics industries and semiconductor market are cyclical and subject to significant and often rapid fluctuations in product demand, which could impact our semiconductor foundry business. Variations in order levels from our customers may result in volatility in our revenue and earnings. From time to time, the electronics and semiconductor industries have experienced significant and occasionally prolonged periods of downturns and overcapacity. Because we are, and will continue to be, dependent on the requirements of electronics and semiconductor companies for our services, periods of downturns and overcapacity in the general electronics and semiconductor industries could lead to reduced demand for overall semiconductor foundry services, including our services. If we cannot take appropriate actions, such as reducing our costs to sufficiently offset declines in demand, our revenue, margins and earnings will likely suffer during periods of downturns and overcapacity.

If we are unable to remain a technological leader in the semiconductor industry, unable to timely respond to fast-changing semiconductor market dynamics, or unable to maintain our edge in product quality, we may become less competitive.

The semiconductor industry and its technologies are constantly changing. We compete by developing process technologies using increasingly advanced nodes and on manufacturing products with more functions. We also compete by developing new derivative technologies. If we do not anticipate these changes in technologies and rapidly develop new and innovative technologies, or our competitors unforeseeably gain sudden access to additional technologies, we may not be able to provide foundry services on competitive terms. In addition, our

customers have significantly decreased the time in which their products or services are launched into the market. If we are unable to meet these shorter product time-to-market, we risk losing these customers. These factors have also been intensified by the shift of the global technology market to consumer driven products, such as smartphones, and increasing competition and concentration of customers (all further discussed among these risk factors). Also, the uncertainty and instability inherent in advanced technologies also impose challenges for achieving expected product quality and product yield. If we fail to maintain quality, it may result in loss of revenue and additional cost, as well as loss of business or customer trust. For example, in January 2019, we discovered yield problems in 12-nanometer and 16-nanometer wafers caused by a batch of photoresist, which resulted in delayed delivery of products and had a negative effect on our gross margin and operating margin in the first quarter of 2019. To reduce future risks of such incidences, we have since strengthened inline wafer inspection and tightened control of incoming material to deal with the increasing complexity of leading-edge technologies. If we are unable to innovate new technologies that meet the demand of our customers or overcome the above factors, we may become less competitive and our revenue may decline significantly.

In light of the rise of new foundry service providers worldwide, if we are unable to compete effectively in the highly competitive foundry segment of the semiconductor industry, we may lose customers and/or our profit margin and earnings may decrease.

The markets for our foundry services are highly competitive. We compete with other foundry service providers, as well as a number of integrated device manufacturers. Some of these companies may have access to more advanced technologies than us. Other companies may have greater financial and other resources than us, such as the possibility of receiving direct or indirect government subsidies, economic stimulus funds, or other incentives that may be unavailable to us. For example, Chinese companies are expected to be key players for new semiconductor fab development and fab equipment spending in part due to various incentives provided by the Chinese government. The governments of Europe, the United States, South Korea, and Japan also have incentive programs to incentivize developments of their domestic semiconductor industries. Although governments in certain of the countries or regions where we are currently expanding or planning to expand our production capacity have extended or may in the future extend certain financial incentives to us, there is no assurance that we will be able to apply for or receive such financial incentives at the levels we expect or at all. Additionally, any financial incentives we receive may be subject to strict conditions, or the grantors could seek to recover any funds provided to us, or cancel, reduce or deny our requests subsidies or grants in the future. This could materially increase our operating costs and adversely affect our results of operations.

Furthermore, our competitors may, from time to time, also decide to undertake aggressive pricing initiatives in one or several technology nodes. These competitive activities may decrease our customer base or our ASP, or both. If we are unable to compete effectively with such new and aggressive competitors on technology, manufacturing capacity, product quality and customer satisfaction, we risk losing customers to such new contenders.

If we are unable to manage our capacity and production facilities effectively, our competitiveness may be weakened.

We perform long-term market demand forecasts for our products and services to manage our overall capacity. Based on our market demand forecasts, we have continued to add capacity to meet market needs for our products and services, including in Taiwan, in Nanjing, China, in Arizona, U.S., and in Kumamoto, Japan.

Implementing these capacity expansion plans will increase our costs, and the increases may be substantial. For example, we would need to build new facilities, purchase additional equipment and hire and train personnel to operate the new equipment. If we do not increase our net revenue accordingly, our financial performance may be adversely affected by these increased costs. See “Business – Capacity Management and Technology Upgrade Plans” for a further discussion.

In addition, market conditions are dynamic and our market demand forecasts may change significantly at any time. During periods of decreased demand, certain manufacturing lines or tools in some of our manufacturing facilities may be suspended or shut down temporarily. However, if demand subsequently increases rapidly over a short period of time, we may not be able to restore the capacity in a timely manner to take advantage of the upturn. In such circumstances, our financial performance and competitiveness may be adversely affected.

Having one or more large customers that account for a significant percentage of our revenue may render us vulnerable to the loss of or significant curtailment of purchases by such customers that could in turn adversely affect our results of operations. Similarly, the increasing consolidation of our customers may further increase our revenue concentration.

Over the years, our customer profile and the nature of our customers’ business have changed dramatically. While we generate revenue from hundreds of customers worldwide, our ten largest customers in 2019, 2020 and 2021 accounted for approximately, 71%, 74% and 71% of our net revenue in the respective year. Our largest customer in 2019, 2020 and 2021 accounted for 23%, 25% and 26% of our net revenue in the respective year. Our second largest customer in 2019, 2020 and 2021 accounted for 14%, 12% and 10% of our net revenue in the respective year. A more concentrated customer base will subject our revenue to seasonal demand fluctuations from our large customers, and may cause different seasonal patterns of our business. This customer concentration results in part from the changing dynamics of the electronics industry with the structural shift to mobile devices and applications and software that provide the content for such devices.

There are only a limited number of customers who are successfully exploiting this new business model paradigm. Also, we have seen the changes of nature in our customers’ business models in response to this new business model paradigm. For example, there is a growing trend toward the system companies developing their own designed semiconductors and working directly with semiconductor foundries which makes their products and services more marketable in a changing consumer market. Also, since the global semiconductor industry is becoming increasingly competitive, some of our customers have engaged in industry consolidations to remain competitive. Such consolidations have taken the form of mergers and acquisitions. If more of our major customers consolidate, this will further decrease the overall number of our customer pool. In addition, regulatory restrictions, such as export controls directed at our major customers, could impact our ability to supply products to those customers, reduce those customers’ demand for our products and services and impact their business operations.

The loss of, or significant curtailment of purchases by, one or more of our top customers, including curtailments due to increased competitive pressures, heightened regulatory scrutiny, industry consolidation, changes in applicable regulatory restrictions, product designs, manufacturing sourcing or outsourcing policies or practices of these customers, or the timing of customer or distributor inventory adjustments, or changes in our major customers’ business models may adversely affect our results of operations and financial condition.

If our information technology systems or those of our service providers with whom we share our confidential information succumb to cyberattacks by third parties worldwide, our business and operations may be severely interrupted or even shut down, and our results of operations, financial condition, prospects and reputation may also be materially and adversely affected.

Even though we have established a comprehensive internet and computing security network, we cannot guarantee that our computing systems which control or maintain vital corporate functions, such as our manufacturing operations and enterprise accounting, would be completely immune to crippling cyberattacks. In the event of a serious cyberattack, our systems may lose important corporate data or our production lines may be shut down pending the resolution of such attack. Major cyberattacks could also lead to loss or divulgence of trade secrets and other sensitive information, such as proprietary information of our customers and other stakeholders and personal information of our employees. While we seek to continuously review and assess our cybersecurity policies and procedures to ensure their adequacy and effectiveness, we cannot guarantee that we will not be susceptible to new and emerging risks and attacks in the evolving landscape of cybersecurity threats.

Malicious hackers may also try to introduce computer viruses, corrupted software or ransomware into our network systems to disrupt our operations, blackmail us to regain control of our computing systems, or spy on us for sensitive information. These attacks may result in us having to pay damages for our delayed or disrupted orders or incur significant expenses in implementing remedial and improvement measures to further enhance our cybersecurity network, and may also expose us to significant legal liabilities arising from or related to legal proceedings or regulatory investigations associated with such breaches.

In the past, we experienced and may in the future be subject to attack by malicious software contained in the equipment we purchase and install. We have implemented and continually update rigorous cybersecurity measures to prevent and minimize harm caused by such attacks. Such measures include advanced virus scanning tools to prevent a fab from installing virus-infected software, strengthening firewall and network controls to prevent computer viruses from spreading among tools and fabs, the installation of anti-virus and advanced malware detection solutions across our computer devices, and enhancement of data center security through faster patch cycle times. In addition, we have deployed secure PCs and laptops, developed a public cloud security policy with monitoring, defined and regularly reviewed the security key performance indicators (“KPI”), introduced new technology for data protection, and improved email phishing detection and regularly performed employee awareness testing. We also established an integrated and automatic security operation platform, enhanced the automation of cybersecurity event detection and response, enhanced internal assessment automation, practiced the response to ransomware attacks and conducted external security risk assessments. In addition, to reduce supply chain risks, through collaboration, we helped major suppliers improve their security maturity with KPI monitoring and share with them industry security events and best practices on demand and by schedule. Moreover, we led the SEMI standard taskforce to formulate and release information security standards for semiconductor equipment (SEMI E187) to help improve the resilience of semiconductor supply chain. While these ongoing enhancements further improve our cybersecurity defense solutions, there can be no assurance that we are immune to cyberattacks.

In addition, we employ certain third-party service providers for us and our affiliates worldwide with whom we need to share highly sensitive and confidential information to enable them to provide the relevant services. While we require such third-party service providers to strictly fulfill the confidentiality and/or internet security requirements in our service agreements with them, there is no assurance that each of them will comply with such obligations. Moreover, such third-party service providers may also be susceptible to cyberattacks. If we or

our service providers are not able to timely resolve the respective technical difficulties caused by such cyberattacks, or ensure the integrity and availability of our data (and data belonging to our customers and other third parties) or maintain control of our or our service providers' computing systems, our commitments to our customers and other stakeholders may be materially impaired and our results of operations, financial condition, prospects and reputation may also be materially and adversely affected.

We may not be able to implement our planned growth and development or maintain our leading position if we are unable to recruit and retain key executives, managers and skilled technical and service personnel.

We rely on the continued services and contributions of our management team, skilled technical and professional personnel. Our business could suffer from the inability to fulfill personnel needs with high quality professionals in a timely fashion caused by the loss of personnel, illegal talent poaching, immigration controls, or related changes in market demand for our products and services. Since there is fierce competition for talent recruitment, we cannot ensure timely fulfillment of our personnel demand.

We may be unable to obtain in a timely manner and at a reasonable cost equipment that is necessary for us to remain competitive.

Our operations and ongoing expansion plans depend on our ability to obtain an appropriate amount of equipment and related services from a limited number of suppliers in a market that is characterized from time to time by limited supply and long delivery cycles. During such times, supplier-specific or industry-wide lead times for delivery can be longer than previously expected and the cost of ownership may intrinsically increase. To better manage our supply chain, we have implemented various collaborative business models and risk management contingencies with suppliers to ensure supply and shorten the procurement lead time. However, if we are unable to timely acquire the equipment and parts we need, we may fail to successfully implement our capacity expansion plans and exploit time sensitive business opportunities. Additionally, ongoing trade tensions could result in increased prices for, or even unavailability of, key equipment, including as a result of necessary export licenses being delayed or denied, additional export control measures, and other tariff or non-tariff barriers. If we are unable to obtain equipment in a timely manner to fulfill our customers' demand on technology and production capacity, or at a reasonable cost, our financial condition and results of operations could be negatively impacted.

Our revenue and profitability may decline if we are unable to obtain adequate supplies of raw materials in a timely manner and at commercially reasonable prices.

Our production operations require that we obtain adequate supplies of raw materials, such as silicon wafers, gases, chemicals, and photoresist, on a timely basis and at commercially reasonable prices. In the past, shortages in the supply of some materials, whether by specific vendors or by the semiconductor industry generally, have resulted in occasional industry-wide price adjustments and delivery delays. Moreover, major natural disasters, trade barriers and political or economic turmoil, including military conflicts and inflation, occurring within the country of origin of such raw materials may also significantly disrupt the availability of such raw materials or increase their prices. Also, since we procure some of our raw materials from sole-sourced suppliers, there is a risk that our need for such raw materials may not be met or that back-up supplies may not be readily available. Importation and domestic production limitations may also limit our ability to obtain adequate supplies of raw materials as well as materials of the necessary quality. In addition, recent trade tensions could result in increased prices or even unavailability of raw materials due to tariffs, export control or other non-tariff barriers. Our revenue and earnings could decline if we are unable to obtain adequate supplies of the necessary raw materials in a timely manner or if there are significant increases in the costs of raw materials.

Any inability to obtain, preserve, enforce, defend and protect our technologies, intellectual property rights and third-party licenses could harm our competitive position.

Our ability to compete successfully and to achieve future growth depends in part on the continued strength of our intellectual property portfolio. While we actively enforce and protect our intellectual property rights, there can be no assurance that our efforts will be adequate to prevent the misappropriation or improper use of our proprietary technologies, software, trade secrets or know-how. Also, we cannot assure you that, as our business or business models expand into new areas, we will be able to develop independently the technologies, patents, software, trade secrets or know-how necessary to conduct our business or that we can do so without unknowingly infringing the intellectual property rights of others. As a result, we may have to rely on, to a certain degree, licensed technologies and patent licenses from others. To the extent that we rely on licenses from others, there can be no assurance that we will be able to obtain any or all of the necessary licenses in the future on terms we consider reasonable or at all. The lack of necessary licenses could expose us to claims for damages and/or injunctions from third parties, as well as claims for indemnification by our customers in instances where we have contractually agreed to indemnify our customers against damages resulting from infringement claims.

We have received, from time to time, communications from third parties, including non-practicing entities and semiconductor companies, asserting that our technologies, our manufacturing processes, or the design IPs of the semiconductors made by us or the use of those semiconductors by our customers may infringe their patents or other intellectual property rights. Because of the nature of the industry, our market position, and the expansion of our manufacturing operations outside of Taiwan, we may receive an increased number of such communications in the future. The assertions made and lawsuits initiated by litigious, well-funded, non-practicing entities are particularly aggressive in their monetary demand and in seeking court-issued injunctions. Such lawsuits and assertions may increase our cost of doing business and may potentially be extremely disruptive if these asserting entities succeed in blocking the trade of products made and services offered by us. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Legal Proceedings” for a further discussion. Also, with the expansion of our manufacturing operations into certain non-R.O.C jurisdictions, we have faced increased challenges in managing risks of intellectual property misappropriation. Despite our efforts to adopt robust measures to mitigate the risk of intellectual property misappropriation in such new jurisdictions, we cannot guarantee that the protection measures we adopted will be sufficient to prevent us from potential infringements by others, or at all.

If we fail to obtain or maintain certain technologies or intellectual property licenses or fail to prevent our intellectual property from being misappropriated and, if litigation relating to alleged intellectual property matters occurs, it could: (i) prevent us from manufacturing particular products or selling particular services or applying particular technologies; and (ii) reduce our ability to compete effectively against entities benefiting from our misappropriated intellectual property, which could reduce our opportunities to generate revenue.

Our operational results could also be materially and adversely affected by disruptive events, such as earthquakes and droughts, in the locations in which we, our customers or our suppliers operate or by industrial accidents, fires or explosions.

The frequency and severity of disruptive events, including damaging earthquakes, other natural disasters and extreme weather, has been increasing in part due to climate change or systemic regional geological changes. We have manufacturing and other operations, and are expanding our production capacity, in locations that may experience natural disasters, such as flooding, earthquakes, tsunamis, typhoons, and droughts that may cause interruptions or shortages in the supply of utilities, such as water and electricity, which in turn could disrupt operations. In addition, our suppliers and customers also have operations in such locations.

For example, most of our production facilities, as well as those of many of our suppliers and customers and upstream providers of complementary semiconductor manufacturing services, are located in Taiwan and Japan, areas susceptible to earthquakes, tsunamis, flooding, typhoons, and droughts from time to time that may cause shortages of electricity or water, or interruptions to our operations.

Thus, if one or more natural disasters result in a prolonged disruption to our operations or those of our customers or suppliers, or if any of our fabs or vendor facilities were to be damaged or cease operations as a result of an explosion or fire, it could reduce our manufacturing capacity and cause the loss of important customers, and thereby have an adverse, material impact on our operational and financial performance.

The COVID-19 pandemic could materially adversely affect our business and results of operations.

The ongoing COVID-19 pandemic may materially adversely affect our business and results of operations in several ways, including but not limited to: (i) interruption of the operations of our supply chains for equipment, parts and materials in terms of manufacturing, logistics, and manpower arrangements for tool installation; (ii) significant fluctuation in our customers' demands for certain products, leading to uncertainties for our capacity planning and also for meeting customer demand, which may harm our business with our customers and subject us to the risk of legal disputes; and (iii) strict border control measures which may delay or restrict our employees or vendors from completing necessary training programs or providing services; and (iv) potential production delays for our products due to forced factory or office closures or partial operation.

We have formed an "Epidemic Prevention Committee" to identify, implement and monitor actions stemming from the dynamic exigencies of the pandemic, including but not limited to, health management of our employees, splitting operation and work from home arrangements, identification and control of high risk individuals, rapid investigation of confirmed cases, management of production inventory, supply chain management, and capacity management for demand changes. As of the date of this offering circular, our current business and results of operations have not been materially affected by the pandemic. However, there is no certainty that the measures we have taken will be sufficient to mitigate further risks posed by the COVID-19 pandemic, and our ability to perform critical functions and to meet customers' needs could be materially adversely affected as a result. In addition, there is also a risk that any post-pandemic downward changes in consumers' demand for electronic products may, in turn, lead to reduced demand for and place downward pressure on the price of our products and services.

Our operation may be interrupted, and our expansion may be limited, by power or other utility shortages.

We have occasionally suffered power outages or surges in Taiwan caused by difficulties encountered by our electricity supplier, the Taiwan Power Company, or other power consumers on the same power grid. Some of these have resulted in interruptions to our operations. Such shortages or interruptions in electricity supply could further be exacerbated by changes in the energy policy of the government, which intends to make Taiwan a nuclear-free country by 2025. If we are unable to secure reliable and uninterrupted supply of electricity to power our manufacturing fabs within Taiwan, our ability to fill customers' orders would be severely jeopardized.

In addition, severe weather events, such as droughts, and any measures taken by governments in response to such severe weather events, may materially affect our operations. For further information, see “– Our operational results could also be materially and adversely affected by disruptive events, such as earthquakes and droughts, in the locations in which we, our customers or our suppliers operate or by industrial accidents, fires or explosions.”

If such events were to occur over prolonged periods of time, our operations and financial performance may be materially adversely affected. Our future capacity expansions in the R.O.C. and elsewhere could be curtailed by shortages in water and electricity.

As we are expanding our capacity, construction and land acquisition issues could delay the progress of our expansion.

We have multiple expansion projects that are currently underway, including the design and construction of new fabs worldwide. Labor shortages, interruptions in the supply chains for various building materials, and construction issues could substantially delay the completion of our expansion projects. Any prolongation of such delays could result in substantial additional costs or failure to meet our capacity expansion plans. In addition, future expansions of our operations in the R.O.C. or elsewhere could be impacted by the limited availability of commercial-use land.

Adverse fluctuations in exchange rates could decrease our operating margin and/or revenue.

Substantially all of our sales are denominated in U.S. dollars and over half of our capital expenditures are denominated in currencies other than the NT dollar, primarily in U.S. dollars, Euros and Japanese yen. As a result, any significant fluctuations to our disadvantage in the exchange rate of the NT dollar against such currencies, in particular a weakening of the U.S. dollar against the NT dollar, would have an adverse impact on our revenue and operating profit as expressed in NT dollars. For example, every 1% depreciation of the U.S. dollar against the NT dollar would result in an approximately 0.4 percentage point decrease in our operating margin based on our 2021 results.

Conversely, if the U.S. dollar appreciates significantly versus other major currencies, the demand for the products and services of our customers and for our goods and services will likely decrease, which will negatively affect our revenue. Please see “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Market Risks” for a further discussion.

Our failure to comply with applicable laws and regulations material to our operations, such as export control, environmental and climate related laws and regulations, or the inability to timely obtain requisite approvals necessary for the conduct of our business, such as fab land and construction approvals, could harm our business and operational results or subject us to potential significant legal liability.

Because we engage in manufacturing activities in multiple jurisdictions and conduct business with our customers located worldwide, such activities are subject to a myriad of governmental regulations. For example, the manufacturing, assembling and testing of our products require the use of metals, chemicals, and materials that are subject to environmental, climate-related, health and safety, and humanitarian conflict-free sourcing laws, regulations and guidelines issued worldwide. Our failure to comply with any such laws or regulations, as amended from time to time, and our failure to comply with any information and document sharing requests from the relevant authorities in a timely manner could result in:

- significant penalties and legal liabilities, such as the denial of import or export permits or third party private lawsuits, criminal or administrative proceedings;

- the temporary or permanent suspension of production of the affected products;
- the temporary or permanent inability to procure or use certain production critical chemicals or materials;
- unfavorable alterations in our manufacturing, fabrication and assembly and test processes;
- challenges from our customers that place us at a significant competitive disadvantage, such as loss of actual or potential sales contracts in case we are unable to satisfy the applicable legal standard or customer requirement;
- restrictions on our operations or sales;
- loss of tax benefits, including termination of current tax incentives, disqualification of tax credit application and repayment of the tax benefits that we are not entitled to; and
- damages to our goodwill and reputation.

Complying with applicable laws and regulations, such as environmental and climate related laws and regulations, could also require us, among other things, to do the following: (a) purchase, use or install remedial equipment; (b) implement remedial programs such as climate change mitigation programs; (c) modify our product designs and manufacturing processes, or incur other significant expenses such as obtaining renewable energy sources, renewable energy certificates or carbon credits, substitute raw materials or chemicals that may cost more or be less available for our operations.

Our inability to timely obtain approvals necessary for the conduct of our business could impair our operational and financial results. For example, if we are unable to timely obtain environmental related approvals needed to undertake the development and construction of a new fab or expansion project, then such inability may delay, limit, or increase the cost of our expansion plans that could also in turn adversely affect our business and operational results. In light of increased public interest in environmental issues, our operations and expansion plans may be adversely affected or delayed responding to public concern and social environmental pressures even if we comply with all applicable laws and regulations.

For further details, please see our compliance record with Taiwan and international environmental and climate related laws and regulations as well as our business continuity management of climate change policy in “Business – Environmental and Climate Related Laws and Regulations”.

Any adverse results of potential antitrust proceedings that we may be subject to could harm our business and operational results or subject us to potential significant legal liability.

We are subject to antitrust laws and regulations in multiple jurisdictions, and from time to time receive related inquiries from enforcement agencies. For example, on September 28, 2017, we were contacted by the European Commission, which asked us for information and documents concerning alleged anti-competitive practices in relation to semiconductor sales. We cooperated with the European Commission to provide the requested information and documents. The European Commission subsequently decided to close the investigation in May 2020. Any adverse results of potential antitrust proceedings could harm our business and distract our management, and thereby have a material adverse effect on our results of operations or prospects, and subject us to potential significant legal liability.

Any impairment charges may have a material adverse effect on our net income.

Under IFRSs, we are required to evaluate our tangible assets, right-of-use assets and intangible assets for impairment whenever triggering events or changes in circumstances indicate that the asset may be impaired. If certain criteria are met, we are required to record an impairment charge. We are not able to estimate the extent or timing of any impairment charge for future years. Any impairment charge required may have a material adverse effect on our net income.

The determination of an impairment charge at any given time is mainly based on the projected results of operations over several years subsequent to that time. Consequently, an impairment charge is more likely to occur during a period when our operating results are otherwise already depressed. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Critical Accounting Policies, Judgments and Key Sources of Estimation and Uncertainty” for a discussion of how we assess if an impairment charge is required and, if so, how the amount is determined.

Any failure to achieve and maintain effective internal controls could have a material adverse effect on our business and results of operations.

Effective internal controls are necessary for us to provide reasonable assurance with respect to our financial reports and to effectively prevent fraud. If we cannot provide reasonable assurance with respect to our financial reports and effectively prevent fraud and corruption, our reputation and results of operations could be harmed.

We are required to comply with various R.O.C. and U.S. laws and regulations on internal controls, but internal controls may not prevent or detect misstatements because of their inherent limitations, including the possibility of human error, the circumvention or overriding of controls, fraud or corruption.

Therefore, even effective internal controls can provide only reasonable assurance with respect to the preparation and fair presentation of financial statements. If we fail to maintain the adequacy of our internal controls, our business and operating results could be harmed, we could fail to meet our reporting obligations, and there could be a material adverse effect on the market price of our Notes.

Any amendments to existing tax regulations or the implementation of any new tax laws in the R.O.C., the United States or other jurisdictions in which we operate our business may have an adverse effect on our net income.

While we are subject to tax laws and regulations in various jurisdictions in which we operate or conduct business, our principal operations are in the R.O.C. and we are exposed primarily to taxes levied by the R.O.C. government. Any unfavorable changes of tax laws and regulations in this jurisdiction could increase our effective tax rate and have an adverse effect on our operating results. Further, changes in the tax laws of foreign jurisdictions could arise as a result of the base erosion and profit shifting (BEPS) project that was undertaken by the Organisation for Economic Cooperation and Development (OECD). These changes may increase tax uncertainty and have an adverse effect on our operating results. See “Management’s Discussion and Analysis of Financial Condition and Results of Operations – Taxation” for further discussion of significant tax regulation changes.

This offering circular includes selected unaudited financial results.

This offering circular includes certain financial information that has not been reviewed by our independent auditor. The information set forth under “Summary – Recent Developments – Unaudited Financial Results for the Second Quarter of 2022” have been prepared by, and are the responsibility of, management. Our independent auditor has not issued a review report based on their reviews with respect to the financial data included herein. As such financial results are unaudited and unreviewed, we caution you not to place undue reliance on them.

Risks Relating to the Notes and Guarantees

The Notes and the Guarantees are unsecured obligations and the ability of the holders of the Notes to receive payments under the Notes and the Guarantees may be compromised under certain circumstances.

The Notes and the Guarantees will not be secured by any of the Issuer's assets or any of our assets. As a result, the Notes and the Guarantees will be effectively subordinated to any future secured indebtedness incurred by the Issuer, the Guarantor or the Guarantor's other subsidiaries, if any, with respect to the assets that secure such indebtedness. If the Issuer, the Guarantor or the Guarantor's other subsidiaries were unable to repay any of their respective secured indebtedness, resulting in an event of default, or acceleration of the secured debt, the holders of such debt could proceed against the assets securing that debt and use the proceeds to pay down the secured indebtedness. Only after such secured indebtedness has been paid in full will any proceeds from the sale of secured assets be available to pay the obligations of the Notes. The same is true in the event of, among other things, bankruptcy, insolvency, liquidation, dissolution or reorganization of the Issuer or us. If any of these events occurs, the Issuer's and the Guarantor's assets may not be sufficient to fulfill their obligations under the Notes and the Guarantees to pay amounts due on any of the Notes.

Furthermore, the Notes and the Guarantees will be structurally subordinated to all indebtedness and other obligations of the subsidiaries of the Guarantor other than those of the Issuer. The Notes and Guarantees are exclusively the obligations of the Issuer and us. Our subsidiaries are separate legal entities that have no obligation to pay any amounts due under the Notes or the Guarantees nor any obligation to make any funds available to do so. Except to the extent we are a creditor with recognized claims against our subsidiaries, all of the creditors of that subsidiary, including trade creditors, will generally be entitled to be paid in full from the assets of such subsidiary before any of those assets are made available for distribution to the Guarantor, in the event of, among other things, bankruptcy, liquidation, rehabilitation or other winding-up proceedings of a subsidiary of the Guarantor.

The Guarantor may not be able to convert NT dollars to foreign currency to perform its guarantee obligations in a timely manner or at all.

The Guarantor is neither required to obtain prior approval from the CBC for providing the Guarantees nor to register the Guarantees as medium- or long-term foreign debt with CBC. At the time the performance of the Guarantees is sought, a foreign exchange approval by CBC may be required to convert NT dollars to foreign currencies.

Under the R.O.C. Foreign Exchange Control Statute and its relevant regulations, the Guarantor may remit to and from the R.O.C. foreign currency of up to US\$50 million or its equivalent (or such other amount as determined by the CBC from time to time at its discretion in consideration of the R.O.C.'s economic and financial conditions or the needs to maintain the order of foreign exchange market in the R.O.C.) in each calendar year without foreign exchange approval. This limit applies to remittances involving a conversion between NT dollars and U.S. dollars or other foreign currencies.

If the Guarantor is required to perform its obligations under the relevant Guarantees following the occurrence of an event of default with respect to the relevant series of the Notes, and the Guarantor does not have sufficient foreign currency to make the payment in full after using up the remainder of its US\$50 million quota, the Guarantor will have to apply for a foreign exchange approval from CBC prior to converting NT dollars to other foreign currencies. In such case, the Guarantor may not be able to perform its obligations under the relevant Guarantee by paying foreign currencies in a timely manner or at all if the application for foreign exchange approval is delayed or rejected by CBC.

The limited covenants in the Indenture for the Notes and the terms of the Notes do not provide protection against some types of important corporate events and may not protect your investment.

The terms of the Indenture and the Notes do not:

- require us to maintain any financial ratios or specific levels of net worth, revenues, income, cash flow or liquidity and, accordingly, do not protect holders of the Notes in the event that we experience significant adverse changes in our financial condition or results of operations;
- limit the Issuer's, the Guarantor's or our subsidiaries' ability to incur secured indebtedness that would effectively rank senior to the Notes to the extent of the value of the assets securing the indebtedness, or to engage in sale/leaseback transactions;
- limit the Issuer's, the Guarantor's or our subsidiaries' ability to incur indebtedness that is equal in right of payment to the Notes;
- prohibit the Issuer, the Guarantor or our subsidiaries from incurring or guaranteeing bank debt, bank loans and securitizations, as well as other types of indebtedness in certain circumstances, including NT dollar-denominated notes, bonds and debentures initially offered, marketed or issued primarily to persons present in the Republic of China, without securing or guaranteeing the Notes equally and ratably therewith and subject to internal policies and procedures;
- restrict the Issuer's or our subsidiaries' ability to issue securities or otherwise incur indebtedness that would be senior to our equity interests in our subsidiaries and therefore would be structurally senior to the Notes;
- restrict the Issuer's, the Guarantor's or our subsidiaries' ability to secure capital markets indebtedness in certain circumstances;
- restrict the Issuer's, the Guarantor's or our subsidiaries' ability to repurchase or prepay our securities;
- restrict the Issuer's, the Guarantor's or our subsidiaries' ability to make investments or to repurchase or pay dividends or make other payments in respect of our common stock or other securities ranking junior to the Notes;
- restrict the Issuer's, the Guarantor's or our subsidiaries' ability to enter into highly leveraged transactions; or
- require us to repurchase the Notes in the event of a change in control.

As a result of the foregoing, when evaluating the terms of the Notes, you should be aware that the terms of the Indenture and the Notes do not restrict our ability to engage in, or to otherwise be a party to, a variety of corporate transactions, circumstances and events, such as certain acquisitions, refinancings or recapitalizations that could substantially and adversely affect our capital structure and the value of the Notes. For these reasons, you should not consider the covenants in the Indenture as a significant factor in evaluating whether to invest in the Notes.

There is no existing market for the Notes and, therefore, the Notes may have limited liquidity.

The Notes constitute a new issue of securities for which there is no existing market. Although approval in-principle has been received for the listing and quotation of the Notes on the SGX-ST, we cannot assure you that we will obtain or be able to maintain a listing on the SGX-ST, or that, if listed, a liquid trading market will develop. The offer and sale of the Notes is not conditioned on obtaining a listing of the Notes on the SGX-ST or any other securities exchange. Although the Initial Purchaser has advised the Company that they currently intend

to make a market in the Notes, it is not obligated to do so, and any market-making activity with respect to the Notes, if commenced, would be by the Initial Purchaser or its affiliates on their own behalf and may be discontinued at any time without notice in their sole discretion. For more information regarding the Initial Purchaser's planned market-making activities, see "Plan of Distribution".

There can be no assurance as to the liquidity of, or the development and continuation of an active trading market for, the Notes. If an active trading market for the Notes does not develop or is not maintained, the market price and liquidity of the Notes may be adversely affected. If an active trading market for the Notes were to develop, the Notes could trade at prices that may be higher or lower than the offering price depending on many factors, including:

- prevailing interest rates;
- the Company's results of operations, financial condition and future prospects;
- political and economic developments in and affecting the R.O.C.;
- the market conditions for similar securities; and
- the condition and stability of the financial markets in the R.O.C. and Singapore.

The Volcker Rule may negatively affect the liquidity and the value of the Notes.

The definition of "covered fund" in the Volcker Rule includes, among other things, any entity that would be an investment company under the Investment Company Act but for the exception provided under Section 3(c)(1) or 3(c)(7) thereunder. Because the Issuer has not been and will not be registered as an "investment company" under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) thereof, the Issuer will likely be considered a "covered fund" for purposes of the Volcker Rule in the absence of an exclusion from the definition of "covered fund". Accordingly, "banking entities" (as defined under the Volcker Rule, which include affiliates of a U.S. banking organization as well as affiliates of a foreign banking organization that has a branch or agency office in the U.S., regardless of where such affiliates are located) that are subject to the Volcker Rule may be prohibited under the Volcker Rule from, among other things, acquiring or retaining an "ownership interest" in the Issuer as a "covered fund", absent any applicable exclusion from the definition of "covered fund" or exemption under the Volcker Rule. Depending on market conditions, this could negatively affect the liquidity and market value of the Notes.

In addition, an "ownership interest" is broadly defined under the Volcker Rule to include an equity, partnership or other similar interest, and may arise through a holder's exposure to the profits and losses of the "covered fund", as well as through certain rights of the holder to participate in the selection or removal of an investment advisor, investment manager, or general partner, trustee, or member of the board of directors of the "covered fund".

On June 25, 2020, the relevant federal regulatory agencies responsible for implementing the Volcker Rule released a final rule to amend certain parts of the Volcker Rule's covered fund-related restrictions. The changes are intended to improve and streamline certain aspects of the "covered funds" portion of the Volcker Rule, including by, among other aspects, making modifications to certain existing exclusions from the definition of "covered fund", creating certain new exclusions from the definition of "covered fund", and making certain clarifications to the definition of "ownership interest". Such clarifications include an exclusion from the definition of "ownership interest" for any "senior loan or senior debt interest" that meets certain conditions. The final rule became effective on October 1, 2020.

The Volcker Rule may restrict or discourage the acquisition of the Notes by “banking entities” and may adversely affect the liquidity of the Notes. Each purchaser of the Notes must make its own determination as to whether it is a “banking entity” subject to the Volcker Rule and, if applicable, the potential impact of the Volcker Rule on its ability to purchase or retain any such Notes (including conducting their own analysis, in consultation with their own counsel, to determine whether the Notes constitute “ownership interests” for the purposes of the Volcker Rule). Investors in the Notes are responsible for analyzing their own regulatory position and should consult their own counsel as to the potential consequences of the Volcker Rule before making an investment decision. None of the Issuer, the Guarantors, the Initial Purchaser, the Trustee, other parties involved in the offering of the Notes nor any of their respective affiliates makes any representation to any prospective investor or purchaser of the Notes regarding the treatment of the Issuer under the Volcker Rule, or to such investor’s investment in the Notes on the Issue Date or at any time in the future.

The ratings assigned to the Notes may be lowered or withdrawn in the future.

The Notes are expected to be rated “Aa3” by Moody’s and “AA-” by S&P. The rating of the Notes has been based primarily on the Guarantees to be issued by the Guarantor with respect to the Notes. Pursuant to the Guarantees, the Guarantor will fully, unconditionally and irrevocably guarantee all amounts payable by the Issuer in respect of each series of the Notes, or the Guaranteed Amounts. The payment of the Guaranteed Amounts will, therefore, depend on the Guarantor performing its obligations under the Guarantees, and the likelihood of payment of the Guaranteed Amounts will depend on the creditworthiness of the Guarantor. Consequently, investors are relying not only on the creditworthiness of the Issuer but also on the creditworthiness of the Guarantor to perform its obligations under the Guarantees. Any significant deterioration of the financial condition, or the insolvency, of the Guarantor could adversely affect the likelihood of investors receiving scheduled payments of principal and interest on the Notes under the Guarantees and could result in a downgrade or withdrawal of the rating of the Notes.

A rating is not a recommendation to buy, sell or hold the Notes and may be subject to revision, suspension or withdrawal at any time. There can be no assurance that a rating will remain for any given period of time or that a rating will not be lowered, suspended or withdrawn by the relevant rating agencies if in its judgment circumstances in the future so warrant. Neither the Issuer nor the Guarantor has an obligation to inform the holders of the Notes of any downgrade, suspension or withdrawal of the rating of the Notes. A reduction, suspension or withdrawal at any time of the rating assigned to the Notes may adversely affect the market price of the Notes and a holder’s ability to dispose of the Notes.

The Notes are subject to transfer restrictions.

Transfers of the Notes are restricted, which may adversely affect the value of the Notes. The Notes and the Guarantees have not been and will not be registered under the Securities Act or any state securities laws. The Issuer has not been registered and will not be registered as an investment company under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) thereof. The Notes and the Indenture contain provisions that restrict certain transfers of the Notes to prevent the Notes from being offered, sold or otherwise transferred within the United States, unless the Notes are being offered and sold only to persons in the United States or that are U.S. persons, each of whom is both a Qualified Institutional Buyer and a Qualified Purchaser. Each purchaser or transferee of the Notes will also be deemed, by its acceptance of such Notes, to have made certain representations and agreements intended to restrict transfers of the Notes as described under “Transfer Restrictions”. It is the holder’s obligation to ensure that your offers and sales of the Notes comply with applicable securities laws.

In addition, if, at any time, the Issuer or the Guarantor determines that any owner or other transferee, or any account for which such owners or transferee purchased or otherwise received the Notes, who is required to be both a Qualified Institutional Buyer and a Qualified Purchaser does not meet these requirements, the transfer to such owner will be null and void *ab initio* and the Issuer will require that the Notes be sold or transferred to a transferee acceptable to the Issuer who is able to and who does make all of the representations and agreements set forth in the “Transfer Restrictions”.

Enforcing your rights as a holder of the Notes across multiple jurisdictions may be difficult.

The Issuer is incorporated in the B.V.I. and the Guarantor is incorporated in the R.O.C. Most of the directors and executive officers of the Issuer and the Guarantor are nationals or residents of countries other than the United States, and the majority of the Guarantor’s and the Issuer’s assets are located outside the United States. Accordingly, it may be difficult to effect service of process upon the directors and officers of the Issuer and the Guarantor, including with respect to matters arising under U.S. federal securities laws or applicable state securities laws.

It may also be difficult or impossible to obtain jurisdiction against the Issuer or the Guarantor, or against the directors and officers of the Issuer or the Guarantor, in the B.V.I. or in the R.O.C. in actions predicated on the civil liability provisions of the U.S. federal securities law or otherwise. Even if you are successful in bringing an action of this kind, the laws of the B.V.I. and of the R.O.C. may render you unable to enforce a judgment against the Guarantor’s and the Issuer’s assets or the assets of our directors or officers. See “Enforceability of Civil Liabilities” for more information.

We have been advised by our R.O.C. and B.V.I. counsels that (i) there is doubt as to the enforceability, in original actions in the R.O.C. or the B.V.I. courts, of liabilities based on the U.S. federal securities laws or the securities or “blue sky” laws of any state within the U.S. and (ii) judgments of U.S. courts obtained in actions based on the civil liability provisions of the U.S. federal securities laws or any such state securities or blue sky laws will be enforced by the courts of the R.O.C. without further review of the merits only if the courts of the R.O.C. where the enforcement is sought is satisfied with certain requirements under the R.O.C. laws. See “Enforceability of Civil Liabilities”. As a result of all of the above, your rights under the Notes may thus be subject to the laws of several jurisdictions, and you may not be able to effectively enforce your rights in multiple legal, bankruptcy and other similar proceedings. Moreover, such multi-jurisdictional proceedings are typically complex and costly and often result in substantial uncertainty and delay.

Redemption by us of the Notes may materially reduce your investment returns.

We have the right to redeem some or all of the Notes prior to their maturity. We may redeem the Notes at times when prevailing interest rates may be relatively low. Accordingly, you may not be able to reinvest the amount received upon any such redemption in a comparable security at an effective interest rate as favorable as that of the Notes or at all.

CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This offering circular contains forward-looking statements that involve risks and uncertainties, including statements based on our current expectations, assumptions, estimates and projections about us, our industry and the regulatory environment in which we operate. All statements other than statements of historical facts are forward-looking statements. These statements are made under the “Safe Harbor” provisions of the U.S. Private Securities Litigation Reform Act of 1995. Such statements involve known and unknown risks, uncertainties and other factors that may cause our actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements. Forward-looking statements can be identified by words or phrases such as “may”, “will”, “expect”, “anticipate”, “future”, “aim”, “estimate”, “intend”, “seek”, “plan”, “believe”, “potential”, “continue”, “ongoing”, “target”, “guidance”, “is/are likely to” or other similar expressions.

By their nature, forward-looking statements involve risks and uncertainties because they relate to events and depend on circumstances that may or may not occur in the future. Forward-looking statements are not guarantees of future performance and our actual results of operations, financial condition and liquidity, and the development of the industries in which we operate may differ materially from those made in or suggested by the forward-looking statements contained in this offering circular. Important factors that could cause those differences include, but are not limited to:

- general local and global economic conditions;
- the political stability of our local region;
- outlook of the major and emerging end markets for our products, such as smartphones, high performance computing, internet of things (“IoT”), automotive electronics and digital consumer electronics;
- the volatility of the semiconductor and electronics industry;
- our ability to develop new technologies successfully and remain a technological leader;
- the increased competition from other companies and our ability to retain and increase our market share;
- overcapacity in the semiconductor industry;
- our reliance on certain major customers;
- the reliability of our information technology systems and resilience to any cyberattacks;
- our ability to maintain control over expansion and facility modifications;
- our ability to generate growth and profitability;
- our ability to hire and retain qualified personnel;
- our ability to acquire required equipment and supplies necessary to meet business needs;
- our ability to protect our technologies, intellectual property rights and third-party licenses;
- disruptive events, such as earthquakes or droughts;
- the COVID-19 pandemic;
- power and other utility shortages;
- construction issues as we expand our capacity; and
- fluctuations in foreign currency rates, in particular, any material appreciation of the NT dollar against the U.S. dollar, and our ability to manage such risks.

Forward-looking statements include, but are not limited to, statements regarding our strategy and future plans, future business condition and financial results, our capital expenditure plans, our capacity management plans, expectations as to the commercial production using 3-nanometer and more advanced technologies, technological upgrades, investment in research and development, future market demand, future regulatory or other developments in our industry, business expansion plans or new investments as well as business acquisitions and financing plans. If any one or more of the assumptions underlying the industry or market data turns out to be incorrect, actual results may differ from the projections based on these assumptions. You should not place undue reliance on these forward-looking statements. Please see “Risk Factors” for a further discussion of certain factors that may cause actual results to differ materially from those indicated by our forward-looking statements.

USE OF PROCEEDS

The aggregate net proceeds from the offering of the Notes are estimated to be approximately US\$991,656,000, after deducting underwriting commissions and other expenses related to the offering. The Guarantor and the Issuer intend to use the net proceeds from this offering for general corporate purposes.

THE ISSUER

TSMC Global Ltd., a B.V.I. business company with limited liability, is a wholly-owned subsidiary of TSMC, established primarily as an investment holding vehicle. The Issuer had total assets of US\$19,919 million and total equity of US\$13,361 million as of March 31, 2022, which consisted primarily of cash and cash equivalents and financial assets at fair value through other comprehensive income.

CAPITALIZATION

The following table sets forth the Company's consolidated cash and cash equivalents and capitalization (defined as the sum of long-term debt (excluding current portion) and shareholders' equity) as of March 31, 2022, and as adjusted to give effect to the issuance of the Notes. You should read the information set forth below in conjunction with "Summary – Summary Financial Information and Other Data", "Use of Proceeds", "Management's Discussion and Analysis of Financial Condition and Results of Operations" and the Company's consolidated financial statements and related notes included in this offering circular.

| | As of March 31, 2022 | | |
|--|----------------------|-----------------------|----------------------------|
| | Actual | As Adjusted | As Adjusted ⁽¹⁾ |
| | NT\$ | NT\$ (in millions) | US\$ |
| Cash and cash equivalents | 1,151,590 | 1,179,971 | 41,229 |
| Marketable securities⁽²⁾ | 130,466 | 130,466 | 4,559 |
| Long-term debt (net of current portion) | | | |
| Bonds payables ⁽³⁾ | 629,650 | 629,650 | 22,000 |
| 2027 Notes offered hereby | – | 11,409 | 399 |
| 2032 Notes offered hereby | – | 16,972 | 593 |
| Total long-term debt | 629,650 | 658,031 | 22,992 |
| Shareholders' equity | | | |
| Common shares, NT\$10 par value; 28,050,000,000 shares authorized, 25,931,767,458 issued and 25,930,380,458 outstanding | 259,318 | 259,318 | 9,061 |
| Capital surplus | 65,215 | 65,215 | 2,279 |
| Retained earnings | 2,038,262 | 2,038,262 | 71,218 |
| Foreign currency translation reserve | (43,654) | (43,654) | (1,525) |
| Unrealized loss on financial assets at fair value through other comprehensive income | (4,212) | (4,212) | (147) |
| Gain on Hedging Instruments | 798 | 798 | 28 |
| Unearned Stock-Based Employee Compensation | (425) | (425) | (15) |
| Treasury Stock | (872) | (872) | (31) |
| Minority interest in subsidiaries | 7,039 | 7,039 | 246 |
| Total shareholders' equity | 2,321,469 | 2,321,469 | 81,114 |
| Total capitalization⁽⁴⁾ | 2,951,119 | 2,979,500 | 104,106 |

(1) Translated at a rate of NT\$28.62 to US\$1.00, the exchange rate set forth in the H.10 statistical release of the Federal Reserve Board on March 31, 2022.

(2) Marketable securities refer to current portion of marketable financial assets.

(3) On April 22, 2022, TSMC Arizona Corporation, our wholly-owned subsidiary, completed its underwritten SEC-registered public offering of US\$3.5 billion aggregate principal amount of U.S. dollar-denominated senior unsecured notes, unconditionally and irrevocably guaranteed by TSMC. In May 2022, we offered NT dollar-denominated unsecured corporate bonds of NT\$6.1 billion in the R.O.C. Please see "Summary – Summary Financial Information and Other Data – Recent Developments – SEC-registered Debt Offering of U.S. Dollar-denominated Senior Unsecured Notes", "Summary – Summary Financial Information and Other Data – Recent Developments – Offering of NT Dollar-Denominated Unsecured Corporate Bonds in the R.O.C." and "Management's Discussion and Analysis of Financial Condition and Results of Operations – Liquidity and Capital Resources – Cash Requirements" for details.

(4) Total capitalization consists of long-term debt plus shareholders' equity. Total capitalization does not include cash and cash equivalents.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

Our audited consolidated financial statements for the years ended December 31, 2019, 2020 and 2021 have been prepared in accordance with IFRSs. Our unaudited consolidated financial statements for the three months ended March 31, 2021 and 2022 have been prepared in accordance with Taiwan-IFRSs and reviewed by our independent auditors. Taiwan-IFRSs and IFRSs differ in certain significant respects. Please see "Summary of Certain Material Differences Between Taiwan-IFRSs and IFRSs". The following discussion should be read in conjunction with the consolidated financial statements and notes thereto, which are included elsewhere in this offering circular. Unless otherwise stated, all financial information below for the years ended December 31, 2019, 2020 and 2021 and for the three months ended March 31, 2021 and 2022 is presented on a consolidated basis. The following discussion contains forward-looking statements that reflect our current views with respect to future events and financial performance. Our actual results may differ from those anticipated in the forward-looking statements as a result of various factors, including those set forth under "Risk Factors" and elsewhere in this offering circular. Please also see "Cautionary Statement Regarding Forward-Looking Information".

The following discussion covers items for and a comparison between the fiscal years ended December 31, 2021 and 2020 and the three months ended March 31, 2022 and 2021. For the discussion covering items for the fiscal year ended December 31, 2019 and a comparison between the fiscal years ended December 31, 2020 and 2019, please refer to Item 5 of our annual report on Form 20-F for the fiscal year ended December 31, 2020 filed with the SEC.

Overview

We manufacture a variety of semiconductors based on designs provided by our customers. Our business model is commonly called a "dedicated semiconductor foundry". As the leader of the foundry segment, our net revenue and net income attributable to shareholders of the parent for the years ended December 31, 2019, 2020 and 2021 and the three months ended March 31, 2021 and 2022 are listed below:

| | For the three months ended March 31, | | | For the year ended December 31, | | | |
|--|---|---------|--------|-----------------------------------|-----------|-----------|--------|
| | 2021 | | 2022 | 2019 | 2020 | 2021 | |
| | NT\$ | NT\$ | US\$ | NT\$ | NT\$ | NT\$ | US\$ |
| | (in millions, except percentages; unaudited) | | | (in millions, except percentages) | | | |
| Net revenue | 362,410 | 491,076 | 17,158 | 1,069,985 | 1,339,255 | 1,587,415 | 57,225 |
| Net income attributable to shareholders of the parent | 139,690 | 202,733 | 7,084 | 353,948 | 510,744 | 592,359 | 21,354 |

Our net revenue in the three months ended March 31, 2022 increased by 35.5% from the corresponding period in 2021, which was mainly attributed to an increase in wafer shipments and ASP due to higher advanced technology (7-nanometer and below) revenue weighting, partially offset by an appreciation of the NT dollar against the U.S. dollar.

Our net revenue in 2021 increased by 18.5% from 2020, which was mainly attributed to an increase in wafer shipments and ASP due to higher advanced technology (7-nanometer and below) revenue weighting, partially offset by an appreciation of the NT dollar against the U.S. dollar.

The principal source of our revenue is wafer fabrication, which accounted for approximately 89% of our net revenue both in 2021 and in the three months ended March 31, 2022. The rest of our net revenue was mainly derived from packaging and testing services, mask making, design, and royalty income. Factors that significantly impact our revenue include:

- worldwide demand and capacity supply for semiconductor products;
- pricing;
- production capacity;
- technology development; and
- fluctuation in foreign currency exchange rates.

While the above factors are significant factors, four of which are elaborated as follows:

Pricing. We establish pricing levels for specific periods of time with our customers, some of which are subject to adjustment during the course of that period to take into account market conditions and other factors. We believe that customers find value in our flexible manufacturing capabilities, focus on customer service and timely delivery of high yield products, and this value is reflected in our pricing. Our pricing enables us to continue to invest significantly in research and development to deliver ever-improving products to our customers.

Production Capacity. We currently own and operate our semiconductor manufacturing facilities. For the year of 2020 and 2021, our production capacity was approximately 13 million and 14 million 12-inch equivalent wafers, respectively. For the three months ended March 31, 2022, our production capacity was approximately 3.6 million 12-inch equivalent wafers.

Technology Development. Our operation utilizes a variety of process technologies, ranging from mature process technologies of 0.25 micron or above circuit resolutions to advanced process technologies of 5-nanometer circuit resolutions. The table below presents a breakdown of wafer revenue by circuit resolution for the years ended December 31, 2019, 2020 and 2021 and the three months ended March 31, 2021 and 2022.

| | For the three months ended March 31, | | For the year ended December 31, | | |
|------------------------|--|--|--|--|--|
| | 2021 | 2022 | 2019 | 2020 | 2021 |
| Resolution | Percentage of total wafer revenue ⁽¹⁾ | Percentage of total wafer revenue ⁽¹⁾ | Percentage of total wafer revenue ⁽¹⁾ | Percentage of total wafer revenue ⁽¹⁾ | Percentage of total wafer revenue ⁽¹⁾ |
| 5-nanometer | 14% | 20% | — | 8% | 19% |
| 7-nanometer | 35% | 30% | 27% | 33% | 31% |
| 10-nanometer | — | — | 3% | — | — |
| 16-nanometer | 14% | 14% | 20% | 17% | 14% |
| 20-nanometer | — | — | 1% | 1% | — |
| 28-nanometer | 11% | 11% | 16% | 13% | 11% |
| 40/45-nanometer | 7% | 8% | 10% | 9% | 7% |
| 65-nanometer | 5% | 5% | 8% | 5% | 5% |
| 90-nanometer | 3% | 2% | 3% | 2% | 2% |
| 0.11/0.13 micron | 3% | 3% | 2% | 3% | 3% |
| 0.15/0.18 micron | 6% | 6% | 8% | 7% | 6% |
| ≥0.25 micron | 2% | 1% | 2% | 2% | 2% |
| Total | 100% | 100% | 100% | 100% | 100% |

(1) The figure represents wafer revenue from a certain technology as a percentage of the total wafer revenue.

For the three months ended March 31, 2022, the 5-nanometer and 7-nanometer revenues represented 20% and 30% of total wafer revenue, respectively. Advanced technologies (7-nanometer and below) accounted for 50% of total wafer revenue, up from 49% for the same period in 2021.

In 2021, the 5-nanometer and 7-nanometer revenues represented 19% and 31% of total wafer revenue, respectively. Advanced technologies (7-nanometer and below) accounted for 50% of total wafer revenue, up from 41% in 2020.

Foreign Currency Exchange Rate. Substantially all of our sales are denominated in U.S. dollars while we publish our financial statements in NT dollars. As a result, fluctuations in exchange rates of the NT dollar against the U.S. dollar would have a significant impact on our reported revenue. The NT dollar appreciation in 2021 had an unfavorable effect on our revenue, with weighted average exchange rates of the NT dollar per U.S. dollar appreciating from NT\$29.43 in 2020 to NT\$27.94 in 2021. The weighted average exchange rates of the NT dollar per U.S. dollar slightly depreciating from NT\$27.94 in 2021 to NT\$27.95 for the three months ended March 31, 2022.

Critical Accounting Policies, Judgments and Key Sources of Estimation and Uncertainty

Summarized below are our accounting policies that we believe are important to the portrayal of our financial results and also involve the need for management to make estimates about the effect of matters that are uncertain in nature. Actual results may differ from these estimates, judgments and assumptions. Certain accounting policies are particularly critical because of their significance to our reported financial results and the possibility that future events may differ significantly from the conditions and assumptions underlying the estimates used and judgments made by us in preparing our financial statements. We have considered the economic implications of COVID-19 on critical accounting estimates and will continue to evaluate the impact on our financial position and financial performance as a result of the pandemic. The following discussion should be read in conjunction with the consolidated financial statements and related notes, which are included in this offering circular.

Critical Accounting Policies and Judgments

Revenue Recognition. We recognize revenue when performance obligations are satisfied. Our performance obligations are satisfied when customers obtain control of the promised goods, which is generally when the goods are delivered to our customers' specified locations.

Commencement of Depreciation Related to Property, Plant and Equipment Classified as Equipment under Installation and Construction in Progress (EUI/CIP). Commencement of depreciation related to EUI/CIP involves determining when the assets are available for their intended use. The criteria we use to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets to be capable of operating in the intended manner.

Judgments on Lease Terms. In determining a lease term, we consider all facts and circumstances that create an economic incentive to exercise or not to exercise an option, including any expected changes in facts and circumstances from the commencement date until the exercise date of the option. Main factors considered include contractual terms and conditions covered by the optional periods, and the importance of the underlying asset to the lessee's operations, etc. The lease term is reassessed if a significant change in circumstances that are within our control occurs.

Critical Accounting Policies and Key Sources of Estimation and Uncertainty

Estimation of Sales Returns and Allowances. Sales returns and other allowances is estimated and recorded based on historical experience and in consideration of different contractual terms. The amount is deducted from revenue in the same period the related revenue is recorded. We periodically review the reasonableness of the estimates. However, because of the inherent nature of estimates, actual returns and allowances could be different from our estimates. If the actual returns are greater than our estimated amount, we could be required to record an additional liability, which would have a negative impact on our recorded revenue and gross margin. For further information, please see note 23 to our 2021 consolidated financial statements and note 21 to our consolidated financial statements for the three months ended March 31, 2022 included herein.

Inventory Valuation. Inventories are stated at the lower of cost or net realizable value for finished goods, work-in-progress, raw materials, supplies and spare parts. Inventory write-downs are made on an item-by-item basis, except where it may be appropriate to group similar or related items.

A significant amount of our manufacturing costs is fixed because our extensive manufacturing facilities (which provide us large production capacity) require substantial investment to construct and are largely fixed-cost assets once they become operational. When the capacity utilization increases, the fixed manufacturing costs are spread over a larger amount of output, which would lower the inventory cost per unit.

We evaluate our ending inventory based on standard cost under normal capacity utilization, and reduce the carrying value of our inventory when the actual capacity utilization is higher than normal capacity utilization. No adjustment is made to the carrying value of inventory when the actual capacity utilization is at or lower than normal capacity utilization. Normal capacity utilization is established based on historic loadings compared to total available capacity in our wafer manufacturing fabs.

We also evaluate our ending inventory and reduce the carrying value of inventory for normal waste, obsolescence and unmarketable items by an amount that is the difference between the cost of the inventory and the net realizable value. The net realizable value of the inventory is determined mainly based on assumptions of future demand within a specific time horizon, which is generally 180 days or less.

Impairment of Tangible Assets, Right-of-Use Assets and Intangible Assets Other than Goodwill. We assess the impairment of tangible assets (property, plant and equipment), right-of-use assets and intangible assets other than goodwill whenever triggering events or changes in circumstances indicate that the asset may be impaired and the carrying value may not be recoverable.

Indicators we consider important which could trigger an impairment review include, but are not limited to, the following:

- significant underperformance relative to historical or projected future operating results;
- significant changes in the manner of our use of the acquired assets or our overall business strategy; and
- significant unfavorable industry or economic trends.

When we determine that the carrying value of tangible assets, right-of-use assets and intangible assets may not be recoverable based upon the existence of one or more of the above indicators of impairment, we measure any impairment for tangible assets, right-of-use assets and intangible assets based on projected future cash flow. If the tangible assets, right-of-use assets or intangible assets are determined to be impaired, we recognize an impairment loss through a charge to our operating results to the extent the recoverable amount, measured at the present value of discounted cash flows attributable to the assets, is less than their carrying value. Such cash flow analysis includes assumptions about expected future economic and market conditions, the applicable discount rate, and the future revenue generation from the use or disposition of the assets. We also perform a periodic review to identify assets that are no longer used and are not expected to be used in future periods and record an impairment charge to the extent that the carrying amount of the tangible assets, right-of-use assets and intangible assets exceeds the recoverable amount. If the recoverable amount subsequently increases, the impairment loss previously recognized will be reversed to the extent of the increase in the recoverable amount, provided that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset in prior years.

In the process of evaluating the potential impairment of tangible assets, right-of-use assets and intangible assets other than goodwill, we are required to review for impairment groups of assets related to the lowest level of identifiable independent cash flows. We determine the independent cash flows that can be related to specific asset groups. In addition, we determine the remaining useful lives of assets and the expected future revenue and expenses associated with the assets. Any change in these estimates based on changed economic conditions or business strategies could result in significant impairment charges or reversal in future periods. Our projection for future cash flow is generally lower during periods of reduced earnings. As a result, an impairment charge is more likely to occur during a period when our operating results are already otherwise depressed.

In 2019, we recognized a reversal of impairment loss of NT\$301 million due to redeployment of certain idle machinery and equipment. In 2021 and in the three months ended March 31, 2022, we recognized an impairment loss of NT\$274 million and NT\$791 million, respectively, for certain machinery and equipment that was assessed to have no future use, and the recoverable amount of certain machinery and equipment was nil.

As of December 31, 2020 and 2021 and March 31, 2022, net tangible assets, right-of-use assets and intangible assets amounted to NT\$1,603,649 million, NT\$2,029,296 million (US\$73,154 million) and NT\$2,157,368 million (US\$75,380 million), respectively.

Realization of Deferred Income Tax Assets. When we have temporary differences in the amount of tax expenses recorded for tax purposes and financial reporting purposes, we may be able to reduce the amount of tax that we would otherwise be required to pay in future periods. We generally recognize deferred tax assets to the extent that it is probable that sufficient taxable income will be available in the future to utilize such assets. The income tax benefit or expense is recorded when there is a net change in our total deferred tax assets and liabilities in a period. The ultimate realization of the deferred tax assets depends upon the generation of future taxable income during the periods in which the temporary differences may be utilized. Specifically, the realization of deferred income tax assets is impacted by our expected future revenue growth and profitability, tax holidays, Alternative Minimum Tax (“AMT”), the surtax imposed on unappropriated earnings and the amount of tax credits that can be utilized within the statutory period. In determining the amount of deferred tax assets, we considered past performance, the general outlook of the semiconductor industry, business conditions, future taxable income and prudent and feasible tax planning strategies.

Because the determination of the amount of deferred tax assets that can be realized is based, in part, on our forecast of future profitability, it is inherently uncertain and subjective. Changes in market conditions and our assumptions may cause the actual future profitability to differ materially from our current expectation, which may require us to increase or decrease the deferred tax assets that we have recorded. As of December 31, 2020 and 2021 and March 31, 2022, deferred tax assets were NT\$25,958 million, NT\$49,154 million (US\$1,772 million) and NT\$53,904 million (US\$1,883 million), respectively. Deferred tax assets increased by NT\$23,196 million in 2021 and increased further by NT\$4,750 million in the three months ended March 31, 2022, mainly due to depreciation of certain fixed assets that resulted in temporary differences between the carrying value of these fixed assets and their tax basis, which may be deductible for tax purposes in the future.

Determination of Lessees' Incremental Borrowing Rates. In determining a lessee's incremental borrowing rate used in discounting lease payments, we mainly take into account the market risk-free rates, the estimated lessee's credit spreads and secured status in a similar economic environment.

Results of Operations

The following table sets forth, for the periods indicated, certain financial data from our consolidated statements of profit or loss and other comprehensive income, expressed in each case as a percentage of net revenue:

| | For the three months ended March 31, | |
|---|--------------------------------------|---------|
| | 2021 | 2022 |
| | (unaudited) | |
| Net revenue | 100.0% | 100.0% |
| Cost of revenue | (47.6)% | (44.4)% |
| Gross profit | 52.4% | 55.6% |
| Operating expenses | | |
| Research and development | (8.5)% | (7.3)% |
| General and administrative | (1.8)% | (2.2)% |
| Marketing | (0.5)% | (0.4)% |
| Total operating expenses | (10.8)% | (9.9)% |
| Other operating income and expenses, net | (0.1)% | (0.1)% |
| Income from operations | 41.5% | 45.6% |
| Income before income tax | 42.8% | 46.2% |
| Income tax expense | (4.2)% | (4.9)% |
| Net income | 38.6% | 41.3% |
| Other comprehensive income for the period, net of income tax | 1.6% | 3.2% |
| Total comprehensive income for the period | 40.2% | 44.5% |
| Net income attributable to shareholders of the parent | 38.6% | 41.3% |
| Net income attributable to non-controlling interests | 0.0% | 0.0% |

| | For the year ended December 31, | | |
|---|---------------------------------|---------|---------|
| | 2019 | 2020 | 2021 |
| Net revenue | 100.0% | 100.0% | 100.0% |
| Cost of revenue | (54.0)% | (46.9)% | (48.4)% |
| Gross profit | 46.0% | 53.1% | 51.6% |
| Operating expenses | | | |
| Research and development | (8.6)% | (8.2)% | (7.9)% |
| General and administrative | (2.0)% | (2.1)% | (2.3)% |
| Marketing | (0.6)% | (0.5)% | (0.5)% |
| Total operating expenses | (11.2)% | (10.8)% | (10.7)% |
| Other operating income and expenses, net | 0.0% | 0.0% | 0.0% |
| Income from operations | 34.8% | 42.3% | 40.9% |
| Income before income tax | 36.4% | 43.7% | 41.8% |
| Income tax expense | (3.3)% | (5.5)% | (4.5)% |
| Net income | 33.1% | 38.2% | 37.3% |
| Other comprehensive loss for the year, net of income tax | (1.1)% | (2.3)% | (0.4)% |
| Total comprehensive income for the year | 32.0% | 35.9% | 36.9% |
| Net income attributable to shareholders of the parent | 33.1% | 38.1% | 37.3% |
| Net income attributable to non-controlling interests | 0.0% | 0.1% | 0.0% |

Three Months Ended March 31, 2021 (Unaudited) Compared to Three Months Ended March 31, 2022 (Unaudited)

Net Revenue and Gross Margin

| | For the three months ended March 31, | | | % Change in NT\$ from 2021 |
|---|--|-----------|---------|----------------------------------|
| | 2021 | 2022 | | |
| | NT\$ (in millions, except percentages and wafer shipment; unaudited) | NT\$ | US\$ | |
| Net revenue | 362,410 | 491,076 | 17,158 | 35.5% |
| Cost of revenue | (172,571) | (217,873) | (7,612) | 26.3% |
| Gross profit | 189,839 | 273,203 | 9,546 | 43.9% |
| Gross margin percentage | 52.4% | 55.6% | 55.6% | — |
| Wafer (12-inch equivalent) shipment ⁽¹⁾ | 3,359 | 3,778 | 3,778 | — |

(1) In thousands.

Net Revenue

Our net revenue in the three months ended March 31, 2022, increased by 35.5% from the corresponding period in 2021, which was mainly attributed to an increase in wafer shipments and ASP due to higher advanced technology (7-nanometer and below) revenue weighting, partially offset by an appreciation of the NT dollar against the U.S. dollar.

Gross Margin

Our gross margin fluctuates with the level of capacity utilization, price change, cost improvement, product mix and exchange rates, among other factors. Furthermore, our gross margin would be negatively impacted in the period when a new technology is introduced.

In the three months ended March 31, 2022, our gross margin increased to 55.6% of net revenue from 52.4% in the corresponding period in 2021, mainly as we continued to sell our value and improve cost.

Operating Expenses

| | For the three months ended March 31, | | | |
|---|--|---------|-------|----------------------------------|
| | 2021 | 2022 | | % Change in NT\$ from 2021 |
| | NT\$ | NT\$ | US\$ | |
| | (in millions, except percentages; unaudited) | | | |
| Research and development | 30,756 | 36,048 | 1,260 | 17.2% |
| General and administrative | 6,525 | 10,500 | 367 | 60.9% |
| Marketing | 1,831 | 2,063 | 72 | 12.7% |
| Total operating expenses | 39,112 | 48,611 | 1,699 | 24.3% |
| Percentage of net revenue | 10.8% | 9.9% | 9.9% | — |
| Other operating income and expenses, net | (189) | (802) | (28) | (324.3)% |
| Income from operations | 150,538 | 223,790 | 7,819 | 48.7% |
| Operating margin | 41.5% | 45.6% | 45.6% | — |

Operating expenses in the three months ended March 31, 2022, increased by NT\$9,499 million, or 24.3%, from the corresponding period in 2021.

Research and Development Expenses

We remain strongly committed to being the leader in advanced process technologies development. We believe that continuing investment in process technologies is essential for us to remain competitive in the markets we serve.

Research and development expenses increased by NT\$5,292 million in the three months ended March 31, 2022, or 17.2%, from the corresponding period in 2021. The increases were mainly due to a higher level of research activities for 2-nanometer and 3-nanometer process technologies, as we continued to advance to smaller processing nodes.

General and Administrative and Marketing Expenses

General and administrative and marketing expenses in the three months ended March 31, 2022 increased by NT\$4,207 million, or 50.3%, compared to the corresponding period in 2021, mainly attributable to start-up expenses of new fab preparation and donation of vaccines.

Other Operating Income and Expenses, Net

Net other operating income and expenses in the three months ended March 31, 2022 decreased by NT\$613 million from the corresponding period in 2021, mainly due to higher impairment loss on property, plant and equipment compared to the corresponding period in 2021.

Non-Operating Income and Expenses

| | For the three months ended March 31, | | | % Change in NT\$ from 2021 |
|--|--|---------|------|----------------------------------|
| | 2021 | 2022 | | |
| | NT\$ | NT\$ | US\$ | |
| | (in millions, except percentages; unaudited) | | | |
| Share of profits of associates | 1,267 | 1,726 | 60 | 36.2% |
| Interest income | 1,461 | 1,674 | 59 | 14.6% |
| Other income | 308 | 308 | 11 | 0.0% |
| Foreign exchange gain, net | 5,474 | 1,743 | 61 | (68.2)% |
| Finance costs | (772) | (2,141) | (75) | 177.3% |
| Other gains and losses, net | (3,212) | (268) | (9) | (91.7)% |
| Net non-operating income | 4,526 | 3,042 | 107 | (32.8)% |

Net non-operating income in the three months ended March 31, 2022, decreased by NT\$1,484 million, or 32.8%, from the corresponding period in 2021, mainly due to higher finance costs compared to the corresponding period in 2021.

Income Tax Expense

| | For the three months ended March 31, | | | |
|--|--|----------|-------|----------------------------------|
| | 2021 | 2022 | | % Change in NT\$ from 2021 |
| | NT\$ | NT\$ | US\$ | |
| | (in millions, except percentages; unaudited) | | | |
| Income tax expense | (15,325) | (23,959) | (837) | 56.3% |
| Net income | 139,739 | 202,873 | 7,089 | 45.2% |
| Net income attributable to shareholders of the parent | 139,690 | 202,733 | 7,084 | 45.1% |
| Net margin attributable to shareholders of the parent | 38.5% | 41.3% | 41.3% | — |

Income tax expenses increased by NT\$8,634 million in the three months ended March 31, 2022, or 56.3%, compared to the corresponding period in 2021. The increase was mainly attributed to higher taxable income.

Year Ended December 31, 2021 Compared to Year Ended December 31, 2020

Net Revenue and Gross Margin

| | For the year ended December 31, | | | | | |
|--|--|-----------|----------------------------------|-----------|----------|----------------------------------|
| | 2019 | 2020 | % Change in NT\$ from 2019 | 2021 | | % Change in NT\$ from 2020 |
| | NT\$ | NT\$ | | NT\$ | US\$ | |
| | (in millions, except for percentages and wafer shipment) | | | | | |
| Net revenue | 1,069,985 | 1,339,255 | 25.2% | 1,587,415 | 57,225 | 18.5% |
| Cost of revenue | (577,283) | (628,125) | 8.8% | (767,878) | (27,681) | 22.2% |
| Gross profit | 492,702 | 711,130 | 44.3% | 819,537 | 29,544 | 15.2% |
| Gross margin percentage | 46.0% | 53.1% | — | 51.6% | 51.6% | — |
| Wafer (12-inch equivalent) shipment ⁽¹⁾ | 10,068 | 12,398 | — | 14,179 | 14,179 | — |

(1) In thousands.

Net Revenue

Our net revenue in 2021 increased by 18.5% from 2020, which was mainly attributed to an increase in wafer shipments and ASP due to higher advanced technology (7-nanometer and below) revenue weighting, partially offset by an appreciation of the NT dollar against the U.S. dollar. We shipped approximately 14.2 million 12-inch equivalent wafers in 2021 compared to 12.4 million in 2020.

Gross Margin

Our gross margin fluctuates with the level of capacity utilization, price changes, cost improvement, product mix and exchange rate, among other factors. Furthermore, our gross margin would be negatively impacted in the year when a new technology is introduced.

In 2021, our gross margin decreased to 51.6% of net revenue from 53.1% in 2020, mainly ascribed to an unfavorable impact from NT dollar appreciation and dilution from 5-nanometer products, partially offset by cost improvement.

Operating Expenses

| | For the year ended December 31, | | | | | |
|--|-----------------------------------|----------------|----------------------------------|----------------|---------------|----------------------------------|
| | 2019 | 2020 | % Change in NT\$ from 2019 | 2021 | | % Change in NT\$ from 2020 |
| | NT\$ | NT\$ | | NT\$ | US\$ | |
| | (in millions, except percentages) | | | | | |
| Research and development | 91,419 | 109,486 | 19.8% | 124,735 | 4,497 | 13.9% |
| General and administrative | 21,737 | 28,457 | 30.9% | 36,929 | 1,331 | 29.8% |
| Marketing | 6,349 | 7,113 | 12.0% | 7,559 | 272 | 6.3% |
| Total operating expenses | <u>119,505</u> | <u>145,056</u> | <u>21.4%</u> | <u>169,223</u> | <u>6,100</u> | <u>16.7%</u> |
| Percentage of net revenue | 11.2% | 10.8% | — | 10.7% | 10.7% | — |
| Other operating income and expenses, net . . | (496) | 710 | — | (333) | (13) | (146.9)% |
| Income from operations | <u>372,701</u> | <u>566,784</u> | <u>52.1%</u> | <u>649,981</u> | <u>23,431</u> | <u>14.7%</u> |
| Operating Margin | 34.8% | 42.3% | — | 40.9% | 40.9% | — |

Operating expenses increased by NT\$24,167 million in 2021, or 16.7%, from 2020.

Research and Development Expenses

We remain strongly committed to being the leader in advanced process technologies development. We believe that continuing investment in process technologies is essential for us to remain competitive in the markets we serve.

Research and development expenses increased by NT\$15,249 million in 2021, or 13.9%, from 2020. The increases were mainly attributed to a higher level of research activities for 2-nanometer, 3-nanometer and 4-nanometer process technologies, as we continued to advance to smaller processing nodes, partially offset by a lower level of research activities for 5-nanometer and 7-nanometer.

We plan to continue our investment in technology research and development in 2022.

General and Administrative and Marketing Expenses

General and administrative and marketing expenses in 2021 increased by NT\$8,918 million, or 25.1%, compared to 2020, mainly reflecting donation of vaccines and start-up expense of overseas fab preparation.

Other Operating Income and Expenses

Net other operating income and expenses in 2021 decreased by NT\$1,043 million from 2020, mainly due to a loss on disposal of property, plant and equipment of NT\$274 million, compared to a gain on disposal of property, plant and equipment of NT\$189 million in 2020, and higher impairment loss on property, plant and equipment of NT\$264 million compared to 2020.

Non-Operating Income and Expenses

| | For the year ended December 31, | | | | | |
|--|-----------------------------------|---------|----------------------------------|---------|-------|----------------------------------|
| | 2019 | 2020 | % Change in NT\$ from 2019 | 2021 | | % Change in NT\$ from 2020 |
| | NT\$ | NT\$ | | NT\$ | US\$ | |
| | (in millions, except percentages) | | | | | |
| Share of profits of associates | 2,861 | 3,562 | 24.5% | 5,513 | 199 | 54.8% |
| Interest income | 16,190 | 9,018 | (44.3)% | 5,708 | 206 | (36.7)% |
| Other income | 417 | 661 | 58.5% | 973 | 35 | 47.2% |
| Foreign exchange gain (loss), net | 2,095 | (3,303) | (257.7)% | 13,663 | 492 | — |
| Finance costs | (3,251) | (2,082) | (36.0)% | (5,414) | (195) | 160.0% |
| Other gains and losses, net | (1,151) | 10,106 | — | (7,388) | (266) | (173.1)% |
| Net non-operating income | 17,161 | 17,962 | 4.7% | 13,055 | 471 | (27.3)% |

Non-operating income and expenses in 2021 decreased by NT\$4,907 million, or 27.3%, from 2020, mainly due to higher finance costs of NT\$3,332 million and lower interest income of NT\$3,310 million compared to 2020. The decreases were partially offset by higher share of profits of associates of NT\$1,951 million.

Income Tax Expense

| | For the year ended December 31, | | | | | |
|---|-----------------------------------|----------|----------------------------------|----------|---------|----------------------------------|
| | 2019 | 2020 | % Change in NT\$ from 2019 | 2021 | | % Change in NT\$ from 2020 |
| | NT\$ | NT\$ | | NT\$ | US\$ | |
| | (in millions, except percentages) | | | | | |
| Income tax expense . . . | (35,835) | (73,738) | 105.8% | (70,155) | (2,529) | (4.9)% |
| Net income | 354,027 | 511,008 | 44.3% | 592,881 | 21,373 | 16.0% |
| Net income attributable to shareholders of the parent | 353,948 | 510,744 | 44.3% | 592,359 | 21,354 | 16.0% |
| Net margin attributable to shareholders of the parent | 33.1% | 38.1% | — | 37.3% | 37.3% | — |

Income tax expenses decreased by NT\$3,583 million in 2021, or 4.9%, from 2020. The decrease was mainly due to the adjustment of surtax imposed on prior year's unappropriated earnings in 2021, partially offset by higher surtax imposed on current year's unappropriated earnings as a result of higher 2021 undistributed earnings. The adjustment of unappropriated earnings in 2021 was the deduction of capital expenditures in calculation of surtax imposed on undistributed earnings.

Liquidity and Capital Resources

Our sources of liquidity include cash flow from operations, cash and cash equivalents, current portion of marketable securities, and issuances of corporate bonds.

Our primary source of liquidity is cash flow from operations. Cash flow from operations for 2021 was NT\$1,112,161 million (US\$40,092 million), reflecting an increase of NT\$289,495 million from 2020. Cash flow from operations for the three months ended March 31, 2022 was NT\$372,170 million (US\$13,004 million), reflecting an increase of NT\$144,354 million from the same period in 2021.

Our cash, cash equivalents and current portion of marketable securities increased to NT\$1,188,456 million (US\$42,843 million) as of December 31, 2021 from NT\$791,477 million as of December 31, 2020, and further increased to NT\$1,282,056 million (US\$44,796 million) as of March 31, 2022. The current portion of marketable securities primarily consisted of fixed income securities. In 2021, we issued NT dollar-denominated corporate bonds totaling NT\$114,600 million (US\$4,131 million) and US dollar-denominated corporate bonds of US\$9,000 million. During the three months ended March 31, 2022, we issued NT dollar-denominated corporate bonds totaling NT\$19,600 million (US\$685 million). For further information, please refer to note 19 and note 31 to our 2021 consolidated financial statements and note 18 and note 29 to our consolidated financial statements for the three months ended March 31, 2022, respectively.

We believe that our cash generated from operations, cash and cash equivalents, current portion of marketable securities, and ability to access capital market will be sufficient to fund our working capital needs, capital expenditures, debt repayments, dividend payments and other business requirements associated with existing operations over the next 12 months.

| | For the three months ended March 31, | | |
|--|--------------------------------------|-----------|----------|
| | 2021 | 2022 | |
| | NT\$ | NT\$ | US\$ |
| | (in millions; unaudited) | | |
| Net cash generated by operating activities | 227,816 | 372,170 | 13,004 |
| Net cash used in investing activities | (244,251) | (288,074) | (10,065) |
| Net cash generated by (used in) financing activities | 14,618 | (19,086) | (667) |
| Effect of exchange rate changes on cash and cash equivalents | 6,374 | 21,590 | 754 |
| Net increase in cash and cash equivalents | 4,557 | 86,600 | 3,026 |

Cash and cash equivalents increased by NT\$86,600 million in the three months ended March 31, 2022, following an increase of NT\$4,557 million in the corresponding period in 2021.

| | For the year ended December 31, | | | |
|--|---------------------------------|-----------------------|-----------|----------|
| | 2019 | 2020 | 2021 | |
| | NT\$ | NT\$ (in millions) | NT\$ | US\$ |
| Net cash generated by operating activities | 615,139 | 822,667 | 1,112,161 | 40,092 |
| Net cash used in investing activities ... | (458,802) | (505,782) | (836,366) | (30,150) |
| Net cash generated by (used in) financing activities | (269,639) | (88,615) | 136,608 | 4,925 |
| Effect of exchange rate changes on cash and cash equivalents | (9,114) | (23,498) | (7,584) | (274) |
| Net increase (decrease) in cash and cash equivalents | (122,416) | 204,772 | 404,819 | 14,593 |

Cash and cash equivalents increased by NT\$404,819 million in 2021, following an increase of NT\$204,772 million in 2020.

Operating Activities

In the three months ended March 31, 2022, we generated NT\$372,170 million (US\$13,004 million) net cash from operating activities, as compared to NT\$227,816 million in the same period in 2021. The net cash generated from operating activities was primarily from NT\$226,832 million in income before income tax, NT\$111,102 million in depreciation and amortization and NT\$34,236 million in changes in working capital and others. The higher depreciation and amortization expenses in the three months ended March 31, 2022 were mainly attributed to continuing investment in production capacity for advanced technologies.

In the three months ended March 31, 2021, net cash generated from operating activities was primarily from NT\$155,064 million in income before income tax and NT\$100,900 million in depreciation and amortization, partially offset by changes in working capital and others of NT\$28,148 million. The higher depreciation and amortization expenses in the three months ended March 31, 2021 were mainly attributed to continuing investment in production capacity for advanced technologies.

In 2021, we generated NT\$1,112,161 million (US\$40,092 million) net cash from operating activities, as compared to NT\$822,667 million in 2020. The net cash generated from operating activities was primarily from NT\$663,036 million in income before income tax, NT\$422,395 million in non-cash depreciation and amortization expenses, and net changes in working capital with others and income tax payment of NT\$26,730 million. The higher depreciation and amortization expenses in 2021 were mainly attributed to continuing investment in production capacity for advanced technologies.

In 2020, net cash generated from operating activities was primarily from NT\$584,746 million in income before income tax and NT\$331,725 million in non-cash depreciation and amortization expenses, partially offset by income tax payment, change in working capital and others of NT\$93,804 million. The higher depreciation and amortization expenses in 2020 were mainly attributed to continuing investment in production capacity for advanced technologies.

Investing Activities

In the three months ended March 31, 2022, net cash used in investing activities was NT\$288,074 million (US\$10,065 million), as compared to NT\$244,251 million in the same period in 2021. The primary use of cash in investing activities in the three months ended March 31, 2022 was for capital expenditures of NT\$262,135 million.

In the three months ended March 31, 2021, net cash used in investing activities was primarily for capital expenditures of NT\$248,029 million.

In 2021, net cash used in investing activities was NT\$836,366 million (US\$30,150 million), as compared to NT\$505,782 million in 2020. The primary use of cash in investing activities in 2021 was for capital expenditures of NT\$839,196 million.

In 2020, net cash used in investing activities was primarily for capital expenditures of NT\$507,239 million. Our capital expenditures for 2021 were primarily related to:

- installing and expanding capacity, mainly for 5-nanometer and 3-nanometer nodes;
- expanding capacity for advanced packaging and specialty technologies;
- expanding buildings/facilities for Fab 18 and a 300mm wafer fab in Arizona, U.S.; and
- investing in research and development projects for new process technologies.

See “Risk Factors” section for the risks associated with the inability of raising the requisite funding for our expansion programs. Please also see “Business – Capacity Management and Technology Upgrade Plans” for discussion of our capacity management and capital expenditures.

Financing Activities

In the three months ended March 31, 2022, net cash used in financing activities was NT\$19,086 million (US\$667 million), as compared to net cash generated by financing activities of NT\$14,618 million in the same period in 2021. The net cash used in financing activities in the three months ended March 31, 2022 was mainly for cash dividends payments, partially offset by increase in short-term loans and proceeds from issuance of bonds.

In the three months ended March 31, 2021, net cash generated by financing activities was mainly from increase in short-term loans and proceeds from issuance of bonds, partially offset by cash dividends payments.

In 2021, net cash generated by financing activities was NT\$136,608 million (US\$4,925 million), as compared to net cash used of NT\$88,615 million in 2020. The net cash generated by financing activities in 2021 was mainly from proceeds from issuance of corporate bonds and an increase in short-term loans, partially offset by cash dividend payments.

In 2020, net cash used by financing activities was mainly for cash dividend payments, repayments of corporate bonds and short-term loans, partially offset by the proceeds from issuance of corporate bonds.

As of March 31, 2022, our short-term loans were NT\$144,551 million (US\$5,051 million), which were mainly denominated in Euros. Our aggregate long-term debt was NT\$649,530 million (US\$22,695 million), of which NT\$16,792 million (US\$587 million) was classified as current. The long-term debt mainly included NT dollar- and U.S. dollar-denominated corporate bonds with fixed interest rates ranging from 0.36% to 3.25% and remaining maturity ranging from less than 1 year to 38 years.

Cash Requirements

The following table sets forth the maturity of our long-term debt, including principal and interest payments outstanding as of June 30, 2022:

| | Long-term debt (in NT\$ millions) |
|----------------------------------|--------------------------------------|
| During 2022 | 11,751 |
| During 2023 | 33,259 |
| During 2024 | 22,249 |
| During 2025 | 69,115 |
| During 2026 and thereafter | 846,320 |

The following table sets forth information on our material contractually obligated payments (including principal and interest) for the periods indicated as of June 30, 2022:

| Contractual Obligations | Payments Due by Period | | | | |
|--|------------------------|---------------------|-----------|-----------|----------------------|
| | Total | Less than 1 Year | 1-3 Years | 3-5 Years | More than 5 Years |
| | | (in NT\$ millions) | | | |
| Short-Term Loans ⁽¹⁾ | 115,486 | 115,486 | — | — | — |
| Long-Term Debt ⁽²⁾ | 982,694 | 31,335 | 56,955 | 277,338 | 617,066 |
| Capital Leases ⁽³⁾ | 26,484 | 2,481 | 4,272 | 3,759 | 15,972 |
| Other Obligations ⁽⁴⁾ | 249,898 | 64,820 | 183,403 | 1,675 | — |
| Capital Purchase or Other Purchase Obligations ⁽⁵⁾ | 1,549,687 | 1,474,925 | 74,749 | 13 | — |
| Total Contractual Cash Obligations | 2,924,249 | 1,689,047 | 319,379 | 282,785 | 633,038 |

- (1) The maximum amount and average amount of short-term loans outstanding during the six months ended June 30, 2022, were NT\$169,434 million and NT\$143,185 million, respectively. See note 18 to our 2021 consolidated financial statements and note 17 to our consolidated financial statements for the three months ended March 31, 2022, for further information regarding interest rates and future repayment dates of short-term loans as of December 31, 2021 and March 31, 2022, respectively.
- (2) Represents corporate bonds payable and long-term bank loans. See note 19 and note 20 to our 2021 consolidated financial statements and note 18 and note 19 to our consolidated financial statements for the three months ended March 31, 2022, for further information regarding interest rates and future repayment of long-term debt as of December 31, 2021 and March 31, 2022, respectively.
- (3) Capital lease obligations as of December 31, 2021 and March 31, 2022, are described in note 6, note 16, note 31 and note 33 to our 2021 consolidated financial statements and note 15, note 29 and note 30 to our consolidated financial statements for the three months ended March 31, 2022, respectively.
- (4) Represents advance temporary receipts from customer. See note 23 to our 2021 consolidated financial statements and note 21 to our consolidated financial statements for the three months ended March 31, 2022 for further information.
- (5) Represents commitments for construction or purchase of equipment, raw material and other property or services. These commitments were not recorded on our statement of financial position as of June 30, 2022, as we had not received related goods or taken title of the property.

During 2021 and the three months ended March 31, 2022, we used derivative financial instruments to partially hedge the currency exchange rate risk related to non-NT dollar-denominated assets and liabilities and certain forecasted transactions, and interest rate risk related to our fixed income investments and anticipated debt issuances. See “– Market Risks” for a further discussion about currency exchange rate risk, interest rate risk, and derivative financial instruments we used to hedge such risks. See also note 5 to our 2021 consolidated financial statements and note 4 to our consolidated financial statements for the three months ended March 31, 2022, for our accounting policy of derivative financial instruments, and note 8, note 11 and note 33 to our 2021 consolidated financial statements and note 7, note 10 and note 30 to our consolidated financial statements for the three months ended March 31, 2022, for additional details regarding our derivative financial instruments transactions.

Generally, we do not provide letters of credit to, or guarantees for, any entity other than our consolidated subsidiaries.

Significant amount of capital is required to build, expand, and upgrade our production facilities and equipment. Our capital expenditures for 2022 are expected to be closer to the lower end of the range of US\$40 billion and US\$44 billion, which, depending on market conditions, may be adjusted later.

Taxation

The corporate income tax rate in R.O.C. is 20%. Pursuant to the regulations under the R.O.C. Statute for Industrial Innovation, we are eligible for a tax credit for 10% or 15% of qualified research and development expenditures. In addition, our undistributed earnings are reduced by deduction of capital expenditures in calculation of surtax imposed on undistributed earnings.

The alternative minimum tax ("AMT") imposed under the R.O.C. AMT Act is a supplemental income tax which applies if the amount of regular income tax calculated pursuant to the R.O.C. Income Tax Act and relevant laws and regulations is below the amount of basic tax prescribed under the R.O.C. AMT Act. The taxable income for calculating AMT includes most income that is exempt from income tax under various legislations, such as tax holidays. The prevailing AMT rate for business entities is 12%. As we are eligible for tax holidays, AMT is generally applicable to us.

We are eligible for five-year tax holidays for income generated from construction and capacity expansions of production facilities according to regulations under the Statute for Upgrading Industries of the R.O.C. The exemption period may begin at any time within five years, as applicable, following the completion of a construction or expansion of production facilities. The Statute for Upgrading Industries expired at the end of 2009. However, under the Grandfather Clause, we can continue to be eligible for five-year tax holidays if the relevant investment plans were approved by R.O.C. tax authority before the expiration of the Statute. Pursuant to the Grandfather Clause, we commenced the exemption period for part of Fab 15 (Phase I to IV) and part of Fab 14 (Phase III to IV) in 2018. The aggregate tax benefits of such exemption periods in 2020, 2021 and the three months ended March 31, 2022 were NT\$47,115 million, NT\$57,000 million (US\$2,055 million) and NT\$18,445 million (US\$644 million), net of AMT effect, respectively. This five-year tax holiday will expire by 2022.

Currently, the R.O.C. government is proposing an amendment to the Statute for Industrial Innovation to offer higher tax incentives for R&D expenditure and advanced equipment investment. The potential benefit from this draft amendment could partially offset the unfavorable impact from the expiration of the five-year tax holiday, and our effective tax rate is expected to be lower than R.O.C. statutory tax rate of 20% starting from 2023.

Off Balance Sheet Arrangements

There are no off-balance sheet arrangements that have or are reasonably likely to have a current or future effect on our financial condition, changes in financial condition, revenue or expenses, results of operations, liquidity, capital expenditures or capital resources that are material to investors.

Recent Accounting Pronouncements

Please refer to note 4 to our 2021 consolidated financial statements and note 3 to our consolidated financial statements for the three months ended March 31, 2022.

Climate Change Related Issues

The manufacturing, assembling and testing of our products require the use of chemicals and materials that are subject to environmental, climate related, health and safety laws and regulations issued worldwide as well as international accords such as the Paris Agreement. Climate change related laws or regulations currently are too indefinite for us to assess the impact on our future financial condition with any degree of reasonable certainty. For example, the Taiwan “Greenhouse Gas Reduction and Management Act”, which became effective on July 1, 2015, was amended in April 2022, and the amendment is expected to come into force in 2022. The act will be renamed as “Climate Change Adaptation Act” and may affect us financially to a certain extent, such as through the levying of a carbon tax/fee. We expect to see more of its relevant regulations promulgated by the regulators in the future.

Also, the R.O.C. legislative authority is reviewing, at all times, various environmental issues to develop laws and regulations relating to environmental protection and climate related changes. The impact of such laws and regulations, as well as of the carbon tax/fee, is indeterminable at the moment. Please see detailed risk factors related to the impact of climate change regulations and international accords in “Risk Factors – Risks Relating to Our Business”. Please also see our compliance record with Taiwan and international environmental and climate related laws and regulations in “Business – Environmental and Climate Related Laws and Regulations”.

Legal Proceedings

As is the case with many companies in the semiconductor industry, we have received from time to time communications from third parties asserting that our technologies, our manufacturing processes, or the design of the semiconductors made by us or the use of those semiconductors by our customers may infringe upon their patents or other intellectual property rights. These assertions have at times resulted in litigation by or against us and settlement payments by us. Irrespective of the validity of these claims, we could incur significant costs in the defense thereof or could suffer adverse effects on our operations. We are also subject to antitrust compliance requirements and scrutiny by governmental regulators in multiple jurisdictions. Any adverse results of such proceeding or other similar proceedings that may arise in those jurisdictions could harm our business and distract our management, and thereby have a material adverse effect on our results of operations or prospects, and subject us to potential significant legal liability.

We were not a party to any other material litigation as of the date of this offering circular and are not currently a party to any other material litigation.

Dividends and Dividend Policy

Except as otherwise specified in the Articles of Incorporation or under the R.O.C. laws, we will not pay dividends or make other distributions to shareholders when there are no earnings. Our profits may be distributed by way of cash dividend, stock dividend, or a combination of cash and stock. Pursuant to our Articles of Incorporation, distributions of profits shall be made preferably by way of cash dividend. In addition, the ratio for stock dividends shall not exceed 50% of the total distribution. Distribution of stock dividends is subject to approval by the FSC.

Pursuant to our Articles of Incorporation, our Board of Directors is authorized to approve quarterly cash dividends after the close of each quarter. After our Board of Directors approves quarterly cash dividends, we will distribute the dividend within six months. The respective amounts and payment dates of 2021 quarterly cash dividends and approved 2022 quarterly cash dividends are demonstrated in the table below.

| Period | Approved Date | Payment Date | Cash Dividends Per Share (NT\$) | Total Amount (NT\$) |
|---------------------------------|-------------------|------------------|---------------------------------|---------------------|
| First quarter of 2021 | June 9, 2021 | October 14, 2021 | 2.75 | 71,308,546,260 |
| Second quarter of 2021 . . . | August 10, 2021 | January 13, 2022 | 2.75 | 71,308,546,260 |
| Third quarter of 2021 | November 9, 2021 | April 14, 2022 | 2.75 | 71,308,546,260 |
| Fourth quarter of 2021 | February 15, 2022 | July 14, 2022 | 2.75 | 71,308,546,260 |
| First quarter of 2022 | May 10, 2022 | October 13, 2022 | 2.75 | 71,308,546,260 |

Holders of outstanding common shares on a dividend record date will be entitled to the full dividend declared without regard to any subsequent transfer of the common shares.

Holders of ADRs evidencing ADSs are also entitled to receive dividends, subject to the terms of the deposit agreement, to the same extent as the holders of common shares. Cash dividends will be paid to the depositary and, after deduction of any applicable R.O.C. taxes and except as otherwise provided in the deposit agreement, will be paid to holders. Stock dividends will be distributed to the depositary and, except as otherwise provided in the deposit agreement, will be distributed to holders by the depositary in the form of additional ADSs.

Employees

The following table sets out, as of the dates indicated, the number of our full-time employees serving in the capacities indicated.

| Function | As of December 31, | | |
|---|--------------------|---------------|---------------|
| | 2019 | 2020 | 2021 |
| Managers | 5,364 | 5,857 | 6,635 |
| Professionals | 24,416 | 27,767 | 31,920 |
| Assistant Engineers/Clericals | 4,357 | 4,832 | 6,620 |
| Technicians | 17,160 | 18,375 | 19,977 |
| Total | <u>51,297</u> | <u>56,831</u> | <u>65,152</u> |

The following table sets out, as of the dates indicated, a breakdown of the number of our full-time employees by geographic location:

| Location of Facility and Principal Offices | As of December 31, | | |
|--|--------------------|---------------|---------------|
| | 2019 | 2020 | 2021 |
| Hsinchu Science Park, Taiwan | 24,442 | 25,776 | 27,382 |
| Southern Taiwan Science Park, Taiwan | 12,771 | 16,114 | 20,428 |
| Central Taiwan Science Park, Taiwan | 7,333 | 7,668 | 8,486 |
| Taoyuan County, Taiwan | 1,475 | 1,661 | 1,701 |
| Miaoli County, Taiwan | — | — | 628 |
| China | 3,679 | 3,859 | 4,131 |
| North America | 1,513 | 1,620 | 2,188 |
| Europe | 50 | 52 | 54 |
| Japan | 32 | 78 | 152 |
| Korea | 2 | 3 | 2 |
| Total | <u>51,297</u> | <u>56,831</u> | <u>65,152</u> |

As of December 31, 2021, our total employee population was 65,152 with an educational makeup of 4.1% Ph.Ds, 47.3% masters, 27.6% university bachelors, 8.9% college degrees and 12.0% others. Among this employee population, 59.2% were at a managerial or professional level. Continuous learning is the cornerstone of our employee development strategy. Individual development plans are tailor-made to individual development needs for each employee. Employee development is further supported and enforced by a comprehensive network of resources including on the job training, coaching, mentoring, job rotation, classroom training, e-learning and external learning opportunities.

Pursuant to our Articles of Incorporation, our employees participate in our profits sharing program by way of a bonus. Employees in the aggregate are entitled to not less than 1% of our annual profits (defined under local law), after recovering any losses incurred in prior years. Our practice has been to determine the amount of the bonus based on our operating results and industry practice in the R.O.C. In 2020 and 2021, we distributed employees' business performance bonus of NT\$34,753 million and employees' cash profit sharing bonus of NT\$34,753 million to our employees in relation to year 2020 profits. In 2021 and 2022, we distributed employees' business performance bonus of NT\$35,601 million (US\$1,283 million) to our employees in relation to year 2021 profits. Employees' cash profit sharing bonus of NT\$35,601 million (US\$1,283 million) in relation to year 2021 profits was distributed in July 2022.

As to employee relations, we value two-way communication and are committed to keeping our communication channels open and transparent between the management level and their subordinates. In addition, we are dedicated to providing diverse employee engagement programs, which support our goals in reinforcing close rapport with employees and maintaining harmonious labor relations.

Market Risks

We are exposed to financial market risks, primarily in currency exchange rates, interest rates and equity investment prices. A portion of these risks is hedged.

Foreign Currency Risk: Substantially all of our revenue is denominated in U.S. dollars and over half of our capital expenditures are denominated in currencies other than NT dollars, primarily in U.S. dollars, Euros and Japanese yen. As a result, any significant fluctuations to our disadvantage in the exchange rate of the NT dollar against such currencies, in particular a weakening of the U.S. dollar against the NT dollar, would have an adverse impact on our revenue and operating profit as expressed in NT dollars.

We use foreign currency derivatives contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT dollar-denominated assets and liabilities and certain forecasted transactions. These hedges reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on our assets and liabilities. Based on a sensitivity analysis performed on our total monetary assets and liabilities, a hypothetical adverse foreign currency exchange rate change of 10% as of December 31, 2021 and March 31, 2022, would have decreased our net income by NT\$1,435 million (US\$52 million) in 2021 and NT\$265 million (US\$9 million) in the three months ended March 31, 2022, respectively, after taking into account hedges and offsetting positions. For further information, please refer to note 8, note 11 and note 33 to our 2021 consolidated financial statements and note 7, note 10 and note 30 to our consolidated financial statements for the three months ended March 31, 2022.

Interest Rate Risks: We are exposed to interest rate risks primarily in relation to our investment portfolio and outstanding debt. Changes in interest rates affect the interest earned on our cash and cash equivalents and fixed income securities, the fair value of those securities, as well as the interest paid on our debt.

The objective of our investment policy is to achieve a return that will allow us to preserve principal and support liquidity requirements. The policy generally requires us to invest in investment grade securities and limits the amount of credit exposure to any one issuer. Our cash and cash equivalents, as well as fixed income investments in both fixed- and floating-rate securities carry a degree of interest rate risk. The majority of our fixed income investments are fixed-rate securities, which are classified as financial assets at fair value through other comprehensive income, and may have their fair value adversely affected due to a rise in interest rates. At the same time, if interest rates fall, cash and cash equivalents as well as floating-rate securities may generate less interest income than expected.

We have entered, and may in the future enter into interest rate derivatives to partially hedge interest rate risk on our fixed income investments and anticipated debt issuance. However, these hedges can offset only a limited portion of the financial impact from movements in interest rates.

Based on a sensitivity analysis performed on our fixed income investments with an aggregate carrying amount of NT\$124,637 million (US\$4,493 million) and NT\$144,506 million (US\$5,049 million) as of December 31, 2021 and March 31, 2022, respectively, a hypothetical adverse interest rate change of 100 basis points across all maturities would have decreased our other comprehensive income by NT\$3,767 million (US\$136 million) in 2021 and NT\$3,867 million (US\$135 million) in the three months ended March 31, 2022, respectively, after taking into account interest rate hedges. For further information, please refer to note 9, note 10, note 11 and note 33 to our 2021 consolidated financial statements, and note 8, note 9, note 10 and note 30 to our consolidated financial statements for the three months ended March 31, 2022.

As of December 31, 2021 and March 31, 2022, we had outstanding floating- and fixed-rate debt with varying maturities for an aggregate carrying amount of NT\$732,868 million (US\$26,419 million) and NT\$794,080 million (US\$27,746 million), respectively. All of our short-term debt is floating-rate, hence a rise in interest rates may result in higher interest expense than expected. The majority of our long-term debt is fixed-rate and measured at amortized cost and, as such, changes in interest rates would not affect future cash flows or the carrying amount. For further information, please refer to note 18, note 19, note 20 and note 33 to our 2021 consolidated financial statements, and note 17, note 18, note 19 and note 30 to our consolidated financial statements for the three months ended March 31, 2022.

Certain of our fixed income investments are primarily based on the London Interbank Offered Rate ("LIBOR"), which will be replaced by alternative benchmark rates after June 30, 2023. The transition from LIBOR to alternative benchmark rates might result in a reduction in our interest income.

Other Market Risk: Our equity securities are subject to a wide variety of market-related risks that could substantially reduce the fair value of our holdings. We currently do not reduce our equity market exposure through hedging activities. As of December 31, 2021 and March 31, 2022, we had investments in private equity securities mostly through a number of investment funds with a carrying value of NT\$5,888 million (US\$212 million) and NT\$6,012 million (US\$210 million), respectively. Based on a sensitivity analysis performed on our equity investments as of December 31, 2021 and March 31, 2022, a hypothetical adverse price change of 10% would have decreased our other comprehensive income by approximately NT\$596 million (US\$21 million) and NT\$641 million (US\$22 million) in 2021 and the three months ended March 31, 2022, respectively. The actual disposal value of these investments may be significantly different from their carrying value. For further information, please refer to note 33 to our 2021 consolidated financial statements and note 30 to our consolidated financial statements for the three months ended March 31, 2022.

BUSINESS

Our History and Structure

Our legal and commercial name is 台灣積體電路製造股份有限公司 (Taiwan Semiconductor Manufacturing Company Limited). We believe we are currently the world's largest dedicated foundry in the semiconductor industry. We were founded in 1987 as a joint venture among the R.O.C. government and other private investors and were incorporated in the R.O.C. as a company limited by shares on February 21, 1987. Our common shares have been listed on the Taiwan Stock Exchange since September 5, 1994, and our ADSs have been listed on the New York Stock Exchange since October 8, 1997.

Our Principal Office

Our principal executive office is located at No. 8, Li-Hsin Road 6, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China. Our telephone number at that office is (886-3) 563-6688. Our website is www.tsmc.com. Information contained on our website is not incorporated herein by reference and does not constitute part of this offering circular. The SEC maintains an Internet site at www.sec.gov that contains reports, proxy and information statements, and other information regarding issuers, including the Guarantor, that file electronically with the SEC.

Business Overview of the Company

As a foundry, we manufacture semiconductors using our manufacturing processes for our customers based on proprietary integrated circuit designs provided by them. We offer a comprehensive range of wafer fabrication processes, including processes to manufacture CMOS logic, mixed-signal, RF, embedded memory, BiCMOS mixed-signal and others. We also offer design, mask making, TSMC 3DFabric™ advanced packaging and testing services. We produced 26 percent of the world semiconductor excluding memory output value in 2021, as compared to 24 percent in the previous year.

We believe that our scale and capacity, particularly for advanced technologies, is a major competitive advantage. Please see “– Semiconductor Manufacturing Capacity and Technology” and “– Capacity Management and Technology Upgrade Plans” for a further discussion of our capacity.

We count among our customers many of the world's leading semiconductor companies, ranging from fabless semiconductor companies, system companies to integrated device manufacturers, including, but not limited to, Advanced Micro Devices, Inc., Broadcom Limited, Intel Corporation, MediaTek Inc., NVIDIA Corporation, NXP Semiconductors N.V., OmniVision Technology Inc., Qualcomm Inc. and Renesas Electronics Corporation.

Our Semiconductor Facilities

We currently operate one 150mm wafer fab, six 200mm wafer fabs, five 300mm wafer fabs, and four advanced backend fabs. Our corporate headquarters and seven of our fabs are located in the Hsinchu Science Park, two fabs are located in the Central Taiwan Science Park, four fabs are located in the Southern Taiwan Science Park, one fab is located in the United States, one fab is located in Shanghai, and one fab is located in Nanjing. Our corporate headquarters and our seven fabs in Hsinchu occupy parcels of land of a total of approximately 814,355 square meters. We have leased these parcels from the Hsinchu Science Park Administration in Hsinchu under agreements that will be up for renewal between December 2026 and December 2040. We have leased from the Central Taiwan Science Park Administration a parcel of land of approximately 590,584 square meters for our Taichung fabs under agreements that will be up for renewal between September 2029 and June 2041. We have leased from the Southern Taiwan Science Park Administration approximately 1,842,039 square meters of land for our fabs in the Southern Taiwan Science Park under agreements

that will be up for renewal between December 2024 and December 2041. We also own approximately 143,215 square meters of land located in Miaoli, Taiwan. WaferTech, LLC (“WaferTech”) owns a parcel of land of approximately 1,052,186 square meters in the State of Washington in the United States, where the WaferTech fab and related offices are located. TSMC China Company Limited (“TSMC China”) owns the land use rights of 369,087 square meters of land in Shanghai, where Fab 10 and related offices are located. TSMC Nanjing Company Limited (“TSMC Nanjing”) owns the land use rights of 453,401 square meters of land in Nanjing, where Fab 16 and related offices are located. TSMC Arizona Corporation (“TSMC Arizona”) owns a parcel of land of approximately 4,775,885 square meters in the State of Arizona, where Fab 21 and related offices will be located. Other than certain equipment under leases located at testing areas, we own all of the buildings and equipment for our fabs.

Semiconductor Manufacturing Capacity and Technology

We manufacture semiconductors on silicon wafers based on proprietary circuitry designs provided by our customers. Two key factors that characterize a foundry’s manufacturing capabilities are output capacity and fabrication process technologies. Since our establishment, we have possessed the largest capacity among the world’s dedicated foundries. We also believe that we are the technology leader among the dedicated foundries in terms of our net revenue of advanced semiconductors of 7-nanometer and below, and are one of the leaders in the semiconductor manufacturing industry for mainstream and specialty technologies. We were recognized with the 2021 IEEE Corporate Innovation Award for our leadership in 7-nanometer semiconductor foundry technology, enabling customers’ innovation in widespread applications. In addition, our 5-nanometer technology successfully entered volume production in 2020. We are continuing to make progress on the development of 3-nanometer technology, which we expect to enter volume production in the second half of 2022.

The following table lists our wafer fabs and those of our subsidiaries in operation as of June 30, 2022, together with the year of commencement of commercial production, wafer size and the most advanced technology for volume production:

| Fab ⁽¹⁾ | Year of commencement of commercial production | Wafer size | The most advanced technology for volume production ⁽²⁾ |
|--------------------|---|------------|---|
| 2 | 1990 | 6-inch | 450 |
| 3 | 1995 | 8-inch | 150 |
| 5 | 1997 | 8-inch | 150 |
| 6 | 2000 | 8-inch | 110 |
| 8 | 1998 | 8-inch | 110 |
| 10 | 2004 | 8-inch | 150 |
| 11 | 1998 | 8-inch | 150 |
| 12 | 2001 | 12-inch | 5 |
| 14 | 2004 | 12-inch | 16 |
| 15 | 2012 | 12-inch | 7 |
| 16 | 2018 | 12-inch | 16 |
| 18 | 2020 | 12-inch | 5 |

(1) Fabs 2, 3, 5, 8 and Fab 12 are located in Hsinchu Science Park. Fab 6, Fab 14, and Fab 18 are located in the Southern Taiwan Science Park. Fab 15 is located in Central Taiwan Science Park. Fab 11 is located in the Washington State, United States. Fab 10 is located in Shanghai, China and Fab 16 is located in Nanjing, China.

(2) In nanometers, as of June 30, 2022.

In 2021, our annual capacity (in 12-inch equivalent wafers) was approximately 14 million wafers, compared to approximately 13 million wafers in 2020. This increase was primarily from the expansion of our 5-nanometer and 7-nanometer advanced technologies. For the three months ended March 31, 2022, our production capacity (in 12-inch equivalent wafers) was approximately 3.6 million wafers.

Capacity Management and Technology Upgrade Plans

We manage our overall capacity and technology upgrade plans based on long-term market demand forecasts for our products and services. According to our current market demand forecasts, we intend to maintain the strategy of expanding manufacturing capacity and upgrading manufacturing technologies to meet both the fabrication and the technology needs of our customers.

Our capital expenditures in 2019, 2020 and 2021 were NT\$460,422 million, NT\$507,239 million and NT\$839,196 million (US\$30,039 million, translated from a weighted average exchange rate of NT\$27.94 to US\$1.00), respectively. Our capital expenditures in 2022 are expected to be closer to the lower end of the range of US\$40 billion and US\$44 billion, which, depending on market conditions, may be adjusted later. Our capital expenditures for 2019 were funded by our operating cash flow. Our capital expenditures for 2020 and 2021 were funded by our operating cash flow and proceeds from the issuance of corporate bonds, and our capital expenditures for 2022 are also expected to be funded in the same way. In 2022, we anticipate our capital expenditures to focus primarily on the following:

- installing and expanding capacity, mainly for 5-nanometer and 3-nanometer nodes, including building/facility expansion for Fab 21 and Fab 18;
- expanding capacity for specialty technologies and advanced packaging, including building/facility expansion for the Kumamoto fab in Japan; and
- investing in research and development projects for new process technologies.

We are entering a period of higher growth as the multiyear megatrends of 5G and high performance computing are expected to fuel strong demand for our semiconductor technologies in the next several years. In addition, the COVID-19 pandemic also accelerates digitalization in every aspect. We are working closely with our customers to address their needs in a sustainable manner.

These investment plans are preliminary and may change according to market conditions.

Markets and Customers

We categorize our net revenue mainly based on the countries where our customers are headquartered, which may be different from the countries to which we actually sell or ship our products or different from where products are actually ordered. Under this approach, the following tables present a geographic breakdown of our net revenue during the periods indicated:

| Geography | Three months ended March 31, | | | |
|-----------------------------------|--|------------|-------------|------------|
| | 2021 | | 2022 | |
| | Net Revenue | Percentage | Net Revenue | Percentage |
| | (NT\$ in millions, except percentages) | | | |
| North America | 241,822 | 67% | 313,901 | 64% |
| Asia Pacific ⁽¹⁾ | 62,548 | 17% | 71,387 | 15% |
| China | 23,210 | 6% | 55,337 | 11% |
| EMEA ⁽²⁾ | 19,874 | 6% | 25,880 | 5% |
| Japan | 14,956 | 4% | 24,571 | 5% |
| Total | 362,410 | 100% | 491,076 | 100% |

| Geography | Year ended December 31, | | | | | |
|--|-------------------------|-------------|------------------|-------------|------------------|-------------|
| | 2019 | | 2020 | | 2021 | |
| | Net Revenue | Percentage | Net Revenue | Percentage | Net Revenue | Percentage |
| (NT\$ in millions, except percentages) | | | | | | |
| North America | 640,335 | 60% | 827,511 | 62% | 1,035,982 | 65% |
| Asia Pacific ⁽¹⁾ | 96,512 | 9% | 144,448 | 11% | 225,950 | 14% |
| China | 208,101 | 20% | 233,783 | 17% | 164,552 | 10% |
| EMEA ⁽²⁾ | 67,568 | 6% | 70,214 | 5% | 89,010 | 6% |
| Japan | 57,469 | 5% | 63,299 | 5% | 71,921 | 5% |
| Total | <u>1,069,985</u> | <u>100%</u> | <u>1,339,255</u> | <u>100%</u> | <u>1,587,415</u> | <u>100%</u> |

(1) China and Japan are excluded from Asia Pacific.

(2) EMEA stands for Europe, Middle East, and Africa.

In the three months ended March 31, 2022, our net revenue increased from all geographies by a total of NT\$128,666 million from the same period in 2021, which was mainly due to an increase in orders from North America of NT\$72,079 million, or a 30% year-over-year increase, and from China of NT\$32,127 million, or a 138% year-over-year increase.

In 2021, our net revenue increased by a total of NT\$248,160 million compared to 2020, which was mainly due to an increase in orders from North America of NT\$208,471 million, or a 25% year-over-year increase, from Asia Pacific of NT\$81,502 million, or a 56% year-over-year increase and from EMEA of NT\$18,796 million, or a 27% year-over-year increase. The increase was partially offset by a decrease in orders from China of NT\$69,231 million, or a 30% year-over-year decrease.

We provide worldwide customer support. Our office in Hsinchu and wholly-owned subsidiaries in the United States, Canada, Japan, China, the Netherlands and South Korea are dedicated to serving our customers worldwide. Foundry services, which are both technologically and logistically intensive, involve frequent and in-depth interaction with customers. We believe that the most effective means of providing foundry services is by developing direct and close relationships with our customers. Our customer service and technical support managers work closely with the sales force to offer integrated services to customers. To facilitate customer interaction and information access on a real-time basis, a suite of web-based applications has also been offered to provide more active interactions with customers in design, engineering and logistics.

Advance Payment by Customers. Because of the fast-changing technology and functionality in semiconductor design, foundry customers generally do not place purchase orders far in advance to manufacture a particular type of product. However, some of our customers have entered into agreements with us to pay temporary receipts in order to retain specified capacity at our fabs. The treatment of advance temporary receipts, either by refund or by accounts receivable offsetting, will be determined by mutual consent when the terms and conditions set forth in the agreements are satisfied. See note 23 to our 2021 consolidated financial statements and note 21 to our consolidated financial statements for the three months ended March 31, 2022 included herein for further information.

The Semiconductor Fabrication Process

In general, the semiconductor manufacturing process begins with a thin silicon wafer on which an array of semiconductor devices is fabricated. The following processes cover assembly, packaging, and testing of the semiconductor devices. Our focus is on wafer fabrication although we also provide all other services either directly or through outsourcing arrangements.

Our Foundry Services

Range of Services. Because of our ability to provide a full array of services, we are able to accommodate customers with a variety of needs at every stage of the overall foundry process. The flexibility in input stages allows us to cater to a variety of customers with different in-house capabilities and thus to service a wider class of customers as compared to a foundry that cannot offer design or mask making services, for example.

Fabrication Processes. We manufacture semiconductors mainly using the complementary metal-oxide-semiconductor process ("CMOS process"). The CMOS process is currently the mainstream semiconductor manufacturing process. We use the CMOS process to manufacture logic semiconductors, mixed-signal/radio frequency semiconductors, which combine analog and digital circuitry in a single semiconductor, micro-electro-mechanical-system ("MEMS"), which combines micrometer featured mechanical parts, analog and digital circuitry in a single semiconductor, and embedded memory semiconductors, which combine logic and memory in a single semiconductor, etc.

Types of Semiconductors We Manufacture. We manufacture different types of semiconductors with different specific functions by changing the number and the combinations of conducting, insulating and semiconducting layers and by defining different patterns in which such layers are applied on the wafer. At any given point in time, there are thousands of different products in various stages of fabrication at our fabs. We believe that the keys to maintaining high production quality and utilization rates are our effective management and control of the manufacturing process technologies which comes from our extensive experience as the longest existing dedicated foundry and our dedication to quality control and process improvements. Our semiconductors are used for a variety of different platforms. The principal platforms include:

Smartphone Platform: We offer leading process technologies such as 4-nanometer Fin Field-Effect Transistor ("FinFET") and 5-nanometer FinFET logic process technologies, as well as comprehensive intellectual properties for premium product applications to further enhance chip performance, reduce power consumption, and decrease chip size. For mainstream product applications, we offer a broad range of logic process technologies, including 6-nanometer FinFET, 7-nanometer FinFET plus, 7-nanometer FinFET, 12-nanometer FinFET compact plus ("12FFC+"), 12-nanometer FinFET compact ("12FFC"), 16-nanometer FinFET compact plus ("16FFC+"), 16-nanometer FinFET compact ("16FFC"), 28-nanometer high performance compact ("HPC"), 28-nanometer high performance mobile compact plus ("28HPC+"), and 22-nanometer ultra-low power ("22ULP") logic process technologies, in addition to comprehensive intellectual properties, to satisfy customer needs for high-performance and low-power chips. Furthermore, for premium, and mainstream product applications, we offer highly competitive, leading-edge specialty technologies to deliver specialty companion chips for customers' logic application processors, including RF, embedded flash memory, emerging memory technologies, power management, sensors, and display chips, as well as advanced TSMC 3DFabric™ packaging technologies such as the leading integrated fan-out ("InFO") technology.

High Performance Computing Platform: Driven by the explosion of data generation and application innovation, high performance computing has become one of the key growth drivers for our business. We provide customers, both fabless IC design companies and system companies, with leading-edge process technologies such as 4-nanometer FinFET, 5-nanometer FinFET, 6-nanometer FinFET, 7-nanometer FinFET and 12-nanometer/16-nanometer FinFET, as well as comprehensive intellectual properties including high-speed interconnect intellectual properties to meet customers' product requirements for transferring and processing vast amounts of data anywhere and anytime. In particular, we introduced our first HPC-focused technology, N4X, representing the ultimate performance and maximum clock frequencies in our 5-nanometer family. Based on advanced process nodes, a variety of high-performance computing products have been launched, such as central processing units (CPUs), graphics processor units (GPUs), field programmable gate arrays (FPGAs), server processors, accelerators, high-speed networking chips, etc. Those products can be used in current and future 5G, AI, cloud, and data centers. We also offer multiple advanced TSMC 3DFabric™ packaging technologies, such as CoWoS®, InFO, and TSMC-SolC™, to enable homogeneous and heterogeneous chip integration to meet customers' requirements for high performance, high compute density and efficiency, low-latency and high integration. We will continue to optimize our high-performance computing platform and strengthen collaboration with customers to help customers capture market growth in high performance computing markets.

IoT Platform: We provide leading, comprehensive and highly integrated ultra-low power ("ULP") technology platforms to enable innovations for artificial intelligence ("AI") of things ("AIoT", AI+ IoT) applications. Our offerings include the new FinFET-based 12-nanometer technology-N12e™ featuring energy efficiency with high performance that results in more computing power and AI inferencing, 22-nanometer ultra-low leakage ("ULL"), 28-nanometer ULP, 40-nanometer ULP, and 55-nanometer ULP, which have been widely adopted by various edge AI system-on-a-chip ("SoC") and battery-powered applications. We also extend our low V_{dd} (low operating voltage) offerings with wide-range operating voltage simulation program with integrated circuit emphasis (SPICE) models for extreme low-power applications. We also offer competitive and comprehensive specialty technologies in RF, enhanced analog devices, embedded flash memory, emerging memory, sensors, and display chips, as well as multiple TSMC 3DFabric™ advanced packaging technologies, including leading InFO technology, to support the fast-growing demand in AIoT edge computing and wireless connectivity.

Automotive Platform: Our Automotive Platform provides a comprehensive spectrum of technologies and services to support the three automotive megatrends – safer, smarter and greener. We are an industry leader in providing a robust automotive intellectual property ecosystem, which covers 16-nanometer FinFET and 7-nanometer FinFET technologies and extends to 5-nanometer FinFET technology, for advanced driver-assistance systems ("ADAS"), advanced in-vehicle infotainment ("IVI"), as well as zonal controllers for new electrical/electronic ("E/E") architecture for the automotive industry. In addition to the advanced logic technology platform, we offer a broad array of competitive specialty technologies, including 28-nanometer embedded flash memory, 28-, 22- and 16-nanometer millimeter wave RF, high sensitivity CMOS Image/Lidar (light detection and ranging) sensors, and power management integrated circuit ("PMIC"). Magnetic random access memory ("MRAM"), an emerging technology, has demonstrated automotive Grade-1 capability on 22-nanometer and is under development with good progress on 16-nanometer to meet automotive Grade-1 requirements. All these automotive technologies are applied to our automotive process qualification standards based on AEC-Q100 standards or meeting our customers' technology specifications.

Digital Consumer Electronics (“DCE”) Platform: We provide customers with leading and comprehensive technologies to deliver AI-enabled smart devices for DCE applications, including smart digital TVs (“DTV”), set-top boxes (“STB”), AI-embedded smart cameras, and associated wireless local area networks (“WLAN”), PMIC, timing controllers (“T-CON”) and so on. Our leading 7-nanometer FinFET compact, 16FFC/12FFC, 22ULP/22ULL and 28HPC+ technologies have been widely adopted by leading global makers for 8K/4K DTV, 4K streaming STB/over-the-top (“OTT”), digital single-lens reflex (“DSLR”) devices, and so on. We will continue to make these technologies more cost competitive through die size shrink for customers’ digital intensive chip designs, and to drive lower power consumption for more cost-effective packaging.

The following table presents a breakdown of our net revenue by platform during the periods indicated:

| Platform | Three months ended March 31, | | | |
|--|--|------------|-------------|------------|
| | 2021 | | 2022 | |
| | Net Revenue | Percentage | Net Revenue | Percentage |
| | (NT\$ in millions, except percentages) | | | |
| Smartphone | 163,208 | 45% | 196,000 | 40% |
| High Performance Computing | 127,843 | 35% | 202,245 | 41% |
| Internet of Things | 30,123 | 9% | 39,046 | 8% |
| Automotive | 14,605 | 4% | 23,731 | 5% |
| Digital Consumer Electronics | 15,414 | 4% | 14,479 | 3% |
| Others | 11,217 | 3% | 15,575 | 3% |
| Total | 362,410 | 100% | 491,076 | 100% |

| Platform | Year ended December 31, | | | | | |
|--|--|------------|-------------|------------|-------------|------------|
| | 2019 | | 2020 | | 2021 | |
| | Net Revenue | Percentage | Net Revenue | Percentage | Net Revenue | Percentage |
| | (NT\$ in millions, except percentages) | | | | | |
| Smartphone | 523,613 | 49% | 645,304 | 48% | 695,091 | 44% |
| High Performance Computing | 315,822 | 30% | 439,810 | 33% | 587,780 | 37% |
| Internet of Things | 86,343 | 8% | 110,355 | 8% | 133,006 | 8% |
| Automotive | 47,914 | 4% | 44,367 | 3% | 67,077 | 4% |
| Digital Consumer Electronics | 53,733 | 5% | 54,556 | 4% | 55,577 | 4% |
| Others | 42,560 | 4% | 44,863 | 4% | 48,884 | 3% |
| Total | 1,069,985 | 100% | 1,339,255 | 100% | 1,587,415 | 100% |

The increase in our net revenue for the three months ended March 31, 2022, as compared to the same period in 2021 mainly came from the High Performance Computing Platform of NT\$74,402 million, or a 58% year-over-year increase, and from the Smartphone Platform of NT\$32,792 million, or a 20% year-over-year increase.

The increase in our net revenue from 2020 to 2021 mainly came from the High Performance Computing Platform of NT\$147,970 million, or a 34% year-over-year increase, and from the Smartphone Platform of NT\$49,787 million, or an 8% year-over-year increase. The increase also came from the Automotive Platform of NT\$22,710 million, or a 51% year-over-year increase.

Design and Technology Platforms. Modern integrated circuit designers need sophisticated design infrastructure to optimize productivity and cycle time. Such infrastructure includes design flow for electronic design automation (“EDA”), silicon proven building blocks such as libraries and intellectual properties, simulation and verification design kits such as process design kit (or PDK) and technology files. All of this infrastructure is built on top of the technology foundation, and each technology needs its own design infrastructure to be usable for designers. This is the concept of our technology platforms.

For years, we and our alliance partners have spent considerable effort, time and resources to build our technology platforms. We unveiled an Open Innovation Platform® (“OIP”) initiative in 2008 to further enhance our technologies offerings. More OIP deliverables were introduced over the years, as well as in 2021. In the design methodology area, we announced EDA and intellectual property readiness of 3-nanometer and 5-nanometer, as well as continuous development of solutions to enhance power, performance and area (or PPA) on existing production technology nodes, including 6-nanometer, 12-nanometer and 22-nanometer nodes based on 7-nanometer, 16-nanometer and 28-nanometer, respectively. In addition, we also announced the availability of various 3-Dimensional Integrated Circuit reference flows to support TSMC 3DFabric™ that covers a wide range of design applications.

Multi-project Wafer Program (“CyberShuttle®”). To help our customers reduce costs, we offer a dedicated multi-project wafer processing service that allows us to provide multiple customers with circuits produced with the same mask. This program reduces mask costs by a very significant amount, resulting in accelerated time-to-market for our customers. We have extended this program to all of our customers and library and intellectual property partners using our broad selection of process technologies, ranging from the latest 3-, 4-, 5-, 6-, 7-, 12-, 16-, 22-, 28-, 40-, 45-, 55-, 65- and 90-nanometer processes to 0.13-, 0.18-, 0.25-, 0.35- and 0.5-micron. This extension offers a routinely scheduled multi-project wafer run to customers on a shared-cost basis for prototyping and verification.

We developed our multi-project wafer program in response to the current SoC development methodologies, which often require the independent development, prototyping and validation of several intellectual properties before they can be integrated onto a single device. By sharing mask costs among our customers to the extent permissible, the SoC supplier can enjoy reduced prototyping costs and greater confidence that the design will be successful.

Customer Service

We believe that our dedication to customer service has been an indispensable factor in attracting new customers, helping to ensure the satisfaction of existing customers, and building a mutually beneficial relationship with our customers. The key elements are our:

- customer-oriented culture through multi-level interaction with customers;
- ability to deliver products of consistent quality, competitive ramp-up speed and fast yield improvement;
- responsiveness to customers’ issues and requirements, such as engineering change and special wafer handling requests;
- flexibility in manufacturing processes, supported by our competitive technical capability and production planning;

- dedication to help reduce customer costs through collaboration and services, such as our multi-project wafer program, which combines multiple designs on a single mask set for cost-saving; and
- availability of our online service which provides necessary information in design, engineering and logistics to ensure seamless services to our customers throughout the product life cycle.

We also conduct an annual customer satisfaction survey to assess customer satisfaction and to ensure that their needs are adequately understood and addressed. Continuous improvement plans based upon customer feedback are an integral part of this business process. We use data derived from the survey as a base to identify future focus areas. We believe that satisfaction leads to better customer relationships, which would result in more business opportunities.

Research and Development

The semiconductor industry is characterized by rapid changes in technology, frequently resulting in the introduction of new technologies to meet customers' demand and in the obsolescence of recently introduced technology and products. We believe that, in order to stay technologically ahead of our competitors and to maintain our market position in the foundry segment of the semiconductor industry, we need to maintain our position as a technology leader not only in the foundry segment but in the semiconductor industry in general. We spent NT\$91,419 million, NT\$109,486 million, NT\$124,735 million (US\$4,497 million) and NT\$36,048 million (US\$1,260 million) in 2019, 2020, 2021 and the three months ended March 31, 2022, respectively, on research and development, which represented 8.6%, 8.2%, 7.9% and 7.3% of our net revenue, respectively. We plan to continue to invest significant amounts on research and development in 2022, with the goal of maintaining a leading position in the development of advanced process technologies. Our research and development efforts have allowed us to provide our customers access to certain advanced process technologies, such as 16-, 10-, 7- and 5-nanometer technology for volume production, prior to the implementation of those advanced process technologies by our competitors and many integrated device manufacturers. In addition, we expect to advance our process technologies further down to 3-nanometer and 2-nanometer and below in the coming years to maintain our technology leadership. We will also continue to invest in research and development for our mature technologies offerings to provide function-rich process capabilities to our customers. Our research and development efforts are divided into centralized research and development activities and research and development activities undertaken by each of our fabs. Our centralized research and development activities are principally directed toward developing new logic, SoC, derivatives and package/system-in-package (or SIP) technologies, and cost-effective 3D wafer level system integration solutions, including Integrated Fan-Out ("InFO"), Chip-on-Wafer-on-Substrate ("CoWoS[®]"), and System on Integrated Chip ("TSMC-SolC[®]") technologies. Fabricated research and development activities mostly focus on upgrading the manufacturing process technologies.

In continuing to advance our process technologies, we intend to rely primarily on our internal engineering capability, know-how and research and development efforts, including collaboration with our customers, equipment vendors and external research and development consortia.

We also continually create inventions and in-house know-how. Since our inception, we have applied for and have been issued a substantial number of patents in the United States and other countries, the majority of which are semiconductor-related.

Competition

We compete internationally and domestically with other foundry service providers, as well as with a number of integrated device manufacturers. We compete primarily on process technologies, manufacturing excellence, customer trust and service quality, such as earlier technology readiness, better quality, faster yield improvement and shorter cycle time. The level of competition varies with the process technologies involved. For example, in more mature technologies, competitors tend to be numerous and offer specialized processes. Some companies compete with us in selected geographic regions or niche application markets. In recent years, substantial investments have been made by others to establish new foundry capacities worldwide, or to transform certain manufacturing operations of integrated device manufacturers into foundry capacities.

Equipment

The quality and technology of the equipment used in the semiconductor manufacturing process are important in that they effectively define the limits of our process technologies. Advances in process technologies cannot be brought about without commensurate advances in equipment technology. We have periodic meetings with important suppliers with respect to co-developing next-generation equipment.

The principal pieces of equipment used by us to manufacture semiconductors are scanners, cleaners and track equipment, inspection equipment, etchers, furnaces, wet stations, strippers, implanters, sputterers, chemical vapor deposition (CVD) equipment, chemical mechanism polish (CMP) equipment, testers and probers. Other than certain equipment under leases located at testing areas, we own all of the equipment used at our fabs.

In implementing our capacity management and technology advancement plans, we expect to make significant purchases of equipment required for semiconductor manufacturing. Some of the equipment is available from a limited number of vendors and/or is manufactured in relatively limited quantities, and certain equipment has only recently been developed. We believe that our relationships with our equipment suppliers are good and that we have enjoyed the advantages of being a major purchaser of semiconductor fabrication equipment. We work closely with manufacturers to provide equipment customized to our needs for certain advanced technologies.

Raw Materials

Our manufacturing processes use many raw materials, primarily silicon wafers, chemicals, gases and various types of precious metals. Although most of our raw materials are available from multiple suppliers, some materials are purchased through sole-sourced vendors. Our raw material procurement policy is to select only those vendors who have demonstrated quality control and reliability on delivery time and to maintain multiple sources for each raw material whenever possible so that a quality or delivery problem with any one vendor will not adversely affect our operations. The quality and delivery performance of each vendor is evaluated quarterly and quantity allocations are adjusted for subsequent periods based on the evaluation.

The most important raw material used in our production is silicon wafer, which is the basic raw material from which integrated circuits are made. The principal suppliers for our wafers are Formosa SUMCO Technology Corporation of Taiwan, GlobalWafers of Taiwan, Shin-Etsu Handotai of Japan, Siltronic AG of Germany, Soitec Microelectronics of Singapore, and SUMCO Corporation of Japan. Together they supplied approximately 91.8%, 92.6% and 96.0% of our total wafer needs in 2019, 2020 and 2021, respectively. We have in the past obtained, and believe we will continue to be able to obtain, a sufficient supply of wafers. In order to secure a reliable and flexible supply of high quality wafers, we have entered into long-term agreements and intend to continue to develop strategic relationships with major wafer vendors

to cover our anticipated wafer needs for future years. Also, we actively address supply chain issues and bring together fab operations, materials management, quality system and risk management teams to mitigate potential supply chain risks and enhance supply chain agility. This taskforce works with our primary suppliers to review their business continuity plans, qualify their dual-plant materials, prepare safety inventories, improve the quality of their products and manage the supply chain risks of their suppliers. Please see “Risk Factors – Risks Relating to Our Business” for a discussion of the risk related to raw materials, including the fluctuation of prices of our main raw materials.

Environmental and Climate Related Laws and Regulations

The semiconductor production process generates gaseous chemical wastes, greenhouse gases (“GHG”), liquid wastes, wastewater and other industrial wastes in various stages of the manufacturing process. We have installed in our fabs various types of pollution control equipment for the treatment of gaseous and liquid chemical wastes and wastewater, equipment for GHG emission reduction and equipment for the recycling of used chemicals and treated water. Operations at our fabs are subject to regulations and periodic monitoring by the R.O.C. Environmental Protection Administration, the U.S. Environmental Protection Agency and the State Environmental Protection Administration of China and the Japan Ministry of the Environment, and local environmental protection authorities in Taiwan, the U.S., China and Japan.

We have adopted pollution control and GHG emission reduction measures to ensure compliance with environmental protection and climate related standards consistent with the practice of the semiconductor industry in Taiwan, the U.S., China and Japan. We conduct environmental audits at least once annually to ensure that we are in compliance in all material respects with applicable environmental and climate related laws and regulations. An environmental, safety and health (“ESH”) team operates at the corporate level that is responsible for policy establishment and enforcement, coordination with ESH teams located at each manufacturing facility and for coordination and interaction with government agencies worldwide.

To fulfill our commitment to environmental sustainability in our business and operations, we have continued to explore and participate in initiatives to expand our use of renewable energy. Between 2019 and 2021, we purchased an approximately 3,820 GWh in renewable energy, renewable energy certificates, and carbon credits, which enabled our overseas sites to be 100% powered by clean energy. Following Taiwan’s power liberalization, we are expanding our use of renewable energy. As of the end of 2021, we have signed power purchase agreements to purchase 1.6 GW of renewable energy, thereby eliminating an estimated 2.6 million metric tons of carbon dioxide equivalent emissions per year.

Environmental, Social and Governance (“ESG”) Initiatives

We believe that our innovative technologies and services can help to bring positive changes and make positive contributions to the global community. We are strongly committed to pursuing a sustainable future and achieving our vision of contributing to society through a range of ESG initiatives. In 2011, we established the Corporate Social Responsibility Committee (renamed as the ESG Committee in 2021), which is in compliance with the vision and mission of the TSMC Corporate Social Responsibility Policy (renamed as the ESG Policy in 2021). We have been further connected to the international sustainability trend by establishing a Corporate Social Responsibility Executive Committee in 2019 (renamed as the ESG Steering Committee in 2021), which is comprised of senior executives from various functions and tasked with developing our ESG strategies. In addition, we have mapped out a blueprint for sustainable development that connects our core advantages with United Nations’ Sustainable Development Goals (SDGs).

We currently focus our ESG efforts in the following key areas:

Green manufacturing. We aim to lead the industry in developing advanced semiconductor technologies and employing green product and process innovations to help address the impacts of climate change. We are committed to green manufacturing that implements continuous improvement projects in the areas of climate change, energy management, water management, waste management, and air pollution control.

Building a responsible supply chain. We seek to build a green and sustainable supply chain for the semiconductor industry by working with our supplier partners and helping them to incorporate sustainability standards into their daily operations.

Creating a diverse and inclusive workplace. Our employees are the most valuable asset of TSMC. We are committed to building a diverse and encompassing workplace where each and every employee enjoys human rights, skill development and a safe work environment.

Talent development. We seek to inspire the next generation of talent in the semiconductor industry through collaborations with top universities and research institutions and support of science, technology, engineering and mathematics-related education.

Caring for the disadvantaged. We promote positive social change and reduce the resource gaps through the work of the TSMC Charity Foundation and the TSMC Education and Culture Foundation, which focus on serving the underserved communities, empowering the youth, promoting environmental awareness, and supporting arts and culture.

For further information on our ESG initiatives, please see our annual Sustainability Reports, which are available on our ESG website at <https://esg.tsmc.com/en/resources/documents.html>. The information contained on our website is not incorporated herein by reference and does not constitute part of this offering circular. Pursuant to the requirements of the FSC, commencing in 2022, our Corporate Social Responsibility Report has been renamed the Sustainability Report.

Electricity and Water

We have occasionally suffered power outages or surges in Taiwan caused by difficulties encountered by our electricity supplier, the Taiwan Power Company or other power consumers on the same power grid. Such power outages or surges may lead to interruptions in our production schedule. The semiconductor manufacturing process uses extensive amounts of electricity and fresh water. Due to changes in the energy policy of the government, the growth of manufacturers in the Hsinchu Science Park, Southern Taiwan Science Park and Central Taiwan Science Park, and the droughts that Taiwan experiences from time to time, there is concern regarding future availability of sufficient electricity and fresh water and the potential impact that insufficient electricity and water supplies may have on our semiconductor production. To help address these potential shortages, we have adopted various natural resources conservation methodologies. Please see “Risk Factors – Risks Relating to Our Business” for a discussion of the risk related to shortages in electricity and water.

Risk Management

We maintain a comprehensive enterprise risk management system to integrate the prevention and control of risk. We have also prepared emergency response, crisis management and business continuity plans to respond to natural disasters and other disruptive events such as cyberattacks or epidemic/pandemic outbreaks that could interrupt the operation of our business. These plans have been developed in order to prevent or reduce the loss of personnel or damage to our facilities, equipment and machinery caused by natural disasters and other disruptive events. We also maintain insurance with respect to our facilities,

equipment and inventories. The insurance for the fabs and their equipment covers, subject to some limitations, various risks, including fire, typhoons, earthquakes and other risks generally up to the respective policy limit for their replacement values and lost profits due to business interruption. In addition, we have insurance policies covering losses with respect to the construction of all our fabs. Equipment and inventories in transit are also insured. No assurance can be given, however, that insurance will fully cover any losses and our emergency response plans will be effective in preventing or reducing losses in the future.

For further information, please see detailed risk factors related to the impact of climate change regulations and international accords, and natural disasters on our operations in “Risk Factors – Risks Relating to Our Business”.

Our Subsidiaries and Affiliates

Vanguard International Semiconductor Corporation (“VIS”). In 1994, we, the R.O.C. Ministry of Economic Affairs and other investors established VIS, then an integrated dynamic random access memory (“DRAM”) manufacturer. VIS commenced volume commercial production in 1995 and listed its shares on the Taipei Exchange (originally the R.O.C. Over-the-Counter Securities Exchange) in March 1998. In 2004, VIS completely terminated its DRAM production and became a dedicated foundry company. As of June 30, 2022, we owned approximately 28.3% of the equity interest in VIS. Please see “Related Party Transactions” for a further discussion.

WaferTech. In 1996, we entered into a joint venture called WaferTech (of which the manufacturing entity is Fab 11) with several U.S.-based investors to construct and operate a foundry in the United States. Initial trial production at WaferTech commenced in July 1998 and commercial production commenced in October 1998. As of June 30, 2022, we owned 100% of the equity interest in WaferTech.

Systems on Silicon Manufacturing Company Pte. Ltd. (“SSMC”). In March 1999, we entered into an agreement with Koninklijke Philips NV (“Philips”) and EDB Investment Pte. Ltd. to found a joint venture, SSMC, and build a fab in Singapore. The SSMC fab commenced production in December 2000. As of June 30, 2022, we owned approximately 38.8% of the equity interest in SSMC. Please see “Related Party Transactions” for a further discussion.

Global Unichip Corporation (“GUC”). In January 2003, we acquired a 52.0% equity interest in GUC, a SoC design service company that provides large scale SoC implementation services. GUC listed its shares on Taiwan Stock Exchange in November 2006. As of June 30, 2022, we owned approximately 34.8% of the equity interest in GUC. Please see “Related Party Transactions” for a further discussion.

TSMC China. In August 2003, we established TSMC China (of which the manufacturing entity is Fab 10), a wholly-owned subsidiary primarily engaged in the manufacture and sale of integrated circuits. TSMC China commenced production in late 2004.

VisEra Technologies Company, Ltd. (“VisEra Technologies”). In October 2003, we and OmniVision Technologies Inc. (“OVT”), entered into an agreement to form VisEra Technologies, a joint venture in Taiwan, for the purpose of providing back-end service for CMOS image sensor manufacturing business. In November 2015, we obtained an additional 42.7% equity interest in VisEra Technologies from OVT when OVT was acquired by a Chinese consortium. Following the above transactions, we owned approximately 86.9% of the equity interest in VisEra Technologies. In March 2021, we disposed a total of 39.5 million common shares of VisEra Technologies to facilitate its initial public offering (“IPO”) and reduced our equity interest to approximately 72.8%. VisEra Technologies completed the listing of its shares on the Taiwan Stock Exchange in June 2022, and our shareholding in VisEra Technologies was diluted to approximately 67.9% as of June 30, 2022.

TSMC Global. In December 1998, we established TSMC Holding Ltd. in the B.V.I. as a company with limited liability. In 2006, TSMC Holding Ltd. was renamed to TSMC Global Ltd. TSMC Global is a wholly-owned subsidiary primarily engaged in corporate treasury investment activities.

Xintec, Inc. (“Xintec”). In January 2007, we acquired a 51.2% equity interest in Xintec, a supplier of wafer level packaging service, to support our CMOS image sensor manufacturing business. In March 2015, Xintec listed its shares on the Taipei Exchange. Subsequent to Xintec’s IPO, our shareholding in Xintec was diluted to approximately 41.2%. As of June 30, 2022, we owned approximately 41.0% of the equity interest in Xintec. Please see “Related Party Transactions” for a further discussion.

TSMC Nanjing. In May 2016, we established TSMC Nanjing (of which the manufacturing entity is Fab 16), a wholly-owned subsidiary primarily engaged in the manufacture and sale of integrated circuits. TSMC Nanjing commenced commercial production in April 2018.

TSMC Arizona. In November 2020, we established TSMC Arizona, a wholly-owned subsidiary that is expected to be primarily engaged in the manufacture and sale of integrated circuits. TSMC Arizona plans to build and operate an advanced semiconductor manufacturing facility, Fab 21, in the City of Phoenix area. Construction on the site commenced in April 2021. TSMC Arizona targets to commence commercial production in 2024.

Japan Advanced Semiconductor Manufacturing (“JASM”). In December 2021, we established JASM, which is expected to be primarily engaged in the manufacture and sale of integrated circuits. In January 2022, Sony Semiconductor Solution Corporation (“Sony”) acquired a less than 20% equity interest in JASM. Subsequently, in April 2022, DENSO Corporation (“DENSO”) acquired a more than 10% minority equity interest in JASM. JASM plans to spend approximately US\$8.6 billion in capital expenditure, with strong support from the Japanese government, to build a semiconductor manufacturing facility in Kumamoto, Japan for 22-nanometer and 28-nanometer process as well as 12-nanometer and 16-nanometer FinFET process technology, with an expected production capacity of 55,000 12-inch wafers per month. Construction of the fab commenced in April 2022 and commercial production is expected to commence in 2024. As of June 30, 2022, we owned approximately 71.4% of the equity interest in JASM.

MANAGEMENT

Directors and Executive Officers

Members of our Board of Directors are elected by our shareholders. Our Board of Directors is currently composed of ten directors. Of our current ten directors, six are independent directors: Sir Peter L. Bonfield, Ms. Kok-Choo Chen, Mr. Michael R. Splinter, Mr. Moshe N. Gavrielov, Mr. Yancey Hai and Dr. L. Rafael Reif. The chairman of the Board of Directors is elected by the directors. The chairman of the Board of Directors presides at all meetings of the Board of Directors, and also has the authority to act as our representative. The term of office for directors is three years.

Pursuant to the R.O.C. Securities and Exchange Act, effective from January 1, 2007, a public company is required to either establish an audit committee or to have supervisors. A public company's audit committee should be composed of all of its independent directors but not less than three, of which at least one member should have accounting or related financial management expertise, and the relevant provisions under the R.O.C. Securities and Exchange Act, the R.O.C. Company Act and other laws applicable to the supervisors are also applicable to the audit committee. Pursuant to the R.O.C. Securities and Exchange Act, effective from March 18, 2011, we are also required to establish a compensation committee which must be composed of qualified independent members as defined under local law. TSMC established its audit committee (the "Audit Committee") and compensation committee (the "Compensation Committee") in 2002 and 2003, respectively (several years before being legally required to do so), both of which are now composed entirely of independent directors.

Pursuant to the R.O.C. Company Act, a person may serve as our director in his personal capacity or as the representative of another legal entity. A director who serves as the representative of a legal entity may be removed or replaced at any time at the discretion of that legal entity, and the replacement director may serve the remainder of the term of office of the replaced director. For example, the National Development Fund of the R.O.C., one of our largest shareholders, has served as our director since our founding. As a corporate entity, the National Development Fund is required to appoint a representative to act on its behalf. Dr. Ming-Hsin Kung has been the representative of the National Development Fund since July 24, 2020.

The following table sets forth the name of each director and executive officer, their positions, the year in which their term expires and the number of years they have been with us as of June 30, 2022. The business address for each of our directors and executive officers is No. 8, Li Hsin Road 6, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China.

| Name | Position with our company | Term Expires | Years with our company |
|---|--|--------------|------------------------|
| Mark Liu | Chairman | 2024 | 29 |
| C.C. Wei | Vice Chairman/Chief Executive Officer | 2024/– | 24 |
| Ming-Hsin Kung | Director (Representative of the National Development Fund) | 2024 | 2 |
| F.C. Tseng | Director | 2024 | 35 |
| Sir Peter L. Bonfield . . . | Independent Director | 2024 | 20 |
| Kok-Choo Chen | Independent Director | 2024 | 11 |
| Michael R. Splinter | Independent Director | 2024 | 7 |
| Moshe N. Gavrielov | Independent Director | 2024 | 3 |
| Yancey Hai | Independent Director | 2024 | 2 |
| L. Rafael Reif ⁽¹⁾ | Independent Director | 2024 | 1 |

| <u>Name</u> | <u>Position with our company</u> | <u>Term Expires</u> | <u>Years with our company</u> |
|-----------------------------------|--|---------------------|-------------------------------|
| Lora Ho | Senior Vice President, Europe & Asia Sales and Human Resources | – | 23 |
| Wei-Jen Lo | Senior Vice President, Research & Development | – | 18 |
| Rick Cassidy | Senior Vice President, Corporate Strategy Office/CEO & President, TSMC Arizona | – | 25 |
| Y.P. Chin | Senior Vice President, Operations | – | 35 |
| Y.J. Mii | Senior Vice President, Research & Development | – | 28 |
| J.K. Lin | Senior Vice President, Information Technology and Materials Management & Risk Management | – | 35 |
| Cliff Hou | Senior Vice President, Europe & Asia Sales and Research & Development/Corporate Research | – | 25 |
| Kevin Zhang | Senior Vice President, Business Development | – | 6 |
| Sylvia Fang | Vice President, Legal and General Counsel/Corporate Governance Officer | – | 27 |
| Connie Ma | Vice President, Human Resources | – | 8 |
| Y.L. Wang | Vice President, Operations/Fab Operations I | – | 30 |
| Doug Yu | Vice President, Pathfinding for System Integration & TSMC Distinguished Fellow | – | 28 |
| T.S. Chang | Vice President, Operations/Advanced Technology and Mask Engineering & TSMC Fellow | – | 27 |
| Michael Wu | Vice President, Research & Development/Platform Development | – | 26 |
| Min Cao | Vice President, Research & Development/Pathfinding | – | 20 |
| Marvin Liao | Vice President, Operations/Advanced Packaging Technology and Service | – | 20 |
| Y.H. Liaw | Vice President, Operations/Fab Operations II | – | 34 |
| Simon Jang | Vice President, Research & Development/Advanced Tool and Module Development | – | 29 |
| Wendell Huang | Vice President, Finance and Chief Financial Officer/Spokesperson | – | 23 |
| C.S. Yoo | Vice President, Research and Development/More than Moore Technologies | – | 34 |
| Jun He | Vice President, Quality and Reliability | – | 5 |
| Geoffrey Yeap | Vice President, Research & Development/Platform Development | – | 6 |
| Chris Horng-Dar Lin .. | Vice President, Corporate Information Technology and Chief Information Officer | – | 1 |
| Jonathan Lee ⁽²⁾ | Vice President, Corporate Planning Organization | – | 15 |

| Name | Position with our company | Term Expires | Years with our company |
|--|---|--------------|------------------------|
| Arthur Chuang ⁽³⁾ | Vice President, Operations/Facility | – | 33 |
| L.C. Lu ⁽³⁾ | Vice President, Research & Development/Design & Technology Platform & TSMC Fellow | – | 22 |
| K.C. Hsu ⁽⁴⁾ | Vice President, Research & Development/Integrated Interconnect & Packaging | – | 1 |

(1) Dr. L. Rafael Reif joined our Board of Directors on July 26, 2021.

(2) Mr. Jonathan Lee was promoted to Vice President on June 9, 2021.

(3) Dr. Arthur Chuang and Dr. L.C. Lu were promoted to Vice President on August 10, 2021.

(4) Mr. K.C. Hsu was hired on November 1, 2021, and was promoted to Vice President on November 9, 2021.

Mark Liu is the Chairman. Dr. Mark Liu was our President and Co-Chief Executive Officer from November 2013 to June 2018. Prior to that, he was our Executive Vice President and Co-Chief Operating Officer from March 2012 to November 2013, Senior Vice President of Operations from 2009 to 2012, Senior Vice President of Advanced Technology Business from 2008 to 2009. From 2005 to 2008, Dr. Liu was Senior Vice President of Operations II. He served in a number of executive positions at TSMC Fabs and the Operations organization from 1999 to 2005. From 1999 to 2000, he served as the President of Worldwide Semiconductor Manufacturing Company. Prior to joining us in 1993, from 1987 to 1993, Dr. Liu was with AT&T Bell Laboratory, Holmdel, NJ, as a research manager for the High Speed Electronics Research Laboratory, working on optical fiber communication systems. From 1983 to 1987, he was a process integration manager of CMOS technology development at Intel Corporation, Santa Clara, CA, developing silicon process technologies for Intel microprocessor. Dr. Liu is currently the Chairman of Taiwan Semiconductor Industry Association. He holds a Ph.D. in electrical engineering and computer science from University of California, Berkeley.

C.C. Wei is the Vice Chairman and Chief Executive Officer. Dr. C.C. Wei was our President and Co-Chief Executive Officer from November 2013 to June 2018. He was our Executive Vice President and Co-Chief Operating Officer from March 2012 to November 2013, Senior Vice President of Business Development from 2009 to 2012 and Senior Vice President of Mainstream Technology Business from 2008 to 2009. From 2005 to 2008, Dr. Wei was Senior Vice President of Operations I. He served in a number of executive positions at TSMC Fabs and the Operations organization from 1998 to 2005. Before joining us in 1998, he was Senior Vice President of Technology at Chartered Semiconductor Manufacturing Ltd. in Singapore and Senior Manager for Logic and SRAM technology development at STMicroelectronics N.V. in Texas. He holds a Ph.D. in electrical engineering from Yale University.

Ming-Hsin Kung, the representative of the National Development Fund, is a director. Dr. Ming-Hsin Kung is the Minister of National Development Council (“NDC”), and has been Minister without Portfolio of the Executive Yuan since 2019. He also serves as the Convener of the National Development Fund (“NDF”). He previously served as Deputy Minister of Economic Affairs from 2017 to 2019, and Deputy Minister of the NDC as well as Executive Secretary of the NDF under Executive Yuan from 2016 to 2017, responsible for supervising policies related to industrial development, investment, talent and energy. Currently, Dr. Kung also represents the NDF to sit on the Board of Directors of Taiwan Capital Management Corporation (a non-public company). Prior to joining the public sector, Dr. Kung was Vice President of Taiwan Institute of Economic Research from 2006 to 2016, and he had long been an advisor and consultant to Taiwan government. Dr. Kung received an M.A. in Economics from National Taiwan University, and a Ph.D. in Economics from National Chung Hsing University.

F.C. Tseng is a director. Dr. F.C. Tseng is currently the Chairman of TSMC Education and Culture Foundation and Director of Cloud Gate Culture and Arts Foundation and of Zu-Ming Medical Foundation. Previously he served as our Vice Chairman from July 2005 to June 2018. Prior to that, he was Deputy Chief Executive Officer from August 2001 to June 2005. He is also the Chairman of TSMC China Co., Ltd. (a non-public company) and Global Unichip Corp., and the Vice Chairman of VIS. He formerly served as an independent director, Chairman of Audit Committee and a member of Compensation Committee of Acer Inc. He also served as the President of VIS from 1996 to 1998 and our President from May 1998 to August 2001. Prior to his presidency at VIS, Dr. Tseng served as our Senior Vice President of Operations. He holds a Ph.D. in electrical engineering from National Cheng-Kung University and has been active in the semiconductor industry for over 50 years.

Sir Peter L. Bonfield is an independent director. Sir Peter L. Bonfield was the Chief Executive Officer and Chairman of the Executive Committee of British Telecommunications from January 1996 to January 2002, and the Vice President of the British Quality Foundation from its creation in 1993 until 2012. He also served as director of L.M. Ericsson in Sweden, Chairman of GlobalLogic Inc. in the U.S. and Senior Advisor to Hampton Group in London and the Chair of Council and Senior Pro-Chancellor at Loughborough University in the United Kingdom. He is currently the Chairman of the Board of Directors of NXP Semiconductor N.V. in the Netherlands, and the non-executive director of Imagination Technologies Group Ltd. (a non-public company) and of Darktrace plc, both are in the United Kingdom. He is also an Advisory Board member of the Longreach Group Ltd. (a non-public company) in Hong Kong and a Senior Advisor to Alix Partners LLP in London. He also serves as a board mentor of Chairman Mentors International (CMi) Ltd. (a non-public company) in London. He is a fellow of The Royal Academy of Engineering. He holds an honors degree in engineering from Loughborough University.

Kok-Choo Chen is an independent director. Ms. Kok-Choo Chen served as the Chairman of National Performing Arts Center from 2014 to January 2017, and an advisor to the R.O.C. Executive Yuan from 2009 to 2016. She was the founder and Executive Director of Taipei Story House from 2003 to 2015. She served as our Senior Vice President and General Counsel from 1997 to 2001. Currently, Ms. Chen is the Founder and Executive Director of the Museum207 located in Taipei and Director of Republic of China Female Cancer Foundation. Ms. Chen has over 24 years of experience working in international law firms. She had also taught law at Soochow University, National Chengchi University and National Tsing Hua University in Taiwan for over 28 years. Ms. Chen is licensed to practice law in England, Singapore and California.

Michael R. Splinter is an independent director. Mr. Michael R. Splinter served as Chief Executive Officer of Applied Materials from 2003 to 2012 and as Chairman of the Board of Directors since 2009 and retired in June 2015. Prior to that, he served at Intel Corp. as Executive Vice President of Sales and Marketing from 2001 to 2003, and Executive Vice President of Technology and Manufacturing group from 1996 to 2001. Mr. Splinter currently serves as Chairman of NASDAQ, Inc., Independent Director and Chair of Compensation Committee of Gogoro Inc. in Cayman Islands, Director of Pica8, Inc. (a non-public company) in the United States, Tigo Energy, Inc. (a non-public company) in the United States and Kioxia Holdings Corp. (a non-public company) in Japan, and General Partner of WISC Partners LP. in the United States. He also serves as Chairman of the Board of US-Taiwan Business Council. Mr. Splinter holds a master's degree in electrical engineering, and an honorary Ph.D. in engineering from the University of Wisconsin Madison.

Moshe N. Gavrielov is an independent director. Mr. Moshe N. Gavrielov served as President and CEO of Xilinx, Inc. from January 2008 to January 2018 and as Director of Xilinx, Inc. from February 2008 to January 2018. Prior to that, he served at Cadence Design Systems, Inc. as Executive Vice President and General Manager of the Verification Division from April 2005 to November 2007, and CEO of Verisity, Ltd. from March 1998 to April 2005. He also served at a variety of executive management positions in LSI Logic Corp. for nearly 10 years, and engineering and engineering management positions in National Semiconductor Corporation and Digital Equipment Corporation. Currently, Mr. Gavrielov is the Executive Chairman of Wind River Systems, Inc. (a non-public company) in the United States, Chairman of SiMa Technologies, Inc. (a non-public company) in the United States and of Foretellix, Ltd. (a non-public company) in Israel. He also serves as the Director of San Jose Institute of Contemporary Art. Mr. Gavrielov holds a bachelor degree in electrical engineering and a master's degree in computer science from Technion-Israel Institute of Technology.

Yancey Hai is an independent director. Mr. Yancey Hai is the Chairman of the Board of Delta Electronics, Inc. ("Delta") since June 2012. He served as Vice Chairman and CEO of Delta since 2004, and as the Chair of Strategic Steering Committee of Delta from 2012 to 2021. Currently he is the Chair of ESG Committee of Delta. Before joining Delta, Mr. Hai was the country manager of GE Capital Taiwan. Currently he also serves as a director of the Board and member of ESG & Net Zero Committee of CTCL Corporation, and as an independent director of the Board, member of the Audit Committee, CSR Committee and Chair of Remuneration Committee of USI Corporation, and as a director of the following Delta's subsidiaries (which are all non-public companies): Delta Electronics (Shanghai) Co., Ltd., Delta Networks, Inc., Delta Electronics Capital Company and Cyntec Co., Ltd. Mr. Hai is currently the Executive Director of Taipei Computer Association, Senior Strategy Consultant of Cloud Computing & IoT Association in Taiwan, Director of Taiwan Business Council for Sustainable Development, Delta Electronic Foundation and Felix Chang Foundation, and Director and Finance Committee Member of Chiang Ching-kuo Foundation for International Scholarly Exchange. Mr. Hai holds a master's degree in international business management from the University of Texas at Dallas.

L.Rafael Reif is an independent director. Dr. L. Rafael Reif has been the President of the Massachusetts Institute of Technology (MIT) since 2012. Since 1980, he held a number of faculty positions at MIT, including Provost, Head of the Department of Electrical Engineering and Computer Science (EECS), Associate Department Head of Electrical Engineering, Director of Microsystems Technology Laboratories, and Fariborz Maseeh Professor of Emerging Technology. Dr. Reif is an elected member of the American Academy of Arts and Sciences, the National Academy of Engineering and the Chinese Academy of Engineering, a fellow of the National Academy of Inventors, and also belongs to Tau Beta Pi, the Electrochemical Society and the IEEE. In addition, he is the inventor or co-inventor of 13 patents, has edited or co-edited five books and has supervised 38 doctoral theses to date. Currently, Dr. Reif is also the co-chair of the Growth Technical Advisory Board, Applied Materials, Inc. Dr. Reif holds a master's degree and a Ph.D. in electrical engineering from Stanford University, an honorary Doctor of Laws degree from the Chinese University of Hong Kong, and honorary doctorates from Tsinghua University, the Technion, Arizona State University, and University of Miami.

Lora Ho is our Senior Vice President of Europe & Asia Sales and Human Resources. Prior to that, she was Senior Vice President of Finance and Europe & Asia Sales/Chief Financial Officer/Spokesperson from January 2019 to August 2019. She was promoted to Senior Vice President of Finance and Chief Financial Officer/Spokesperson in August 2010 and Vice President of Finance and Chief Financial Officer/Spokesperson in September 2003. Prior to joining us in 1999 as controller, she had served as Vice President of Finance and Chief Financial Officer at Acer Semiconductor Manufacturing Inc. since 1990. Ms. Ho holds an MBA from National Taiwan University.

Wei-Jen Lo is our Senior Vice President of Research & Development. He was promoted to Senior Vice President of Research & Development in February 2014. He was Vice President of Research & Development from February 2013 to February 2014, Vice President of Operations/Manufacturing Technology from October 2009 to February 2013, Vice President of Advanced Technology Business from September 2009 to October 2009, Vice President of Research & Development from June 2006 to September 2009, and Vice President of Operations from July 2004 to June 2006. Prior to joining us in 2004, he was Director in charge of advanced technology development with Intel Corporation. Dr. Lo holds a Ph.D. in solid state physics & surface chemistry from University of California, Berkeley.

Rick Cassidy is our Senior Vice President of Corporate Strategy Office and CEO & President of TSMC Arizona. Prior to that, he served as Chief Executive Officer of TSMC North America from 2017 to January 2019. He was promoted to Senior Vice President in February 2014, Vice President in November 2008 and had led TSMC North America from January 2005 to 2018. He joined us in 1997 and has held various positions in TSMC North America, including Business Operations, Field Technical Support, and Business Management. He holds a B.A. degree in engineering technology from United States Military Academy at West Point.

Y.P. Chin is our Senior Vice President of Operations. Prior to that, he was Senior Vice President of Operations/Product Development from November 2016 to April 2020. He was promoted to Senior Vice President in November 2016. He was Vice President of Operations from October 2009 to November 2016, Vice President of Advanced Technology Business from March 2008 to October 2009. Prior to that, he was Senior Director of Operations II from June 2006 to March 2008 and Senior Director of Product Engineering & Services from 2000 to 2006. He joined us in 1987 and has held various positions in product and engineering functions. He holds a master's degree in electrical engineering from National Cheng Kung University.

Y.J. Mii is our Senior Vice President of Research & Development. He was promoted to Senior Vice President in November 2016. He was Vice President of Research & Development from August 2011 to November 2016. Prior to that, he was our Senior Director of Platform I Division from 2006 to 2011. He joined us in 1994 and has been involved continuously in the development and manufacturing of advanced CMOS technologies in both Operations and Research & Development. He holds a Ph.D. in electrical engineering from the University of California, Los Angeles.

J.K. Lin is our Senior Vice President of Information Technology and Materials Management & Risk Management. He led the organization from August 2018 and was promoted to Senior Vice President in November 2018. Prior to that, he was our Vice President of Operations/Mainstream Fabs from August 2010 to August 2018. He joined us in 1987 and held various positions in manufacturing functions. He holds a B.S. degree from National Changhua University of Education.

Cliff Hou is our Senior Vice President of Europe & Asia Sales and Research & Development/Corporate Research. He was Senior Vice President of Research & Development/Technology Development from May 2020 to October 2020. He was promoted to Senior Vice President in May 2020. Prior to that, he was Vice President of Research & Development/Technology Development from August 2018 to May 2020, Vice President of Research & Development/Design and Technology Platform from August 2011 to August 2018, and Senior Director of Design and Technology Platform from 2010 to 2011. He joined us in 1997 and established the Company's technology design kit and reference flow development organizations. He holds a Ph.D. in electrical and computer engineering from Syracuse University.

Kevin Zhang is our Senior Vice President of Business Development. He was promoted to Senior Vice President in August 2020. He joined us in November 2016 as Vice President of Research & Development/Design and Technology Platform. Prior to joining us in November 2016, he was a Vice President of Technology and Manufacturing Group of Circuit Technology at Intel. He holds a Ph.D. in electrical engineering from Duke University.

Sylvia Fang is our Vice President of Legal and General Counsel/Corporate Governance Officer. She was promoted to Vice President and General Counsel of Legal Organization in August 2014. She joined us in 1995 and held various positions in legal functions. She holds a master's degree in comparative law from University of Iowa. Ms. Fang is licensed to practice law in Taiwan.

Connie Ma is our Vice President of Human Resources. She was promoted to Vice President of Human Resources in August, 2014. Prior to joining us as Director of Human Resources in June 2014, she was a Senior Vice President of Global Human Resources at Trend Micros, Inc. She holds an EMBA from National Taiwan University.

Y.L. Wang is our Vice President of Operations/Fab Operations I. Prior to that, he was Vice President of Operations/Fab Operations from August 2018 to April 2020, Vice President of Research & Development/Technology Development from February 2016 to August 2018 and Vice President of Operations/Fab 14B from November 2015 to January 2016 after his promotion to this position. He joined us in 1992 and held various positions in manufacturing functions. He holds a Ph.D. in electronics engineering from National Chiao Tung University.

Doug Yu is our Vice President of Pathfinding for System Integration & TSMC Distinguished Fellow. He was Vice President of Research & Development/Integrated Interconnect & Packaging from November 2016 to December 2020 after his promotion to this position. Prior to that, he was our Senior Director of Integrated Interconnect & Packaging Division. He joined us in 1994 and was in charge of development of interconnect technology for integrated circuits. He holds a Ph.D. in materials engineering from Georgia Institute of Technology.

T.S. Chang is our Vice President of Operations/Advanced Technology and Mask Engineering & TSMC Fellow. He was Vice President of Operations/Product Development & TSMC Fellow from November 2018 to April 2020 and Vice President of Operations/Fab 12B & TSMC Fellow from February 2018 to November 2018 after his promotion to this position. Prior to that, he was our Senior Director of Fab 12B & TSMC Fellow. He joined us in 1995 and held various positions in manufacturing functions. He holds a Ph.D. in electrical engineering from National Tsing Hua University.

Michael Wu is our Vice President of Research & Development/Platform Development. He was promoted to Vice President in February 2018. Prior to that, he was our Senior Director of Platform Development Division. He joined us in 1996 and participated in advanced CMOS technology development. He holds a Ph.D. in electrical engineering from University of Wisconsin-Madison.

Min Cao is our Vice President of Research & Development/Pathfinding. He was promoted to Vice President in February 2018. Prior to that, he was our Senior Director of Path-finding Division. He joined us in 2002 and participated in development of multiple generations of advanced CMOS technology. He holds a Ph.D. in physics from Stanford University.

Marvin Liao is our Vice President of Operations/Advanced Packaging Technology and Service. He was promoted to Vice President in November 2018. Prior to that, he was Technical Director in Fab 6 upon joining us in 2002 and later Senior Director of Backend Technology and Service Division. He holds a Ph.D. in materials science from University of Texas-Arlington.

Y.H. Liaw is our Vice President of Operations/Fab Operations II. He was Vice President of Operations/Fab Operations from June 2019 to April 2020 and Vice President of Operations/Fab 15B from February 2019 to June 2019 after his promotion to this position. He joined us in 1988 and held various positions in manufacturing functions. He holds a M.S. degree in chemical engineering from National Tsing Hua University.

Simon Jang is our Vice President of Research & Development/Advanced Tool and Module Development. He was promoted to Vice President in August 2019. Prior to that, he was our Senior Director of Advanced Tool and Module Development Division. He joined us in 1993 and held various positions in research and development functions. He holds a Ph.D. in materials science & engineering from Massachusetts Institute of Technology.

Wendell Huang is our Vice President of Finance and Chief Financial Officer/Spokesperson. He was promoted to Vice President of Finance in September 2019. Prior to that, he was Deputy Chief Financial Officer of Finance from January 2019 to August 2019 and Senior Director of Finance Division from 2010 to 2018. Prior to joining us in 1999, he was Vice President of Corporate Finance at ING Barings. He holds an MBA from Cornell University.

C.S. Yoo is our Vice President of Research & Development/More than Moore Technologies. Prior to that, he was Vice President of Europe and Asia Sales from November 2020 to December 2020 after his promotion to this position. He was our Senior Director of Office of Strategy Customer Program from May 2019 to November 2020 and Senior Director of E-Beam Operation Division from February 2010 to May 2019. He joined us in 1988 and held various positions in manufacturing functions. He holds a Ph.D. in chemical engineering from Worcester Polytech Institute.

Jun He is our Vice President of Quality and Reliability. He was promoted to Vice President in November 2020 and was our Senior Director of Quality and Reliability from May 2019 to November 2020. Prior to that, he was Senior Director of Manufacturing, Quality & Reliability Division, from July 2018 to May 2019, and Senior Director of Advanced Technology, Quality & Reliability Division, from May 2017 to July 2018. Prior to joining us in May 2017, he was a Senior Director of Technology and Manufacturing Group of Quality and Reliability at Intel. He holds a Ph.D. in materials science and engineering from University of California, Santa Barbara.

Geoffrey Yeap is our Vice President of Research & Development/Platform Development. He was promoted to Vice President in February 2021 and was our Senior Director of Platform Development Division from August 2016 to February 2021. Prior to that, he was Senior director of Advanced Technology from March 2016 to August 2016. Prior to joining us in March 2016, he was Vice President of Engineering, Silicon Technology in Qualcomm. He holds a Ph.D. in electrical and computer engineering from University of Texas-Austin.

Chris Horng-Dar Lin is our Vice President of Corporate Information Technology and Chief Information Officer. He was promoted to Vice President in February 2021. Prior to joining us in January 2021, he was Vice President of Information Technology in Mozilla. He holds a Ph.D. in electrical engineering and computer science from University of California, Berkeley.

Jonathan Lee is our Vice President of Corporate Planning Organization. He was promoted to Vice President in June 2021 and was our Senior Director of Strategic Planning Division from February 2012 to June 2021. Prior to joining us in 2007, he was President in Biomorphic Microsystems. He holds a M.S. degree in Accounting from CUNY-Baruch College.

Arthur Chuang is our Vice President of Operations/Facility. He was promoted to Vice President in August 2021 and was our Senior Director of Operations/Facility Division from January 2015 to August 2021, and Director of Operations/Fabs Facility Division from March 2002 to January 2015. Prior to joining us in 1989, he was an engineer at Texas Instruments. He holds a Ph.D. in Civil Engineering from National Taiwan University.

L.C. Lu is our Vice President of Research & Development/Design & Technology Platform & TSMC Fellow. He was promoted to Vice President in August 2021 and was our Senior Director of Research & Development/Design & Technology Platform & TSMC Fellow from August 2018 to August 2021, and Research & Development/Digital IPs Solution from March 2016 to August 2018. Prior to joining us in 2000, he was Director of Software Division in Avant Tech. Inc. He holds a Ph.D. in Computer Science from Yale University.

K.C. Hsu is our Vice President of Integrated Interconnect & Packaging. He was promoted to Vice President in November 2021. Prior to joining us in November 2021, he was Chairman, Taiwan in Micron Technology, Inc. He holds a M.S. degree in Management of Technology from National Yang Ming Chiao Tung University.

There is no family relationship between any of the persons named above. Other than that one of our Directors, Dr. Ming-Hsin Kung, is the representative of our shareholder, National Development Fund of the Executive Yuan, there is no arrangement or understanding with major shareholders, customers, suppliers or others, pursuant to which any person referred to above was selected as a director or member of senior management.

Share Ownership

The following table sets forth certain information as of June 30, 2022 with respect to our common shares owned by our directors and executive officers.

| Name of Shareholders ⁽¹⁾ | Number of Common Shares Owned ⁽²⁾ | Percentage of Outstanding Common Shares ⁽²⁾ |
|--|--|---|
| Mark Liu, Chairman | 12,913,114 | 0.05% |
| C.C. Wei, Vice Chairman and Chief Executive Officer | 5,879,207 | 0.02% |
| Ming-Hsin Kung, Director (Representative of the National Development Fund) ⁽³⁾ | 1,653,709,980 | 6.38% |
| F.C. Tseng, Director | 29,472,675 | 0.11% |
| Sir Peter L. Bonfield, Independent Director | — | — |
| Kok-Choo Chen, Independent Director | — | — |
| Michael R. Splinter, Independent Director | — | — |
| Moshe N. Gavrielov, Independent Director | — | — |
| Yancey Hai, Independent Director | — | — |
| L. Rafael Reif, Independent Director | — | — |
| Lora Ho, Senior Vice President | 4,399,342 | 0.02% |
| Wei-Jen Lo, Senior Vice President | 1,441,127 | 0.01% |
| Rick Cassidy, Senior Vice President/CEO & President of TSMC Arizona | — | — |
| Y.P. Chin, Senior Vice President | 4,920,122 | 0.02% |

| Name of Shareholders⁽¹⁾ | Number of Common Shares Owned⁽²⁾ | Percentage of Outstanding Common Shares⁽²⁾ |
|---|--|--|
| Y.J. Mii, Senior Vice President | 1,000,419 | 0.00% |
| J.K. Lin, Senior Vice President | 12,648,251 | 0.05% |
| Cliff Hou, Senior Vice President | 391,917 | 0.00% |
| Kevin Zhang, Senior Vice President | 95,000 | 0.00% |
| Sylvia Fang, Vice President & General Counsel/Corporate Governance Officer | 700,285 | 0.00% |
| Connie Ma, Vice President | 273,000 | 0.00% |
| Y.L. Wang, Vice President | 218,535 | 0.00% |
| Doug Yu, Vice President & TSMC Distinguished Fellow | 250,000 | 0.00% |
| T.S. Chang, Vice President & TSMC Fellow | 173,781 | 0.00% |
| Michael Wu, Vice President | 483,501 | 0.00% |
| Min Cao, Vice President | 363,152 | 0.00% |
| Marvin Liao, Vice President | 90,485 | 0.00% |
| Y.H. Liaw, Vice President | 370,000 | 0.00% |
| Simon Jang, Vice President | 350,695 | 0.00% |
| Wendell Huang, Vice President & Chief Financial Officer/Spokesperson | 1,651,809 | 0.01% |
| C.S. Yoo, Vice President | 1,703,690 | 0.01% |
| Jun He, Vice President | 15,000 | 0.00% |
| Geoffrey Yeap, Vice President | 49,000 | 0.00% |
| Chris Horng-Dar Lin, Vice President & Chief Information Officer | 16,000 | 0.00% |
| Jonathan Lee, Vice President | 336,690 | 0.00% |
| Arthur Chuang, Vice President | 2,602,981 | 0.01% |
| L.C. Lu, Vice President & TSMC Fellow | 145,227 | 0.00% |
| K.C. Hsu, Vice President | 30,000 | 0.00% |

(1) None of our directors and executive officers owned any stock option as of June 30, 2022.

(2) The disclosed number of shares owned by the directors and executive officers did not include any common shares held in the form of ADS by such individuals as such individual ownership of ADSs had not been disclosed or otherwise made public. The disclosed number of shares owned by the directors and executive officers also did not include shares owned by their related parties. Except for the number of shares held by the National Development Fund, Executive Yuan, each of these individuals owned less than one percent of all common shares outstanding as of June 30, 2022.

(3) Represented shares held by the National Development Fund, Executive Yuan.

The following table sets forth certain information as of June 30, 2022, with respect to restricted stock awards (“RSAs”) held by our executives under our equity incentive plan for the year 2021 (see “– Employee Restricted Stock Awards Rules for Year 2021” below for a further discussion).

| Name | Common Shares Underlying Outstanding RSAs⁽¹⁾ | Exercise Price | Grant Date | Expiration Date |
|--|--|---------------------------|-------------------|----------------------------|
| C.C. Wei, Vice Chairman and Chief Executive Officer | | | | |
| Lora Ho, Senior Vice President | | | | |
| Wei-Jen Lo, Senior Vice President | | | | |
| Y.P. Chin, Senior Vice President | | | | |
| Y.J. Mii, Senior Vice President | | | | |
| J.K. Lin, Senior Vice President | | | | |
| J.K. Wang, Senior Vice President ⁽²⁾ | | | | |
| Cliff Hou, Senior Vice President | | | | |
| Kevin Zhang, Senior Vice President | | | | |
| Sylvia Fang, Vice President & General Counsel/Corporate Governance Officer | | | | |
| Connie Ma, Vice President | | | | |
| Y.L. Wang, Vice President | | | | |
| Doug Yu, Vice President & TSMC Distinguished Fellow | | | | |
| T.S. Chang, Vice President & TSMC Fellow | 1,387,000 | – | March 1, 2022 | – |
| Michael Wu, Vice President | | | | |
| Min Cao, Vice President | | | | |
| Marvin Liao, Vice President | | | | |
| Y.H. Liaw, Vice President | | | | |
| Simon Jang, Vice President | | | | |
| Wendell Huang, Vice President & Chief Financial Officer/Spokesperson | | | | |
| C.S. Yoo, Vice President | | | | |
| Jun He, Vice President | | | | |
| Geoffrey Yeap, Vice President | | | | |
| Chris Horng-Dar Lin, Vice President & Chief Information Officer | | | | |
| Jonathan Lee, Vice President | | | | |
| Arthur Chuang, Vice President | | | | |
| L.C. Lu, Vice President & TSMC Fellow | | | | |
| K.C. Hsu, Vice President | | | | |
| Y.C. Huang ⁽³⁾ | | | | |

(1) The RSAs granted under the Employee Restricted Stock Awards Rules for Year 2021 held by each of these directors and executives represent less than one percent of our total outstanding common shares.

(2) Mr. J.K. Wang retired on May 7, 2022.

(3) Dr. Y.C. Huang is an eligible executive in accordance with the Employee Restricted Stock Awards Rules for Year 2021 but is not an executive officer.

Employee Restricted Stock Awards Rules for Year 2021

In 2021, we adopted the Employee Restricted Stock Awards Rules for Year 2021 (the “2021 Rules”), which authorized the grant of up to 2,600,000 common shares, with par value of NT\$10 per share, in the form of RSAs to eligible executives of TSMC. The 2021 Rules became effective on August 6, 2021. The purpose of the 2021 Rules is to attract and retain corporate executives and link their compensation with shareholders’ interests and our ESG achievements.

The 2021 Rules provide that RSAs may only be granted to full-time executives of TSMC who meet certain performance requirements. The number of RSAs granted is determined by our Chairman and Chief Executive Officer and approved by the Compensation Committee and the Board of Directors. Grants under the 2021 Rules are made free of charge to the recipient and are subject to certain vesting conditions, as outlined in the 2021 Rules. In particular, the maximum amount of RSAs that may vest each year are as follows: 50% on the first anniversary of the grant, 25% on the second anniversary of the grant and 25% on the third anniversary of the grant.

Issuances under the 2021 Rules may be granted over a period of one year from the effective date.

In February 2022, our Board of Directors resolved to approve the issuance of 1,387,000 units of RSAs under the 2021 Rules.

Employee Restricted Stock Awards Rules for Year 2022

In April 2022, our Board of Directors approved the Employee Restricted Stock Awards Rules for Year 2022 (the “2022 Rules”), which authorize the grant of up to 3,065,000 common shares, with par value of NT\$10 per share, in the form of RSAs to eligible executives and critical talents of TSMC and TSMC’s subsidiaries. The 2022 Rules were approved by our shareholders at the annual general meeting on June 8, 2022 but are subject to approval by the FSC. The purpose of the 2022 Rules is to attract and retain corporate executives and critical talents and link their compensation with shareholders’ interests and/or our ESG achievements.

The 2022 Rules provide that RSAs may only be granted to full-time executives or critical talents of TSMC and TSMC’s subsidiaries who meet certain performance requirements. The number of RSAs granted is to be determined by our Chairman and Chief Executive Officer and approved by the Compensation Committee and the Board of Directors. Grants under the 2022 Rules would be made free of charge to the recipient and are subject to certain vesting conditions, as outlined in the 2022 Rules. In particular, the maximum amount of RSAs that may vest each year would be as follows: 50% on the first anniversary of the grant, 25% on the second anniversary of the grant and 25% on the third anniversary of the grant.

Issuances under the 2022 Rules may be granted over a period of one year from the effective date.

Compensation

The aggregate compensation paid and benefits in kind granted to our directors and executive officers in 2021 and the three months ended March 31, 2022, was NT\$2,885.5 million (US\$104.0 million) and NT\$948.1 million (US\$33.1 million), respectively. According to our Articles of Incorporation, not more than 0.3% of our annual profits, after recovering any losses incurred in prior years, may be distributed as compensation to our directors and at least 1% of our annual profits may be distributed as profit sharing bonuses to employees, including executive officers. Compensation to directors is always paid in cash, while bonuses to our

executive officers may be granted in cash, stock, or stock options or the combination of all these three. Individual awards are based on each individual's job responsibility, contribution and performance. See note 30 to our 2021 consolidated financial statements and note 28 to our consolidated financial statements for the three months ended March 31, 2022 included herein. Under our Articles of Incorporation, directors who also serve as executive officers are not entitled to any director compensation.

Board Practices

General

For a discussion of the term of office of the Board of Directors, see “– Directors and Executive Officers”. No benefits are payable to members of the Board upon termination of their relationship with us.

Audit Committee

Our Audit Committee was established on August 6, 2002 to assist our Board of Directors in the review and monitoring of our financial and accounting matters, and the integrity of our financial reporting process and controls.

All members of the Audit Committee must have a basic understanding of finance and accounting and at least one member must have accounting or related financial management expertise.

Currently, the Audit Committee consists of six members comprising all of our independent directors. The members of the Audit Committee are Sir Peter L. Bonfield, the Chairman of our Audit Committee, Ms. Kok-Choo Chen, Mr. Michael R. Splinter, Mr. Moshe N. Gavrielov, Mr. Yancey Hai and Dr. L. Rafael Reif. In addition, Mr. Jan C. Lobbezoo was appointed to serve as a financial expert consultant to the Audit Committee from February 14, 2006 onwards. The Audit Committee is required to meet at least once every quarter. Our Audit Committee charter grants the Audit Committee the authority to conduct any investigation which it deems appropriate to fulfill its responsibilities. It has direct access to all our books, records, facilities, personnel, as well as registered public accountants. It has the authority to, among other things, appoint, terminate and approve all fees to be paid to our registered public accountants, subject to the approval of the Board of Directors as appropriate, and to oversee the work performed by the registered public accountants. The Audit Committee also has the authority to engage special legal, accounting, or other consultants it deems necessary in the performance of its duties. Beginning on January 1, 2007, the Audit Committee also assumed the responsibilities of supervisors pursuant to the R.O.C. Securities and Exchange Act.

The Audit Committee convened four regular meetings and two special meetings in 2021, as well as two regular meetings as of June 30, 2022. In addition to these meetings, the Audit Committee members and consultant participated in one special meeting and three telephone conferences in 2021, as well as one special meeting and one telephone conference as of June 30, 2022, to discuss our annual report to be filed with the Taiwan and U.S. authorities and investor conference materials with management.

As part of its risk oversight of our operations and financial controls, our Audit Committee receives and reviews periodic reports from the head of Corporate Information Security function relating to our information technology and security matters, including any cybersecurity incidents, assessment of new and emerging cybersecurity risks and threats and their proposed

improvement measures. Based on such reviews and their discussions with the head of Corporate Information Security function, our Audit Committee assists our Board to review, assess and enhance the adequacy and effectiveness of our cybersecurity policies and procedures on an ongoing basis.

Compensation Committee

Our Board of Directors established a Compensation Committee in June 2003 to assist our Board of Directors in discharging its responsibilities related to our compensation and benefit policies, plans and programs, and the compensation of our directors of the Board and executives.

The members of the Compensation Committee are appointed by the Board as required by the R.O.C. laws. The Compensation Committee, by its charter, shall consist of no fewer than three independent directors of the Board. Currently, the Compensation Committee comprises all of our six independent directors. The members of the Compensation Committee are Mr. Michael R. Splinter, the Chairman of our Compensation Committee, Sir Peter L. Bonfield, Ms. Kok-Choo Chen, Mr. Moshe N. Gavrielov, Mr. Yancey Hai and Dr. L. Rafael Reif.

The Compensation Committee convened four regular meetings and two special meetings in 2021, as well as two regular meetings and one special meeting as of June 30, 2022.

MAJOR SHAREHOLDERS

The following table sets forth certain information as of June 30, 2022, with respect to our common shares owned by (i) each person who, according to our records, beneficially owned 5% or more of our common shares and by (ii) all directors and executive officers as a group.

| Names of Shareholders | Number of Common Shares Owned | Percentage of Total Outstanding Common Shares |
|--|-------------------------------------|--|
| National Development Fund, Executive Yuan | 1,653,709,980 | 6.38% |
| BlackRock, Inc. ⁽¹⁾ | 1,317,566,696 | 5.08% |
| Directors and executive officers as a group ⁽²⁾ | 82,985,005 | 0.32% |

(1) According to the Schedule 13G of BlackRock, Inc. filed with the SEC on February 7, 2022, BlackRock, Inc. is the parent holding company or control person of several entities with interests in us. We do not have further information with respect to BlackRock, Inc.'s ownership in us subsequent to its Schedule 13G filed on February 7, 2022.

(2) Excluded ownership of the National Development Fund, Executive Yuan.

As of June 30, 2022, a total of 25,930,380,458 common shares were outstanding. With certain limited exceptions, holders of common shares that are not R.O.C. persons are required to hold their common shares through their custodians in the R.O.C. As of June 30, 2022, 5,320,242,653 common shares were registered in the name of a nominee of Citibank, N.A., the depositary under our ADS deposit agreement. Citibank, N.A., advised us that, as of June 30, 2022, 1,064,048,525 ADSs, representing 5,320,242,625 common shares, were held of record by Cede & Co. and 172 other registered shareholders domiciled in and outside of the United States. We have no further information as to common shares held, or beneficially owned, by U.S. persons.

Our major shareholders have the same voting rights as our other shareholders. We are currently not aware of any arrangement that may at a subsequent date result in a change of control of us.

RELATED PARTY TRANSACTIONS

Vanguard International Semiconductor Corporation (“VIS”)

In 1994, we, the R.O.C. Ministry of Economic Affairs and other investors established VIS, then an integrated DRAM manufacturer. VIS commenced volume commercial production in 1995 and listed its shares on the Taipei Exchange in March 1998. In 2004, VIS completely terminated its DRAM production and became a dedicated foundry company. As of June 30, 2022, we owned approximately 28.3% of the equity interest in VIS.

Pursuant to the terms of a manufacturing agreement between both parties, VIS was obligated to use its best commercial efforts to manufacture wafers at specified yield rates for us up to a fixed amount of reserved capacity per month, and TSMC was required to use its best commercial efforts to maintain utilization of such reserved capacity. In 2019, 2020, 2021 and the three months ended March 31, 2022, we had total purchases of NT\$3,093 million, NT\$3,495 million, NT\$3,726 million (US\$134 million) and NT\$390 million (US\$14 million) from VIS, representing 0.5%, 0.6%, 0.5% and 0.2% of our total cost of revenue, respectively.

Systems on Silicon Manufacturing Company Pte. Ltd. (“SSMC”)

SSMC is a joint venture in Singapore that we established with Philips and EDB Investment Pte. Ltd. to produce integrated circuits by means of advanced submicron manufacturing processes. These integrated circuits are made pursuant to the product design specifications provided primarily by us and Philips under an agreement with Philips and EDB Investment Pte. Ltd. (the “SSMC Shareholders Agreement”) in March 1999 and primarily by us and NXP Semiconductors N.V. (“NXP”), subsequent to the assignment by Philips of its rights to NXP and NXP’s assumption of Philips’ obligations under the SSMC Shareholders Agreement pursuant to the Assignment and Assumption Agreement effective September 25, 2006. SSMC’s business is limited to manufacturing wafers for us, our subsidiaries, NXP and NXP’s subsidiaries. On November 15, 2006, we and NXP exercised the option rights under the SSMC Shareholders Agreement to purchase all of the SSMC shares owned by EDB Investment Pte. Ltd. As a result, we now own 38.8% and oversight NXP owns 61.2%, of SSMC. While we, together with NXP, have the right to purchase up to 100% of SSMC’s annual capacity, we and NXP are required to purchase, in the aggregate, at least 70% of SSMC’s full capacity. See below for a detailed discussion of the contract terms we entered into with SSMC.

We entered into a technology cooperation agreement with SSMC effective March 30, 1999 in which SSMC agreed to base at least a major part of its production activities on processes compatible to those in use in our metal oxide semiconductor (“MOS”) integrated circuits wafer volume production fabs. In return, we agreed to provide SSMC with access to and benefit of the technical knowledge and experience relating to certain processes in use in our MOS integrated circuits wafer volume production fabs and to assist SSMC by rendering certain technical services in connection with its production activities. In addition, we granted SSMC limited licenses of related intellectual property rights owned or controlled by us for the purpose of MOS integrated circuit production for the sole use in manufacturing products for us. SSMC pays to us during, and up to three years after, the term of this agreement a remuneration of a fixed percentage of the net selling price of all products manufactured by SSMC. In 2019, 2020, 2021 and the three months ended March 31, 2022, we had total purchases of NT\$3,209 million, NT\$4,112 million, NT\$3,843 million (US\$139 million) and NT\$1,088 million (US\$38 million) from SSMC, representing 0.6%, 0.7%, 0.5% and 0.5% of our total cost of revenue, respectively.

Global Unichip Corporation (“GUC”)

In January 2003, we acquired a 52.0% equity interest in GUC, a SoC design service company that provides large scale SoC implementation services. GUC listed its shares on the Taiwan Stock Exchange in November 2006. As of June 30, 2022, we owned approximately 34.8% of the equity interest in GUC.

In 2019, 2020, 2021 and the three months ended March 31, 2022, we had total sales of NT\$5,654 million, NT\$7,181 million, NT\$7,707 million (US\$278 million) and NT\$2,111 million (US\$74 million) to GUC, representing 0.5%, 0.5%, 0.5% and 0.4% of our total revenue, respectively.

Xintec, Inc. (“Xintec”)

In January 2007, we acquired a 51.2% equity interest in Xintec, a supplier of wafer level packaging service, to support our CMOS image sensor manufacturing business. Xintec listed its shares on the Taipei Exchange in March 2015. Subsequent to Xintec’s IPO, our shareholding in Xintec was diluted to approximately 41.2%. As of June 30, 2022, we owned approximately 41.0% of the equity interest in Xintec.

In 2019, 2020, 2021 and the three months ended March 31, 2022, we incurred total manufacturing expenses of NT\$2,823 million, NT\$5,432 million, NT\$5,460 million (US\$197 million) and NT\$1,275 million (US\$45 million) from Xintec, representing 0.5%, 0.9%, 0.7% and 0.6% of our total cost of revenue, respectively.

DESCRIPTION OF THE NOTES AND THE GUARANTEES

The Notes (as defined below) and the Guarantees (as defined below) will be issued pursuant to an indenture dated as of April 3, 2013, as amended and supplemented by a supplemental indenture dated as of September 28, 2020 (the “Indenture”) among the Issuer, the Guarantor and Citicorp International Limited (the “Trustee”). A copy of the Indenture will be available for inspection at the corporate trust office of the Trustee located at 20/F, Citi Tower, One Bay East, 83 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong. The following summaries of certain provisions of the Notes, the Guarantees and the Indenture do not purport to be complete and are subject to, and are qualified in their entirety by reference to, the detailed provisions of the Notes, the Guarantees and the Indenture. The term “Indenture” when used in this offering circular refers to the Indenture, as amended and supplemented by the supplemental indenture dated as of September 28, 2020.

You will find the definitions of capitalized terms used in this description under the heading “– *Certain Definitions.*” For purposes of this description, references to the “Issuer” refer only to TSMC Global Ltd. and references to the “Guarantor” refer only to Taiwan Semiconductor Manufacturing Company Limited and not to its Subsidiaries.

General

The 4.375% notes due 2027 (the “2027 Notes”) will be issued in an aggregate principal amount of US\$400,000,000, and the 4.625% notes due 2032 (the “2032 Notes”, together with the 2027 Notes, the “Notes”) will be issued in an aggregate principal amount of US\$600,000,000. The 2027 Notes will mature on July 22, 2027, unless redeemed prior to their maturity pursuant to the terms thereof and of the Indenture, and the 2032 Notes will mature on July 22, 2032, unless redeemed prior to their maturity pursuant to the terms thereof and of the Indenture. The 2027 Notes will bear interest at the rate of 4.375% per annum, and the 2032 Notes will bear interest at the rate of 4.625% per annum, in each case, payable semi-annually in arrears on January 22 and July 22 of each year (each, an “Interest Payment Date”), beginning on January 22, 2023, to the persons in whose names the Notes are registered at the close of business on the preceding January 7 and July 7, respectively (each, an “Interest Record Date”). Interest on the Notes will accrue from the Issue Date. At maturity, the Notes are payable at their principal amount plus accrued and unpaid interest thereon. In any case where the payment of principal of, or interest on, the Notes is due on a date that is not a New York Business Day, then payment of principal of or interest on the Notes, as the case may be, will be made on the next succeeding New York Business Day and no interest will accrue with respect to such payment for the period from and after such date that is not a New York Business Day to such next succeeding New York Business Day. Interest will be calculated on the basis of a 360-day year consisting of twelve 30-day months. The Notes will not be subject to, nor entitled to the benefit of, any sinking fund. The Notes will be issued only in fully registered form, without coupons, in denominations of US\$200,000 and integral multiples of US\$1,000 in excess thereof.

No service charge will be made for any registration of transfer or exchange of the Notes, but the Issuer, the Guarantor, the transfer agent or the registrar may require payment of a sum sufficient to cover any transfer tax or other similar governmental charge payable in connection therewith. The Guarantor will fully, unconditionally and irrevocably guarantee (the “Guarantees”) to each holder of a 2027 Note and each holder of a 2032 Note the full and prompt payment of the principal of, and premium (if any) and interest on, such Notes (including any Additional Amounts (as defined below) payable in respect thereof) when and to the extent that such amounts shall become due and payable as provided in such Notes.

The principal of, interest on, and all other amounts payable under the Notes will be payable, and the Notes may be exchanged or transferred, at the office or agency of the Issuer which initially will be the office of Citibank, N.A., London Branch, paying agent, transfer agent and registrar (collectively, the “Agents”), located at c/o Citibank, N.A., Dublin Branch, 1 North Wall Quay, Dublin 1, Ireland. The principal of, premium (if any) and interest on the Notes will be payable in U.S. dollars (or in such other coin or currency of the United States of America as at the time of payment is legal tender for the payment of public and private debts) in immediately available funds. Payments of interest, premium (if any) and principal with respect to interests in the Global Notes will be credited to the accounts of the holders of such interests with DTC, Euroclear or Clearstream, as the case may be. See “Form, Denomination and Transfer.”

Ranking

The Notes will:

- constitute senior unsecured obligations of the Issuer;
- at all times rank *pari passu* and without any preference or priority among themselves and at least equally with all other present and future senior unsecured obligations of the Issuer, except as may be required by mandatory provisions of law;
- be senior in right of payment to all future subordinated obligations of the Issuer; and
- be effectively subordinated to secured obligations of the Issuer, to the extent of the assets serving as security therefor.

Further Issues

Subject to the covenants described below and in accordance with the terms of the Indenture, the Issuer may, from time to time, without the consent of the holders of the Notes, create and issue further securities having the same terms and conditions as each series of the Notes in all respects (or in all respects except for the issue date, the issue price, the first payment of interest on them and, to the extent necessary, certain temporary securities law transfer restrictions) (“Additional Notes”). Additional Notes issued in this manner will be consolidated and form a single series with the previously outstanding Notes of the relevant series to constitute a single series of Notes. The Issuer may only issue any Additional Notes of each series with the same CUSIP number as the relevant series of Notes issued hereunder if such further issuance would be treated as part of the same “issue” as the relevant series of Notes issued hereunder within the meaning of United States Treasury regulation section 1.1275-1(f) or 1.1275-2(k) or would otherwise be fungible with the relevant series of Notes issued hereunder for United States federal income tax purposes.

The Guarantees

The Guarantor will fully, unconditionally and irrevocably guarantee to each holder of a 2027 Note and each holder of a 2032 Note, the full and prompt payment of the principal of, and premium (if any) and interest on, such Notes (including any Additional Amounts payable in respect thereof) when and as the same shall become due and payable as provided in such Notes. The Guarantor will (i) agree that its obligations under the Guarantees will be enforceable irrespective of any invalidity, irregularity or unenforceability of the Notes or the Indenture and (ii) waive its right to require the Trustee to pursue or exhaust its legal or equitable remedies against the Issuer prior to exercising its rights under the Guarantees. Moreover, if at any time any amount paid under a Note or the Indenture is rescinded or must otherwise be restored, the rights of the holders of the Notes under the Guarantees will be reinstated with respect to such payments as though such payment had not been made. Notwithstanding any other provision of this “*Description of the Notes and the Guarantees*”, each Guarantee will constitute a separate obligation of the Guarantor and will relate solely to the payment of the principal of, and premium (if any) and interest on, the relevant series of Notes (including any Additional Amounts payable in respect thereof).

The Guarantees will:

- constitute senior unsecured obligations of the Guarantor;
- at all times rank at least equally with all other present and future senior unsecured obligations of the Guarantor, except as may be required by mandatory provisions of law;
- be senior in right of payment to all future subordinated obligations of the Guarantor; and
- be effectively subordinated to secured obligations of the Guarantor, to the extent of the assets serving as security therefor.

The Guarantor will be released from and relieved of its obligations under a Guarantee in the event:

- (i) of repayment in full of the relevant series of Notes; or
- (ii) that there is a Legal Defeasance of the relevant series of Notes as described under “– *Legal Defeasance and Covenant Defeasance*,”

provided that the transaction is otherwise carried out pursuant to and in accordance with all other applicable provisions of the Indenture.

No release of the Guarantor from its obligations under a Guarantee will be effective against the Trustee or the holders of the relevant series of Notes until the Issuer has delivered to the Trustee an Officers’ Certificate and the opinion of Independent Legal Counsel, each stating that all requirements relating to such release have been complied with and that such release is authorized and permitted by the Indenture.

Payment of Additional Amounts

All payments of principal, premium and interest made by the Issuer in respect of the Notes of any series or the Guarantor in respect of the Guarantees will be made without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or other governmental charges of whatever nature (“Taxes”) imposed or levied by or on behalf of the B.V.I. or the R.O.C. or within any political subdivision thereof or any authority therein having power to tax (a “Relevant Jurisdiction”), unless such withholding or deduction of such Taxes is required by law or by regulation. If the Issuer or the Guarantor (or their paying agents) is required to make such withholding or deduction, the Issuer or the Guarantor, as applicable, will withhold such Taxes and pay them to the relevant government authority, and the Issuer or the Guarantor, as applicable, will pay such additional amounts in respect of Taxes as will result (i) with respect to the Issuer, in the receipt by the holders or beneficial owners of the Notes of such series of such amounts as would have been received by such holders or beneficial owners had no such withholding or deduction of such Taxes been required or (ii) with respect to the Guarantor, in the receipt by the holders or beneficial owners of the Notes of such series of such amounts as would have been received by such holders or beneficial owners in respect of payments under the related Guarantee had no such withholding or deduction of such Taxes been required (such additional amounts payable by the Issuer or the Guarantor, the “Additional Amounts”), except that no such Additional Amounts shall be payable:

- (i) in respect of any such Taxes that would not have been imposed, deducted or withheld but for the existence of any connection (whether present or former) between the holder or beneficial owner of a Note and any Relevant Jurisdiction other than merely holding such Notes or receiving principal or interest in respect thereof (including such holder or beneficial owner being or having been a national, domiciliary or resident of such Relevant Jurisdiction or treated as a resident thereof or being or having been physically present or engaged in a trade or business therein or having currently or having had a permanent establishment therein);

- (ii) to the extent that any Taxes with respect to a Note would not have been so imposed or levied but for the fact that, where presentation is required in order to receive payment, the applicable Notes or Guarantees was presented more than 30 days after the date on which such payment became due and payable or the date on which payment thereof provided for and notice thereof given to the holders of the Notes, whichever is later, except to the extent that the holder or beneficiary thereof would have been entitled to such Additional Amounts on presenting the same for payment on the last day of such 30-day period;
- (iii) in respect of any failure of the holder or beneficial owner of a Note or a Guarantee to comply with a timely request of the Issuer or the Guarantor, as applicable, addressed to the holder or beneficial owner to provide information concerning such holder's or beneficial owner's nationality, residence, identity or connection with any Relevant Jurisdiction, if and to the extent that due and timely compliance with such request is required under the tax laws, statutes, treaties, regulations or administrative practices of any Relevant Jurisdiction in order to reduce or eliminate any withholding or deduction as to which Additional Amounts would have otherwise been payable to such holder or beneficial owner;
- (iv) in respect of any Taxes imposed as a result of any Notes or either Guarantee being presented for payment (where presentation is required) in the Relevant Jurisdiction, unless any such Notes or such Guarantee, as applicable, could not have been presented for payment elsewhere;
- (v) in respect of any estate, inheritance, gift, sales, transfer, personal property or similar Taxes;
- (vi) to any holder of a Note or beneficiary of a Guarantee that is a fiduciary, partnership or person other than the sole beneficial owner of any payment to the extent that such payment would be required to be included in the income under the laws of a Relevant Jurisdiction, for tax purposes, of a beneficiary or settlor with respect to the fiduciary, or a member of that partnership or a beneficial owner who would not have been entitled to such Additional Amounts had that beneficiary, settlor, partner or beneficial owner been the holder thereof;
- (vii) in respect of any Taxes that are payable otherwise than by deduction or withholding from payments on or in respect of any Notes or Guarantees; or
- (viii) in the case of any combination of the above listed items.

In addition, any amounts to be paid on the Notes will be paid net of any deduction or withholding imposed or required pursuant to Sections 1471 through 1474 of the Code, any current or future regulations or official interpretations thereof, any agreement entered into pursuant to Section 1471(b) of the Code, or any fiscal or regulatory legislation, rules or practices adopted pursuant to any intergovernmental agreement entered into in connection with the implementation of such Sections of the Code, and no additional amounts will be required to be paid on account of any such deduction or withholding.

In the event that any withholding or deduction for or on account of any taxes is required in respect of any payment of principal of or interest on the Notes of any series or any payment under the related Guarantee, at least five New York Business Days prior to the date of such payment, the Issuer or the Guarantor, as applicable, will furnish to the Trustee and the paying agent, if other than the Trustee, an Officers' Certificate specifying the amount required to be withheld or deducted on such payment, certifying that the Issuer or the Guarantor, as applicable, shall pay such amounts required to be withheld to the appropriate governmental authority and certifying the fact that the Additional Amounts will be payable and the amounts so payable to each holder, and that the Issuer or the Guarantor, as applicable, will pay to the Trustee or such paying agent the Additional Amounts required to be paid; *provided* that no

such Officers' Certificate will be required prior to any date of payment of principal of or interest on any such Notes or any such Guarantees, as applicable, if there has been no change with respect to the matters set forth in a prior Officers' Certificate. The Trustee and each paying agent may rely on the fact that any Officers' Certificate contemplated by this paragraph has not been furnished as evidence of the fact that no withholding or deduction for or on account of any Taxes is required. The Issuer and the Guarantor covenant to indemnify the Trustee and any paying agent for and to hold them harmless against any loss, liability or expense reasonably incurred without fraudulent activity, gross negligence or willful misconduct on their part arising out of or in connection with actions taken or omitted by any of them in reliance on any such Officers' Certificate furnished pursuant to this paragraph or on the fact that any Officers' Certificate contemplated by this paragraph has not been furnished.

Whenever there is mentioned, in any context, the payment of principal, premium or interest in respect of any Notes, such mention shall be deemed to include the payment of Additional Amounts provided for in the Indenture, to the extent that, in such context, Additional Amounts are, were or would be payable in respect thereof pursuant to the Indenture.

The foregoing provisions shall apply in the same manner with respect to the jurisdiction in which any successor Person to the Issuer or the Guarantor is organized or resident for tax purposes or any authority therein or thereof having the power to tax (a "Successor Jurisdiction"), substituting such Successor Jurisdiction for the applicable Relevant Jurisdiction.

The Issuer's and the Guarantor's respective obligations to make payments of Additional Amounts under the terms and conditions described above will survive any termination, defeasance or discharge of the Indenture.

Tax Redemption

Each series of Notes may be redeemed at any time, at the option of the Issuer, in whole but not in part, upon notice as described below, at a redemption price equal to 100% of the principal amount thereof, together with accrued and unpaid interest, if any, to, but not including, the date fixed for redemption, if (i) as a result of any change in, or amendment to, the laws or regulations of a Relevant Jurisdiction (or, in the case of Additional Amounts payable by a successor Person to the Issuer or the Guarantor, the applicable Successor Jurisdiction), or any change in the application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after the Issue Date (or, in the case of Additional Amounts payable by a successor Person to the Issuer or the Guarantor, the date on which such successor Person became such pursuant to the applicable provisions of the Indenture) (a "Tax Change"), the Issuer or the Guarantor or any such successor Person is, or would be, obligated to pay Additional Amounts upon the next payment of principal or interest in respect of such Notes or the next payment under the relevant Guarantee, as applicable, and (ii) such obligation cannot be avoided by the Issuer or the Guarantor or such successor Person, as applicable, taking reasonable measures available to it.

Prior to the giving of any notice of redemption of a series of Notes pursuant to the foregoing, the Issuer or the Guarantor or any such successor Person to the Issuer or the Guarantor, as applicable, shall deliver to the Trustee (i) a notice of such redemption election, (ii) an opinion of an Independent Legal Counsel or an opinion of an Independent Tax Consultant to the effect that the Issuer or the Guarantor or any such successor Person is, or would become, obligated to pay such Additional Amounts as the result of a Tax Change and (iii) an Officers' Certificate of the Issuer or the Guarantor or such successor Person, stating that such amendment or change has occurred, describing the facts leading thereto and stating that such requirement cannot be avoided by the Issuer or the Guarantor or the relevant successor Person, as applicable, taking reasonable measures available to it.

Notice of redemption of a series of Notes as provided above shall be given to the holders not less than 10 nor more than 60 days prior to the date fixed for redemption. Notice having been given, the relevant Notes shall become due and payable on the date fixed for redemption and will be paid at the redemption price, together with accrued and unpaid interest, if any, to, but not including, the date fixed for redemption, at the place or places of payment and in the manner specified in the relevant Notes. From and after the redemption date, if moneys for the redemption of such Notes shall have been made available as provided in the Indenture for redemption on the redemption date, such Notes shall cease to bear interest, and the only right of the holders of such Notes shall be to receive payment of the redemption price and accrued and unpaid interest, if any, to, but not including, the date fixed for redemption.

Optional Redemption

The Issuer may, at any time upon giving not less than 10 nor more than 60 days' notice to holders of a series of Notes, redeem such series of Notes, in whole or in part; *provided* that the principal amount of any Note remaining outstanding after redemption in part shall be US\$200,000 or an integral multiple of US\$1,000 in excess thereof. The redemption price for any Notes to be redeemed prior to the Applicable Par Call Date will be equal to the greater of (i) 100% of the aggregate principal amount of the Notes to be redeemed and (ii) the sum, as determined by the Independent Investment Banker based on the Reference Treasury Dealer Quotations, of the present values of the Remaining Scheduled Payments, discounted to the redemption date on a semi-annual basis (assuming a 360-day year consisting of twelve 30-day months) using a discount rate equal to the Treasury Rate plus 20 basis points, in the case of the 2027 Notes, and 30 basis points, in the case of the 2032 Notes, plus, in the case of each of clause (i) or (ii), accrued and unpaid interest thereon to, but not including, the redemption date for such Notes. On or after the Applicable Par Call Date, the redemption price will be equal to 100% of the aggregate principal amount of the 2027 Notes, or the 2032 Notes, as the case may be, to be redeemed, plus accrued and unpaid interest thereon to, but not including, the redemption date for such Notes. Neither the Trustee nor the paying agent shall be responsible for verifying or calculating the redemption price payable to holders.

If only some of the Notes of any series are to be redeemed, the Notes of such series to be redeemed will be selected, while such Notes are in global form, by the applicable clearing system and/or stock exchange requirements, or while such Notes are in certificated form, by the Trustee on a pro rata basis, by lot or by such method as the Trustee in its sole discretion deems fair and appropriate, unless otherwise required by law.

Any notice of redemption of Notes as described in this “– *Optional Redemption*” section shall state the redemption price (if known) or the formula pursuant to which the redemption price is to be determined if the redemption price cannot be determined at the time the notice is given. If the redemption price cannot be determined at the time such notice is to be given, the actual redemption price, calculated as described in clause (ii) of the first paragraph under “– *Optional Redemption*” above, shall be set forth in an Officers' Certificate delivered to the Trustee no later than two New York Business Days prior to the redemption date.

Any notice of redemption of Notes as described in this “– *Optional Redemption*” section may, at the Issuer's discretion, be given subject to one or more conditions precedent, including, but not limited to, the completion of a corporate transaction that is pending (such as an equity or equity-linked offering, an incurrence of indebtedness or an acquisition or other strategic transaction involving a change of control in the Issuer or another entity). If such redemption is so subject to the satisfaction of one or more conditions precedent, such notice shall describe each such condition, and such notice may be rescinded in the event that any or all such conditions shall not have been satisfied or otherwise waived on or prior to the New York Business Day immediately preceding the relevant redemption date. The Issuer shall notify

holders and the Trustee of any such rescission as soon as reasonably practicable after it determines that such conditions precedent will not be able to be satisfied or the Issuer shall not be able or willing to waive such conditions precedent. Once the notice of redemption is mailed or sent, subject to the satisfaction of any conditions precedent provided in the notice of redemption, the Notes called for redemption will become due and payable on the redemption date and at the applicable redemption price as described in this “– *Optional Redemption*” section.

Open Market Purchases

The Issuer or the Guarantor or any of the Guarantor's Subsidiaries may, in accordance with all applicable laws and regulations, at any time purchase the Notes in the open market or otherwise at any price, so long as such purchase does not otherwise violate the terms of the Indenture. The Notes so purchased, while held by or on behalf of the Issuer or the Guarantor or any of the Guarantor's Subsidiaries, shall not be deemed to be outstanding for the purposes of determining whether the holders of the requisite principal amount of outstanding Notes have given any request, demand, authorization, direction, notice, consent or waiver hereunder.

Modification and Waiver

The Indenture contains provisions permitting the Issuer, the Guarantor and the Trustee, without the consent of the holders of a series of Notes, to execute supplemental indentures for certain enumerated purposes in the Indenture and, with the consent of the holders of not less than a majority in aggregate principal amount of the relevant series of Notes then outstanding under the Indenture, to add, change, eliminate or modify in any way the provisions of the Indenture or any supplemental indentures or to change or modify in any manner the rights of the holders of Notes of such series. The Issuer, the Guarantor and the Trustee may not, however, without the consent of each holder of the Notes of the series affected thereby:

- (i) change the Stated Maturity of such series of Notes;
- (ii) reduce the principal amount of, payments of interest on or stated time for payment of interest on any Notes of such series;
- (iii) change any obligation of the Issuer or the Guarantor to pay Additional Amounts with respect to such series of Notes or the related Guarantee, respectively;
- (iv) change any obligation of the Guarantor to make payments under the Guarantee with respect to such series of Notes;
- (v) change the currency of payment of the principal of or interest on such series of Notes;
- (vi) impair the right to institute suit for the enforcement of any payment due on or with respect to such series of Notes or the related Guarantee;
- (vii) reduce the above stated percentage of outstanding Notes of such series necessary to modify or amend the Indenture;
- (viii) reduce the percentage of the aggregate principal amount of outstanding Notes of such series necessary for waiver of compliance with certain provisions of the Indenture or for waiver of certain Defaults;
- (ix) modify the provisions of the Indenture with respect to modification and waiver; or
- (x) reduce the amount of the premium payable upon the redemption or repurchase of any Notes of such series or change the time at which any Notes of such series may be redeemed or repurchased as described above under “– *Optional Redemption*” whether through an amendment or waiver of provisions in the covenants, definitions or otherwise.

The holders of not less than a majority in principal amount of a series of Notes may on behalf of all holders of that series of Notes waive any existing or past Default or Event of Default and its consequences under the Indenture, except a continuing Default or Event of Default (i) in the payment of principal of, or interest on (or Additional Amounts payable in respect of), the relevant Notes then outstanding or the payment of any amounts due under the relevant Guarantee, in which event the consent of all holders of that series of Notes is required; or (ii) in respect of a covenant or provision that under the Indenture cannot be modified or amended without the consent of each holder of that series of Notes then outstanding affected thereby. Any such waivers will be conclusive and binding on all holders of the relevant series of Notes, whether or not they have given consent to such waivers, and on all future holders of such series of Notes, whether or not notation of such waivers is made upon the relevant Notes. Any instrument given by or on behalf of any holder of any Notes in connection with any consent to any such waiver will be irrevocable once given and will be conclusive and binding on all subsequent holders of any such Notes.

Notwithstanding the foregoing, without the consent of any holder, the Issuer, the Guarantor and the Trustee may amend the Indenture, the Notes of each series and the Guarantees to, among other things:

- (i) cure any ambiguity, omission, defect or inconsistency; *provided*, however, that such amendment does not materially and adversely affect the rights of holders of the relevant series of Notes;
- (ii) provide for the assumption by a successor Person of the obligations of the Issuer or the Guarantee under the Indenture and a series of Notes in accordance with “– *Consolidation, Merger and Sale of Assets*”;
- (iii) provide for or facilitate the issuance of uncertificated Notes in addition to or in place of certificated Notes; *provided* that the uncertificated Notes are issued in registered form for purposes of Section 163(f) of the Code;
- (iv) comply with the rules of any applicable depository;
- (v) make any change that does not adversely affect the legal rights under the Indenture of any holder in any material respect;
- (vi) evidence and provide for the acceptance of an appointment under the Indenture of a successor trustee; *provided* that the successor trustee is otherwise qualified and eligible to act as such under the terms of the Indenture;
- (vii) conform the text of the Indenture, the Notes or the Guarantees to any provision of this “*Description of the Notes and the Guarantees*” in the final offering circular in relation to the Notes;
- (viii) make any amendment to the provisions of the Indenture relating to the transfer and legending of Notes or the Guarantees as permitted by the Indenture, including, but not limited to, amendments made to facilitate the issuance and administration of the Notes or the Guarantees or, if incurred in compliance with the Indenture, Additional Notes; *provided*, however, that (a) compliance with the Indenture as so amended would not result in the Notes or the Guarantees being transferred in violation of the Securities Act or any applicable securities law and (b) such amendment does not materially and adversely affect the rights of holders to transfer the Notes and the Guarantees as described in this offering circular;
- (ix) to provide for the issuance of Additional Notes of each series in accordance with the limitations set forth in the Indenture;
- (x) to evidence the succession of another Person to the Issuer or the Guarantor, and the assumption by any such successor of the covenants of the Issuer or the Guarantor, respectively;
- (xi) to establish the form or terms of a new series of notes;

- (xii) to reduce or otherwise limit the aggregate principal amount of notes that may be authenticated and delivered under the Indenture;
- (xiii) to supplement any of the provisions of the Indenture to such extent as shall be necessary to permit or facilitate the defeasance and discharge of any series of Notes, *provided* that any such action shall not adversely affect the interests of the holders of any Notes then outstanding; and
- (xiv) to amend or supplement any provision contained herein or in any supplemental indenture, *provided* that no such amendment or supplement shall adversely affect the interests of the holders of any Notes then outstanding.

The consent of the holders is not necessary under the Indenture to approve the particular form of any proposed amendment, supplement or waiver. It is sufficient if such consent approves the substance of the proposed amendment or supplement. A consent to any amendment, supplement or waiver under the Indenture by any holder given in connection with a tender of such holder's Notes will not be rendered invalid by such tender. After an amendment, supplement or waiver under the Indenture becomes effective, the Issuer is required to give to the holders of the affected Notes a notice briefly describing such amendment, supplement or waiver. However, the failure to give such notice to all such holders, or any defect in the notice will not impair or affect the validity of the amendment, supplement or waiver.

Certain Covenants

The Indenture sets forth limited covenants that will apply to each series of Notes. However, these covenants do not, among other things:

- limit the amount of indebtedness or lease obligations that may be incurred by the Issuer, the Guarantor or any Subsidiary of the Guarantor;
- limit the ability of the Issuer, the Guarantor or any Subsidiary of the Guarantor to issue, assume or guarantee indebtedness secured by liens; or
- limit the Issuer, the Guarantor or any Subsidiary of the Guarantor from paying dividends or making distributions on such Person's Capital Stock or purchasing or redeeming such Person's Capital Stock.

Reports

So long as the Notes remain outstanding and are "restricted securities" within the meaning of Rule 144(a)(3) of the Securities Act, the Guarantor will furnish, upon the request of any holder of a beneficial interest in any Notes, such information as is specified in paragraph (d)(4) of Rule 144A, to such holder or beneficial owner or to a prospective purchaser of such Notes, designated by such holder or beneficial owner, who is also a qualified institutional buyer within the meaning of Rule 144A to the extent required to permit compliance by such holder or beneficial owner with Rule 144A in connection with the resale of the Notes or beneficial interest therein in reliance on Rule 144A unless, at the time of such request, the Guarantor is subject to the reporting requirements of Section 13 or 15(d) of the Exchange Act, or is exempt from the registration requirements of Section 12(g) of the Exchange Act pursuant to Rule 12g3-2(b) under the Exchange Act.

Consolidation, Merger and Sale of Assets

Prior to the satisfaction and discharge of the Indenture, the Guarantor and the Issuer may not consolidate with or merge into any other Person in a transaction or, directly or indirectly, convey, transfer or lease all or substantially all of its properties and assets to any Person, unless either:

- (i) in the case of a consolidation or merger, the Guarantor or the Issuer is the continuing and surviving Person and no Default or Event of Default shall have occurred and be continuing; or
- (ii) (a) the Person formed by such consolidation or into which the Issuer or the Guarantor is merged or to whom the Issuer or the Guarantor has conveyed, transferred or leased all or substantially all of its properties and assets expressly assumes by an indenture supplemental to the Indenture all the obligations of the Issuer or the Guarantor, as applicable, under the Indenture and the applicable Notes and Guarantee, including the obligation to pay Additional Amounts, with any jurisdiction in which the Person is organized or resident for tax purposes also being considered a “Relevant Jurisdiction” for purposes of the Additional Amounts provision;
 - (b) immediately before and after giving effect to the transaction, no Default or Event of Default under the applicable series of Notes shall have occurred and be continuing; and
 - (c) the Issuer or the Guarantor, as applicable, has delivered to the Trustee an Officers’ Certificate and an opinion of Independent Legal Counsel, each stating that such consolidation, merger, conveyance, transfer or lease and such supplemental indenture comply with the Indenture and that all conditions precedent therein provided for relating to such transaction have been complied with.

An assumption of the Issuer’s obligations under a series of Notes by any Person might be deemed for U.S. federal income tax purposes to be an exchange of such Notes for new Notes by the beneficial owners thereof, resulting in the recognition of gain or loss for such purposes and possibly certain other adverse tax consequences. Investors should consult their own tax advisors regarding the tax consequences of such an assumption.

Events of Default

For each series of Notes, each of the following shall constitute an Event of Default under the Indenture for such series of Notes:

- (i) failure to pay principal or premium in respect of any Notes of such series by the due date for such payment, but in the case of technical or administrative difficulties, only if the default continues for a period of two days;
- (ii) failure to pay interest on any Notes of such series within 30 days after the due date for such payment;
- (iii) the Issuer or the Guarantor defaults in the performance of or breaches its obligations under the “– *Consolidation, Merger and Sale of Assets*” covenant;
- (iv) the Issuer or the Guarantor defaults in the performance of or breaches any covenant or agreement in the Indenture or under such series of Notes (other than a default specified in clause (i), (ii) or (iii) above) and such default or breach continues for a period of 90 consecutive days after written notice to the Issuer and the Guarantor, as applicable, by the Trustee or the holders of 25% or more in aggregate principal amount of such series of Notes then outstanding;

- (v) the entry by a court having jurisdiction in the premises of (a) a decree or order for relief in respect of the Issuer or the Guarantor in an involuntary case or proceeding under any applicable bankruptcy, insolvency or other similar law or (b) a decree or order adjudging the Issuer or the Guarantor bankrupt or insolvent, or approving as final and nonappealable a petition seeking reorganization, arrangement, adjustment, or composition of or in respect of the Issuer or the Guarantor under any applicable bankruptcy, insolvency or other similar law, or appointing a custodian, receiver, liquidator, assignee, trustee, sequestrator, or other similar official of the Issuer or the Guarantor or of any substantial part of their respective property, or ordering the winding up or liquidation of their respective affairs (or any similar relief granted under any foreign laws), and the continuance of any such decree or order for relief or any such other decree or order unstayed and in effect for a period of 90 consecutive calendar days;
- (vi) the commencement by the Issuer or the Guarantor of a voluntary case or proceeding under any applicable state or foreign bankruptcy, insolvency or other similar law or of any other case or proceeding to be adjudicated bankrupt or insolvent, or the consent by it to the entry of a decree or order for relief in respect of the Issuer or the Guarantor in an involuntary case or proceeding under any applicable bankruptcy, insolvency or other similar law or to the commencement of any bankruptcy or insolvency case or proceeding against it, or the filing by it of a petition or answer or consent seeking reorganization or relief with respect to the Issuer or the Guarantor under any applicable bankruptcy, insolvency or other similar law, or the consent by it to the filing of such petition or to the appointment of or taking possession by a custodian, receiver, liquidator, assignee, trustee, sequestrator, or other similar official of the Issuer or the Guarantor or of any substantial part of their respective property pursuant to any such law, or the making by the Issuer or the Guarantor of a general assignment for the benefit of creditors in respect of any indebtedness as a result of an inability to pay such indebtedness as it becomes due, or the admission by the Issuer or the Guarantor in writing of its inability to pay its debts generally as they become due, or the taking of corporate action by the Issuer or the Guarantor that resolves to commence any such action; and
- (vii) the relevant series of Notes, the relevant Guarantee or the Indenture is or becomes or is claimed to be unenforceable, invalid, ceases to be in full force and effect by the Issuer or the Guarantor, as applicable, or is deemed to contravene, breach or violate the laws of any relevant jurisdiction.

However, a default under subparagraph (iv) above will not constitute an Event of Default until the Trustee or the holders of 25% in aggregate principal amount of the then outstanding Notes of the relevant series notify the Issuer and the Guarantor of the default and the Issuer or the Guarantor, as applicable, does not cure such default within the time specified in subparagraph (iv) above after receipt of such notice.

If an Event of Default (other than an Event of Default described in subparagraphs (v) and (vi) above) shall occur and be continuing, either the Trustee or the holders of at least 25% in aggregate principal amount of the relevant series of Notes then outstanding by written notice to the Issuer and the Guarantor (and to the Trustee if such notice is given by the holders) as provided in the Indenture may, or the Trustee acting on the directions of the holders of at least 25% in aggregate principal amount of the relevant series of Notes then outstanding (subject to receipt of indemnity and/or security satisfactory to the Trustee) shall, declare the unpaid principal amount of the Notes of such series and any accrued and unpaid interest thereon (and any Additional Amount payable in respect thereof) to be due and payable immediately upon receipt of such notice. If an Event of Default in subparagraphs (v) or (vi) above shall occur, the unpaid principal amount of all the Notes of such series then outstanding and any accrued and unpaid interest thereon will automatically, and without any declaration or other action by the

Trustee or any holder of such Notes, become immediately due and payable. After a declaration of acceleration but before a judgment or decree for payment of the money due has been obtained by the Trustee, the holders of at least a majority in aggregate principal amount of the affected Notes then outstanding may, under certain circumstances, waive all past Defaults and rescind and annul such acceleration if (1) rescission would not conflict with any judgment or decree of a court of competent jurisdiction and (2) all Events of Default in respect of such series of Notes, other than the non-payment of principal, premium, if any, or interest on such Notes that became due solely because of the acceleration of such Notes, have been cured or waived. For information as to waiver of Defaults, see “– Modification and Waiver.”

Subject to the provisions of the Indenture relating to the duties of the Trustee, in case an Event of Default of a series of Notes shall occur and be continuing, the Trustee will be under no obligation to exercise any of the trusts or powers vested in it by the Indenture at the written request, order or direction of any of the holders of such Notes, unless a requisite number of holders shall have instructed in writing and offered to the Trustee security and/or indemnity satisfactory to it against the costs, expenses and liabilities which may be incurred therein or thereby. Subject to certain provisions, including those requiring security and/or indemnification of the Trustee, the holders of a majority in aggregate principal amount of such Notes then outstanding will have the right to direct in writing the time, method and place of conducting any proceeding for any remedy available to the Trustee or exercising any trust or power conferred on the Trustee. No holder of any Notes will have any right to institute any proceeding, judicial or otherwise, with respect to the Indenture, the Notes or the Guarantee, or for the appointment of a receiver or a trustee, or for any other remedy thereunder, unless (i) such holder has previously given to the Trustee written notice of a continuing Event of Default, (ii) the holders of at least 25% in aggregate principal amount of such series of Notes then outstanding have made written request to the Trustee to institute such proceeding, (iii) such holder or holders have instructed in writing and offered indemnity and/or security satisfactory to the Trustee and (iv) the Trustee has failed to institute such proceeding, and has not received from the holders of a majority in aggregate principal amount of such series of Notes then outstanding a written direction inconsistent with such request, within 60 days after such notice, request and offer. However, such limitations do not apply to a suit instituted by a holder of a Note for the enforcement of the right to receive payment of the principal of or interest on any such Notes on or after the applicable due date specified in any such Notes. The Trustee shall not be required to expend its funds in following such direction if it does not reasonably believe that reimbursement or indemnity and/or security is assured to it.

If the Trustee collects any money pursuant to the Indenture, it shall pay out the money in the following order:

First, to the Trustee and the Agents to the extent necessary to reimburse the Trustee and the Agents for any expenses incurred in connection with the collection or distribution of such amounts held or realized and any fees and expenses (including indemnity payments) incurred in connection with carrying out its functions under the Indenture (including reasonable legal fees);

Second, to the Trustee for the benefit of the holders of the Notes of the relevant series; and

Third, any surplus remaining after such payments will be paid to the Issuer or to whomever may be lawfully entitled thereto.

No Personal Liability of Directors, Officers, Employees and Shareholders

No director, officer, employee, incorporator or shareholder of the Issuer or the Guarantor, as such, will have any liability for any obligations of the Issuer or the Guarantors under the Notes, the Indenture or the Guarantees, or for any claim based on, in respect of, or by reason of, such obligations or their creation. Each holder of Notes by accepting a Note waives and releases all such liability. The waiver and release are part of the consideration for issuance of the Notes. The waiver may not be effective to waive liabilities under the U.S. federal securities laws.

Legal Defeasance and Covenant Defeasance

The Indenture will provide that the Issuer may, at its option and at any time, elect to have all of its (and the Guarantor's) obligations discharged with respect to the outstanding Notes of a series and the related Guarantees ("Legal Defeasance") except for:

- (i) the rights of holders of the Notes of the relevant series that are then outstanding to receive payments in respect of the principal of, or interest or premium on the Notes of the relevant series when such payments are due from the trust referred to below;
- (ii) the Issuer's obligations with respect to the Notes of the relevant series concerning issuing temporary notes, mutilated, destroyed, lost or stolen notes and the maintenance of an office or agency for payment and money for security payments held in trust;
- (iii) the rights, powers, trusts, duties and immunities of the Trustee for the relevant series of Notes, and the Issuer's obligations in connection therewith; and
- (iv) the Legal Defeasance and Covenant Defeasance (as defined below) provisions of the Indenture for the relevant series of Notes.

The Indenture will provide that the Issuer may, at its option and at any time, elect to have its (and the Guarantor's) obligations with respect to the outstanding Notes of the relevant series and the related Guarantee released with respect to certain covenants that are described in the Indenture ("Covenant Defeasance") and thereafter any omission to comply with those covenants will not constitute a Default or Event of Default. In the event Covenant Defeasance occurs, certain events (not including non-payment, bankruptcy, receivership, rehabilitation and insolvency events) described under the caption "*– Events of Default*" will no longer constitute an Event of Default in respect of such series of Notes.

The Indenture will also provide that, in order to exercise either Legal Defeasance or Covenant Defeasance:

- (i) the Issuer must irrevocably deposit with the Trustee, in trust, for the benefit of the holders of all the Notes subject to Legal Defeasance or Covenant Defeasance, cash in U.S. dollars, U.S. Government Obligations, or a combination of cash in U.S. dollars and U.S. Government Obligations, in amounts as will be sufficient, in the opinion of an internationally recognized investment bank, appraisal firm or firm of independent public accountants, to pay the principal of, or interest and premium on such Notes as are then outstanding on the Stated Maturity or on the applicable redemption date, as the case may be, and the Issuer must specify whether such Notes are being defeased to maturity or to a particular redemption date;
- (ii) in the case of Legal Defeasance, the Issuer must deliver to the Trustee an opinion of Independent Legal Counsel reasonably acceptable to the Trustee confirming that (a) the Issuer has received from, or there has been published by, the U.S. Internal Revenue Service a ruling or (b) since the date of the Indenture, there has been a change in the applicable U.S. federal income tax law, in either case to the effect that, and based thereon such opinion of Independent Legal Counsel will confirm that, the holders of the then outstanding Notes of the affected series will not recognize income, gain or loss for U.S. federal income tax purposes as a result of such Legal Defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Legal Defeasance had not occurred;

- (iii) in the case of Covenant Defeasance, the Issuer must deliver to the Trustee an opinion of Independent Legal Counsel reasonably acceptable to the Trustee confirming that the holders of the then outstanding Notes of the affected series will not recognize income, gain or loss for U.S. federal income tax purposes as a result of such Covenant Defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such Covenant Defeasance had not occurred;
- (iv) no Default or Event of Default with respect to the Notes of the affected series must have occurred and be continuing on the date of the deposit referred to in clause (i) above (other than a Default or Event of Default resulting from the borrowing of funds to be applied to such deposit);
- (v) the Issuer must deliver to the Trustee an Officers' Certificate stating that the deposit referred to in clause (i) above was not made by it with the intent of preferring the holders of Notes of the affected series over the Issuer's other creditors with the intent of defeating, hindering, delaying or defrauding its creditors or others; and
- (vi) the Issuer must deliver to the Trustee an Officers' Certificate and an opinion of Independent Legal Counsel, each stating that all conditions precedent relating to the Legal Defeasance or the Covenant Defeasance have been complied with.

Satisfaction and Discharge

The Indenture will be discharged and will cease to be of further effect when:

- (i) either:
 - (a) all of the Notes that have been authenticated, except lost, stolen or destroyed Notes that have been replaced or paid and Notes for whose payment money has been deposited in trust and thereafter repaid to the Issuer, have been delivered to the Trustee for cancellation; or
 - (b) all of the Notes that have not been delivered to the Trustee for cancellation have become due and payable by reason of the mailing of a notice of redemption or otherwise or will become due and payable within one year and the Issuer or the Guarantor has irrevocably deposited or caused to be deposited with the Trustee, as trust funds in trust solely for the benefit of the holders of the Notes, cash in U.S. dollars, U.S. Government Obligations, or a combination of cash in U.S. dollars and U.S. Government Obligations, in amounts as will be sufficient, without consideration of any reinvestment of interest, to pay and discharge all amounts outstanding on the Notes not delivered to the Trustee for cancellation for principal, premium and accrued interest to the date of maturity or redemption;
- (ii) no Default or Event of Default under the Indenture has occurred and is continuing with respect to the Notes on the date of the deposit referred to in clause (i)(a) or (i)(b) above (other than a Default or Event of Default resulting from or related to the borrowing of funds to be applied to such deposit) and such deposit will not result in a breach or violation of, or constitute a default under, any other instrument to which the Issuer is a party or by which it is bound;
- (iii) the Issuer has paid or caused to be paid all sums payable by it under the Indenture with respect to the Notes; and
- (iv) the Issuer has delivered irrevocable instructions to the Trustee under the Indenture to apply the deposited money toward the payment of the Notes at maturity or the redemption date, as the case may be.

In addition, the Issuer must deliver an Officers' Certificate and an opinion of Independent Legal Counsel to the Trustee stating that all conditions precedent to satisfaction and discharge have been satisfied.

Concerning the Trustee and Agents

Pursuant to the Indenture, Citicorp International Limited will be designated as the initial trustee and Citibank, N.A., London Branch, a banking corporation organized and existing under the laws of the State of New York with limited liability, will be designated by the Issuer as the initial paying and transfer agent and registrar for the Notes. The corporate trust office of the Trustee is currently located at 20/F, Citi Tower, One Bay East, 83 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong.

The Indenture provides that the Trustee, except during the continuance of an Event of Default, undertakes to perform such duties and only such duties as are specifically set forth in such Indenture, and no implied covenant or obligation shall be read into the Indenture against the Trustee. If an Event of Default has occurred and is continuing, the Trustee will exercise such of the rights and powers vested in it by the Indenture, and use the same degree of care and skill in their exercise, as a prudent person would exercise or use under the circumstances in the conduct of such person's own affairs.

Furthermore, each Holder, by accepting the Notes will agree, for the benefit of the Trustee, that it is solely responsible for its own independent appraisal of, and investigation into, all risks arising under or in connection with the Notes and has not relied on and will not at any time rely on the Trustee in respect of such risks.

For so long as the Notes are listed on the Singapore Exchange Securities Trading Limited (the "SGX-ST") and the rules of the SGX-ST so require, the Issuer shall appoint and maintain a paying agent in Singapore, where the Notes may be presented or surrendered for payment or redemption, in the event that a Global Note is exchanged for definitive Notes. In addition, in the event that a Global Note is exchanged for definitive Notes, an announcement of such exchange shall be made by or on behalf of the Issuer through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Notes, including details of the paying agent in Singapore.

Currency Indemnity

To the fullest extent permitted by law, the obligations of the Issuer or the Guarantor to any holder of the Notes under the Indenture or the Notes or the Guarantees, as the case may be, shall, notwithstanding any judgment in a currency (the "Judgment Currency") other than U.S. dollars (the "Agreement Currency"), be discharged only to the extent that on the Business Day following receipt by such holder or the Trustee, as the case may be, of any amount in the Judgment Currency, such holder or the Trustee, as the case may be, may in accordance with normal banking procedures purchase the Agreement Currency with the Judgment Currency. If the amount of the Agreement Currency so purchased is less than the amount originally to be paid to such holder or the Trustee, as the case may be, in the Agreement Currency, the Issuer and the Guarantor agree, as a separate obligation and notwithstanding such judgment, to pay the difference and if the amount of the Agreement Currency so purchased exceeds the amount originally to be paid to such holder, such holder or the Trustee, as the case may be, agrees to pay to or for the account of the Issuer or the Guarantor such excess, *provided* that such holder shall not have any obligation to pay any such excess as long as a default by the Issuer or the Guarantor in its obligations under the Indenture or the relevant series of Notes or the related Guarantee has occurred and is continuing, in which case such excess may be applied by such holder to such obligations.

Notices

All notices or demands required or permitted by the terms of the Notes or the Indenture to be given by the holders of the Notes are required to be in writing and may be given or served by being sent by prepaid courier or first-class mail, if intended for the Issuer or the Guarantor, addressed to the Issuer or the Guarantor, as applicable, if intended for the Trustee, at the corporate trust office of the Trustee.

Any notices required to be given to the holders of the Notes will be given to DTC, as the registered holder of the Global Notes. In the event that the Global Notes are exchanged for individual Notes in certificated form, notices to holders of the Notes will be sent by prepaid courier or first-class mail addressed to such holder at such holder's last address as it appears in the Register.

Governing Law and Consent to Jurisdiction

The Notes, the Guarantees and the Indenture are governed by and will be construed in accordance with the laws of the State of New York. The Issuer and the Guarantor have agreed that any action arising out of or based upon the Indenture, the Notes or the Guarantees may be instituted in any U.S. federal or New York State court located in the Borough of Manhattan, the City of New York, and have irrevocably submitted to the non-exclusive jurisdiction of any such court in any such action. Prior to the delivery of the Notes, the Issuer and the Guarantor shall irrevocably appoint TSMC North America as their agent upon which process may be served in any such action.

Each of the Issuer and the Guarantor has agreed that, to the extent that it is or becomes entitled to any sovereign or other immunity, it will waive such immunity in respect of its obligations under the Indenture.

Certain Definitions

Set forth below are definitions of certain of the terms used herein. Additional terms are defined elsewhere above or in the Indenture.

"Applicable Par Call Date" means with respect to the (i) 2027 Notes, June 22, 2027 and (ii) 2032 Notes, April 22, 2032.

"Business Day" means a day other than a Saturday, Sunday or a day on which banking institutions or trust companies in the State of New York, Hong Kong and London are authorized or obligated by law, regulation or executive order to remain closed.

"B.V.I." means the British Virgin Islands.

"Capital Stock" of any Person means any and all shares, interests, rights to purchase, warrants, options, participations or other equivalents of or interests in (however designated) equity of such Person, including any Preferred Shares and limited liability or partnership interests (whether general or limited), but excluding any debt securities convertible or exchangeable into such equity, prior to conversion or exchange.

"Clearstream" means Clearstream Banking S.A.

"Code" means the U.S. Internal Revenue Code of 1986, as amended.

“Comparable Treasury Issue” means the United States Treasury security selected by an Independent Investment Banker as having an actual or interpolated maturity comparable to the Remaining Term of the applicable Notes to be redeemed as described under “– *Optional Redemption*” section that would be utilized, at the time of selection and in accordance with customary financial practice, in pricing new issues of corporate debt securities of comparable maturity to the Remaining Term of such Notes.

“Comparable Treasury Price” means, with respect to any redemption date as described under “– *Optional Redemption*” section, (1) the arithmetic average of the applicable Reference Treasury Dealer Quotations for such redemption date after excluding the highest and lowest such Reference Treasury Dealer Quotations, or (2) if the Issuer obtains fewer than four applicable Reference Treasury Dealer Quotations, the arithmetic average of all applicable Reference Treasury Dealer Quotations for such redemption date.

“CUSIP” means the identification number provided by Committee on Uniform Securities Identification Procedures.

“Default” means any event that is, or with the passage of time or the giving of notice or both would be, an Event of Default.

“DTC” means the Depository Trust Company, a subsidiary of the Depository Trust & Clearing Corporation.

“Euroclear” means Euroclear Bank SA/NV.

“Exchange Act” means the United States Securities Exchange Act of 1934, as amended.

“Global Notes” means (i) each series of the Notes sold in offshore transactions in reliance on Regulation S will be represented by one or more global Notes issued to the DTC and registered in the name of Cede & Co. as nominee of DTC, and held in New York, New York for the accounts of Euroclear and Clearstream; and (ii) each series of the Notes sold in reliance on Rule 144A will be represented by one or more global Notes.

“holder” and “Noteholder” in relation to a Note, means the Person in whose name a Note is registered in the Register.

“Independent Investment Banker” means one of the Reference Treasury Dealers appointed by the Issuer from time to time to act in such capacity.

“Independent Legal Counsel” means an independent legal firm of internationally recognized standing that is reasonably acceptable to the Trustee.

“Independent Tax Consultant” means an independent accounting firm or consultant of internationally recognized standing that is reasonably acceptable to the Trustee, *provided* that the Trustee shall have no liability for the selection or approval of such agent.

“Issue Date” means July 22, 2022.

“New York Business Day” means a day other than a Saturday, Sunday or a day on which banking institutions or trust companies in the State of New York are authorized or obligated by law, regulation or executive order to remain closed.

“Officer” means the Chairman of the Board, the Chief Executive Officer, the Vice Chairman, the Chief Financial Officer, any Vice President, the Treasurer or the Secretary of the Guarantor or, in the event that the Guarantor is a partnership or a limited liability company that has no such officers, a person duly authorized under applicable law by the general partner, managers, members or a similar body to act on behalf of the Guarantor or, in the case of the Issuer or any successor Person to the Issuer or the Guarantor, a director of such successor Person.

“Officers’ Certificate” means a certificate signed by two Officers of the Issuer or the Guarantor or any successor Person to the Issuer or the Guarantor, as applicable, one of whom is the principal executive officer, the principal financial officer, the treasurer or the principal accounting officer.

“Person” means any individual, corporation, firm, limited liability company, partnership, joint venture, undertaking, association, joint stock company, trust, unincorporated organization, trust, state, government or any agency or political subdivision thereof or any other entity (in each case whether or not being a separate legal entity).

“Preferred Shares,” as applied to the Capital Stock of any corporation, means Capital Stock of any class or classes (however designated) that is preferred as to the payment of dividends upon liquidation, dissolution or winding up.

“Primary Treasury Dealer” means a primary U.S. Government securities dealer in the United States of America.

“Reference Treasury Dealer” means (1) Goldman Sachs International and its successors; *provided*, however, that if Goldman Sachs International and its successors cease to be a Primary Treasury Dealer, the Issuer will substitute another Primary Treasury Dealer and (2) any other Primary Treasury Dealers selected by the Issuer.

“Reference Treasury Dealer Quotations” means, with respect to the Reference Treasury Dealer and any redemption date, the arithmetic average, as determined by the Issuer, of the bid and asked prices for the applicable Comparable Treasury Issue (expressed in each case as a percentage of its principal amount) quoted in writing to the Issuer by such Reference Treasury Dealer as of 5:00 p.m., New York City time, on the third New York Business Day preceding such redemption date.

“Register” means the register of Noteholders maintained by the registrar for the Notes.

“Remaining Scheduled Payments” means, with respect to any Note to be redeemed, the remaining scheduled payments of the principal thereof and interest thereon that would be due after the related redemption date but for such redemption (assuming such Note matured on the Applicable Par Call Date); *provided*, however, that, if such redemption date is not an Interest Payment Date with respect to such Note, the amount of the next scheduled interest payment thereon will be reduced by the amount of interest accrued thereon to such redemption date.

“Remaining Term” means, with respect to any Note to be redeemed as described under the “– *Optional Redemption*” section, the period from the relevant redemption date to the Applicable Par Call Date.

“R.O.C.” means the Republic of China.

“SEC” means the U.S. Securities and Exchange Commission.

“Stated Maturity” means July 22, 2027, in the case of the 2027 Notes, and July 22, 2032, in the case of the 2032 Notes.

“Subsidiary” of any Person means (i) any corporation, association or other business entity (other than a partnership, joint venture, limited liability company or similar entity) of which more than 50% of the total ordinary voting power of shares of Voting Stock entitled (without regard to the occurrence of any contingency) to vote in the election of directors, managers or trustees thereof (or Persons performing similar functions) or (ii) any partnership, joint venture, limited liability company or similar entity of which more than 50% of the capital accounts, distribution rights, total equity and voting interests or general or limited partnership interests, as applicable, is, in the case of clauses (i) and (ii), at the time owned or controlled, directly or indirectly, by (1) such Person, (2) such Person and one or more Subsidiaries of such Person or (3) one or more Subsidiaries of such Person. Unless otherwise specified herein, each reference to a Subsidiary will refer to a Subsidiary of the Guarantor.

“Treasury Rate” means, with respect to any redemption date as described under the “– *Optional Redemption*” section, the rate per annum equal to the semi-annual equivalent yield to maturity (computed as of the third New York Business Day immediately preceding that redemption date) of the applicable Comparable Treasury Issue. In determining this rate, the Issuer will assume a price for the applicable Comparable Treasury Issue (expressed as a percentage of its principal amount) equal to the applicable Comparable Treasury Price for such redemption date.

“Trustee” means Citicorp International Limited, who will act as the trustee under the Indenture for the Notes.

“U.S. Government Obligations” means securities that are (i) direct obligations of the United States of America for the payment of which its full faith and credit is pledged or (ii) obligations of an agency or instrumentality of the United States of America the payment of which is unconditionally guaranteed as a full faith and credit obligation by the United States of America, and shall also include a depositary receipt issued by a bank or trust company as custodian with respect to any such U.S. Government Obligation or a specific payment of interest on or principal of any such U.S. Government Obligation held by such custodian for the account of the holder of a depositary receipt; provided that (except as required by law) such custodian is not authorized to make any deduction from the amount payable to the holder of such depositary receipt from any amount received by the custodian in respect of the U.S. Government Obligation or the specific payment of interest on or principal of the U.S. Government Obligation evidenced by such depositary receipt.

“Voting Stock” of a Person means all classes of Capital Stock of such Person then outstanding and normally entitled to vote in the election of directors, managers or trustees, as applicable, of such Person.

FORM, DENOMINATION AND TRANSFER

The statements set forth herein include summaries of certain rules and operating procedures of DTC, Euroclear and Clearstream which will affect transfers of interests in the Global Notes.

The Notes sold in offshore transactions in reliance on Regulation S will be initially in the form of one or more Regulation S Global Notes, fully registered without interest coupons, which will be deposited with Citibank, N.A., London Branch (in such capacity, the “Custodian”) for DTC and registered in the name of Cede & Co., as nominee of DTC, for the accounts of Euroclear and Clearstream.

The Notes sold to Qualified Institutional Buyers who are also Qualified Purchasers in reliance on Rule 144A will be issued initially in the form of one or more Rule 144A Global Notes and, together with the Regulation S Global Notes, the “Global Notes”, fully registered without interest coupons, which will be deposited with the Custodian for DTC and registered in the name of Cede & Co., as nominee of DTC.

The Global Notes may only be exchanged for individual certificated notes in fully registered form in the circumstances described under “– Individual Notes” below.

The Notes and beneficial interests in the Notes will be issued in minimum denominations of US\$200,000 and in integral multiples of US\$1,000 in excess thereof. The Notes (including beneficial interests in the Global Notes) will be subject to certain restrictions on transfer set forth therein and in the Indenture, the Rule 144A Global Notes and the Regulation S Global Notes and will bear a legend regarding such restrictions as set forth under “Transfer Restrictions”. Under certain circumstances, transfers may be made only upon receipt by the Transfer Agent of a written certification (in the form(s) provided in the Indenture).

A beneficial interest in a Regulation S Global Note may be transferred to a person who wishes to take delivery of such beneficial interest through a Rule 144A Global Note only upon receipt by the Transfer Agent of a written certification (in the form(s) provided in the Indenture) from the transferor to the effect that the transferor (i) reasonably believes that the transferee is a Qualified Institutional Buyer who is also a Qualified Purchaser purchasing for its own account (or for the account of one or more Qualified Institutional Buyers and Qualified Purchasers over which account it exercises sole investment discretion), (ii) transfers such note in a transaction meeting the requirements of Rule 144A and (iii) has notified the transferee of the restrictions on transfer and the representations described in “Transfer Restrictions”.

Beneficial interests in a Rule 144A Global Note may be transferred to a person who takes delivery in the form of an interest in a Rule 144A Global Note without any written certification from the transferor or the transferee.

Beneficial interests in a Rule 144A Global Note may be transferred to a person who takes delivery in the form of an interest in a Regulation S Global Note only upon receipt by the Transfer Agent of a written certification (in the form(s) provided in the Indenture) from the transferor to the effect that such transfer is being made in compliance with the restrictions and representations described in “Transfer Restrictions” and in accordance with Rule 904 of Regulation S under the Securities Act.

Any beneficial interest in a Rule 144A Global Note that is transferred to a person who takes delivery in the form of a beneficial interest in a Regulation S Global Note will, upon transfer, cease to be a beneficial interest in such Rule 144A Global Note and become a beneficial interest in the Regulation S Global Note and, accordingly, will thereafter be subject to all transfer restrictions and other procedures applicable to a beneficial interest in such Regulation S Global Note for so long as such person retains such an interest.

Any beneficial interest in a Regulation S Global Note that is transferred to a person who takes delivery in the form of a beneficial interest in a Rule 144A Global Note will, upon transfer, cease to be a beneficial interest in such Regulation S Global Note and become a beneficial interest in the Rule 144A Global Note and, accordingly, will thereafter be subject to all transfer restrictions and other procedures applicable to a beneficial interest in such Rule 144A Global Note for so long as such person retains such an interest.

Investors may hold their interests in the Global Notes directly through DTC, Clearstream or Euroclear, as the case may be, if they are participants in such systems, or indirectly through organizations which are participants in such systems. Clearstream and Euroclear will hold interests in the Regulation S Global Notes on behalf of their participants through customers' securities accounts in their respective names on the books of their respective depositaries, which are participants in DTC.

Transfers between participants in DTC (the "Participants") will be effected in the ordinary way in accordance with DTC rules. Transfers between participants in Clearstream and Euroclear ("Clearstream Participants" and "Euroclear Participants", respectively) will be effected in the ordinary way in accordance with their respective rules and operating procedures. Subject to compliance with the transfer restrictions applicable to the Notes, cross-market transfers between DTC, on the one hand, and Clearstream Participants or Euroclear Participants, on the other hand, will be effected in DTC in accordance with DTC rules on behalf of Euroclear or Clearstream, as the case may be. Such cross-market transactions, however, will require delivery of instructions to Euroclear or Clearstream, as the case may be, by the counterparty in such system in accordance with its rules and procedures and within its established deadlines. Euroclear or Clearstream, as the case may be, will, if the transaction meets its settlement requirements, deliver instructions to DTC to take action to effect final settlement on its behalf by delivering or receiving payment in accordance with DTC's system.

Persons who are not Participants may beneficially own interests in the Global Notes held by DTC only through Participants or Indirect Participants (as defined below) (including Euroclear and Clearstream). So long as Cede & Co., as the nominee of DTC, is the registered owner of the Global Notes, Cede & Co. for all purposes will be considered the sole holder of such Notes.

Payment of interest and principal on the Global Notes will be made to Cede & Co., the nominee for DTC, as the registered owner of the Global Notes by wire transfer of immediately available funds. None of the Issuer, the Guarantor, the Trustee or any of the Agents will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in the Global Notes or for maintaining, supervising or reviewing any records relating to such beneficial ownership interest.

The Issuer has been informed by DTC that, upon receipt of any payment of interest on or the redemption price of the Global Notes, DTC will credit Participants' accounts with payments in amounts proportionate to their respective beneficial interests in the Global Notes as shown on the records of DTC. Payments of interest on and principal of the Notes held through Clearstream or Euroclear will be credited to the cash accounts of Clearstream Participants or Euroclear Participants, as the case may be, in accordance with the relevant system's rules and procedures. Payments by Participants to owners of beneficial interests in the Global Notes held through such Participants will be the responsibility of such Participants, as is the case with securities held by broker-dealers, either directly or through nominees, for the accounts of customers and registered in "street name".

Because DTC can only act on behalf of Participants, who in turn act on behalf of Indirect Participants and certain banks, the ability of a person having a beneficial interest in the Global Notes to pledge such interest to persons or entities that do not participate in the DTC system, or to otherwise take actions in respect of such interest, may be affected by the lack of a physical certificate. The laws of some jurisdiction require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer beneficial interests to such persons may be limited. In addition, owners of beneficial interests through DTC will receive distributions attributable to the Rule 144A Global Notes only through Participants.

So long as the Notes are represented by Global Notes and such Global Notes are held on behalf of DTC or any other clearing system, such clearing system or its nominee will be considered the sole holder of the Notes represented by the applicable Global Notes for all purposes under the Indenture, including, without limitation, obtaining consents and waivers thereunder, and neither the Trustee nor the Issuer shall be affected by any notice to the contrary. None of the Trustee, the Issuer, the Guarantor or any of the Agents shall have any responsibility or obligation with respect to the accuracy of any records maintained by any clearing system or any Participant of such clearing system. The clearing systems will take actions on behalf of their Participants (and any such Participants will take actions on behalf of any Indirect Participants) in accordance with their standard procedures. To the extent that any clearing system acts upon the direction of the holders of the beneficial interests in the applicable Global Note and such beneficial holders give conflicting instructions, the applicable clearing system may take conflicting actions in accordance with such instructions.

DTC has advised the Issuer that it will take any action permitted to be taken by a holder of the Notes (including, without limitation, the presentation of the Notes for exchange) only at the direction of one or more Participants and only in respect of the principal amount of the Notes represented by the Global Notes as to which such Participant or Participants has or have given such direction.

Clearstream or Euroclear, as the case may be, will take any action permitted to be taken by a holder of the Notes (including, without limitation, the presentation of the Notes for exchange) on behalf of a Clearstream Participant or a Euroclear Participant only in accordance with its relevant rules and procedures and subject to its ability to effect such actions through DTC.

DTC has advised the Issuer as follows:

DTC is a limited purpose trust company organized under the laws of the State of New York, a “banking organization” within the meaning of New York Banking Law, a member of the Federal Reserve System, a “clearing corporation” within the meaning of the Uniform Commercial Code and a “Clearing Agency” registered pursuant to the provisions of Section 17A of the Securities Exchange Act of 1934, as amended. DTC was created to hold securities for its Participants and facilitate the clearance and settlement of securities transactions between Participants through electronic book-entry changes in accounts of its Participants, thereby eliminating the need for the physical movement of certificates. Participants include securities brokers and dealers, banks, trust companies and clearing corporations and may include certain other organizations. Indirect access to the DTC system is available to others such as banks, brokers, dealers and trust companies that clear through or maintain a custodial relationship with a Participant, either directly or indirectly (“Indirect Participants”).

Although DTC, Clearstream and Euroclear have agreed to the foregoing procedures in order to facilitate transfers of interests in the Global Notes among participants of DTC, Clearstream and Euroclear, they are under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued at any time. None of the Issuer, the Guarantor, the Trustee or any of the Agents will have any responsibility for the performance by DTC, Clearstream and Euroclear, or their respective Participants or Indirect Participants, of their respective obligations under the rules and procedures governing their operations.

Individual Notes

If DTC is at any time unwilling or unable to continue as depository and a successor depository is not appointed within 90 days or if there shall have occurred and be continuing an Event of Default (as described above) with respect to the Notes, the Issuer will issue individual Notes in certificated, fully registered form in exchange for the Global Notes.

Subject to the transfer restrictions set forth on the individual Notes in certificated form, the holder of such individual Notes in certificated form may transfer or exchange such Notes (whether received directly from the Issuer or in exchange for beneficial interests in the Global Notes) by surrendering them at the specified office of the Transfer Agent. Prior to any proposed transfer of individual Notes in certificated form (other than pursuant to an effective registration statement), the holder may be required to provide certifications and other documentation relating to the manner of such transfer and submit such certifications and other documentation to the Trustee as provided in the Indenture. Upon the transfer, exchange or replacement of individual Notes in certificated form not bearing the legend referred to under "Transfer Restrictions", the Trustee will deliver individual Notes in certificated form that do not bear the legend.

Upon the transfer, exchange or replacement of individual Notes in certificated form bearing the legend, or upon specific request for removal of the legend on an individual Note in certificated form, the Transfer Agent will deliver only individual Notes in certificated form that bear such legend or shall refuse to remove such legend, as the case may be, unless there is delivered to the Issuer such satisfactory evidence, which may include an opinion of counsel, as may reasonably be required by the Issuer that neither the legend nor the restrictions on transfer set forth therein are required to ensure compliance with the provisions of the Securities Act.

Same-day settlement in respect of Global Notes

So long as any Notes are represented by Global Notes registered in the name of DTC or its nominee, such Notes will trade in DTC's same-day funds settlement system, and secondary market trading activity in such Notes will therefore be required by DTC to settle in immediately available funds. No assurance can be given as to the effect, if any, of settlement in immediately available funds on trading activity in the Notes.

TAXATION

The following summary of certain tax consequences of the purchase, ownership and disposition of the Notes is based upon applicable laws, rules and regulations in effect as of the date of this offering circular, all of which are subject to change (possibly with retroactive effect). This discussion does not purport to be a comprehensive description of all the tax considerations that may be relevant to a decision to purchase, own or dispose of the Notes and does not purport to deal with consequences applicable to all categories of investors, some of which may be subject to special rules. Persons considering the purchase of the Notes should consult their own tax advisors concerning the tax consequences of the purchase, ownership and disposition of the Notes, including any possible consequences under the laws of their country of citizenship, residence or domicile.

U.S. Taxation

The following summary describes certain material U.S. federal income tax consequences of purchasing, owning and disposing of the Notes. It addresses only U.S. federal income taxation and does not discuss all of the tax consequences that may be relevant to you in light of your individual circumstances, including foreign, state or local tax consequences, and tax consequences arising under the Medicare contribution tax on net investment income or the alternative minimum tax. The summary does not purport to be a comprehensive description of all of the tax considerations that may be relevant to any particular investor. The discussion set forth below deals only with the Notes purchased at their original issuance and issue price and held as capital assets (generally, property held for investment) and does not deal with special situations, such as those of dealers in securities or currencies, certain short-term holders of the Notes, financial institutions, tax-exempt entities, insurance companies, regulated investment companies, real estate investment trusts, controlled foreign corporations, passive foreign investment companies, U.S. expatriates, persons holding the Notes as a part of a hedging, integrated, conversion or constructive sale transaction or a straddle for tax purposes, persons that purchase or sell the Notes as part of a wash sale for tax purposes, traders in securities that elect to use a mark-to-market method of accounting for their securities holdings or U.S. Holders (as defined below) of the Notes whose “functional currency” is not the U.S. dollar. Furthermore, the discussion below is based upon the provisions of the Code, its legislative history, existing and proposed regulations, rulings and judicial decisions thereunder as of the date hereof, and such authorities may be repealed, revoked or modified, possibly on a retroactive basis, so as to result in U.S. federal income tax consequences different from those discussed below.

As used herein, a “U.S. Holder” means a beneficial owner of a Note that is, for U.S. federal income tax purposes, an individual who is a citizen or resident of the United States, a corporation created or organized in or under the laws of the United States or any political subdivision thereof, an estate the income of which is subject to U.S. federal income taxation regardless of its source, or a trust if a court within the United States is able to exercise primary supervision over the administration of the trust and one or more U.S. persons have the authority to control all substantial decisions of the trust, or if a valid election is in place to treat the trust as a U.S. person.

If an entity or arrangement that is treated as a partnership for U.S. federal income tax purposes holds a Note, the tax treatment of a partner in such partnership generally will depend on the status of the partner and activities of the partnership. If you are a partner of a partnership holding a Note, you should consult your tax advisor.

A “Non-U.S. Holder” is a beneficial owner (other than a partnership) of a Note that is not a U.S. Holder.

Investors should consult their tax advisors regarding the tax consequences of the acquisition, ownership and disposition of the Notes, including the application to their particular circumstances of the U.S. federal income tax considerations discussed below, as well as the application of U.S. state and local tax laws and foreign tax laws.

U.S. Holders

Payments of Interest and Additional Amounts. Interest on a Note (which may include Additional Amounts) generally will be taxable to a U.S. Holder as ordinary income at the time it is paid or accrued in accordance with the U.S. Holder's method of accounting for U.S. federal income tax purposes. A U.S. Holder must include the R.O.C. tax that, as discussed below under "R.O.C. Taxation", will generally be withheld from all payments made by the Guarantor except payment of the principal amount as ordinary income even though the U.S. Holder does not in fact receive it. A U.S. Holder may be entitled to deduct or credit this tax, subject to applicable limits. A U.S. Holder will also be required to include in income as interest any Additional Amounts paid with respect to withholding tax on the Notes, including withholding tax on payments of such Additional Amounts.

Interest income in respect of the Notes generally will constitute foreign-source income for purposes of computing the foreign tax credit allowable under the U.S. federal income tax laws. The limitation on foreign income taxes eligible for credit is calculated separately with respect to specific classes of income. Such interest income generally will constitute "passive category income" for foreign tax credit purposes for most U.S. Holders. The calculation and availability of foreign tax credits and, in the case of a U.S. Holder that elects to deduct foreign income taxes, the availability of such deduction involves the application of complex rules that depend on the U.S. Holder's particular circumstances. In addition, foreign tax credits generally will not be allowed for certain short-term or hedged positions in the Notes. The rules governing the foreign tax credit are complex. U.S. Holders are urged to consult their tax advisors regarding the availability of the foreign tax credit under their particular circumstances.

Sale, Exchange and Retirement of Notes. Upon the sale, exchange, retirement or other taxable disposition of a Note, a U.S. Holder will generally recognize gain or loss equal to the difference between the amount realized upon the sale, exchange, retirement or other disposition (less an amount equal to any accrued and unpaid interest, which will be taxable as an interest payment) and the U.S. Holder's adjusted tax basis in the Notes. A U.S. Holder's adjusted tax basis in a Note will generally be the cost for that Note. Such gain or loss will be capital gain or loss and will be long-term capital gain or loss if at the time of sale, exchange, retirement or other disposition, the Notes have been held for more than one year. Capital gains of individuals derived with respect to capital assets held for more than one year are generally eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations. Capital gain or loss recognized by a U.S. Holder generally will be U.S.-source gain or loss.

Information with Respect to Foreign Financial Assets. Owners of "specified foreign financial assets" with an aggregate value in excess of \$50,000 (and in some circumstances, a higher threshold) may be required to file an information report with respect to such assets with their tax returns. "Specified foreign financial assets" may include financial accounts maintained by foreign financial institutions, as well as the following, but only if they are held for investment and not held in accounts maintained by financial institutions: (i) stocks and securities issued by non-U.S. persons, such as the Notes, (ii) financial instruments and contracts that have non-U.S. issuers or counterparties, and (iii) interests in foreign entities. U.S. Holders are urged to consult their tax advisors regarding the application of this reporting requirement to their ownership of the Notes.

Information Reporting and Backup Withholding. Information reporting requirements generally apply in connection with payments made on the Notes within the United States or through certain U.S.-related financial intermediaries and on the proceeds from a sale or other disposition of the Notes, unless the U.S. Holder is a corporation or other exempt recipient, and demonstrates this fact when so required. A U.S. Holder may be subject to backup withholding on these payments if the U.S. Holder fails to provide its taxpayer identification number to the paying agent or comply with certain certification procedures or otherwise establish an exemption from backup withholding. Backup withholding is not an additional tax. Any amount paid as backup withholding may be creditable against the holder's U.S. federal income tax liability, provided that the required information is timely furnished to the U.S. Internal Revenue Service.

Non-U.S. Holders

Payments of Interest. Provided that a Non-U.S. Holder of a Note does not hold such Note in connection with the conduct of a trade or business in the United States, no U.S. federal income or withholding tax generally will apply to a payment of interest on such Note. Non-U.S. Holders should consult their own tax advisors in the event interest income with respect to the Notes is effectively connected with their trade or business in the United States.

Sale, Exchange and Retirement of Notes. A Non-U.S. Holder generally will not be subject to U.S. federal income or withholding tax on the receipt of payments of principal on a Note, or on any gain realized on the sale, exchange, retirement or other disposition of such Note so long as (i) such gain is not effectively connected with the conduct by the Non-U.S. Holder of a trade or business in the United States or (ii) in the case of gain realized by an individual, such Non-U.S. Holder is not present in the United States for 183 days or more in the taxable year of the disposition. Non-U.S. Holders should consult their own tax advisors in the event either of the foregoing conditions applies.

Information Reporting and Backup Withholding. Although Non-U.S. Holders generally are exempt from backup withholding and information reporting, a Non-U.S. Holder may, in certain circumstances, be required to comply with certification procedures to prove entitlement to this exemption.

R.O.C. Taxation

THE INFORMATION PROVIDED BELOW DOES NOT PURPORT TO BE A COMPLETE SUMMARY OF THE R.O.C. TAX LAW AND PRACTICE CURRENTLY APPLICABLE. ALL PROSPECTIVE PURCHASERS OF NOTES SHOULD CONSULT WITH THEIR OWN TAX ADVISERS IN DETERMINING THE TAX CONSEQUENCES TO THEM OF THE PURCHASE, OWNERSHIP AND DISPOSITION OF THE NOTES.

The following summary of the R.O.C. tax considerations applies to non-R.O.C. resident individuals ("Non-Resident Individuals") and entities ("Non-Resident Entities" and, together with the Non-Resident Individuals, a "Non-Residents"). A Non-Resident Individual is a foreign national individual who is not physically present in the R.O.C. for 183 days or more during any calendar year, and a Non-Resident Entity is a corporation or an unincorporated body that is organized under the laws of a jurisdiction other than the R.O.C. for profit-making purposes and does not have a fixed place of business or other permanent establishment in the R.O.C. Foreign entities that have a fixed place of business or other permanent establishment in the R.O.C. are taxed under different rules.

All payments, except the payment of the principal amount, under the Guarantees by the Guarantor to a Non-Resident holder of the Notes may be subject to a withholding tax at different rates as may be applicable under the tax treaty between the R.O.C. and the country of tax residence of the Non-Resident holder, if any, depending on the nature of such payments. In general, the interest payment on the Notes under the Guarantees by the Guarantor to a Non-Resident holder would likely constitute R.O.C.-sourced income and therefore be subject to a 20% withholding tax. However, such payments may be subject to a withholding tax at different rates under an applicable tax treaty between the R.O.C. and the country of tax residence of the Non-Resident holder. Therefore, holders of the Notes who are otherwise entitled to the benefits of a relevant income tax treaty should consult their own tax advisers concerning their eligibility for benefits under the treaty with respect to the Notes. If any deduction or withholding is required by law with respect to the amount guaranteed under the Guarantees, the Guarantor will pay additional amounts, in accordance with the terms of the Notes, as may be necessary to ensure that the holders of the Notes receive the amounts guaranteed under the Guarantees that would otherwise have been receivable in the absence of such deduction or withholding, subject to certain exceptions.

B.V.I. Taxation

A B.V.I. business company is exempt from all provisions of the Income Tax Act (as amended) of the B.V.I. including with respect to all dividends, interests, rents, royalties, compensations and other amounts payable by the company to persons who are not resident in the B.V.I.

Income and capital gains realized with respect to notes issued by such company, such as the Notes, by persons who are not persons resident in the B.V.I. are also exempt from all provisions of the Income Tax Act of the B.V.I. Accordingly, there is no income or other tax of the B.V.I. imposed by withholding or otherwise on any payments to be made by such company pursuant to the Notes to persons who are not resident in the B.V.I.

No estate, inheritance, succession or gift tax, rate, duty, levy or other charge is payable with respect to the Notes by persons who are not persons resident in the B.V.I., save for interest payable to or for the benefit of an individual resident in the European Union.

The B.V.I. enacted the Economic Substance (Companies and Limited Partnerships) Act, 2018 (the “ES Act”), which became effective on January 1, 2019, and the Rules on Economic Substance in the Virgin Islands, containing rules and guidance relating to the interpretation of the ES Act and how the International Tax Authority (the “ITA”) will carry out its obligations, were released on October 9, 2019, and were further updated on February 10, 2020. The Issuer is required to report to the ITA on a periodic basis to enable the ITA to monitor compliance with the economic substance requirements, if it is carrying on one or more relevant activities. If this is the case, it may be required to adopt adequate economic substance in the B.V.I.

PLAN OF DISTRIBUTION

Goldman Sachs International is acting as the sole global coordinator and sole bookrunner (the “Initial Purchaser”) in this offering. Subject to the terms and conditions set forth in a purchase agreement (the “Purchase Agreement”) among the Issuer, the Guarantor and Goldman Sachs International as the Initial Purchaser, the Issuer intends to sell to the Initial Purchaser, and the Initial Purchaser intends to purchase from the Issuer, the principal amount of Notes set forth opposite the Initial Purchaser’s name below.

| Initial Purchaser | 2027 Notes | 2032 Notes |
|-----------------------------------|-------------------|-------------------|
| Goldman Sachs International | US\$400,000,000 | US\$600,000,000 |
| Total | US\$400,000,000 | US\$600,000,000 |

The Issuer and the Guarantor have agreed to indemnify the Initial Purchaser against certain liabilities in connection with this offering, including liabilities under the Securities Act, or to contribute to payments the Initial Purchaser may be required to make in respect of those liabilities.

The Initial Purchaser has agreed to reimburse the Issuer and the Guarantor for certain expenses amounting to approximately US\$1.21 million in connection with this offering.

The Initial Purchaser is offering the Notes, subject to prior sale, when, as and if issued to and accepted by it, subject to approval of certain legal matters by counsel, including the validity of the Notes, and other conditions contained in the Purchase Agreement, such as the receipt by the Initial Purchaser of officers’ certificates and legal opinions.

Commissions and Discounts

The purchase price for the Notes will be the issue price set forth on the cover page of this offering circular net of underwriting commissions. After the initial offering, the offering price or any other term of the offering may be changed.

Notes and Guarantees Are Not Being Registered

The Notes and the Guarantees have not been and will not be registered under the Securities Act, the securities laws of any state of the United States or the securities laws of any other jurisdiction. The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception provided by Section 3(c)(7) thereof. The Initial Purchaser proposes to offer the Notes for resale in transactions not requiring registration under the Securities Act or applicable state securities laws, including sales in reliance on the exemption provided by Rule 144A or in accordance with Regulation S under the Securities Act. The Initial Purchaser will only offer or sell the Notes (i) within the United States and to U.S. persons, each of whom they reasonably believes to be both a Qualified Institutional Buyer and a Qualified Purchaser, purchasing for its own account (or the account of one or more Qualified Institutional Buyers, each of whom is also a Qualified Purchaser over which account it exercises sole investment discretion), in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A thereof, or (ii) to persons that are not in the United States and are not acting for the account or benefit of U.S. persons, in offshore transactions in accordance with Regulation S under the Securities Act. The Initial Purchaser has acknowledged and agreed that, except as permitted by the preceding sentence, it will not offer or sell the Notes (i) as part of its distribution at any

time within the United States or to, or for the account or benefit of, U.S. persons or (ii) otherwise until 40 days after the later of the commencement of this offering and the closing of this offering, within the United States or to, or for the account or benefit of, U.S. persons. The Initial Purchaser has agreed to send to each dealer to which it sells the Notes during the distribution compliance period a confirmation or other notice setting forth the restrictions on offers and sales of the Notes and the Guarantees within the United States or to, or for the account or benefit of, U.S. persons. Terms used in this paragraph but not otherwise defined have the meanings given to them by Regulation S.

In addition, until 40 days after the commencement of this offering, an offer or sale of the Notes within the United States by a dealer (whether or not participating in this offering) may violate the registration requirements of the Securities Act if that offer or sale is made otherwise than in accordance with Rule 144A. Each purchaser of the Notes will be deemed to have made acknowledgments, representations and agreements as described under “Transfer Restrictions”.

New Issue of Notes

The Notes are a new issue of securities with no established trading market. The Initial Purchaser has advised the Issuer and the Guarantor that they presently intend to make a market in the Notes after completion of the offering. However, they are not obligated to do so, and any market-making activity with respect to the Notes, if commenced, would be by the Initial Purchaser or its affiliates on their own behalf and may be discontinued at any time without notice in their sole discretion. Accordingly, no assurances can be made as to the liquidity of the trading market for the Notes. If an active trading market for the Notes does not develop, the market price and liquidity of the Notes may be adversely affected. If the Notes are traded, they may trade at a discount from their initial offering price, depending on prevailing interest rates, the market for similar securities, the operating performance and financial condition of the Company, general economic conditions and other factors.

Settlement

Delivery of the Notes is expected on or about July 22, 2022, which will be the third business day following the date of this offering circular (such settlement being referred to as “T+3”). Under Rule 15c6-1 under the Exchange Act, trades in the secondary market are required to settle in two business days, unless the parties to any such trade expressly agree otherwise. Accordingly, purchasers of the Notes who wish to trade the Notes prior to the delivery of the Notes hereunder will be required, by virtue of the fact that the Notes initially settle in T+3, to specify an alternate settlement arrangement at the time of any such trade to prevent a failed settlement. Purchasers of the Notes who wish to trade the Notes prior to their date of delivery hereunder should consult their advisors.

No Sales of Similar Securities

The Issuer and the Guarantor have agreed with the Initial Purchaser, until the expiration of 45 days after the date of the closing, not to offer, sell, contract to sell, pledge, grant any option to purchase, make any short sale or otherwise transfer or dispose of, directly or indirectly, or file with the SEC a registration statement under the Securities Act relating to any U.S. dollar-denominated securities of the Issuer or the Guarantor that are substantially similar to the Notes and the Guarantees, or publicly disclose the intention to make any offer, sale, pledge, disposition or filing of U.S. dollar-denominated securities without the prior written consent of the Initial Purchaser.

Short Positions

In connection with the offering, the Initial Purchaser may purchase and sell the Notes in the open market. These transactions may include short sales and purchases on the open market to cover positions created by short sales. Short sales involve the sale by the Initial Purchaser of a greater principal amount of the Notes than they are required to purchase in the offering. The Initial Purchaser must close out any short position by purchasing the Notes in the open market. A short position is more likely to be created if the Initial Purchaser is concerned that there may be downward pressure on the price of the Notes in the open market after pricing that could adversely affect investors who purchase the Notes in the offering.

Similar to other purchase transactions, the Initial Purchaser's purchases to cover its short sales may have the effect of raising or maintaining the market price of the Notes or preventing or retarding a decline in the market price of the Notes. As a result, the price of the Notes may be higher than the price that might otherwise exist in the open market.

None of the Issuer, the Guarantor and the Initial Purchaser makes any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the Notes. In addition, none of the Issuer, the Guarantor and the Initial Purchaser makes any representation that the Initial Purchaser will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice.

Other Relationships

The Initial Purchaser and certain of its affiliates may have performed certain investment banking, banking, trustee, hedging and advisory services for the Issuer, the Guarantor and/or their respective affiliates from time to time for which they have received customary fees and commissions and may, from time to time, engage in transactions with and perform services for the Issuer, the Guarantor and/or their respective affiliates in the ordinary course of their business. The Initial Purchaser or certain of its affiliates may purchase the Notes and be allocated the Notes for asset management and/or proprietary purposes but not with a view to distribution.

The Initial Purchaser or its affiliates may purchase the Notes for their own account and enter into transactions, including credit derivatives, such as asset swaps, repackaging and credit default swaps relating to the Notes and/or other securities of the Issuer, the Guarantor or their respective subsidiaries or associates at the same time as the offer and sale of the Notes or in secondary market transactions. Such transactions would be carried out as bilateral trades with selected counterparties and separately from any existing sale or resale of the Notes to which this offering circular relates (notwithstanding that such selected counterparties may also be purchasers of the Notes).

Each of the Issuer and the Guarantor has been advised by the Initial Purchaser that it may offer and sell the Notes to or through any of its affiliates and any such affiliate may offer and sell the Notes purchased by it to or through any Initial Purchaser.

Selling Restrictions

General

The Initial Purchaser has undertaken to us that it will comply with all applicable laws and regulations in each country or jurisdiction in which it purchases, offers, sells or delivers the Notes or has in its possession or distributes this offering circular or any other offering material related to the Notes.

No action has been taken or will be taken in any jurisdiction by us or the Initial Purchaser that would permit a public offering of the Notes, or the possession, circulation or distribution of this offering circular or any other material relating to the Notes or this offering, in any jurisdiction where action for that purpose is required. Accordingly, the Notes may not be offered or sold, directly or indirectly, and neither this offering circular nor such other material may be distributed or published, in or from any country or jurisdiction except in compliance with any applicable rules and regulations of such country or jurisdiction.

United States

The Notes and the Guarantees have not been and will not be registered under the Securities Act, the securities laws of any state of the United States or the securities laws of any other jurisdiction. The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) thereof. Accordingly, the Notes can only be offered and sold (i) within the United States and to U.S. persons, each of whom the seller reasonably believes to be both a Qualified Institutional Buyer and a Qualified Purchaser, purchasing for its own account (or for the account of one or more Qualified Institutional Buyers, each of whom is also a Qualified Purchaser over which account it exercises sole investment discretion), in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A thereof, or (ii) to persons that are not in the United States and are not acting for the account or benefit of U.S. persons, in offshore transactions in accordance with Regulation S under the Securities Act. The Initial Purchaser has acknowledged and agreed that, except as permitted by the preceding sentence, it will not offer or sell the Notes (i) as part of its distribution at any time within the United States or to, or for the account or benefit of, U.S. persons or (ii) otherwise until 40 days after the later of the commencement of this offering and the closing of this offering, within the United States or to, or for the account or benefit of, U.S. persons. The Initial Purchaser has also agreed that it will send to each dealer to which it sells the Notes during the distribution compliance period a confirmation or other notice setting forth the restrictions on offers and sales of the Notes within the United States or to, or for the account or benefit of, U.S. persons. Terms used in this paragraph but not otherwise defined have the meanings given to them by Regulation S.

In addition, until 40 days after the commencement of this offering, an offer or sale of the Notes within the United States by a dealer (whether or not participating in this offering) may violate the registration requirements of the Securities Act if that offer or sale is made otherwise than in accordance with Rule 144A.

To the extent the Initial Purchaser makes any offers or sales of the Notes in the United States, or to nationals or residents of the United States, it will do so only through one or more registered broker-dealers in compliance with applicable securities laws and regulations, as well as with applicable laws of various states.

Each purchaser of the Notes will be deemed to have made acknowledgments, representations and agreements as described under “Transfer Restrictions”.

CERTAIN VOLCKER RULE CONSIDERATIONS – The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception provided by Section 3(c)(7) thereof. Consequently, the Issuer will likely be a “covered fund” for purposes of the “Volcker Rule”. See “Risk Factors – Risks Relating to the Notes and Guarantees” and “Transfer Restrictions”.

EEA

The Initial Purchaser has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes to any retail investor in the EEA. For the purposes of this provision:

- (a) the expression “retail investor” means a person who is one (or more) of the following:
 - (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; or
 - (ii) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; and
- (b) the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

United Kingdom

No invitation or inducement to engage in investment activity (within the meaning of section 21 of FSMA) received by the Initial Purchaser in connection with the issue or sale of the Notes may be communicated or caused to be communicated except in circumstances in which section 21(1) of the FSMA does not apply to the Initial Purchaser. All applicable provisions of the FSMA must be complied with respect to anything done or to be done by the Initial Purchaser in relation to any Notes in, from or otherwise involving the United Kingdom.

The Initial Purchaser has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Notes to any retail investor in the UK. For the purposes of this provision:

- (a) the expression “retail investor” means a person who is one (or more) of the following:
 - (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA; or
 - (ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; and
- (b) the expression “offer” includes the communication in any form and by any means of sufficient information on the terms of the offer and the Notes to be offered so as to enable an investor to decide to purchase or subscribe for the Notes.

Hong Kong

The Initial Purchaser has represented and agreed that:

- (a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Notes other than (a) to “professional investors” as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (the “SFO”) and any rules made under the SFO; or (b) in other circumstances which do not result in the document being a “prospectus” as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the “C(WUMP)O”) or which do not constitute an offer to the public within the meaning of the C(WUMP)O; and

- (b) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Notes, which is directed at, or the contents of which are likely to be accessed or read by, the public in Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to the Notes which are or are intended to be disposed of only to persons outside Hong Kong or only to “professional investors” as defined in the SFO and any rules made under the SFO.

Singapore

The Initial Purchaser has acknowledged that this offering circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the Initial Purchaser has represented, warranted and agreed that this offering circular and any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Notes, may not be circulated or distributed, nor may the Notes be offered or sold, or be made the subject of an invitation for subscription or purchase, whether directly or indirectly, to any person in Singapore other than:

- (i) to an institutional investor (as defined in Section 4A of the SFA) pursuant to Section 274 of the SFA;
- (ii) to a relevant person (as defined in Section 275(2) of the SFA) pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA and (where applicable) Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018; or
- (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Notes are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

- (a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)) the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or
- (b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in Section 2(1) of the SFA) of that corporation or the beneficiaries’ rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the Notes pursuant to an offer made under Section 275 of the SFA except:

- (i) to an institutional investor or to a relevant person, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(c)(ii) of the SFA;
- (ii) where no consideration is or will be given for the transfer;
- (iii) where the transfer is by operation of law;
- (iv) as specified in Section 276(7) of the SFA; or
- (v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018.

Notification under Section 309B of the SFA: The Notes are prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018) and Excluded Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

Any reference to the SFA is a reference to the Securities and Futures Act 2001 of Singapore and a reference to any term as defined in the SFA or any provision in the SFA is a reference to that term or provision as modified or amended from time to time including by such of its subsidiary legislation as may be applicable at the relevant time.

British Virgin Islands

The Initial Purchaser has represented, warranted and agreed that it has not and will not offer the Notes to the public or any person in the British Virgin Islands for purchase or subscription by or on behalf of the Issuer. The Initial Purchaser has further represented, warranted and agreed that the Notes may be offered to companies incorporated under the B.V.I. Business Companies Act ("B.V.I. Companies") but only where the offer will be made to, and received by, the relevant B.V.I. Company entirely outside of the British Virgin Islands.

This offering circular has not been and will not be registered with the Financial Services Commission of the British Virgin Islands. No registered prospectus has been or will be prepared in respect of the Notes for the purposes of the Securities and Investment Business Act or the Public Issuers Code of the British Virgin Islands.

Switzerland

The Initial Purchaser agrees that this offering circular is not intended to constitute an offer or solicitation to purchase or invest in the Notes described therein. The Notes may not be publicly offered, sold or advertised, directly or indirectly, in, into or from Switzerland and will not be listed on the SIX Swiss Exchange or on any other exchange or regulated trading facility in Switzerland. Neither this offering circular nor any other offering or marketing material relating to the Notes constitutes a prospectus as such term is understood pursuant to article 652a or article 1156 of the Swiss Code of Obligations or a listing prospectus within the meaning of the listing rules of the SIX Swiss Exchange or any other regulated trading facility in Switzerland, and neither this offering circular nor any other offering or marketing material relating to the Notes may be publicly distributed or otherwise made publicly available in Switzerland.

Neither this offering circular nor any other offering or marketing material relating to the offering, the Issuer or the Notes has been or will be filed with or approved by any Swiss regulatory authority. In particular, this document will not be filed with, and the offer of the Notes will not be supervised by, the Swiss Financial Market Supervisory Authority, and the offer of the Notes has not been and will not be authorized under the Swiss Federal Act on Collective Investment Schemes ("CISA"). The investor protection afforded to acquirers of interests in collective investment schemes under the CISA does not extend to acquirers of the Notes.

Republic of China

The Notes have not been and will not be registered or filed with, or approved by, the FSC and/or other regulatory authorities or agencies of the R.O.C. pursuant to relevant R.O.C. securities laws and regulations and may not be sold, issued or offered within the R.O.C. through a public offering or in circumstances which constitute an offer within the meaning of the R.O.C. Securities and Exchange Act that requires a registration or approval of the FSC

and/or other regulatory authorities or agencies of the R.O.C. No person or entity in the R.O.C. has been authorized to offer, sell, give advice regarding or otherwise intermediate the offering or sale of the Notes in the R.O.C.

People's Republic of China

The Initial Purchaser has represented and agreed that the Notes are not being offered or sold and may not be offered or sold, directly or indirectly, in the P.R.C. (for such purposes, not including the Hong Kong and Macau Special Administrative Regions or Taiwan), except as permitted by applicable laws of the P.R.C.

Japan

The Notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended, the "Financial Instruments and Exchange Act"). Accordingly, the Initial Purchaser has represented, warranted and agreed that it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Notes in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organized under the laws of Japan) or to others for re-offering or re-sale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan, except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act, and in compliance with the other relevant laws and regulations of Japan.

Canada

Resale Restrictions

The distribution of the Notes in Canada is being made only in the provinces of Ontario, Quebec, Alberta and British Columbia on a private placement basis exempt from the requirement that the Issuer prepares and files a prospectus with the securities regulatory authorities in each province where trades of the Notes are made. Any resale of the Notes in Canada must be made under applicable securities laws which may vary depending on the relevant jurisdiction, and which may require resales to be made under available statutory exemptions or under a discretionary exemption granted by the applicable Canadian securities regulatory authority. Purchasers are advised to seek legal advice prior to any resale of the securities.

Representations of Canadian Purchasers

By purchasing the Notes in Canada and accepting delivery of a purchase confirmation, a purchaser is representing to the Issuer and the dealer from whom the purchase confirmation is received that:

- the purchaser is entitled under applicable provincial securities laws to purchase the Notes without the benefit of a prospectus qualified under those securities laws as it is an "accredited investor" as defined under National Instrument 45-106 – Prospectus Exemptions or subsection 73.3(1) of the Securities Act (Ontario);
- the purchaser is a "permitted client" as defined in National Instrument 31-103 – Registration Requirements, Exemptions and Ongoing Registrant Obligations;
- where required by law, the purchaser is purchasing as principal and not as agent; and
- the purchaser has reviewed the text above under "Resale Restrictions".

Conflicts of Interest

Canadian purchasers are hereby notified that the Initial Purchaser is and the further dealers appointed for the offering of the Notes will be relying on the exemption set out in section 3A.3 or 3A.4, if applicable, of National Instrument 33-105 – Underwriting Conflicts from having to provide certain conflict of interest disclosure in this prospectus.

Statutory Rights of Action

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if the offering documents (including any amendment thereto) such as this offering circular contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser of these securities in Canada should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal adviser.

Enforcement of Legal Rights

All of the Issuer's directors and officers as well as the experts named herein and the Issuer may be located outside of Canada and, as a result, it may not be possible for Canadian purchasers to effect service of process within Canada upon the Issuer or those persons. All or a substantial portion of the Issuer's assets and the assets of those persons may be located outside of Canada and, as a result, it may not be possible to satisfy a judgment against the Issuer or those persons in Canada or to enforce a judgment obtained in Canadian courts against the Issuer or those persons outside of Canada.

Taxation and Eligibility for Investment

Canadian purchasers of the Notes should consult their own legal and tax advisers with respect to the tax consequences of an investment in the Notes in their particular circumstances and about the eligibility of the Notes for investment by the purchaser under relevant Canadian legislation.

Korea

The Notes have not been and will not be registered under the Financial Investment Services and Capital Markets Act. Accordingly, the Notes may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as such term is defined under the Foreign Exchange Transaction Law of Korea and its Enforcement Decree), except as otherwise permitted under applicable Korean laws and regulations.

Ireland

The Notes are not being offered, directly or indirectly, to the general public in Ireland and no offers or sales of any securities under or in connection with this offering circular may be effected except in conformity with the provisions of Irish law including the Irish Companies Acts 1963 to 2009, the Regulation 2017/1129/EU of the European Parliament and of the Council, the European Communities (Markets in Financial Instruments) Regulations 2007 (Nos. 1 to 3) of Ireland and the Regulation (EU) No 596/2014 of the European Parliament and of the Council.

Saudi Arabia

This offering circular may not be distributed in the Kingdom of Saudi Arabia except to such persons as are permitted under the Capital Market Authority.

The Capital Market Authority does not make any representations as to the accuracy or completeness of this offering circular, and expressly disclaims any liability whatsoever for any loss arising from, or incurred in reliance upon, any part of this offering circular. Prospective purchasers of the Notes and the Guarantees should conduct their own due diligence on the accuracy of the information relating to the Notes and the Guarantees. If a prospective purchaser does not understand the contents of this offering circular, he or she should consult an authorized financial advisor.

Bermuda

The Initial Purchaser has represented, warranted and agreed that it has not offered or sold, and will not offer or sell, any Notes to any person, firm or company regarded as a resident of Bermuda for exchange control purposes and will procure that any purchaser of the Notes from it will comply with such prescription.

United Arab Emirates

This offering circular has not been approved or licensed by the Central Bank of the United Arab Emirates (the "UAE"), Securities and Commodities Authority of the UAE and/or any other relevant licensing authority in the UAE. The offer of the Notes does not constitute a public offer of securities in the UAE in accordance with relevant laws of the UAE, in particular, the Commercial Companies Law, Federal law No. 8 of 1984 (as amended).

The Notes may not be offered to the public in the UAE. The Notes may only be offered and issued to a limited number of investors in the UAE who qualify as sophisticated investors under the relevant laws and regulations of the UAE.

Kuwait

The Notes have not been authorized or licensed for offering, marketing or sale in the State of Kuwait. No marketing or sale of the Notes may take place in Kuwait unless the same has been duly authorized by the Kuwaiti Ministry of Commerce and Industry pursuant of the provisions of Law 31 of 1990 and the various ministerial regulations issued thereunder.

Other Jurisdictions

The distribution of this offering circular may be restricted by law in certain jurisdictions. Persons into whose possession this offering circular (or any part hereof) comes are required by us and the Initial Purchaser to inform themselves about, and to observe, any such restrictions.

TRANSFER RESTRICTIONS

Because of the following restrictions, purchasers are advised to consult legal counsel prior to making any offer, sale, resale, pledge or other transfer of the Notes and the Guarantees.

United States

The Notes and the Guarantees have not been and will not be registered under the Securities Act, the securities laws of any state of the United States or the securities laws of any other jurisdiction. The Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception provided by Section 3(c)(7) thereof. Accordingly, the Notes may be offered and sold only (1) in the United States and to U.S. persons (as defined in Regulation S under the Securities Act), each of whom is reasonably believed to be both (A) a Qualified Institutional Buyer and (B) a Qualified Purchaser, purchasing for its own account (or the account of one or more Qualified Institutional Buyers, each of whom is also a Qualified Purchaser over which account it exercises sole investment discretion), in reliance on the exemption from the registration requirements of the Securities Act provided by Rule 144A thereof; or (2) to persons that are not in the United States and are not acting for the account or benefit of U.S. persons, in offshore transactions in accordance with Regulation S under the Securities Act.

Rule 144A Notes

Each purchaser of the Notes (including the registered holders and beneficial owners of the Notes as they exist from time to time, including as a result of transfers, in each case, as of the time of purchase) offered hereby in reliance on Rule 144A (the “Rule 144A Notes”) must be able to and will be deemed to have represented, warranted and agreed, on its own behalf and on behalf of each account for which it is purchasing any Notes, as follows:

1. It is a Qualified Institutional Buyer who is also a Qualified Purchaser; is aware the sale of the Notes to it is being made in reliance on Rule 144A; is acquiring such Notes for its own account (or the account of one or more Qualified Institutional Buyers, each of whom is also a Qualified Purchaser over which account the purchaser exercises sole investment discretion, and it and each such account:
 - (a) is not a broker-dealer that owns and invests on a discretionary basis less than US\$25 million in securities of unaffiliated issuers;
 - (b) is not a plan referred to in paragraph (A)(1)(i)(D) or (A)(1)(i)(E) of Rule 144A or a trust fund referred to in paragraph (A)(1)(i)(F) of Rule 144A that holds the assets of such a plan, if investment decisions with respect to the plan are made by the beneficiaries of the plan;
 - (c) is not formed for the purpose of investing in the Issuer or the Guarantor;
 - (d) is not an investment company that relies on the exclusion from the definition of “investment company” provided by Section 7(d), Section 3(c)(1) or Section 3(c)(7) of the Investment Company Act (or a foreign investment company under Section 7(d) thereof relying on Section 3(c)(1) or 3(c)(7) with respect to its holders that are U.S. persons) and that was formed prior to April 30, 1996, unless such entity has received the consent of its beneficial owners with respect to the treatment of such entity as a Qualified Purchaser in the manner required by Section 2(a)(51)(C) of the Investment Company Act and the rules and regulations thereunder;
 - (e) is not an entity that, immediately subsequent to its purchase or other acquisition of a Note or a beneficial interest therein, will have invested more than 40% of its assets in the Notes or beneficial interests therein and/or in other securities of the Issuer, unless all of the beneficial owners of such entity’s securities are (A) a Qualified Institutional Buyer and (B) a Qualified Purchaser;

- (f) will hold and transfer at least the minimum denomination of the Notes;
 - (g) acknowledges that the Issuer and the Guarantor may receive a list of participants holding positions in the Rule 144A Global Notes from one or more book-entry depositaries; and
 - (h) will provide notice of the transfer restrictions described in this “Transfer Restrictions” to any subsequent transferees.
2. It understands and acknowledges that the Issuer is not and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception provided by Section 3(c)(7) thereof.
 3. It understands and agrees that any sale or transfer of the Notes (or of any beneficial interest therein) to a person that does not comply with the requirements set forth in this “Transfer Restrictions” will be null and void *ab initio* and not honored by the Issuer. It further understands that if at any time the Issuer determines in good faith that a holder of the Notes (or of any beneficial interest therein) is in breach, at the time given, of any of the representations, warranties and agreements contained in this “Transfer Restrictions”, the Issuer may require and compel holder to transfer such Notes (or beneficial interest therein) to a transferee acceptable to the Issuer who is able to and who does make all of the representations, warranties and agreements set forth in this “Transfer Restrictions”. Pending such transfer, such holder or owner of a beneficial interest therein will be deemed not to be the holder of such Notes (or any beneficial interest therein) for any purpose, including, but not limited to, receipt of principal and interest payments on such Notes (or any beneficial interest therein), and such holder will be deemed to have no interest whatsoever in such Notes (or any beneficial interest therein), except as otherwise required to sell its interest therein as described in this paragraph.
 4. It understands and acknowledges that such Rule 144A Notes are being offered only in a transaction not involving any public offering in the United States, within the meaning of the Securities Act, and the Rule 144A Notes offered hereby have not been and will not be registered under the Securities Act and may not be offered, resold, pledged or otherwise transferred except to a person who the seller reasonably believes is both a Qualified Institutional Buyer and a Qualified Purchaser in a transaction meeting the requirements of Rule 144A under the Securities Act, in accordance with all applicable securities laws of the states of the United States and the securities laws of any other jurisdiction.
 5. It understands and acknowledges that Rule 144A Global Notes (or any beneficial interest therein) may be purchased, sold, pledged or otherwise transferred only in denominations of US\$200,000 and integral multiples of US\$1,000 in excess thereof.
 6. Either (i) no portion of the assets used by it or its transferee to acquire or hold the Notes or any beneficial interest therein constitutes assets of any (A) “employee benefit plan” (as defined in Section 3(3) of the United States Employee Retirement Income Security Act of 1974, as amended (“ERISA”)) subject to Title I of ERISA, (B) plan, individual retirement account or other arrangement subject to Section 4975 of the United States Internal Revenue Code of 1986, as amended (the “Code”), (C) governmental plan, church plan or non-U.S. plan subject to provisions under any other federal, state, local, non-U.S. or other laws or regulations that are similar to such provisions of ERISA or the Code (collectively, “Similar Laws”), or (D) entity whose underlying assets are considered to include “plan assets” within the meaning of 29 C.F.R. Section 2510.3-101 (as modified by Section 3(42) of ERISA) of any such employee benefit plan, plan, individual retirement account or arrangement; or (ii) the purchase and holding of the Notes or any beneficial interest therein by it or its transferee will not constitute a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation of any applicable Similar Laws.

7. It understands that each Rule 144A Global Note, and each definitive note issued in exchange for all or part of a Rule 144A Global Note or a beneficial interest therein, will bear a legend to the following effect, unless the Issuer determines otherwise in compliance with applicable law:

THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE AND ANY BENEFICIAL INTEREST HEREIN MAY BE PURCHASED AND TRANSFERRED ONLY IN DENOMINATIONS OF US\$200,000 AND INTEGRAL MULTIPLES OF US\$1,000 IN EXCESS THEREOF.

ANY SALE OR TRANSFER OF THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE OR BENEFICIAL INTERESTS HEREIN TO A PERSON THAT DOES NOT COMPLY WITH THE REQUIREMENTS SET FORTH HEREIN WILL BE NULL AND VOID *AB INITIO* AND NOT HONORED BY THE ISSUER. IF AT ANY TIME THE ISSUER DETERMINES IN GOOD FAITH THAT A HOLDER OR BENEFICIAL OWNER OF THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE OR BENEFICIAL INTERESTS THEREIN IS IN BREACH, AT THE TIME GIVEN, OF ANY OF THE TRANSFER RESTRICTIONS SET FORTH HEREIN AND IN THE INDENTURE, THE ISSUER SHALL COMPEL SUCH HOLDER TO TRANSFER THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE (OR BENEFICIAL INTEREST HEREIN) TO A TRANSFEREE ACCEPTABLE TO THE ISSUER WHO IS ABLE TO AND WHO DOES SATISFY ALL OF THE REQUIREMENTS SET FORTH HEREIN AND IN THE INDENTURE. PENDING SUCH TRANSFER, SUCH HOLDER WILL BE DEEMED NOT TO BE THE HOLDER OF THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE (OR BENEFICIAL INTEREST HEREIN) FOR ANY PURPOSE, INCLUDING, BUT NOT LIMITED TO, RECEIPT OF PRINCIPAL AND INTEREST PAYMENTS ON THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE, AND SUCH HOLDER OR OWNER OF A BENEFICIAL INTEREST HEREIN WILL BE DEEMED TO HAVE NO INTEREST WHATSOEVER IN THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE EXCEPT AS OTHERWISE REQUIRED TO SELL ITS INTEREST HEREIN AS DESCRIBED HEREIN.

NEITHER THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE NOR THE RELATED GUARANTEES HAVE BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), THE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR THE SECURITIES LAWS OF ANY OTHER JURISDICTION. THE ISSUER OF THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE HAS NOT BEEN AND WILL NOT BE REGISTERED AS AN "INVESTMENT COMPANY" UNDER THE U.S. INVESTMENT COMPANY ACT OF 1940, AS AMENDED (THE "INVESTMENT COMPANY ACT"). ACCORDINGLY, THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE OR BENEFICIAL INTERESTS HEREIN MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED EXCEPT (A)(1) TO A PERSON WHO IS BOTH A "QUALIFIED INSTITUTIONAL BUYER" (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) AND A "QUALIFIED PURCHASER" (AS DEFINED IN SECTION 2(A)(51) OF THE INVESTMENT COMPANY ACT AND RELATED RULES), IN EACH CASE, PURCHASING FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF ONE OR MORE QUALIFIED INSTITUTIONAL BUYERS, EACH OF WHOM IS ALSO A QUALIFIED PURCHASER OVER WHICH ACCOUNT IT EXERCISES SOLE INVESTMENT DISCRETION, IN RELIANCE ON THE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT PROVIDED BY RULE 144A, AND FURTHER PROVIDED THAT EACH SUCH PERSON AND ACCOUNT FOR WHICH SUCH PERSON IS PURCHASING (A) IS NOT A BROKER-DEALER THAT OWNS AND INVESTS ON A DISCRETIONARY BASIS LESS THAN U.S.\$25,000,000 IN SECURITIES OF ISSUERS THAT ARE NOT

ITS AFFILIATED PERSONS AND IS NOT A PLAN REFERRED TO IN PARAGRAPH (A)(1)(i)(D) OR (A)(1)(i)(E) OF RULE 144A OR A TRUST FUND REFERRED TO IN PARAGRAPH (A)(1)(i)(F) OF RULE 144A THAT HOLDS THE ASSETS OF SUCH A PLAN, IF INVESTMENT DECISIONS WITH RESPECT TO THE PLAN ARE MADE BY THE BENEFICIARIES OF THE PLAN, (B) EITHER (I) NO PORTION OF THE ASSETS USED BY SUCH PERSON TO ACQUIRE OR HOLD THE NOTES OR ANY BENEFICIAL INTEREST THEREIN CONSTITUTES ASSETS OF ANY "EMPLOYEE BENEFIT PLAN" (AS DEFINED IN SECTION 3(3) OF THE UNITED STATES EMPLOYEE RETIREMENT INCOME SECURITY ACT OF 1974, AS AMENDED ("ERISA")) SUBJECT TO TITLE I OF ERISA, PLAN, INDIVIDUAL RETIREMENT ACCOUNT OR OTHER ARRANGEMENT SUBJECT TO SECTION 4975 OF THE UNITED STATES INTERNAL REVENUE CODE OF 1986, AS AMENDED (THE "CODE"), OR GOVERNMENTAL PLAN, CHURCH PLAN OR NON-U.S. PLAN SUBJECT TO PROVISIONS UNDER ANY OTHER FEDERAL, STATE, LOCAL, NON-U.S. OR OTHER LAWS OR REGULATIONS THAT ARE SIMILAR TO SUCH PROVISIONS OF ERISA OR THE CODE (COLLECTIVELY, "SIMILAR LAWS") OR OF ANY ENTITY WHOSE UNDERLYING ASSETS ARE CONSIDERED TO INCLUDE "PLAN ASSETS" WITHIN THE MEANING OF 29 C.F.R. SECTION 2510.3-101 (AS MODIFIED BY SECTION 3(42) OF ERISA) OF ANY SUCH EMPLOYEE BENEFIT PLAN, PLAN, INDIVIDUAL RETIREMENT ACCOUNT OR ARRANGEMENT OR (II) THE PURCHASE AND HOLDING OF THE NOTES OR ANY BENEFICIAL INTEREST THEREIN BY SUCH PERSON WILL NOT CONSTITUTE A NON- EXEMPT PROHIBITED TRANSACTION UNDER SECTION 406 OF ERISA OR SECTION 4975 OF THE CODE OR A SIMILAR VIOLATION OF ANY APPLICABLE SIMILAR LAWS, (C) IS NOT FORMED FOR THE PURPOSE OF INVESTING IN THE ISSUER OR THE GUARANTOR, (D) UNDERSTANDS THAT THE ISSUER AND THE GUARANTOR MAY RECEIVE A LIST OF PARTICIPANTS HOLDING POSITIONS IN THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE FROM ONE OR MORE BOOK-ENTRY DEPOSITARIES, (E) IF IT, OR ANY OTHER PERSON FOR WHICH IT IS ACTING, IS AN INVESTMENT COMPANY EXCEPTED FROM THE INVESTMENT COMPANY ACT PURSUANT TO SECTION 3(C)(1) OR SECTION 3(C)(7) THEREOF (OR A FOREIGN INVESTMENT COMPANY UNDER SECTION 7(D) THEREOF RELYING ON SECTION 3(C)(1) OR SECTION 3(C)(7) WITH RESPECT TO ITS HOLDERS THAT ARE U.S. PERSONS) AND WERE FORMED ON OR BEFORE APRIL 30, 1996, IT HAS RECEIVED CONSENT OF THE BENEFICIAL OWNERS WHO ACQUIRED THEIR INTEREST ON OR BEFORE APRIL 30, 1996, WITH RESPECT TO ITS TREATMENT AS A QUALIFIED PURCHASER IN THE MANNER REQUIRED BY SECTION 2(A)(51) OF THE INVESTMENT COMPANY ACT AND THE RULES PROMULGATED THEREUNDER AND (F) MUST BE ABLE TO AND WILL BE DEEMED TO REPRESENT THAT IT AGREES TO COMPLY WITH THE APPLICABLE TRANSFER RESTRICTIONS, AND WILL NOT TRANSFER THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE OR ANY BENEFICIAL INTERESTS HEREIN EXCEPT TO A PURCHASER WHO CAN MAKE THE SAME REPRESENTATIONS AND AGREEMENTS ON BEHALF OF ITSELF AND EACH ACCOUNT FOR WHICH IT IS PURCHASING OR (2) TO PERSONS THAT ARE NOT IN THE UNITED STATES AND ARE NOT ACTING FOR THE ACCOUNT OR BENEFIT OF U.S. PERSONS, IN OFFSHORE TRANSACTIONS IN ACCORDANCE WITH REGULATIONS UNDER THE SECURITIES, AND (B) IN EACH CASE IN ACCORDANCE WITH ALL APPLICABLE SECURITIES LAWS OF THE STATES OF THE UNITED STATES AND THE SECURITIES LAWS OF ANY OTHER JURISDICTION, PROVIDED THAT, AS A CONDITION TO THE REGISTRATION OF THE TRANSFER OF THIS RULE 144A GLOBAL NOTE OR ANY BENEFICIAL INTEREST HEREIN, THE ISSUER, THE GUARANTOR OR THE TRANSFER AGENT MAY REQUIRE THE DELIVERY OF ANY DOCUMENTS, INCLUDING AN OPINION OF COUNSEL, THAT IT, IN ITS SOLE DISCRETION, MAY DEEM NECESSARY OR APPROPRIATE TO EVIDENCE COMPLIANCE WITH THE FOREGOING. THE

HOLDER OF THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE AND EACH OWNER OF A BENEFICIAL INTEREST HEREIN, BY PURCHASING OR ACCEPTING THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE OR A BENEFICIAL INTEREST HEREIN, REPRESENTS AND AGREES FOR THE BENEFIT OF THE ISSUER THAT IT WILL NOTIFY ANY PURCHASER OF THE NOTES EVIDENCED BY THIS RULE 144A GLOBAL NOTE FROM THE HOLDER OF THE RESTRICTIONS REFERRED TO ABOVE.

8. It understands that no representation can be made as to the availability of the exemption provided by Rule 144 for resales of the Notes offered hereby.
9. It acknowledges that the Transfer Agent will not be required to accept for registration of transfer any Notes acquired by it, except upon presentation of evidence satisfactory to the Issuer, the Guarantor and the Transfer Agent, including an opinion of counsel, that, in its sole discretion, the restrictions set forth herein have been complied with.
10. It acknowledges that the Issuer, the Guarantor, the Initial Purchaser, the Transfer Agent and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations, warranties and agreements, and agrees that if any of the acknowledgements, representations, warranties or agreements deemed to have been made by it by its purchase of the Notes are no longer accurate, it shall promptly notify the Issuer, the Transfer Agent and the Initial Purchaser. If it is acquiring any Notes as a fiduciary or agent for one or more investor accounts, it represents that it has sole investment discretion with respect to each such account and it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account.
11. It understands that the Issuer will likely be a “covered fund” as defined in the Volcker Rule. The definition of “covered fund” in the Volcker Rule includes, among other things, any entity that would be an “investment company” under the Investment Company Act, but for the exception provided under Section 3(c)(1) or 3(c)(7) thereunder. Because the Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) thereof, it will be considered a “covered fund” for purposes of the Volcker Rule in the absence of an exclusion from the definition of “covered fund”. Accordingly, “banking entities” (as defined under the Volcker Rule) that are subject to the Volcker Rule may be prohibited under the Volcker Rule from, among other things, acquiring or retaining an “ownership interest” in the Issuer as a “covered fund”, absent any applicable exclusion from the definition of “covered fund” or exemption under the Volcker Rule. Under the Volcker Rule, “ownership interest” is defined broadly to include any equity, partnership or other similar interest, and the phrase “other similar interest” is further defined to include any participation or other interest that entitles the holder of such interest to, amongst other things:
 - (a) participate in the selection or removal of management or otherwise (other than as a creditor exercising remedies upon an event of default or acceleration event and to participate in the removal of an investment manager for “cause” (as defined therein) or in the selection of a replacement manager upon an investment manager’s resignation or removal),
 - (b) share in the income, gains or profits of the “covered fund”,
 - (c) receive underlying assets of the “covered fund” after all other interests have been redeemed and/or paid in full (other than as a creditor exercising remedies upon an event of default or acceleration event),
 - (d) receive all or a portion of excess spread (as defined therein),
 - (e) provide under the terms of the interest that the amounts payable by the “covered fund with respect to the interest can be reduced based on losses arising from the underlying assets of the “covered fund”,
 - (f) receive income on a pass-through basis from the “covered fund” or have a rate of return that is determined by reference to the performance of the underlying assets of the “covered fund”, or
 - (g) any synthetic right to have, receive or be allocated any of the rights in clauses (a) through (f) above.

Regulation S Notes

Each purchaser of the Notes (including the registered holders and beneficial owners of the Notes as they exist from time to time, including as a result of transfers, in each case, as of the time of purchase) other than the Rule 144A Notes (“Regulation S Notes”) must be able to and will be deemed to have represented, warranted and agreed as follows:

1. It is not in the United States and is not, nor is it acting for the account or benefit of, any U.S. person who is acquiring such Regulation S Notes in an offshore transaction in accordance with Rule 903 or Rule 904 of Regulation S under the Securities Act.
2. It understands that such Regulation S Notes are being offered only outside the United States to persons that are not, and are not acting for the account or benefit of, U.S. persons, in offshore transactions in reliance on Regulation S under the Securities Act and that the Regulation S Notes have not been and will not be registered under the Securities Act, the securities laws of any state of the United States or the securities laws of any other jurisdiction and may not be offered, resold, pledged or transferred within the United States or to, or for the account or benefit of, U.S. persons except to the extent permitted by the legend set forth in paragraph (5) below.
3. It agrees that it will deliver to each person to whom it transfers the Regulation S Notes notice of any restrictions on transfer of such Regulation S Notes.
4. Either (i) no portion of the assets used by such purchaser or transferee to acquire or hold the Notes or any beneficial interest therein constitutes assets of any (A) “employee benefit plan” (as defined in Section 3(3) of the United States Employee Retirement Income Security Act of 1974, as amended (“ERISA”)) subject to Title I of ERISA, (B) plan, individual retirement account or other arrangement subject to Section 4975 of the United States Internal Revenue Code of 1986, as amended (the “Code”), (C) governmental plan, church plan or non-U.S. plan subject to provisions under any other federal, state, local, non-U.S. or other laws or regulations that are similar to such provisions of ERISA or the Code (collectively, “Similar Laws”), or (D) entity whose underlying assets are considered to include “plan assets” within the meaning of 29 C.F.R. Section 2510.3-101 (as modified by Section 3(42) of ERISA) of any such employee benefit plan, plan, account or arrangement or (ii) the purchase and holding of the Notes or any beneficial interest therein by such purchaser or transferee will not constitute a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation of any applicable Similar Laws.
5. It understands that each Regulation S Global Note, and each definitive note issued in exchange for all or part of a Regulation S Global Note or interest therein, will bear a legend to the following effect, unless the Issuer determines otherwise in compliance with applicable law:

THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE AND ANY BENEFICIAL INTEREST HEREIN MAY BE PURCHASED AND TRANSFERRED ONLY IN DENOMINATIONS OF US\$200,000 AND INTEGRAL MULTIPLES OF US\$1,000 IN EXCESS THEREOF.

NEITHER THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE NOR THE RELATED GUARANTEES OR BENEFICIAL INTERESTS HEREIN HAVE BEEN OR WILL BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE “SECURITIES ACT”), THE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR THE SECURITIES LAWS OF ANY OTHER JURISDICTION AND MAY NOT BE REOFFERED, RESOLD, PLEDGED OR OTHERWISE TRANSFERRED WITHIN THE UNITED STATES OR TO A U.S. PERSON (EACH AS DEFINED IN REGULATION S UNDER THE SECURITIES

ACT). THE ISSUER HAS NOT BEEN AND WILL NOT BE REGISTERED AS AN "INVESTMENT COMPANY" UNDER THE U.S. INVESTMENT COMPANY ACT OF 1940, AS AMENDED (THE "INVESTMENT COMPANY ACT"). IN RELIANCE ON THE EXCEPTION PROVIDED BY SECTION 3(C)(7) THEREOF.

BY PURCHASING OR OTHERWISE ACQUIRING ANY BENEFICIAL INTEREST IN THIS REGULATION S GLOBAL NOTE, EACH OWNER OF SUCH BENEFICIAL INTEREST WILL BE DEEMED TO HAVE: (I) REPRESENTED AND WARRANTED TO AND FOR THE BENEFIT OF THE ISSUER, THE GUARANTOR AND THE SELLER ("SELLER") OF ANY BENEFICIAL INTEREST HEREIN, AND TO AND FOR THE BENEFIT OF ANY AGENT OF THE ISSUER, THE GUARANTOR OR SUCH SELLER, THAT (A) IT AND ANY PERSON FOR WHICH IT IS ACTING IS NOT A U.S. PERSON (AS DEFINED IN REGULATION S OF THE SECURITIES ACT ("REGULATION S")); AND (B) IT AND EACH SUCH PERSON ARE PURCHASING OR OTHERWISE ACQUIRING SUCH BENEFICIAL INTEREST IN AN OFFSHORE TRANSACTION (AS DEFINED BELOW) THAT IS NOT SUBJECT TO THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT PURSUANT TO REGULATION S THEREUNDER AND (II) AGREED FOR THE BENEFIT OF THE ISSUER, THE GUARANTOR AND THE SELLER OF SUCH BENEFICIAL INTEREST, AND FOR THE BENEFIT OF ANY AGENT OF THE ISSUER, THE GUARANTOR OR SUCH SELLER, THAT ANY SALE OR TRANSFER OF THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE OR BENEFICIAL INTERESTS HEREIN TO A PERSON THAT DOES NOT COMPLY WITH THE REQUIREMENTS SET FORTH HEREIN WILL BE NULL AND VOID *AB INITIO* AND NOT HONORED BY THE ISSUER. IF AT ANY TIME THE ISSUER DETERMINES IN GOOD FAITH THAT A HOLDER OR BENEFICIAL OWNER OF THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE OR BENEFICIAL INTERESTS THEREIN IS IN BREACH, AT THE TIME GIVEN, OF ANY OF THE TRANSFER RESTRICTIONS SET FORTH HEREIN AND IN THE INDENTURE, THE ISSUER SHALL COMPEL SUCH HOLDER TO TRANSFER THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE (OR BENEFICIAL INTEREST HEREIN) TO A TRANSFEREE ACCEPTABLE TO THE ISSUER WHO IS ABLE TO AND WHO DOES SATISFY ALL OF THE REQUIREMENTS SET FORTH HEREIN AND IN THE INDENTURE. PENDING SUCH TRANSFER, SUCH HOLDER WILL BE DEEMED NOT TO BE THE HOLDER OF THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE (OR BENEFICIAL INTEREST HEREIN) FOR ANY PURPOSE, INCLUDING, BUT NOT LIMITED TO, RECEIPT OF PRINCIPAL AND INTEREST PAYMENTS ON THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE, AND SUCH HOLDER OR OWNER OF A BENEFICIAL INTEREST HEREIN WILL BE DEEMED TO HAVE NO INTEREST WHATSOEVER IN THE NOTES EVIDENCED BY THIS REGULATION S GLOBAL NOTE EXCEPT AS OTHERWISE REQUIRED TO SELL ITS INTEREST HEREIN AS DESCRIBED HEREIN.

6. It acknowledges that the Transfer Agent will not be required to accept for registration of transfer any Notes acquired by it, except upon presentation of evidence satisfactory to the Issuer, the Guarantor and the Transfer Agent, including an opinion of counsel, that, in its sole discretion, the restrictions set forth herein have been complied with.
7. It acknowledges that the Issuer, the Guarantor, the Initial Purchaser, the Transfer Agent and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations, warranties and agreements, and agrees that if any of the acknowledgements, representations, warranties or agreements deemed to have been made by it by its purchase of the Notes are no longer accurate, it shall promptly notify the Issuer, the Transfer Agent and the Initial Purchaser. If it is acquiring any Notes as a fiduciary or agent for one or more investor accounts, it represents that it has sole investment discretion with respect to each such account and it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account.

8. It understands that the Issuer will likely be a “covered fund” as defined in the Volcker Rule. The definition of “covered fund” in the Volcker Rule includes, among other things, any entity that would be an “investment company” under the Investment Company Act, but for the exception provided under Section 3(c)(1) or 3(c)(7) thereunder. Because the Issuer has not been and will not be registered as an “investment company” under the Investment Company Act, in reliance on the exception set forth in Section 3(c)(7) thereof, it will be considered a “covered fund” for purposes of the Volcker Rule in the absence of an exclusion from the definition of “covered fund”. Accordingly, “banking entities” (as defined under the Volcker Rule) that are subject to the Volcker Rule may be prohibited under the Volcker Rule from, among other things, acquiring or retaining an “ownership interest” in the Issuer as a “covered fund”, absent any applicable exclusion from the definition of “covered fund” or exemption under the Volcker Rule. Under the Volcker Rule, “ownership interest” is defined broadly to include any equity, partnership or other similar interest, and the phrase “other similar interest” is further defined to include any participation or other interest that entitles the holder of such interest to, amongst other things:
- (a) participate in the selection or removal of management or otherwise (other than as a creditor exercising remedies upon an event of default or acceleration event and to participate in the removal of an investment manager for “cause” (as defined therein) or in the selection of a replacement manager upon an investment manager’s resignation or removal),
 - (b) share in the income, gains or profits of the “covered fund”,
 - (c) receive underlying assets of the “covered fund” after all other interests have been redeemed and/or paid in full (other than as a creditor exercising remedies upon an event of default or acceleration event),
 - (d) receive all or a portion of excess spread (as defined therein),
 - (e) provide under the terms of the interest that the amounts payable by the “covered fund with respect to the interest can be reduced based on losses arising from the underlying assets of the “covered fund”,
 - (f) receive income on a pass-through basis from the “covered fund” or have a rate of return that is determined by reference to the performance of the underlying assets of the “covered fund”, or
 - (g) any synthetic right to have, receive or be allocated any of the rights in clauses (a) through (f) above.

R.O.C. FOREIGN EXCHANGE CONTROL

The R.O.C. Foreign Exchange Control Statute and regulations provide that all foreign exchange transactions must be executed by banks designated by the FSC and the CBC to handle foreign exchange transactions. Current regulations favor trade-related foreign exchange transactions. Consequently, foreign currency earned from exports of merchandise and services may now be retained and used freely by exporters. All foreign currency needed for the importation of merchandise and services may be purchased freely from the designated foreign exchange banks.

Aside from trade or service-related foreign exchange transactions, R.O.C. companies and individual residents of the R.O.C. may, without a foreign exchange approval, remit to and from Taiwan foreign currencies of up to US\$50 million, or its equivalent, and US\$5 million, or its equivalent, respectively, in each calendar year. These limits apply to remittances involving a conversion between NT dollars and U.S. dollars or other foreign currencies. In addition, all private enterprises are required to register all medium- and long-term foreign debts with the CBC.

In addition, a foreign person may, subject to certain requirements but without a foreign exchange approval, remit to and from Taiwan foreign currencies of up to US\$100,000 (or its equivalent) per remittance if the required documentation is provided to the R.O.C. authorities. This limit applies to remittances involving a conversion between NT dollars and U.S. dollars or other foreign currencies.

SUMMARY OF CERTAIN MATERIAL DIFFERENCES BETWEEN TAIWAN-IFRSS AND IFRSS

Our unaudited consolidated interim financial statements as of and for the three months ended March 31, 2021 and 2022 are prepared and presented in accordance with Taiwan-IFRSs. Taiwan-IFRSs and IFRSs differ in certain significant respects. A brief description of certain significant differences between Taiwan-IFRSs and IFRSs is set forth below. The regulatory organizations that promulgate Taiwan-IFRSs and IFRSs have initiated ongoing projects that may affect future comparisons such as the comparison below. This summary does not and is not intended to provide a comprehensive listing of all existing or future differences between Taiwan-IFRSs and IFRSs, including those specifically related to the Company or to the industries in which it operates. No attempt has been made to identify future differences between Taiwan-IFRSs and IFRSs as a result of prescribed changes in accounting standards, or disclosure, presentation or classification differences that would affect the manner in which transactions and events are reflected in the financial statements of the Company or the notes thereto. Further, had the Company undertaken to identify the differences specifically affecting the financial statements presented in this offering circular, other potentially significant differences which are not in the following summary may have come to its attention. Accordingly, there can be no assurance that this summary provides a complete description or quantifies the effects of all differences which may have a significant impact on the Company's financial statements.

Summary of Certain Material Differences

Companies in the R.O.C. are subject to 5% surtax on unappropriated earnings. The difference between Taiwan-IFRSs and IFRSs is illustrated below:

| Subject | Taiwan-IFRSs | IFRSs |
|--------------------------------------|---|--|
| Tax on unappropriated earnings | The tax on unappropriated earnings is recorded in the year the shareholders approved the appropriation of earnings. | The tax on unappropriated earnings should be accrued during the period the earnings arise and adjusted to the extent of the appropriations approved by the shareholders in the following year. |

Effect of Adjustments to IFRSs

The below figures related to Adjustment to IFRSs and IFRSs have not been audited or reviewed by our independent auditors. After adjustments to IFRSs, the effects on the Company's consolidated statements of financial position as of March 31, 2022 and 2021, the consolidated statements of profit or loss and other comprehensive income and the consolidated statements of cash flows for the three months ended March 31, 2022 and 2021, are stated as follows:

Reconciliation of Consolidated Statements of Financial Position Data as of March 31, 2022

| | Taiwan-IFRSs | Adjustments to IFRSs NT\$ (in millions) | IFRSs |
|---|--------------|--|-------------|
| Investments accounted for using equity method | 24,119.0 | (276.0) | 23,843.0 |
| Total effect on assets | | (276.0) | |
| Income tax payable | 87,693.1 | 19,943.2 | 107,636.3 |
| Total effect on liabilities | | 19,943.2 | |
| Retained earnings | 2,038,261.6 | (20,188.0) | 2,018,073.6 |
| Non-controlling interests | 7,038.7 | (31.2) | 7,007.5 |
| Total effect on equity | | (20,219.2) | |

Reconciliation of Consolidated Statements of Financial Position Data as of March 31, 2021

| | <u>Taiwan-IFRSs</u> | <u>Adjustments to IFRSs</u> NT\$ (in millions) | <u>IFRSs</u> |
|---|---------------------|---|--------------|
| Investments accounted for using equity method | 20,294.9 | (159.7) | 20,135.2 |
| Total effect on assets | | (159.7) | |
| Income tax payable | 74,018.6 | 12,199.5 | 86,218.1 |
| Total effect on liabilities | | 12,199.5 | |
| Retained earnings | 1,663,271.8 | (12,344.6) | 1,650,927.2 |
| Non-controlling interests | 2,060.5 | (14.6) | 2,045.9 |
| Total effect on equity | | (12,359.2) | |

Reconciliation of Consolidated Statement of Profit or Loss and Other Comprehensive Income Data for the Three Months Ended March 31, 2022

| | <u>Taiwan-IFRSs</u> | <u>Adjustments to IFRSs</u> NT\$ (in millions) | <u>IFRSs</u> |
|---|---------------------|---|--------------|
| Non-operating income and expenses | | | |
| Share of profits of associates | 1,725.5 | (74.7) | 1,650.8 |
| Income tax expense | 23,958.3 | 1,093.7 | 25,052.0 |
| Total effect on net income | 202,873.4 | (1,168.4) | 201,705.0 |
| Net income | | | |
| Attributable to: | | | |
| Shareholders of the parent | | (1,161.3) | |
| Non-controlling interests | | (7.1) | |

Reconciliation of Consolidated Statement of Profit or Loss and Other Comprehensive Income Data for the Three Months Ended March 31, 2021

| | <u>Taiwan-IFRSs</u> | <u>Adjustments to IFRSs</u> NT\$ (in millions) | <u>IFRSs</u> |
|---|---------------------|---|--------------|
| Non-operating income and expenses | | | |
| Share of profits of associates | 1,267.1 | (48.8) | 1,218.3 |
| Income tax expense | 15,325.7 | (2,547.9) | 12,777.8 |
| Total effect on net income | 139,738.7 | 2,499.1 | 142,237.8 |
| Net income | | | |
| Attributable to: | | | |
| Shareholders of the parent | | 2,501.5 | |
| Non-controlling interests | | (2.4) | |

Reconciliation of Consolidated Statement of Cash Flows for the Three Months Ended March 31, 2022

| | <u>Taiwan-IFRSs</u> | <u>Adjustments to IFRSs</u> | <u>IFRSs</u> |
|---|---------------------|---------------------------------|--------------|
| | | NT\$ (in millions) | |
| Income before income tax | 226,831.7 | (74.7) | 226,757.0 |
| Share of profits of associates | (1,725.5) | <u>74.7</u> | (1,650.8) |
| Total effect on cash generated from operations | | <u>0.0</u> | |

Reconciliation of Consolidated Statement of Cash Flows for the Three Months Ended March 31, 2021

| | <u>Taiwan-IFRSs</u> | <u>Adjustments to IFRSs</u> | <u>IFRSs</u> |
|---|---------------------|---------------------------------|--------------|
| | | NT\$ (in millions) | |
| Income before income tax | 155,064.4 | (48.8) | 155,015.6 |
| Share of profits of associates | (1,267.1) | <u>48.8</u> | (1,218.3) |
| Total effect on cash generated from operations | | <u>0.0</u> | |

LEGAL MATTERS

Certain legal matters relating to the issue and sale of the Notes will be passed upon for the Issuer and the Guarantor by Sullivan & Cromwell (Hong Kong) LLP as to matters of U.S. Federal and New York law, by Lee and Li, Attorneys-at-Law as to matters of R.O.C. law and by Harney Westwood & Riegels as to matters of B.V.I. law. Certain legal matters relating to the issue and sale of the Notes will be passed upon for the Initial Purchaser by Latham & Watkins LLP as to matters of U.S. Federal and New York law.

INDEPENDENT AUDITORS

The Company's consolidated financial statements as of December 31, 2020 and 2021, and for each of the three years in the period ended December 31, 2021 included in this offering circular and the effectiveness of the Company's internal control over financial reporting have been audited in accordance with the Standards of the Public Company Accounting Oversight Board (United States) by Deloitte & Touche, an independent registered public accounting firm, as stated in their reports appearing herein which reports (1) express an unqualified opinion on the consolidated financial statements and includes two explanatory paragraphs referring to translation of NT dollar amounts into U.S. dollar amounts solely for the convenience of the readers and a separate report on the effectiveness of internal control over financial reporting and (2) express an unqualified opinion on the effectiveness of internal control over financial reporting.

With respect to the unaudited interim consolidated financial statements as of and for the three months ended March 31, 2021 and 2022 included in this offering circular, Deloitte & Touche, independent auditors, have reported that they have applied limited procedures in accordance with the Statement of Auditing Standards No. 65, Review of Financial Information Performed by the Independent Auditor of the Entity, under the Auditing Standards Committee of Accounting Research and Development Foundation in the Republic of China, for a review of such information. However, as stated in their report included herein, they did not audit and do not express an opinion on that interim consolidated financial statements. Accordingly, the degree of reliance on their report on such financial statements should be restricted in light of the limited nature of the review procedures applied.

Deloitte & Touche is located at 20th Floor, No. 100, Songren Rd., Xinyi District., Taipei, Taiwan.

CONTROLS AND PROCEDURES

Disclosure Controls and Procedures. Pursuant to Rule 13(a)-15(b) of the Securities Exchange Act of 1934, an evaluation was carried out under the supervision and with the participation of our principal executive and principal financial officers of the effectiveness of our disclosure controls and procedures. Based upon that evaluation, the Chief Executive Officers and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of December 31, 2021.

Management's Annual Report on Internal Control over Financial Reporting.

Management is responsible for establishing and maintaining adequate internal control over financial reporting. Our internal control over financial reporting is a process designed under the supervision of our principal executive and principal financial officers to provide reasonable assurance regarding the reliability of financial reporting and the preparation of our financial statements for external reporting purposes in accordance with IFRSs as issued by the IASB. Our internal control over financial reporting includes policies and procedures that pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect transactions and dispositions of assets; provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with IFRSs as issued by the IASB, and that receipts and expenditures are being made only in accordance with authorizations of our management and directors; and provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use or disposition of our assets that could have a material effect on our financial statements.

As of the end of 2021, management conducted an assessment of the effectiveness of our internal control over financial reporting based on the framework established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (“COSO”). Based on this assessment, management has determined that our internal control over financial reporting as of December 31, 2021 was effective.

Our independent registered public accounting firm, Deloitte & Touche, independently assessed the effectiveness of our company's internal control over financial reporting. Deloitte & Touche has issued an attestation report, which is included below.

Changes in Internal Control over Financial Reporting. During 2021, there was no material change to our internal control over financial reporting.

Attestation Report of the Independent Registered Public Accounting Firm.

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of

Taiwan Semiconductor Manufacturing Company Limited

Opinion on Internal Control over Financial Reporting

We have audited the internal control over financial reporting of Taiwan Semiconductor Manufacturing Company Limited and subsidiaries (the “Company”) as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by the Committee of Sponsoring Organizations of the Treadway Commission (COSO). In our opinion, the Company maintained, in all material respects, effective internal control over financial reporting as of December 31, 2021, based on criteria established in Internal Control – Integrated Framework (2013) issued by COSO.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the consolidated financial statements as of and for the year ended December 31, 2021, of the Company and our report dated April 14, 2022, expressed an unqualified opinion on those financial statements.

Basis for Opinion

The Company's management is responsible for maintaining effective internal control over financial reporting and for its assessment of the effectiveness of internal control over financial reporting, included in the accompanying Management's Annual Report on Internal Control over Financial Reporting. Our responsibility is to express an opinion on the Company's internal control over financial reporting based on our audit. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and PCAOB.

We conducted our audit in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective internal control over financial reporting was maintained in all material respects. Our audit included obtaining an understanding of internal control over financial reporting, assessing the risk that a material weakness exists, testing and evaluating the design and operating effectiveness of internal control based on the assessed risk, and performing such other procedures as we considered necessary in the circumstances. We believe that our audit provides a reasonable basis for our opinion.

Definition and Limitations of Internal Control over Financial Reporting

A company's internal control over financial reporting is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles. A company's internal control over financial reporting includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the company; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of financial statements in accordance with generally accepted accounting principles, and that receipts and expenditures of the company are being made only in accordance with authorizations of management and directors of the company; and (3) provide reasonable assurance regarding prevention or timely detection of unauthorized acquisition, use, or disposition of the company's assets that could have a material effect on the financial statements.

Because of its inherent limitations, internal control over financial reporting may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

/s/Deloitte & Touche
Taipei, Taiwan
Republic of China
April 14, 2022

INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

| | <u>Page</u> |
|---|-------------|
| Audited consolidated financial statements of the Company for the years ended December 31, 2019, 2020 and 2021 | |
| Report of Independent Registered Public Accounting Firm | F-3 |
| Consolidated Statements of Financial Position as of December 31, 2020 and 2021 | F-5 |
| Consolidated Statements of Profit or Loss and Other Comprehensive Income for the years ended December 31, 2019, 2020 and 2021 | F-7 |
| Consolidated Statements of Changes in Equity for the years ended December 31, 2019, 2020 and 2021 | F-9 |
| Consolidated Statements of Cash Flows for the years ended December 31, 2019, 2020 and 2021 | F-11 |
| Notes to Consolidated Financial Statements for the years ended December 31, 2019, 2020 and 2021 | F-14 |
| Unaudited interim consolidated financial statements of the Company for the three months ended March 31, 2021 and 2022 | |
| Independent Auditors' Review Report | F-81 |
| Consolidated Balance Sheets as of March 31, 2021 and 2022 | F-83 |
| Consolidated Statements of Comprehensive Income for the three months ended March 31, 2021 and 2022 | F-85 |
| Consolidated Statements of Changes in Equity for the three months ended March 31, 2021 and 2022 | F-88 |
| Consolidated Statements of Cash Flows for the three months ended March 31, 2021 and 2022 | F-89 |
| Notes to Consolidated Financial Statements for the three months ended March 31, 2021 and 2022 | F-92 |

**Taiwan Semiconductor Manufacturing
Company Limited and Subsidiaries**

**Consolidated Financial Statements for the
Years Ended December 31, 2019, 2020 and 2021 and
Report of Independent Registered Public Accounting Firm**

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the shareholders and the Board of Directors of
Taiwan Semiconductor Manufacturing Company Limited

Opinion on the Financial Statements

We have audited the accompanying consolidated statements of financial position of Taiwan Semiconductor Manufacturing Company Limited (a Republic of China corporation) and subsidiaries (the “Company”) as of December 31, 2020 and 2021, the related consolidated statements of profit or loss and other comprehensive income, changes in equity, and cash flows for each of the three years in the period ended December 31, 2021, and the related notes (collectively referred to as the “consolidated financial statements”). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2020 and 2021, and the results of its operations and its cash flows for each of the three years in the period ended December 31, 2021, in conformity with International Financial Reporting Standards as issued by the International Accounting Standards Board.

Our audits also comprehended the translation of New Taiwan dollar amounts into U.S. dollar amounts and, in our opinion, such translation has been made in conformity with the basis stated in Note 3 to the consolidated financial statements. Such U.S. dollar amounts are presented solely for the convenience of the readers outside the Republic of China.

We have also audited, in accordance with the standards of the Public Company Accounting Oversight Board (United States) (PCAOB), the Company’s internal control over financial reporting as of December 31, 2021, based on criteria established in *Internal Control — Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission and our report dated April 14, 2022, expressed an unqualified opinion on the Company’s internal control over financial reporting.

Basis for Opinion

These consolidated financial statements are the responsibility of the Company’s management. Our responsibility is to express an opinion on the Company’s consolidated financial statements based on our audits. We are a public accounting firm registered with the PCAOB and are required to be independent with respect to the Company in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current-period audit of the financial statements that was communicated or required to be communicated to the audit committee and that (1) relates to accounts or disclosures that are material to the financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing a separate opinion on the critical audit matter or on the accounts or disclosures to which it relates.

Property, plant and equipment (PP&E) - commencement of depreciation related to PP&E classified as equipment under installation and construction in progress (EUI/CIP) - Refer to Notes 5, 6, and 15

Critical Audit Matter Description

The Company's evaluation of when to commence depreciation of EUI/CIP involves determining when the assets are available for their intended use. The criteria the Company uses to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets to be capable of operating in the intended manner. Changes in these assumptions could have a significant impact on when depreciation is recognized.

Given the subjectivity in determining the date to commence depreciation of EUI/CIP, performing audit procedures to evaluate the reasonableness of the Company's judgments and assumptions required a high degree of auditor judgment.

How the Critical Audit Matter Was Addressed in the Audit

Our audit procedures related to the evaluation of when to commence depreciation of EUI/CIP included the following, among others:

1. We read the Company's policy and understood the criteria used to determine when to commence depreciation.
2. We tested the effectiveness of the controls over the evaluation of when to commence depreciation of EUI/CIP.
3. We sampled the year-end balance of EUI/CIP and performed the following for each selection:
 - a. Evaluated whether the selection did not meet the criteria specified by the Company for commencement of depreciation.
 - b. Observed the assets and evaluated their status.
4. We sampled and evaluated whether the selection of EUI/CIP met the criteria specified by the Company for commencement of depreciation during the year.
5. We sampled and evaluated whether the selection of EUI/CIP met the criteria specified by the Company for commencement of depreciation subsequent to year end.

/s/ Deloitte & Touche
Taipei, Taiwan
Republic of China

April 14, 2022

We have served as the Company's auditor since 1987.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION (In Millions of New Taiwan Dollars or U.S. Dollars)

| | Notes | December 31, 2020 NT\$ | December 31, 2021 NT\$ | US\$ (Note 3) |
|---|-----------|---------------------------|---------------------------|---------------------|
| ASSETS | | | | |
| CURRENT ASSETS | | | | |
| Cash and cash equivalents | 7 | \$ 660,170.6 | \$ 1,064,990.2 | \$ 38,391.9 |
| Financial assets at fair value through profit or loss | 8 | 2,259.4 | 159.0 | 5.7 |
| Financial assets at fair value through other comprehensive income | 9 | 122,448.5 | 119,519.3 | 4,308.5 |
| Financial assets at amortized cost | 10 | 6,598.0 | 3,773.6 | 136.0 |
| Hedging financial assets | 11 | 0.1 | 13.5 | 0.5 |
| Notes and accounts receivable, net | 12 | 145,480.3 | 197,586.1 | 7,122.8 |
| Receivables from related parties | 34 | 558.1 | 715.3 | 25.8 |
| Other receivables from related parties | 34 | 50.6 | 61.5 | 2.2 |
| Inventories | 6, 13, 37 | 137,353.4 | 193,102.3 | 6,961.2 |
| Other financial assets | 35 | 10,676.1 | 16,630.6 | 599.5 |
| Other current assets | | <u>6,590.2</u> | <u>10,521.5</u> | <u>379.3</u> |
| Total current assets | | <u>1,092,185.3</u> | <u>1,607,072.9</u> | <u>57,933.4</u> |
| NONCURRENT ASSETS | | | | |
| Financial assets at fair value through other comprehensive income | 9 | 4,514.9 | 5,887.9 | 212.3 |
| Financial assets at amortized cost | 10 | 4,372.2 | 1,533.4 | 55.3 |
| Investments accounted for using equity method | 14 | 18,730.2 | 21,762.2 | 784.5 |
| Property, plant and equipment | 6, 15 | 1,555,589.1 | 1,975,118.7 | 71,201.1 |
| Right-of-use assets | 6, 16 | 27,728.5 | 32,734.4 | 1,180.0 |
| Intangible assets | 6, 17 | 25,768.1 | 26,821.7 | 966.9 |
| Deferred income tax assets | 6, 27 | 25,958.2 | 49,153.9 | 1,772.0 |
| Refundable deposits | | 1,343.0 | 2,624.9 | 94.6 |
| Other noncurrent assets | | <u>4,411.0</u> | <u>2,592.2</u> | <u>93.4</u> |
| Total noncurrent assets | | <u>1,668,415.2</u> | <u>2,118,229.3</u> | <u>76,360.1</u> |
| TOTAL | | <u>\$ 2,760,600.5</u> | <u>\$ 3,725,302.2</u> | <u>\$ 134,293.5</u> |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF FINANCIAL POSITION (In Millions of New Taiwan Dollars or U.S. Dollars)

| | Notes | December 31, 2020 NT\$ | December 31, 2021 NT\$ | US\$ (Note 3) |
|---|-------------------|---------------------------|---------------------------|---------------------|
| LIABILITIES AND EQUITY | | | | |
| CURRENT LIABILITIES | | | | |
| Short-term loans | 18, 31 | \$ 88,559.0 | \$ 114,921.3 | \$ 4,142.8 |
| Financial liabilities at fair value through profit or loss | 8 | 94.1 | 681.9 | 24.6 |
| Hedging financial liabilities | 11 | 1.2 | 9.6 | 0.3 |
| Accounts payable | | 38,987.3 | 47,285.6 | 1,704.6 |
| Payables to related parties | 34 | 2,107.7 | 1,437.2 | 51.8 |
| Salary and bonus payable | | 20,071.2 | 23,802.1 | 858.0 |
| Accrued profit sharing bonus to employees and compensation to directors and supervisors | 30 | 35,681.0 | 36,524.7 | 1,316.7 |
| Payables to contractors and equipment suppliers | | 157,805.0 | 145,742.2 | 5,253.9 |
| Cash dividends payable | 22 | 129,652.0 | 142,617.1 | 5,141.2 |
| Income tax payable | 6, 27 | 68,656.7 | 78,496.6 | 2,829.7 |
| Long-term liabilities - current portion | 19, 20, 31 | 2,600.0 | 4,566.7 | 164.6 |
| Accrued expenses and other current liabilities | 6, 16, 23, 31, 34 | <u>87,683.2</u> | <u>162,267.8</u> | <u>5,849.7</u> |
| Total current liabilities | | <u>631,898.4</u> | <u>758,352.8</u> | <u>27,337.9</u> |
| NONCURRENT LIABILITIES | | | | |
| Bonds payable | 19, 31 | 254,105.1 | 610,070.6 | 21,992.4 |
| Long-term bank loans | 20, 31 | 1,967.6 | 3,309.1 | 119.3 |
| Deferred income tax liabilities | 6, 27 | 1,729.9 | 1,873.9 | 67.6 |
| Lease liabilities | 6, 16, 31 | 20,560.6 | 20,764.2 | 748.5 |
| Net defined benefit liability | 21 | 11,914.1 | 11,036.9 | 397.9 |
| Guarantee deposits | | 265.6 | 686.8 | 24.8 |
| Others | 23 | <u>2,395.4</u> | <u>167,525.4</u> | <u>6,039.1</u> |
| Total noncurrent liabilities | | <u>292,938.3</u> | <u>815,266.9</u> | <u>29,389.6</u> |
| Total liabilities | | <u>924,836.7</u> | <u>1,573,619.7</u> | <u>56,727.5</u> |
| EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT | | | | |
| Capital stock | 22 | <u>259,303.8</u> | <u>259,303.8</u> | <u>9,347.7</u> |
| Capital surplus | 22 | <u>56,347.2</u> | <u>64,761.5</u> | <u>2,334.6</u> |
| Retained earnings | 22 | | | |
| Appropriated as legal capital reserve | | 311,147.0 | 311,147.0 | 11,216.5 |
| Appropriated as special capital reserve | | 42,259.1 | 59,304.2 | 2,137.9 |
| Unappropriated earnings | | <u>1,220,434.0</u> | <u>1,517,351.7</u> | <u>54,699.0</u> |
| | | <u>1,573,840.1</u> | <u>1,887,802.9</u> | <u>68,053.4</u> |
| Others | 22 | <u>(54,679.8)</u> | <u>(62,608.4)</u> | <u>(2,257.0)</u> |
| Equity attributable to shareholders of the parent | | 1,834,811.3 | 2,149,259.8 | 77,478.7 |
| NON - CONTROLLING INTERESTS | | <u>952.5</u> | <u>2,422.7</u> | <u>87.3</u> |
| Total equity | | <u>1,835,763.8</u> | <u>2,151,682.5</u> | <u>77,566.0</u> |
| TOTAL | | <u>\$ 2,760,600.5</u> | <u>\$ 3,725,302.2</u> | <u>\$ 134,293.5</u> |

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME (In Millions of New Taiwan Dollars or U.S. Dollars, Except Earnings Per Share that are in New Taiwan or U.S. Dollars)

| | Notes | 2019 NT\$ | 2020 NT\$ | 2021 NT\$ | US\$ (Note 3) |
|---|-------------------|------------------|------------------|------------------|------------------|
| NET REVENUE | 6, 23, 34, 38 | \$ 1,069,985.4 | \$ 1,339,254.8 | \$ 1,587,415.0 | \$ 57,224.8 |
| COST OF REVENUE | 6, 13, 30, 34, 37 | <u>577,283.5</u> | <u>628,124.7</u> | <u>767,877.7</u> | <u>27,681.3</u> |
| GROSS PROFIT | | <u>492,701.9</u> | <u>711,130.1</u> | <u>819,537.3</u> | <u>29,543.5</u> |
| OPERATING EXPENSES | 6, 30, 34 | | | | |
| Research and development | | 91,418.7 | 109,486.0 | 124,734.8 | 4,496.6 |
| General and administrative | | 21,737.2 | 28,457.6 | 36,929.6 | 1,331.3 |
| Marketing | | <u>6,348.6</u> | <u>7,112.8</u> | <u>7,558.6</u> | <u>272.4</u> |
| Total operating expenses | | <u>119,504.5</u> | <u>145,056.4</u> | <u>169,223.0</u> | <u>6,100.3</u> |
| OTHER OPERATING INCOME AND EXPENSES, NET | 15, 16, 30 | <u>(496.3)</u> | <u>710.0</u> | <u>(333.4)</u> | <u>(12.0)</u> |
| INCOME FROM OPERATIONS | 38 | <u>372,701.1</u> | <u>566,783.7</u> | <u>649,980.9</u> | <u>23,431.2</u> |
| NON-OPERATING INCOME AND EXPENSES | | | | | |
| Share of profits of associates | | 2,861.0 | 3,562.0 | 5,512.7 | 198.7 |
| Interest Income | 24 | 16,189.4 | 9,018.4 | 5,708.8 | 205.8 |
| Other income | | 417.3 | 660.6 | 973.1 | 35.1 |
| Foreign exchange gain (loss), net | | 2,095.2 | (3,303.3) | 13,662.7 | 492.5 |
| Finance costs | 25 | (3,250.9) | (2,081.5) | (5,414.2) | (195.2) |
| Other gains and losses, net | 26 | <u>(1,151.0)</u> | <u>10,106.4</u> | <u>(7,388.0)</u> | <u>(266.3)</u> |
| Total non-operating income and expenses | | <u>17,161.0</u> | <u>17,962.6</u> | <u>13,055.1</u> | <u>470.6</u> |
| INCOME BEFORE INCOME TAX | | 389,862.1 | 584,746.3 | 663,036.0 | 23,901.8 |
| INCOME TAX EXPENSE | 6, 27 | <u>35,835.1</u> | <u>73,738.3</u> | <u>70,155.4</u> | <u>2,529.0</u> |
| NET INCOME | | <u>354,027.0</u> | <u>511,008.0</u> | <u>592,880.6</u> | <u>21,372.8</u> |
| OTHER COMPREHENSIVE INCOME (LOSS) | 6, 21, 22, 27 | | | | |
| Items that will not be reclassified subsequently to profit or loss: | | | | | |
| Remeasurement of defined benefit obligation | | 253.9 | (3,516.8) | 242.1 | 8.7 |
| Unrealized gain on investments in equity instruments at fair value through other comprehensive income | | 334.3 | 423.7 | 1,900.8 | 68.5 |
| Gain (loss) on hedging instruments | | (109.6) | 24.1 | (41.4) | (1.5) |
| Share of other comprehensive loss of associates | | (18.2) | (11.6) | (30.2) | (1.1) |
| Income tax benefit (expense) related to items that will not be reclassified subsequently | | <u>(21.0)</u> | <u>422.7</u> | <u>(85.3)</u> | <u>(3.1)</u> |
| | | <u>439.4</u> | <u>(2,657.9)</u> | <u>1,986.0</u> | <u>71.5</u> |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF PROFIT OR LOSS AND OTHER COMPREHENSIVE INCOME (In Millions of New Taiwan Dollars or U.S. Dollars, Except Earnings Per Share that are in New Taiwan or U.S. Dollars)

| | Notes | 2019 NT\$ | 2020 NT\$ | 2021 NT\$ | US\$ (Note 3) |
|--|-------|---------------------|---------------------|---------------------|--------------------|
| Items that may be reclassified subsequently to profit or loss: | | | | | |
| Exchange differences arising on translation of foreign operations | | \$ (14,689.1) | \$ (29,847.2) | \$ (6,181.8) | \$ (222.8) |
| Unrealized gain/(loss) on investments in debt instruments at fair value through other comprehensive income | | 2,566.4 | 2,466.7 | (3,431.8) | (123.7) |
| Gain on hedging instruments | | - | - | 131.6 | 4.7 |
| Share of other comprehensive loss of associates | | (140.2) | (283.4) | (120.0) | (4.3) |
| Income tax expense related to items that may be reclassified subsequently | | - | - | (3.4) | (0.1) |
| | | <u>(12,262.9)</u> | <u>(27,663.9)</u> | <u>(9,605.4)</u> | <u>(346.2)</u> |
| Other comprehensive loss for the year, net of income tax | | <u>(11,823.5)</u> | <u>(30,321.8)</u> | <u>(7,619.4)</u> | <u>(274.7)</u> |
| TOTAL COMPREHENSIVE INCOME FOR THE YEAR | | <u>\$ 342,203.5</u> | <u>\$ 480,686.2</u> | <u>\$ 585,261.2</u> | <u>\$ 21,098.1</u> |
| NET INCOME ATTRIBUTABLE TO: | | | | | |
| Shareholders of the parent | | \$ 353,948.0 | \$ 510,744.0 | \$ 592,359.2 | \$ 21,354.0 |
| Non-controlling interests | | <u>79.0</u> | <u>264.0</u> | <u>521.4</u> | <u>18.8</u> |
| | | <u>\$ 354,027.0</u> | <u>\$ 511,008.0</u> | <u>\$ 592,880.6</u> | <u>\$ 21,372.8</u> |
| TOTAL COMPREHENSIVE INCOME ATTRIBUTABLE TO: | | | | | |
| Shareholders of the parent | | \$ 342,124.9 | \$ 480,422.1 | \$ 584,737.3 | \$ 21,079.2 |
| Non-controlling interests | | <u>78.6</u> | <u>264.1</u> | <u>523.9</u> | <u>18.9</u> |
| | | <u>\$ 342,203.5</u> | <u>\$ 480,686.2</u> | <u>\$ 585,261.2</u> | <u>\$ 21,098.1</u> |
| EARNINGS PER SHARE | 28 | | | | |
| Basic earnings per share | | <u>\$ 13.65</u> | <u>\$ 19.70</u> | <u>\$ 22.84</u> | <u>\$ 0.82</u> |
| Diluted earnings per share | | <u>\$ 13.65</u> | <u>\$ 19.70</u> | <u>\$ 22.84</u> | <u>\$ 0.82</u> |
| EARNINGS PER EQUIVALENT ADS | | | | | |
| Basic earnings per share | | <u>\$ 68.25</u> | <u>\$ 98.48</u> | <u>\$ 114.22</u> | <u>\$ 4.12</u> |
| Diluted earnings per share | | <u>\$ 68.25</u> | <u>\$ 98.48</u> | <u>\$ 114.22</u> | <u>\$ 4.12</u> |

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Millions of New Taiwan Dollars)

| | Equity Attributable to Shareholders of the Parent | | | | | | | | | | Others | | |
|--|---|--------------|-----------------|-----------------------|-------------------------|-------------------------|----------------|--------------------------------------|--|----------|-----------------------------------|---------------|----------------|
| | Capital Stock - Common Stock | | | | | Retained Earnings | | | Unrealized Gain (Loss) on Financial Assets at Fair Value | | Unearned Stock-Based Compensation | | Total |
| | Shares (In Millions) | Amount | Capital Surplus | Legal Capital Reserve | Special Capital Reserve | Unappropriated Earnings | Total | Foreign Currency Translation Reserve | Gain (Loss) on Hedging Instruments | | | | |
| BALANCE, JANUARY 1, 2019 | 25,930.3 | \$ 259,303.8 | \$ 56,316.0 | \$ 276,033.9 | \$ 26,907.5 | \$ 1,057,317.5 | \$ 1,360,258.9 | \$ (12,042.4) | \$ (3,429.3) | \$ 23.6 | \$ (1.8) | \$ (15,449.9) | \$ 1,660,428.8 |
| Appropriations of earnings | - | - | - | 35,113.1 | - | (35,113.1) | - | - | - | - | - | - | - |
| Legal capital reserve | - | - | - | (16,232.4) | - | (388,955.7) | (388,955.7) | - | - | - | - | - | - |
| Special capital reserve | - | - | - | 35,113.1 | - | (388,955.7) | (388,955.7) | - | - | - | - | - | - |
| Cash dividends to shareholders | - | - | - | - | - | (407,836.4) | - | - | - | - | - | - | - |
| Total | - | - | - | - | - | - | - | - | - | - | - | - | (388,955.7) |
| Net income in 2019 | - | - | - | - | - | 353,948.0 | 353,948.0 | - | - | - | - | - | 353,948.0 |
| Other comprehensive income (loss) in 2019, net of income tax | - | - | - | - | - | 217.1 | 217.1 | (14,829.0) | 2,898.5 | (109.2) | - | (12,040.2) | (11,823.5) |
| Total comprehensive income (loss) in 2019 | - | - | - | - | - | 354,165.1 | 354,165.1 | (14,829.0) | 2,898.5 | (109.2) | - | (12,040.2) | 342,203.5 |
| Disposal of investments in equity instruments at fair value through other comprehensive income | - | - | - | - | - | 162.1 | 162.1 | - | (162.1) | - | - | (162.1) | - |
| Basis adjustment for gain on hedging instruments | - | - | - | - | - | - | - | - | - | 82.3 | - | 82.3 | 82.3 |
| Adjustments to share of changes in equities of associates | - | - | 19.4 | - | - | - | - | - | - | - | 1.6 | 1.6 | 21.0 |
| From share of changes in equities of subsidiaries | - | - | 0.3 | - | - | - | - | - | - | - | - | - | 0.3 |
| Donation from shareholders | - | - | 4.0 | - | - | - | - | - | - | - | - | - | 4.0 |
| Decrease in non-controlling interests | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BALANCE, DECEMBER 31, 2019 | 25,930.3 | \$ 259,303.8 | \$ 56,339.7 | \$ 311,147.0 | \$ 10,675.1 | \$ 1,003,808.3 | \$ 1,325,630.4 | \$ (26,871.4) | \$ (692.9) | \$ (3.8) | \$ (0.2) | \$ (27,568.3) | \$ 1,614,387.3 |
| Appropriations of earnings | - | - | - | - | 31,584.0 | (31,584.0) | - | - | - | - | - | - | - |
| Special capital reserve | - | - | - | - | - | (259,303.8) | (259,303.8) | - | - | - | - | - | - |
| Cash dividends to shareholders | - | - | - | - | 31,584.0 | (290,887.8) | - | - | - | - | - | - | - |
| Total | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Net income in 2020 | - | - | - | - | - | 510,744.0 | 510,744.0 | - | - | - | - | - | 510,744.0 |
| Other comprehensive income (loss) in 2020, net of income tax | - | - | - | - | - | (3,121.8) | (3,121.8) | (30,130.2) | 2,906.0 | 24.1 | - | (27,200.1) | (30,321.9) |
| Total comprehensive income (loss) in 2020 | - | - | - | - | - | 507,622.2 | 507,622.2 | (30,130.2) | 2,906.0 | 24.1 | - | (27,200.1) | 480,422.1 |
| Disposal of investments in equity instruments at fair value through other comprehensive income | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Basis adjustment for loss on hedging instruments | - | - | - | - | - | (108.7) | (108.7) | - | 108.7 | - | - | 108.7 | - |
| Adjustments to share of changes in equities of associates | - | - | 0.3 | - | - | - | - | - | - | (20.3) | - | (20.3) | - |
| From share of changes in equities of subsidiaries | - | - | 7.2 | - | - | - | - | - | - | - | 0.2 | 0.2 | 0.5 |
| Donation from shareholders | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Increase in non-controlling interests | - | - | - | - | - | - | - | - | - | - | - | - | - |
| BALANCE, DECEMBER 31, 2020 | 25,930.3 | \$ 259,303.8 | \$ 56,347.2 | \$ 311,147.0 | \$ 42,259.1 | \$ 1,220,434.0 | \$ 1,573,840.1 | \$ (57,001.6) | \$ 2,321.8 | \$ - | \$ - | \$ (54,679.8) | \$ 1,834,811.3 |
| Appropriations of earnings | - | - | - | - | 17,045.1 | (17,045.1) | - | - | - | - | - | - | - |
| Special capital reserve | - | - | - | - | - | (278,751.6) | (278,751.6) | - | - | - | - | - | - |
| Cash dividends to shareholders | - | - | - | - | 17,045.1 | (295,796.7) | - | - | - | - | - | - | - |
| Total | - | - | - | - | - | - | - | - | - | - | - | - | - |

(Continued)

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Millions of New Taiwan Dollars)

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS (In Millions of New Taiwan Dollars or U.S. Dollars)

| | 2019 | 2020 | 2021 | |
|---|------------------|------------------|--------------------|------------------|
| | NT\$ | NT\$ | NT\$ | US\$ (Note 3) |
| CASH FLOWS FROM OPERATING ACTIVITIES | | | | |
| Income before income tax | \$ 389,862.1 | \$ 584,746.3 | \$ 663,036.0 | \$ 23,901.8 |
| Adjustments for: | | | | |
| Depreciation expense | 281,411.8 | 324,538.4 | 414,187.7 | 14,931.1 |
| Amortization expense | 5,472.4 | 7,186.2 | 8,207.2 | 295.9 |
| Expected credit losses recognized (reversal) on investments in debt instruments | 1.7 | 3.7 | (2.7) | (0.1) |
| Finance costs | 3,250.9 | 2,081.5 | 5,414.2 | 195.2 |
| Share of profits of associates | (2,861.0) | (3,562.0) | (5,512.7) | (198.7) |
| Interest income | (16,189.4) | (9,018.4) | (5,708.8) | (205.8) |
| Share-based compensation | 2.8 | 6.6 | 7.8 | 0.3 |
| Loss (gain) on disposal or retirement of property, plant and equipment, net | 950.0 | (188.9) | 273.6 | 9.9 |
| Loss on disposal or retirement of intangible assets, net | 2.4 | 0.6 | 1.2 | - |
| Impairment loss (reversal of impairment loss) on property, plant and equipment | (301.4) | 10.2 | 274.4 | 9.9 |
| Loss (gain) on financial instruments at fair value through profit or loss, net | 955.7 | (3.0) | - | - |
| Gain on disposal of investments in debt instruments at fair value through other comprehensive income, net | (537.8) | (1,439.4) | (93.2) | (3.4) |
| Loss from disposal of subsidiaries | 4.6 | - | - | - |
| Gain on foreign exchange, net | (5,228.2) | (1,372.6) | (16,115.9) | (581.0) |
| Dividend income | (417.3) | (637.6) | (362.3) | (13.1) |
| Gain arising from fair value hedges, net | (13.1) | - | - | - |
| Others | (5.5) | 13.5 | (414.2) | (15.0) |
| Changes in operating assets and liabilities: | | | | |
| Financial instruments at fair value through profit or loss | 848.8 | (2,965.2) | 2,649.2 | 95.5 |
| Notes and accounts receivable, net | (18,119.6) | (8,082.7) | (52,105.9) | (1,878.4) |
| Receivables from related parties | (277.7) | 304.0 | (157.2) | (5.7) |
| Other receivables from related parties | 13.4 | 7.6 | (10.9) | (0.4) |
| Inventories | 20,249.8 | (54,372.2) | (55,748.9) | (2,009.7) |
| Other financial assets | 3,383.5 | 1,389.5 | (8,236.9) | (296.9) |
| Other current assets | (76.3) | (1,358.1) | (3,899.0) | (140.6) |
| Accounts payable | 5,860.1 | 404.6 | 8,298.3 | 299.2 |
| Payables to related parties | 58.4 | 672.8 | (670.5) | (24.2) |
| Salary and bonus payable | 1,800.9 | 3,798.9 | 3,730.9 | 134.5 |
| Accrued profit sharing bonus to employees and compensation to directors and supervisors | (332.2) | 12,032.1 | 843.7 | 30.4 |
| Accrued expenses and other current liabilities | (2,372.0) | 20,617.4 | 84,322.7 | 3,039.8 |
| Other noncurrent liabilities | - | - | 154,086.0 | 5,554.7 |
| Net defined benefit liability | (215.0) | (785.2) | (635.2) | (22.9) |
| Cash generated from operations | 667,182.8 | 874,028.6 | 1,195,658.6 | 43,102.3 |
| Income taxes paid | (52,044.1) | (51,362.4) | (83,497.9) | (3,010.0) |
| Net cash generated by operating activities | <u>615,138.7</u> | <u>822,666.2</u> | <u>1,112,160.7</u> | <u>40,092.3</u> |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS (In Millions of New Taiwan Dollars or U.S. Dollars)

| | 2019 NT\$ | 2020 NT\$ | 2021 NT\$ | US\$ (Note 3) |
|---|--------------------|--------------------|--------------------|-------------------------------|
| CASH FLOWS FROM INVESTING ACTIVITIES | | | | |
| Acquisitions of: | | | | |
| Financial instruments at fair value through profit or loss - debt instruments | \$ (124.7) | \$ - | \$ - | \$ - |
| Financial assets at fair value through other comprehensive income | (257,558.2) | (262,637.5) | (255,888.7) | (9,224.5) |
| Financial assets at amortized cost | (313.9) | (4,302.8) | (3,799.7) | (137.0) |
| Property, plant and equipment | (460,422.2) | (507,238.7) | (839,195.7) | (30,252.2) |
| Intangible assets | (9,329.9) | (9,542.4) | (9,040.7) | (325.9) |
| Proceeds from disposal or redemption of: | | | | |
| Financial instruments at fair value through profit or loss - debt instruments | 2,418.2 | 30.0 | - | - |
| Financial assets at fair value through other comprehensive income | 230,444.5 | 266,931.9 | 254,604.5 | 9,178.2 |
| Financial assets at amortized cost | 14,349.2 | 285.2 | 9,368.3 | 337.7 |
| Property, plant and equipment | 287.3 | 606.7 | 390.4 | 14.1 |
| Proceeds from return of capital of investments in equity instruments at fair value through other comprehensive income | 1.1 | 51.1 | 115.6 | 4.2 |
| Derecognition of hedging financial instruments | (436.6) | (308.8) | 276.3 | 10.0 |
| Interest received | 16,875.0 | 9,775.1 | 5,990.9 | 216.0 |
| Proceeds from government grants - property, plant and equipment | 2,565.3 | 1,044.3 | 821.3 | 29.6 |
| Proceeds from government grants - land use right and others | 850.6 | 25.4 | 6.6 | 0.2 |
| Other dividends received | 320.2 | 735.1 | 362.3 | 13.1 |
| Dividends received from investments accounted for using equity method | 1,719.0 | 2,752.1 | 2,136.4 | 77.0 |
| Increase in prepayments for leases | - | (4,693.4) | (1,200.0) | (43.3) |
| Refundable deposits paid | (1,465.8) | (726.9) | (1,997.3) | (72.0) |
| Refundable deposits refunded | <u>1,019.3</u> | <u>1,431.9</u> | <u>683.7</u> | <u>24.6</u> |
| Net cash used in investing activities | <u>(458,801.6)</u> | <u>(505,781.7)</u> | <u>(836,365.8)</u> | <u>(30,150.2)</u> |
| CASH FLOWS FROM FINANCING ACTIVITIES | | | | |
| Increase (decrease) in short-term loans | 31,804.3 | (31,571.6) | 35,668.4 | 1,285.8 |
| Proceeds from short-term bills payable | - | 7,485.3 | - | - |
| Repayments of short-term bills payable | - | (7,500.0) | - | - |
| Proceeds from issuance of bonds | - | 236,725.7 | 364,592.8 | 13,143.2 |
| Repayment of bonds | (34,900.0) | (31,800.0) | (2,600.0) | (93.7) |
| Proceeds from long-term bank loans | - | 2,000.0 | 1,510.0 | 54.5 |
| Payments for transaction costs attributable to the issuance of bonds | - | (390.7) | (737.7) | (26.6) |
| Repayment of the principal portion of lease liabilities | (2,930.6) | (2,615.7) | (1,985.3) | (71.6) |
| Interest paid | (3,597.1) | (1,781.1) | (3,833.6) | (138.2) |
| Guarantee deposits received | 62.2 | 145.6 | 469.0 | 16.9 |
| Guarantee deposits refunded | (701.3) | (16.1) | (36.8) | (1.3) |
| Cash dividends | (259,303.8) | (259,303.8) | (265,786.4) | (9,581.3) |
| Disposal of ownership interests in subsidiaries (without losing control) | - | - | 9,451.8 | 340.7 |
| Donation from shareholders | 4.0 | 7.3 | 11.3 | 0.4 |
| Decrease in non-controlling interests | <u>(75.9)</u> | <u>-</u> | <u>(115.0)</u> | <u>(4.2)</u> |
| Net cash generated by (used in) financing activities | <u>(269,638.2)</u> | <u>(88,615.1)</u> | <u>136,608.5</u> | <u>4,924.6</u> (Continued) |

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS (In Millions of New Taiwan Dollars or U.S. Dollars)

| | <u>2019</u> | <u>2020</u> | <u>2021</u> | |
|---|---------------------|---------------------|----------------------|--------------------|
| | NT\$ | NT\$ | NT\$ | US\$ (Note 3) |
| EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS | \$ (9,114.2) | \$ (23,498.1) | \$ (7,583.8) | \$ (273.3) |
| NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS | (122,415.3) | 204,771.3 | 404,819.6 | 14,593.4 |
| CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR | <u>577,814.6</u> | <u>455,399.3</u> | <u>660,170.6</u> | <u>23,798.5</u> |
| CASH AND CASH EQUIVALENTS, END OF YEAR | <u>\$ 455,399.3</u> | <u>\$ 660,170.6</u> | <u>\$1,064,990.2</u> | <u>\$ 38,391.9</u> |

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

1. GENERAL

Taiwan Semiconductor Manufacturing Company Limited (TSMC), a Republic of China (R.O.C.) corporation, was incorporated on February 21, 1987. TSMC is a dedicated foundry in the semiconductor industry which engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

On September 5, 1994, TSMC's shares were listed on the Taiwan Stock Exchange (TWSE). On October 8, 1997, TSMC listed some of its shares of stock on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs).

The address of its registered office and principal place of business is No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Taiwan. The principal operating activities of TSMC's subsidiaries are described in Note 5.

2. THE AUTHORIZATION OF FINANCIAL STATEMENTS

The accompanying consolidated financial statements were authorized for issue by the management on April 14, 2022.

3. U.S. DOLLAR AMOUNTS

TSMC and its subsidiaries (collectively as the "Company") maintain its accounts and express its consolidated financial statements in New Taiwan dollars. For convenience only, U.S. dollar amounts presented in the accompanying consolidated financial statements have been translated from New Taiwan dollars at the exchange rate as set forth in the statistical release of the Federal Reserve Board of the United States, which was NT\$27.74 to US\$1.00 as of December 30, 2021. The convenience translations should not be construed as representations that the New Taiwan dollar amounts have been, could have been, or could in the future be, converted into U.S. dollars at this or any other rate of exchange.

4. APPLICATION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS (IFRS), INTERNATIONAL ACCOUNTING STANDARDS (IAS), IFRIC INTERPRETATIONS (IFRIC), AND SIC INTERPRETATIONS (SIC) ISSUED BY THE INTERNATIONAL ACCOUNTING STANDARDS BOARD (IASB) (collectively, "IFRSs").

- a. Amendments to IFRSs and the new interpretation that are mandatorily effective for the current year

| New, Revised or Amended Standards and Interpretations | Effective Date Issued by IASB |
|---|--------------------------------------|
| Amendments to IFRS 9, IAS 39, IFRS 7 and IFRS 16 "Interest Rate Benchmark Reform - Phase 2" | January 1, 2021 (Note 1) |
| Amendment to IFRS 16 "Covid-19-Related Rent Concessions" | April 1, 2021 (Note 2) |

Note 1: The Company shall apply these amendments retrospectively for annual reporting periods beginning on or after January 1, 2021.

Note 2: The Company shall apply these amendments for annual reporting periods beginning on or after April 1, 2021. The Company has early adopted the amendments on January 1, 2021.

The Company believes that the adoption of aforementioned standards or interpretations did not have a significant effect on the Company's accounting policies.

- b. New and revised standards, amendments and interpretations in issue but not yet effective

| New, Revised or Amended Standards and Interpretations | Effective Date Issued by IASB |
|--|--------------------------------------|
| Annual Improvements to IFRS Standards 2018 - 2020 Cycle | January 1, 2022 |
| Amendments to IFRS 3 "Reference to the Conceptual Framework" | January 1, 2022 |
| Amendments to IFRS 10 and IAS 28 "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture" | To be determined by IASB |
| Amendments to IAS 1 "Classification of Liabilities as Current or Non-current" | January 1, 2023 |
| Amendments to IAS 1 "Disclosure of Accounting Policies" | January 1, 2023 |
| Amendments to IAS 8 "Definition of Accounting Estimates" | January 1, 2023 |
| Amendments to IAS 12 "Deferred Tax related to Assets and Liabilities arising from a Single Transaction" | January 1, 2023 |
| Amendments to IAS 16 "Property, Plant and Equipment - Proceeds before Intended Use" | January 1, 2022 |
| Amendments to IAS 37 "Onerous Contracts—Cost of Fulfilling a Contract" | January 1, 2022 |

As of the date the accompanying consolidated financial statements were authorized for issue, the Company continues in evaluating the impact on its financial position and financial performance from the initial adoption of the aforementioned standards or interpretations and related applicable period. The related impact will be disclosed when the Company completes its evaluation.

5. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Significant accounting policies are summarized as follows:

Statement of Compliance

The accompanying consolidated financial statements have been prepared in accordance with IFRSs.

Basis of Preparation

The accompanying consolidated financial statements have been prepared on the historical cost basis except for financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is generally based on the fair value of the consideration given in exchange for the assets.

Basis of Consolidation

The basis for the consolidated financial statements

The consolidated financial statements incorporate the financial statements of TSMC and entities controlled by TSMC (its subsidiaries).

Income and expenses of subsidiaries acquired or disposed of are included in the consolidated statements of profit or loss and other comprehensive income from the effective date of acquisition and up to the effective date of disposal, as appropriate. Total comprehensive income of subsidiaries is attributed to the shareholders of the parent and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statements of subsidiaries to bring their accounting policies into line with those used by the Company.

All intra-group transactions, balances, income and expenses are eliminated in full on consolidation.

Changes in the Company's ownership interests in subsidiaries that do not result in the Company losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the Company's interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to shareholders of the parent.

When the Company loses control of a subsidiary, a gain or loss is recognized in profit or loss and is calculated as the difference between:

- the aggregate of the fair value of consideration received and the fair value of any retained interest at the date when control is lost; and
- the previous carrying amount of the assets (including goodwill), and liabilities of the subsidiary and any non-controlling interest.

The Company shall account for all amounts recognized in other comprehensive income in relation to the subsidiary on the same basis as would be required if the Company had directly disposed of the related assets and liabilities.

The fair value of any investment retained in the former subsidiary at the date when control is lost is regarded as the cost on initial recognition of an investment in an associate.

The subsidiaries in the consolidated financial statements

The detail information of the subsidiaries at the end of reporting period was as follows:

| Name of Investor | Name of Investee | Main Businesses and Products | Establishment and Operating Location | Percentage of Ownership | | Note |
|------------------|---|--|--------------------------------------|-------------------------|-------------------|--------|
| | | | | December 31, 2020 | December 31, 2021 | |
| TSMC | TSMC North America | Sales and marketing of integrated circuits and other semiconductor devices | San Jose, California, U.S.A. | 100% | 100% | - |
| | TSMC Europe B.V. (TSMC Europe) | Customer service and supporting activities | Amsterdam, the Netherlands | 100% | 100% | a) |
| | TSMC Japan Limited (TSMC Japan) | Customer service and supporting activities | Yokohama, Japan | 100% | 100% | a) |
| | TSMC Design Technology Japan, Inc. (TSMC JDC) | Engineering support activities | Yokohama, Japan | 100% | 100% | a) |
| | TSMC Japan 3DIC R&D Center, Inc. (TSMC 3DIC) | Engineering support activities | Yokohama, Japan | - | 100% | a), b) |
| | TSMC Korea Limited (TSMC Korea) | Customer service and supporting activities | Seoul, Korea | 100% | 100% | a) |
| | TSMC Partners, Ltd. (TSMC Partners) | Investing in companies involved in the semiconductor design and manufacturing, and other investment activities | Tortola, British Virgin Islands | 100% | 100% | a) |
| | TSMC Global, Ltd. (TSMC Global) | Investment activities | Tortola, British Virgin Islands | 100% | 100% | - |
| | TSMC China Company Limited (TSMC China) | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | Shanghai, China | 100% | 100% | - |
| | TSMC Nanjing Company Limited (TSMC Nanjing) | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | Nanjing, China | 100% | 100% | - |

(Continued)

| Name of Investor | Name of Investee | Main Businesses and Products | Establishment and Operating Location | Percentage of Ownership | | Note |
|------------------|---|--|--------------------------------------|-------------------------|-------------------|--------|
| | | | | December 31, 2020 | December 31, 2021 | |
| TSMC | VisEra Technologies Company Ltd. (VisEra Tech) | Research, design, development, manufacturing, sales, packaging and test of color filter | Hsin-Chu, Taiwan | 87% | 73% | c) |
| | TSMC Arizona Corporation (TSMC Arizona) | Manufacturing, sales and testing of integrated circuits and other semiconductor devices | Phoenix, Arizona, U.S.A. | 100% | 100% | d) |
| | Japan Advanced Semiconductor Manufacturing, Inc. (JASM) | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | Kumamoto, Japan | - | 100% | a), e) |
| | VentureTech Alliance Fund II, L.P. (VTAF II) | Investing in technology start-up companies | Cayman Islands | 98% | 98% | a) |
| | VentureTech Alliance Fund III, L.P. (VTAF III) | Investing in technology start-up companies | Cayman Islands | 98% | 98% | a) |
| | Emerging Fund L.P. (Emerging Fund) | Investing in technology start-up companies | Cayman Islands | - | 99.9% | a), f) |
| TSMC Partners | TSMC Development, Inc. (TSMC Development) | Investing in companies involved in semiconductor manufacturing | Delaware, U.S.A. | 100% | 100% | - |
| | TSMC Technology, Inc. (TSMC Technology) | Engineering support activities | Delaware, U.S.A. | 100% | 100% | a) |
| | TSMC Design Technology Canada Inc. (TSMC Canada) | Engineering support activities | Ontario, Canada | 100% | 100% | a) |
| TSMC Development | WaferTech, LLC (WaferTech) | Manufacturing, sales and testing of integrated circuits and other semiconductor devices | Washington, U.S.A. | 100% | 100% | - |
| VTAF III | Growth Fund Limited (Growth Fund) | Investing in technology start-up companies | Cayman Islands | 100% | 100% | a) |

(Concluded)

Note a: This is an immaterial subsidiary for which the consolidated financial statements are not audited by the Company's independent auditors.

Note b: TSMC 3DIC is established in March 2021.

Note c: To facilitate VisEra's IPO in Taiwan, 39.5 million common shares of VisEra at a price of NT\$240 were sold by TSMC and an increase of NT\$8,406.3 million in capital surplus was recognized. TSMC's shareholding in VisEra decreased from 87% to 73%. This disposal was accounted for as an equity transaction since the transaction did not change TSMC's control over VisEra.

Note d: Under the terms of the development agreement entered into between TSMC Arizona and the City of Phoenix, the City of Phoenix commits approximately US\$205 million toward various public infrastructure projects in the area of the proposed manufacturing facility, conditioned on TSMC Arizona's achieving a minimum project scale with defined spending and job-creation thresholds.

Note e: JASM is established in December 2021 and has increased its capital in January 2022. After the increase in capital, TSMC's shareholding in JASM decreased from 100% to 81%. This transaction was accounted for as an equity transaction since the transaction did not change TSMC's control over JASM.

Note f: Emerging fund is established in January 2021.

Foreign Currencies

The financial statements of each individual consolidated entity were expressed in the currency which reflected its primary economic environment (functional currency). The functional currency of TSMC and presentation currency of the consolidated financial statements are both New Taiwan Dollars (NT\$). In preparing the consolidated financial statements, the operating results and financial positions of each consolidated entity are translated into NT\$.

In preparing the financial statements of each individual consolidated entity, transactions in currencies other than the entity's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Such exchange differences are recognized in profit or loss in the year in which they arise. Non-monetary items measured at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Exchange differences arising on the retranslation of non-monetary items are included in profit or loss for the year except for exchange differences arising on the retranslation of non-monetary items in respect of which gains and losses are recognized directly in other comprehensive income, in which case, the exchange differences are also recognized directly in other comprehensive income. Non-monetary items that are measured in terms of historical cost in foreign currencies are not retranslated.

For the purposes of presenting consolidated financial statements, the assets and liabilities of the Company's foreign operations are translated into NT\$ using exchange rates prevailing at the end of each reporting period. Income and expense items are translated at the average exchange rates for the period. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate).

Classification of Current and Noncurrent Assets and Liabilities

Current assets are assets held for trading purposes and assets expected to be converted to cash, sold or consumed within one year from the end of the reporting period. Current liabilities are obligations incurred for trading purposes and obligations expected to be settled within one year from the end of the reporting period. Assets and liabilities that are not classified as current are noncurrent assets and liabilities, respectively.

Cash Equivalents

Cash equivalents, for the purpose of meeting short-term cash commitments, consist of highly liquid time deposits and investments that are readily convertible to known amounts of cash and which are subject to an insignificant risk of changes in value.

Financial Instruments

Financial assets and liabilities shall be recognized when the Company becomes a party to the contractual provisions of the instruments.

Financial assets and liabilities are initially recognized at fair values. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities (other than financial assets and financial liabilities at fair value through profit or loss) are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair value through profit or loss are recognized immediately in profit or loss.

Financial Assets

The classification of financial assets depends on the nature and purpose of the financial assets and is determined at the time of initial recognition. Regular way purchases or sales of financial assets are recognized and derecognized on a trade date or settlement date basis for which financial assets were classified in the same way, respectively. Regular way purchases or sales are purchases or sales of financial assets that require delivery of assets within the time frame established by regulation or convention in the marketplace.

a. Category of financial assets and measurement

Financial assets are classified into the following categories: financial assets at FVTPL, investments in debt instruments and equity instruments at FVTOCI, and financial assets at amortized cost.

1) Financial asset at FVTPL

For certain financial assets which include debt instruments that do not meet the criteria of amortized cost or FVTOCI, it is mandatorily required to measure them at FVTPL. Any gain or loss arising from remeasurement is recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any interest earned on the financial asset.

2) Investments in debt instruments at FVTOCI

Debt instruments with contractual terms specifying that cash flows are solely payments of principal and interest on the principal amount outstanding, together with objective of collecting contractual cash flows and selling the financial assets, are measured at FVTOCI.

Interest income calculated using the effective interest method, foreign exchange gains and losses and impairment gains or losses on investments in debt instruments at FVTOCI are recognized in profit or loss. Other changes in the carrying amount of these debt instruments are recognized in other comprehensive income and will be reclassified to profit or loss when these debt instruments are disposed.

3) Investments in equity instruments at FVTOCI

On initial recognition, the Company may irrevocably designate investments in equity investments that is not held for trading as at FVTOCI.

Investments in equity instruments at FVTOCI are subsequently measured at fair value with gains and losses arising from changes in fair value recognized in other comprehensive income and accumulated in other equity.

Dividends on these investments in equity instruments at FVTOCI are recognized in profit or loss when the Company's right to receive the dividends is established, unless the Company's rights clearly represent a recovery of part of the cost of the investment.

4) Measured at amortized cost

Cash and cash equivalents, debt instrument investments, notes and accounts receivable (including related parties), other receivables and refundable deposits are measured at amortized cost.

Debt instruments with contractual terms specifying that cash flows are solely payments of principal and interest on the principal amount outstanding, together with objective of holding financial assets in order to collect contractual cash flows, are measured at amortized cost.

Subsequent to initial recognition, financial assets measured at amortized cost are measured at amortized cost, which equals to carrying amount determined by the effective interest method less any impairment loss.

b. Impairment of financial assets

At the end of each reporting period, a loss allowance for expected credit loss is recognized for financial assets at amortized cost (including accounts receivable) and for investments in debt instruments that are measured at FVTOCI.

The loss allowance for accounts receivable is measured at an amount equal to lifetime expected credit losses. For financial assets at amortized cost and investments in debt instruments that are measured at FVTOCI, when the credit risk on the financial instrument has not increased significantly since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from possible default events of a financial instrument within 12 months after the reporting date. If, on the other hand, there has been a significant increase in credit risk since initial recognition, a loss allowance is recognized at an amount equal to expected credit loss resulting from all possible default events over the expected life of a financial instrument.

The Company recognizes an impairment loss in profit or loss for all financial instruments with a corresponding adjustment to their carrying amount through a loss allowance account, except for investments in debt instruments that are measured at FVTOCI, for which the loss allowance is recognized in other comprehensive income and does not reduce the carrying amount of the financial asset.

c. Derecognition of financial assets

The Company derecognizes a financial asset only when the contractual rights to the cash flows from the financial asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the financial asset to another entity.

On derecognition of a financial asset at amortized cost in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable is recognized in profit or loss. On derecognition of an investment in a debt instrument at FVTOCI, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulative gain or loss that had been recognized in other comprehensive income is recognized in profit or loss. However, on derecognition of an investment in an equity instrument at FVTOCI, the cumulative gain or loss that had been recognized in other comprehensive income is transferred directly to retained earnings, without recycling through profit or loss.

Financial Liabilities and Equity Instruments

Classification as debt or equity

Debt and equity instruments issued by the Company are classified as either financial liabilities or as equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and an equity instrument.

Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Company are recognized at the proceeds received, net of direct issue costs.

Financial liabilities

Financial liabilities are subsequently measured either at amortized cost using effective interest method or at FVTPL.

Financial liabilities are classified as at fair value through profit or loss when the financial liability is either held for trading or is designated as at fair value through profit or loss.

Financial liabilities at fair value through profit or loss are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss.

Financial liabilities other than those held for trading purposes and designated as at FVTPL are subsequently measured at amortized cost at the end of each reporting period.

Derecognition of financial liabilities

The Company derecognizes financial liabilities when, and only when, the Company's obligations are discharged, cancelled or they expire. The difference between the carrying amount of the financial liability derecognized and the consideration paid and payable is recognized in profit or loss.

Derivative Financial Instruments

Derivative financial instruments are initially recognized at fair value at the date the derivative contracts are entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately unless the derivative financial instrument is designated and effective as a hedging instrument, in which event the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

Hedge Accounting

a. Fair value hedge

The Company designates certain hedging instruments, such as interest rate futures contracts, to partially hedge against the fair value change caused by interest rates fluctuation in the Company's fixed income investments. Changes in the fair value of hedging instruments that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged items that are attributable to the hedged risk.

b. Cash flow hedge

The Company designates certain hedging instruments, such as forward contracts, to partially hedge its foreign exchange rate risks or interest rate risks associated with certain highly probable forecast transactions (capital expenditures or issuance of debts). The effective portion of changes in the fair value of hedging instruments is recognized in other comprehensive income. When forecast transactions actually take place, the accumulated gains or losses that were recognized in other comprehensive income are removed from equity and included in the initial cost of the hedged items, or reclassified to finance costs of hedged items in the same period or periods during which the hedged expected future cash flows affect profit or loss. The gains or losses from hedging instruments relating to the ineffective portion are recognized immediately in profit or loss.

The Company prospectively discontinues hedge accounting only when the hedging relationship ceases to meet the qualifying criteria; for instance, when the hedging instrument expires or is sold, terminated or exercised.

Inventories

Inventories are stated at the lower of cost or net realizable value. Inventories are recorded at standard cost and adjusted to approximate weighted-average cost at the end of the reporting period. Net realizable value represents the estimated selling price of inventories less all estimated costs of completion and costs necessary to make the sale.

Investments Accounted for Using Equity Method

Investments accounted for using the equity method are investments in associates.

An associate is an entity over which the Company has significant influence and that is neither a subsidiary nor a joint venture. Significant influence is the power to participate in the financial and operating policy decisions of the investee but is not control or joint control over those policies.

The operating results and assets and liabilities of associates are incorporated in these consolidated financial statements using the equity method of accounting. Under the equity method, an investment in an associate is initially recognized in the consolidated statements of financial position at cost and adjusted thereafter to recognize the Company's share of profit or loss and other comprehensive income of the associate as well as the distribution received. The Company also recognizes its share in the changes in the equities of associates.

Any excess of the cost of acquisition over the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Company's share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment as a single asset by comparing its recoverable amount (higher of value in use and fair value less costs to sell) with its carrying amount. Any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized to the extent that the recoverable amount of the investment subsequently increases.

When the Company subscribes to additional shares in an associate at a percentage different from its existing ownership percentage, the resulting carrying amount of the investment differs from the amount of the Company's proportionate interest in the net assets of the associate. The Company records such a difference as an adjustment to investments with the corresponding amount charged or credited to capital surplus. If the Company's ownership interest is reduced due to the additional subscription to the shares of associate by other investors, the proportionate amount of the gains or losses previously recognized in other comprehensive income in relation to that associate shall be reclassified to profit or loss on the same basis as would be required if the associate had directly disposed of the related assets or liabilities.

When a consolidated entity transacts with an associate, profits and losses resulting from the transactions with the associate are recognized in the Company's consolidated financial statements only to the extent of interests in the associate that are not owned by the Company.

Property, Plant and Equipment

Property, plant and equipment are measured at cost less accumulated depreciation and accumulated impairment. Costs include any incremental costs that are directly attributable to the construction, acquisition of the item of property, plant and equipment or borrowing costs eligible for capitalization.

Property, plant and equipment in the course of construction for production, supply or administrative purposes are carried at cost, less any recognized impairment loss. Such assets are classified to the appropriate categories of property, plant and equipment when completed and ready for intended use. Depreciation of these assets, on the same basis as other identical categories of property, plant and equipment, commences when the assets are available for their intended use.

Depreciation is recognized so as to write off the cost of the assets less their residual values over their useful lives, and it is computed using the straight-line method mainly over the following estimated useful lives: land improvements - 20 years; buildings (assets used by the Company and assets subject to operating leases) - 10 to 20 years; machinery and equipment (assets used by the Company and assets subject to operating leases) - 5 years; and office equipment - 5 years. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimates accounted for on a prospective basis. Land is not depreciated.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the assets. Any gain or loss arising on the disposal or retirement of an item of property, plant and equipment is determined as the difference between the sales proceeds and the carrying amount of the asset and is recognized in profit or loss.

Leases

For a contract that contains a lease component and non-lease component, the Company may elect to account for the lease and non-lease components as a single lease component.

The Company as lessor

Rental income from operating lease is recognized on a straight-line basis over the term of the lease.

The Company as lessee

Except for payments for low-value asset leases and short-term leases (leases of machinery and equipment and others) which are recognized as expenses on a straight-line basis, the Company recognizes right-of-use assets and lease liabilities for all leases at the commencement date of the lease.

Right-of-use assets are measured at cost. The cost of right-of-use assets comprises the initial measurement of lease liabilities adjusted for lease payments and initial direct costs made at or before the commencement date, plus an estimate of costs needed to restore the underlying assets. Subsequent measurement is calculated as cost less accumulated depreciation and accumulated impairment loss and adjusted for changes in lease liabilities as a result of lease term modifications or other related factors. Right-of-use assets are presented separately in the consolidated statements of financial position.

Right-of-use assets are depreciated using the straight-line method from the commencement dates to the earlier of the end of the useful lives of the right-of-use assets or the end of the lease terms. If the lease transfers ownership of the underlying assets to the Company by the end of the lease terms or if the cost of right-of-use assets reflects that the Company will exercise a purchase option, the Company depreciates the right-of-use assets from the commencement dates to the end of the useful lives of the underlying assets.

Lease liabilities are measured at the present value of the lease payments. Lease payments comprise fixed payments, variable lease payments which depend on an index or a rate and the exercise price of a purchase option if the Company is reasonably certain to exercise that option. The lease payments are discounted using the lessee's incremental borrowing rates.

Subsequently, lease liabilities are measured at amortized cost using the effective interest method, with interest expense recognized over the lease terms. When there is a change in a lease term, a change in future lease payments resulting from a change in an index or a rate used to determine those payments, or a change in the assessment of an option to purchase an underlying asset, the Company remeasures the lease liabilities with a corresponding adjustment to the right-of-use assets. Lease liabilities are presented on a separate line in the consolidated statements of financial position.

Variable lease payments that do not depend on an index or a rate are recognized as expenses in the periods in which they are incurred.

Intangible Assets

Goodwill

Goodwill arising on an acquisition of a business is carried at cost as established at the date of acquisition of the business less accumulated impairment losses, if any.

Other intangible assets

Other separately acquired intangible assets with finite useful lives are carried at cost less accumulated amortization and accumulated impairment losses. Amortization is recognized using the straight-line method over the following estimated useful lives: Technology license fees - the estimated life of the technology or the term of the technology transfer contract; software and system design costs - 3 years or contract period; patent and others - the economic life or contract period. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

Impairment of Tangible Assets, Right-of-use Assets and Intangible Assets

Goodwill

Goodwill is not amortized and instead is tested for impairment annually, or more frequently when there is an indication that the cash generating unit may be impaired. For the purpose of impairment testing, goodwill is allocated to each of the Company's cash-generating units or groups of cash-generating units that are expected to benefit from the synergies of the combination. If the recoverable amount of a cash-generating unit is less than its carrying amount, the difference is allocated first to reduce the carrying amount of any goodwill allocated to such cash generating unit and then to the other assets of the cash generating unit pro rata based on the carrying amount of each asset in the cash generating unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

Tangible assets, right-of-use assets and other intangible assets

At the end of each reporting period, the Company reviews the carrying amounts of its tangible assets (property, plant and equipment), right-of-use assets and other intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss. When it is not possible to estimate the recoverable amount of an individual asset, the Company estimates the recoverable amount of the cash-generating unit to which the asset belongs. When a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified.

Recoverable amount is the higher of fair value less costs to sell and value in use. In assessing value in use, the estimated future cash flows are discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset for which the estimates of future cash flows have not been adjusted.

If the recoverable amount of an asset or cash-generating unit is estimated to be less than its carrying amount, the carrying amount of the asset or cash-generating unit is reduced to its recoverable amount. An impairment loss is recognized immediately in profit or loss.

When an impairment loss subsequently reverses, the carrying amount of the asset or a cash-generating unit is increased to the revised estimate of its recoverable amount, but the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset or cash-generating unit in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

Revenue Recognition

The Company recognizes revenue when performance obligations are satisfied. The performance obligations are satisfied when customers obtain control of the promised goods, which is generally when the goods are delivered to the customers' specified locations.

Revenue from sale of goods is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. Estimated sales returns and other allowances is generally made and adjusted based on historical experience and the consideration of varying contractual terms to recognize refund liabilities, which is classified under accrued expenses and other current liabilities.

In principle, payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month of when the invoice is issued. Due to the short term nature of the receivables from sale of goods with the immaterial discounted effect, the Company measures them at the original invoice amounts without discounting.

Employee Benefits

Short-term employee benefits

Liabilities recognized in respect of short-term employee benefits are measured at the undiscounted amount of the benefits expected to be paid in exchange for service rendered by employees.

Retirement benefits

For defined contribution retirement benefit plans, payments to the benefit plan are recognized as an expense when the employees have rendered service entitling them to the contribution. For defined benefit retirement benefit plans, the cost of providing benefit is recognized based on actuarial calculations.

Defined benefit costs (including service cost, net interest and remeasurement) under the defined benefit retirement benefit plans are determined using the Projected Unit Credit Method. Service cost (including current service cost), and net interest on the net defined benefit liability (asset) are recognized as employee benefits expense in the period they occur. Remeasurement, comprising actuarial gains and losses and the return on plan assets (excluding interest), is recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss.

Net defined benefit liability represents the actual deficit in the Company's defined benefit plan.

Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

Current tax

Income tax on unappropriated earnings (excluding earnings from foreign consolidated subsidiaries) is expensed in the year the earnings arise and adjusted to the extent that distributions are approved by the shareholders in the following year.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences, net operating loss carryforwards and tax credits for research and development expenses to the extent that it is probable that taxable profits will be available against which those deductible temporary differences can be utilized.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates, except where the Company is able to control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments are only recognized to the extent that it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered. The deferred tax assets which originally not recognized is also reviewed at the end of each reporting period and recognized to the extent that it is probable that sufficient taxable profits will be available to allow all or part of the deferred tax asset to be recovered.

Deferred tax liabilities and assets are measured at the tax rates that are expected to apply in the year in which the liability is settled or the asset is realized, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and assets reflects the tax consequences that would follow from the manner in which the Company expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Current and deferred tax for the year

Current and deferred tax are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case, the current and deferred tax are also recognized in other comprehensive income or directly in equity, respectively.

Government Grants

Government grants are not recognized until there is reasonable assurance that the Company will comply with the conditions attaching to them and that the grants will be received.

Government grants whose primary condition is that the Company should purchase, construct or otherwise acquire noncurrent assets (mainly including land use right and depreciable assets) are recognized as a deduction from the carrying amount of the related assets and recognized as a reduced depreciation or amortization charge in profit or loss over the contract period or useful lives of the related assets. Government grants that are receivables as compensation for expenses already incurred are deducted from incurred expenses in the period in which they become receivables.

6. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY

The Company has considered the economic implications of COVID-19 on critical accounting estimates and will continue evaluating the impact on its financial position and financial performance as a result of the pandemic.

In the application of the aforementioned Company's accounting policies, the Company is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the year in which the estimate is revised if the revision affects only that year, or in the year of the revision and future years if the revision affects both current and future years.

Critical Accounting Judgments

Revenue Recognition

The Company recognizes revenue when the conditions described in Note 5 are satisfied.

Commencement of Depreciation Related to Property, Plant and Equipment Classified as Equipment under Installation and Construction in Progress (EUI/CIP)

As described in Note 5, commencement of depreciation related to EUI/CIP involves determining when the assets are available for their intended use. The criteria the Company uses to determine whether EUI/CIP are available for their intended use involves subjective judgments and assumptions about the conditions necessary for the assets to be capable of operating in the intended manner.

Judgments on Lease Terms

In determining a lease term, the Company considers all facts and circumstances that create an economic incentive to exercise or not to exercise an option, including any expected changes in facts and circumstances from the commencement date until the exercise date of the option. Main factors considered include contractual terms and conditions covered by the optional periods, and the importance of the underlying asset to the lessee's operations, etc. The lease term is reassessed if a significant change in circumstances that are within the control of the Company occurs.

Key Sources of Estimation and Uncertainty

Estimation of Sales Returns and Allowances

Sales returns and other allowance is estimated and recorded based on historical experience and in consideration of different contractual terms. The amount is deducted from revenue in the same period the related revenue is recorded. The Company periodically reviews the reasonableness of the estimates.

Valuation of Inventory

Inventories are stated at the lower of cost or net realizable value, and the Company uses estimate to determine the net realizable value of inventory at the end of each reporting period.

The Company estimates the net realizable value of inventory for normal waste, obsolescence and unmarketable items at the end of reporting period and then writes down the cost of inventories to net realizable value. The net realizable value of the inventory is determined mainly based on assumptions of future demand within a specific time horizon.

Impairment of Tangible Assets, Right-of-use Assets and Intangible Assets Other than Goodwill

In the process of evaluating the potential impairment of tangible assets, right-of-use assets and intangible assets other than goodwill, the Company determines the independent cash flows, useful lives, expected future revenue and expenses related to the specific asset groups with the consideration of the nature of semiconductor industry. Any change in these estimates based on changed economic conditions or business strategies could result in significant impairment charges or reversal in future years.

Realization of Deferred Income Tax Assets

Deferred tax assets are recognized to the extent that it is probable that future taxable profits will be available against which those deferred tax assets can be utilized. Assessment of the realization of the deferred tax assets requires subjective judgment and estimate, including the future revenue growth and profitability, tax holidays, the amount of tax credits can be utilized and feasible tax planning strategies. Any changes in the global economic environment, the industry trends and relevant laws and regulations could result in significant adjustments to the deferred tax assets.

Determination of Lessees' Incremental Borrowing Rates

In determining a lessee's incremental borrowing rate used in discounting lease payments, the Company mainly takes into account the market risk-free rates, the estimated lessee's credit spreads and secured status in a similar economic environment.

7. CASH AND CASH EQUIVALENTS

| | December 31, 2020 | December 31, 2021 |
|----------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Cash and deposits in banks | \$ 653,580.6 | \$ 1,058,808.1 |
| Repurchase agreements | 1,750.4 | 5,275.3 |
| Government bonds | 3,716.1 | 906.8 |
| Commercial paper | <u>1,123.5</u> | <u>-</u> |
| | <u>\$ 660,170.6</u> | <u>\$ 1,064,990.2</u> |

Deposits in banks consisted of highly liquid time deposits that were readily convertible to known amounts of cash and were subject to an insignificant risk of changes in value.

8. FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS

| | December 31, 2020 | December 31, 2021 |
|-------------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Financial assets</u> | | |
| Mandatorily measured at FVTPL | | |
| Forward exchange contracts | <u>\$ 2,259.4</u> | <u>\$ 159.0</u> |
| <u>Financial liabilities</u> | | |
| Held for trading | | |
| Forward exchange contracts | <u>\$ 94.1</u> | <u>\$ 681.9</u> |

The Company entered into forward exchange contracts to manage exposures due to fluctuations of foreign exchange rates. These forward exchange contracts did not meet the criteria for hedge accounting. Therefore, the Company did not apply hedge accounting treatment for these forward exchange contracts.

Outstanding forward exchange contracts consisted of the following:

| | Maturity Date | Contract Amount (In Millions) |
|--------------------------|----------------------------|--|
| <u>December 31, 2020</u> | | |
| Sell NT\$ | January 2021 to March 2021 | NT\$ 144,698.0 |
| Sell US\$ | January 2021 to March 2021 | US\$ 1,176.9 |

(Continued)

| | Maturity Date | Contract Amount (In Millions) |
|--------------------------|----------------------------|--|
| <u>December 31, 2021</u> | | |
| Sell NT\$ | January 2022 to March 2022 | NT\$ 132,734.5 |
| Sell US\$ | January 2022 to March 2022 | US\$ 2,009.1 |
| | | (Concluded) |

9. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

| | December 31, 2020 NT\$ (In Millions) | December 31, 2021 NT\$ (In Millions) |
|--|---|---|
| Investments in debt instruments at FVTOCI | | |
| Corporate bonds | \$ 56,593.6 | \$ 57,253.2 |
| Agency bonds/Agency mortgage-backed securities | 43,977.1 | 32,070.1 |
| Government bonds | 13,459.5 | 21,345.8 |
| Asset-backed securities | 8,368.3 | 8,660.4 |
| | <u>122,398.5</u> | <u>119,329.5</u> |
| Investments in equity instruments at FVTOCI | | |
| Non-publicly traded equity investments | 4,514.9 | 5,887.9 |
| Publicly traded stocks | 50.0 | 189.8 |
| | <u>4,564.9</u> | <u>6,077.7</u> |
| | <u>\$ 126,963.4</u> | <u>\$ 125,407.2</u> |
| Current | \$ 122,448.5 | \$ 119,519.3 |
| Noncurrent | <u>4,514.9</u> | <u>5,887.9</u> |
| | <u>\$ 126,963.4</u> | <u>\$ 125,407.2</u> |

These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as FVTOCI. For dividends recognized from these investments, please refer to consolidated statements of cash flows. All of the dividends are from investments held at the end of the reporting period.

For the years ended December 31, 2019, 2020 and 2021, as the Company adjusted its investment portfolio and the non-publicly traded investees were acquired, equity investments designated at FVTOCI were divested for NT\$873.5 million, NT\$0.01 million and NT\$628.7 million, respectively. For the year ended December 31, 2019 and 2021, the related other equity-unrealized gain/loss on financial assets at FVTOCI of NT\$156.8 million and NT\$ 186.0 million were transferred to increase retained earnings, respectively. For the years ended December 31, 2020, the related other equity-unrealized gain/loss on financial assets at FVTOCI of NT\$109.0 million was transferred to decrease retained earnings.

As of December 31, 2020 and 2021, the cumulative loss allowance for expected credit loss of NT\$32.5 million and NT\$33.2 million was recognized under investments in debt instruments at FVTOCI, respectively. Refer to Note 33 for information relating to the credit risk management and expected credit loss.

10. FINANCIAL ASSETS AT AMORTIZED COST

| | December 31, 2020 | December 31, 2021 |
|-------------------------------------|----------------------|----------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Corporate bonds | \$ 10,977.3 | \$ 5,310.1 |
| Less: Allowance for impairment loss | <u>(7.1)</u> | <u>(3.1)</u> |
| | <u>\$ 10,970.2</u> | <u>\$ 5,307.0</u> |
| Current | \$ 6,598.0 | \$ 3,773.6 |
| Noncurrent | <u>4,372.2</u> | <u>1,533.4</u> |
| | <u>\$ 10,970.2</u> | <u>\$ 5,307.0</u> |

Refer to Note 33 for information relating to credit risk management and expected credit loss for financial assets at amortized cost.

11. HEDGING FINANCIAL INSTRUMENTS

| | December 31, 2020 | December 31, 2021 |
|---------------------------------------|----------------------|----------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Financial assets- current</u> | | |
| Fair value hedges | | |
| Interest rate futures contracts | \$ 0.1 | \$ - |
| Cash flow hedges | | |
| Forward interest rate contracts | <u>-</u> | <u>13.5</u> |
| | <u>\$ 0.1</u> | <u>\$ 13.5</u> |
| <u>Financial liabilities- current</u> | | |
| Fair value hedges | | |
| Interest rate futures contracts | <u>\$ 1.2</u> | <u>\$ 9.6</u> |

Fair value hedge

The Company entered into interest rate futures contracts, which are used to partially hedge against the fair value changes caused by interest rate fluctuation in the Company's fixed income investments. The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%.

On the basis of economic relationships, the value of the interest rate futures contracts and the value of the hedged financial assets change in opposite directions in response to movements in interest rates.

The main source of hedge ineffectiveness in these hedging relationships is the credit risk of the hedged financial assets, which is not reflected in the fair value of the interest rate futures contracts. No other sources of ineffectiveness emerged from these hedging relationships during the hedging period. Amount of hedge ineffectiveness recognized in profit or loss is classified under other gains and losses, net.

The following tables summarize the information relating to the hedges of interest rate risks.

December 31, 2020

| Hedging Instruments | Contract Amount (US\$ in Millions) | Maturity |
|---|---|-----------------|
| Interest rate futures contracts - US Treasury futures | US\$88.7 | March 2021 |

| Hedged Items | Asset Carrying Amount NT\$ (In Millions) | Accumulated Amount of Fair Value Hedge Adjustments NT\$ (In Millions) |
|----------------------------|---|--|
| Financial assets at FVTOCI | \$ 6,198.7 | \$ 1.1 |

December 31, 2021

| Hedging Instruments | Contract Amount (US\$ in Millions) | Maturity |
|---|---|-----------------|
| Interest rate futures contracts - US Treasury futures | US\$53.9 | March 2022 |

| Hedged Items | Asset Carrying Amount NT\$ (In Millions) | Accumulated Amount of Fair Value Hedge Adjustments NT\$ (In Millions) |
|----------------------------|---|--|
| Financial assets at FVTOCI | \$ 4,079.3 | \$ 9.6 |

The effect for the years ended December 31, 2019, 2020 and 2021 is detailed below:

| Hedging Instruments/Hedged Items | Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness | | |
|---|--|-------------------------------|-------------------------------|
| | Years Ended December 31 | | |
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Hedging Instruments | | | |
| Interest rate futures contracts - US Treasury futures | \$ (164.7) | \$ (353.6) | \$ 148.8 |
| Hedged Items | | | |
| Financial assets at FVTOCI | <u>177.8</u> | <u>353.6</u> | <u>(148.8)</u> |
| | <u>\$ 13.1</u> | <u>\$ -</u> | <u>\$ -</u> |

Cash flow hedge

The Company entered into forward contracts to partially hedge foreign exchange rate risks or interest rate risks associated with certain highly probable forecast transactions (capital expenditures or issuance of debts). The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%. The forward contracts have maturities of 12 months or less.

On the basis of economic relationships, the Company expects that the value of forward contracts and the value of hedged transactions will change in opposite directions in response to movements in foreign exchange rates or interest rates.

The main source of hedge ineffectiveness in these hedging relationships is driven by the effect of the counterparty's own credit risk on the fair value of forward contracts. No other sources of ineffectiveness emerged from these hedging relationships. For the years ended December 31, 2019, 2020 and 2021, refer to Note 22(d) for gain or loss arising from changes in the fair value of hedging instruments, the amount transferred to initial carrying amount of hedged items and the amount reclassified to finance costs of hedged items.

The following tables summarize the information relating to the hedges of interest rate risks.

December 31, 2021

| Hedging Instruments | Contract Amount (In Millions) | Maturity | Balance in Other Equity (Continuing Hedges) NT\$ (In Millions) |
|---------------------------------|--|-----------------|---|
| Forward interest rate contracts | US\$328.0 | January 2022 | \$ 128.2 |

The effect for the years ended December 31, 2019, 2020 and 2021 is detailed below:

| Hedging Instruments/Hedged Items | Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness | | |
|---|--|-------------------------------|-------------------------------|
| | Years Ended December 31 | | |
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Hedging Instruments | | | |
| Forward exchange contracts (capital expenditures) | \$ (109.6) | \$ 24.1 | \$ (41.4) |
| Forward interest rate contracts (issuance of debts) | \$ - | \$ - | \$ 132.5 |
| Hedged Items | | | |
| Forecast transaction (capital expenditures) | \$ 109.6 | \$ (24.1) | \$ 41.4 |
| Forecast transaction (issuance of debts) | \$ - | \$ - | \$ (132.5) |

12. NOTES AND ACCOUNTS RECEIVABLE, NET

| | December 31, 2020 | December 31, 2021 |
|-------------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| At amortized cost | | |
| Notes and accounts receivable | \$ 142,771.6 | \$ 193,733.2 |
| Less: Loss allowance | <u>(246.6)</u> | <u>(347.0)</u> |
| | 142,525.0 | 193,386.2 |
| At FVTOCI | <u>2,955.3</u> | <u>4,199.9</u> |
| | <u>\$ 145,480.3</u> | <u>\$ 197,586.1</u> |

The Company signed a contract with the bank to sell certain accounts receivable without recourse and transaction cost required. These accounts receivable are classified as at FVTOCI because they are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets.

In principle, the payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month when the invoice is issued. Aside from recognizing impairment loss for credit-impaired accounts receivable, the Company recognizes loss allowance based on the expected credit loss ratio of customers by different risk levels with consideration of factors of historical loss ratios and customers' financial conditions, competitiveness and business outlook. For accounts receivable past due over 90 days without collaterals or guarantees, the Company recognizes loss allowance at full amount.

Aging analysis of notes and accounts receivable

| | December 31, 2020 | December 31, 2021 |
|-------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Not past due | \$ 140,933.6 | \$ 191,740.0 |
| Past due | | |
| Past due within 30 days | 4,784.4 | 6,186.8 |
| Past due 31-60 days | 8.7 | 6.2 |
| Past due 61-120 days | 0.1 | 0.1 |
| Past due over 121 days | 0.1 | - |
| Less: Loss allowance | <u>(246.6)</u> | <u>(347.0)</u> |
| | <u>\$ 145,480.3</u> | <u>\$ 197,586.1</u> |

All of the Company's accounts receivable classified as at FVTOCI were not past due.

Movements of the loss allowance for accounts receivable

| | Years Ended December 31 | | |
|---------------------------------|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Balance, beginning of year | \$ 7.3 | \$ 325.3 | \$ 246.6 |
| Provision (Reversal) | 318.2 | (78.5) | 100.4 |
| Effect of exchange rate changes | <u>(0.2)</u> | <u>(0.2)</u> | <u>-</u> |
| Balance, end of year | <u>\$ 325.3</u> | <u>\$ 246.6</u> | <u>\$ 347.0</u> |

For the years ended December 31, 2019, 2020 and 2021, the changes in loss allowance were mainly due to the variations in the balance of accounts receivable of different risk levels.

13. INVENTORIES

| | December 31, 2020 | December 31, 2021 |
|--------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Finished goods | \$ 21,705.6 | \$ 32,562.8 |
| Work in process | 91,672.9 | 137,700.4 |
| Raw materials | 14,716.0 | 11,111.1 |
| Supplies and spare parts | <u>9,258.9</u> | <u>11,728.0</u> |
| | <u>\$ 137,353.4</u> | <u>\$ 193,102.3</u> |

Write-down of inventories to net realizable value and reversal of write-down of inventories resulting from the increase in net realizable value were included in the cost of revenue during reporting period. The amounts are illustrated below:

| | Years Ended December 31 | | |
|--|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Inventory losses (reversal of write-down of inventories) | <u>\$ (1,983.0)</u> | <u>\$ 3,664.5</u> | <u>\$ 533.0</u> |

The aforementioned inventory losses (reversal of write-down of inventories) for the years ended December 31, 2019 excluded wafer contamination losses. Please refer to related losses in Note 37.

14. INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD

Associates consisted of the following:

| Name of Associate | Principal Activities | Place of Incorporation and Operation | Carrying Amount | | % of Ownership and Voting Rights Held by the Company | |
|--|---|--------------------------------------|-----------------------|-----------------------|--|-------------------|
| | | | December 31, 2020 | December 31, 2021 | December 31, 2020 | December 31, 2021 |
| | | | NT\$ (In Millions) | NT\$ (In Millions) | | |
| Vanguard International Semiconductor Corporation (VIS) | Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks | Hsinchu, Taiwan | \$ 8,964.1 | \$ 10,469.2 | 28% | 28% |
| Systems on Silicon Manufacturing Company Pte Ltd. (SSMC) | Manufacturing and sales of integrated circuits and other semiconductor devices | Singapore | 5,900.2 | 6,795.7 | 39% | 39% |
| Xintec Inc. (Xintec) | Wafer level chip size packaging and wafer level post passivation interconnection service | Taoyuan, Taiwan | 2,522.3 | 3,012.3 | 41% | 41% |
| Global Unichip Corporation (GUC) | Researching, developing, manufacturing, testing and marketing of integrated circuits | Hsinchu, Taiwan | 1,315.4 | 1,462.1 | 35% | 35% |
| Mutual-Pak Technology Co., Ltd. (Mutual-Pak) | Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID | New Taipei, Taiwan | 28.2 | 22.9 | 28% | 28% |
| | | | <u>\$ 18,730.2</u> | <u>\$ 21,762.2</u> | | |

As of December 31, 2020 and 2021, no investments in associates are individually material to the Company. Please refer to the consolidated statements of profit or loss and other comprehensive income for recognition of share of both profit (loss) and other comprehensive income (loss) of associates that are not individually material.

The market prices of the associates' ownership held by the Company in publicly traded stocks calculated by the closing price at the end of the reporting period are summarized as follows. The closing price represents the quoted price in active markets, the level 1 fair value measurement.

| Name of Associate | December 31, 2020 | December 31, 2021 |
|-------------------|--------------------|--------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| VIS | <u>\$ 53,849.9</u> | <u>\$ 73,347.3</u> |
| GUC | <u>\$ 15,827.2</u> | <u>\$ 27,359.1</u> |
| Xintec | <u>\$ 20,420.2</u> | <u>\$ 15,913.3</u> |

15. PROPERTY, PLANT AND EQUIPMENT

| | December 31, 2019 | December 31, 2020 | December 31, 2021 |
|------------------------------------|-----------------------|-----------------------|-----------------------|
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Assets used by the Company | \$ 1,352,313.9 | \$ 1,554,585.9 | \$ 1,975,114.0 |
| Assets subject to operating leases | <u>63.5</u> | <u>1,003.2</u> | <u>4.7</u> |
| | <u>\$ 1,352,377.4</u> | <u>\$ 1,555,589.1</u> | <u>\$ 1,975,118.7</u> |

a. Assets used by the Company

| | Land and Land Improvements | Buildings | Machinery and Equipment | Office Equipment | Equipment under Installation and Construction in Progress | Total |
|--|-------------------------------|---------------------|----------------------------|---------------------|--|-----------------------|
| | NTS | NTS | NTS | NTS | NTS | NTS |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Cost</u> | | | | | | |
| Balance at January 1, 2019 | \$ 4,011.4 | \$ 418,151.7 | \$ 2,728,760.2 | \$ 48,382.2 | \$ 172,911.0 | \$ 3,372,216.5 |
| Additions | - | 21,448.5 | 179,798.4 | 7,415.0 | 355,621.1 | 564,283.0 |
| Disposals or retirements | - | (159.0) | (17,381.6) | (1,043.3) | - | (18,583.9) |
| Transfers from right-of-use assets | - | - | 619.8 | - | - | 619.8 |
| Effect of disposal of subsidiary | - | - | - | (0.5) | - | (0.5) |
| Effect of exchange rate changes | (19.6) | (1,366.2) | (5,173.8) | (142.0) | (237.0) | (6,938.6) |
| Balance at December 31, 2019 | <u>\$ 3,991.8</u> | <u>\$ 438,075.0</u> | <u>\$ 2,886,623.0</u> | <u>\$ 54,611.4</u> | <u>\$ 528,295.1</u> | <u>\$ 3,911,596.3</u> |
| <u>Accumulated depreciation and impairment</u> | | | | | | |
| Balance at January 1, 2019 | \$ 550.6 | \$ 217,899.2 | \$ 2,049,279.0 | \$ 32,525.1 | \$ - | \$ 2,300,253.9 |
| Additions | 1.6 | 26,026.6 | 246,724.2 | 6,012.5 | - | 278,764.9 |
| Disposals or retirements | - | (144.4) | (12,880.8) | (1,042.1) | - | (14,067.3) |
| Transfers from right-of-use assets | - | - | 20.7 | - | - | 20.7 |
| Reversal of impairment | - | - | (301.4) | - | - | (301.4) |
| Effect of disposal of subsidiary | - | - | - | (0.5) | - | (0.5) |
| Effect of exchange rate changes | (13.5) | (722.1) | (4,575.7) | (76.6) | - | (5,387.9) |
| Balance at December 31, 2019 | <u>\$ 538.7</u> | <u>\$ 243,059.3</u> | <u>\$ 2,278,266.0</u> | <u>\$ 37,418.4</u> | <u>\$ -</u> | <u>\$ 2,559,282.4</u> |
| Carrying amounts at December 31, 2019 | <u>\$ 3,453.1</u> | <u>\$ 195,015.7</u> | <u>\$ 608,357.0</u> | <u>\$ 17,193.0</u> | <u>\$ 528,295.1</u> | <u>\$ 1,352,313.9</u> |
| <u>Cost</u> | | | | | | |
| Balance at January 1, 2020 | \$ 3,991.8 | \$ 438,075.0 | \$ 2,886,623.0 | \$ 54,611.4 | \$ 528,295.1 | \$ 3,911,596.3 |
| Additions (deductions) | - | 84,882.5 | 729,943.3 | 15,112.9 | (304,218.0) | 525,720.7 |
| Disposals or retirements | - | (41.5) | (6,397.3) | (734.1) | - | (7,172.9) |
| Transfers from assets subject to operating leases | - | 23.1 | - | - | - | 23.1 |
| Transfers to assets subject to operating leases | - | - | (1,199.0) | - | - | (1,199.0) |
| Effect of exchange rate changes | (49.2) | (491.7) | (1,964.3) | (127.5) | (111.7) | (2,744.4) |
| Balance at December 31, 2020 | <u>\$ 3,942.6</u> | <u>\$ 522,447.4</u> | <u>\$ 3,607,005.7</u> | <u>\$ 68,862.7</u> | <u>\$ 223,965.4</u> | <u>\$ 4,426,223.8</u> |
| <u>Accumulated depreciation and impairment</u> | | | | | | |
| Balance at January 1, 2020 | \$ 538.7 | \$ 243,059.3 | \$ 2,278,266.0 | \$ 37,418.4 | \$ - | \$ 2,559,282.4 |
| Additions | 1.5 | 29,209.1 | 285,393.6 | 7,216.9 | - | 321,821.1 |
| Disposals or retirements | - | (27.9) | (6,012.9) | (732.4) | - | (6,773.2) |
| Transfers from assets subject to operating leases | - | 8.2 | - | - | - | 8.2 |
| Transfers to assets subject to operating leases | - | - | (202.6) | - | - | (202.6) |
| Impairment | - | - | 10.2 | - | - | 10.2 |
| Effect of exchange rate changes | (34.1) | (449.2) | (1,924.3) | (100.6) | - | (2,508.2) |
| Balance at December 31, 2020 | <u>\$ 506.1</u> | <u>\$ 271,799.5</u> | <u>\$ 2,555,530.0</u> | <u>\$ 43,802.3</u> | <u>\$ -</u> | <u>\$ 2,871,637.9</u> |
| Carrying amounts at December 31, 2020 | <u>\$ 3,436.5</u> | <u>\$ 250,647.9</u> | <u>\$ 1,051,475.7</u> | <u>\$ 25,060.4</u> | <u>\$ 223,965.4</u> | <u>\$ 1,554,585.9</u> |

(Continued)

| | Land and Land Improvements | Buildings | Machinery and Equipment | Office Equipment | Equipment under Installation and Construction in Progress | Total |
|--|-------------------------------|---------------------|----------------------------|---------------------|--|-----------------------|
| | NT\$ | NT\$ | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Cost</u> | | | | | | |
| Balance at January 1, 2021 | \$ 3,942.6 | \$ 522,447.4 | \$ 3,607,005.7 | \$ 68,862.7 | \$ 223,965.4 | \$ 4,426,223.8 |
| Additions | 2,587.2 | 53,971.3 | 401,659.0 | 7,643.0 | 369,545.8 | 835,406.3 |
| Disposals or retirements | - | (41.1) | (26,192.2) | (333.4) | - | (26,566.7) |
| Transfers from assets subject to operating leases | - | 35.5 | 1,443.6 | - | - | 1,479.1 |
| Transfers to assets subject to operating leases | - | - | (244.6) | - | - | (244.6) |
| Effect of exchange rate changes | (41.6) | 184.7 | 1,077.7 | (18.1) | (355.5) | 847.2 |
| Balance at December 31, 2021 | <u>\$ 6,488.2</u> | <u>\$ 576,597.8</u> | <u>\$ 3,984,749.2</u> | <u>\$ 76,154.2</u> | <u>\$ 593,155.7</u> | <u>\$ 5,237,145.1</u> |
| <u>Accumulated depreciation and impairment</u> | | | | | | |
| Balance at January 1, 2021 | \$ 506.1 | \$ 271,799.5 | \$ 2,555,530.0 | \$ 43,802.3 | \$ - | \$ 2,871,637.9 |
| Additions | 1.3 | 34,331.6 | 368,777.7 | 8,373.3 | - | 411,483.9 |
| Disposals or retirements | - | (36.5) | (22,230.1) | (332.6) | - | (22,599.2) |
| Transfers from assets subject to operating leases | - | 15.1 | 436.8 | - | - | 451.9 |
| Transfers to assets subject to operating leases | - | - | (68.3) | - | - | (68.3) |
| Impairment | - | - | 274.4 | - | - | 274.4 |
| Effect of exchange rate changes | (7.6) | 55.6 | 818.9 | (16.4) | - | 850.5 |
| Balance at December 31, 2021 | <u>\$ 499.8</u> | <u>\$ 306,165.3</u> | <u>\$ 2,903,539.4</u> | <u>\$ 51,826.6</u> | <u>\$ -</u> | <u>\$ 3,262,031.1</u> |
| Carrying amounts at December 31, 2021 | <u>\$ 5,988.4</u> | <u>\$ 270,432.5</u> | <u>\$ 1,081,209.8</u> | <u>\$ 24,327.6</u> | <u>\$ 593,155.7</u> | <u>\$ 1,975,114.0</u> |

(Concluded)

The significant part of the Company's buildings includes main plants, mechanical and electrical power equipment and clean rooms, and the related depreciation is calculated using the estimated useful lives of 20 years, 10 years and 10 years, respectively.

In the first quarter of 2019, the Company recognized a reversal of impairment loss of NT\$301.4 million due to redeployment of certain idle machinery and equipment. Such reversal of impairment loss was recognized in other operating income and expenses.

In the first quarter of 2021, the Company recognized an impairment loss of NT\$274.4 million for certain machinery and equipment that was assessed to have no future use, and the recoverable amount of certain machinery and equipment was nil. Such impairment loss was recognized in other operating income and expenses.

b. Assets subject to operating leases

| | Buildings | Machinery and Equipment | Total |
|------------------------------|-----------------|----------------------------|-----------------|
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| <u>Cost</u> | | | |
| Balance at January 1, 2019 | <u>\$ 562.6</u> | <u>\$ -</u> | <u>\$ 562.6</u> |
| Balance at December 31, 2019 | <u>\$ 562.6</u> | <u>\$ -</u> | <u>\$ 562.6</u> |

(Continued)

| | Buildings | Machinery and | Total |
|---|----------------------|----------------------|----------------------|
| | NT\$ | Equipment | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| <u>Accumulated depreciation</u> | | | |
| Balance at January 1, 2019 | \$ 474.9 | \$ - | \$ 474.9 |
| Additions | <u>24.2</u> | <u>-</u> | <u>24.2</u> |
| Balance at December 31, 2019 | <u>\$ 499.1</u> | <u>\$ -</u> | <u>\$ 499.1</u> |
| Carrying amounts at December 31, 2019 | <u>\$ 63.5</u> | <u>\$ -</u> | <u>\$ 63.5</u> |
| <u>Cost</u> | | | |
| Balance at January 1, 2020 | \$ 562.6 | \$ - | \$ 562.6 |
| Disposals or retirements | (311.9) | - | (311.9) |
| Transfers to assets used by the Company | (23.1) | - | (23.1) |
| Transfers from assets used by the Company | <u>-</u> | <u>1,199.0</u> | <u>1,199.0</u> |
| Balance at December 31, 2020 | <u>\$ 227.6</u> | <u>\$ 1,199.0</u> | <u>\$ 1,426.6</u> |
| <u>Accumulated depreciation</u> | | | |
| Balance at January 1, 2020 | \$ 499.1 | \$ - | \$ 499.1 |
| Additions | 16.3 | 19.4 | 35.7 |
| Disposals or retirements | (305.8) | - | (305.8) |
| Transfers to assets used by the Company | (8.2) | - | (8.2) |
| Transfers from assets used by the Company | <u>-</u> | <u>202.6</u> | <u>202.6</u> |
| Balance at December 31, 2020 | <u>\$ 201.4</u> | <u>\$ 222.0</u> | <u>\$ 423.4</u> |
| Carrying amounts at December 31, 2020 | <u>\$ 26.2</u> | <u>\$ 977.0</u> | <u>\$ 1,003.2</u> |
| <u>Cost</u> | | | |
| Balance at January 1, 2021 | \$ 227.6 | \$ 1,199.0 | \$ 1,426.6 |
| Transfers to assets used by the Company | (35.5) | (1,443.6) | (1,479.1) |
| Transfers from assets used by the Company | <u>-</u> | <u>244.6</u> | <u>244.6</u> |
| Balance at December 31, 2021 | <u>\$ 192.1</u> | <u>\$ -</u> | <u>\$ 192.1</u> |
| <u>Accumulated depreciation</u> | | | |
| Balance at January 1, 2021 | \$ 201.4 | \$ 222.0 | \$ 423.4 |
| Additions | 1.1 | 146.5 | 147.6 |
| Transfers to assets used by the Company | (15.1) | (436.8) | (451.9) |
| Transfers from assets used by the Company | <u>-</u> | <u>68.3</u> | <u>68.3</u> |
| Balance at December 31, 2021 | <u>\$ 187.4</u> | <u>\$ -</u> | <u>\$ 187.4</u> |
| Carrying amounts at December 31, 2021 | <u>\$ 4.7</u> | <u>\$ -</u> | <u>\$ 4.7</u> |

(Concluded)

Operating leases relate to leases of buildings and leases of machinery and equipment with lease terms ranging between approximately 1 to 5 years. The lessees do not have purchase options to acquire the assets at the expiration of the lease periods.

The maturity analysis of operating lease payments receivable from the buildings and machinery and equipment is as follows:

| | December 31, 2020 | December 31, 2021 |
|--------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Year 1 | \$ 149.1 | \$ 18.0 |
| Year 2 | <u>17.0</u> | <u>-</u> |
| | <u>\$ 166.1</u> | <u>\$ 18.0</u> |

16. LEASE ARRANGEMENTS

a. Right-of-use assets

| | December 31, 2020 | December 31, 2021 |
|-------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Carrying amounts</u> | | |
| Land | \$ 25,141.9 | \$ 29,778.6 |
| Buildings | 2,544.8 | 2,918.1 |
| Machinery and equipment | - | 3.4 |
| Office equipment | <u>41.8</u> | <u>34.3</u> |
| | <u>\$ 27,728.5</u> | <u>\$ 32,734.4</u> |

| | Years Ended December 31 | | |
|--|--------------------------------|----------------------|----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Additions to right-of-use assets | <u>\$ 1,033.0</u> | <u>\$13,481.2</u> | <u>\$ 7,769.8</u> |
| Depreciation of right-of-use assets | | | |
| Land | \$ 957.1 | \$ 1,312.9 | \$ 1,825.7 |
| Buildings | 458.8 | 569.5 | 707.9 |
| Machinery and equipment | 1,184.4 | 775.8 | 0.5 |
| Office equipment | <u>22.4</u> | <u>23.4</u> | <u>22.1</u> |
| | <u>\$ 2,622.7</u> | <u>\$ 2,681.6</u> | <u>\$ 2,556.2</u> |
| Income from subleasing right-of-use assets (classified under other operating income and expenses, net) | <u>\$ 55.0</u> | <u>\$ 79.6</u> | <u>\$ 82.0</u> |

b. Lease liabilities

| | December 31, 2020 | December 31, 2021 |
|---|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Carrying amounts</u> | | |
| Current portion (classified under accrued expenses and other current liabilities) | \$ 1,828.0 | \$ 2,176.5 |
| Noncurrent portion | <u>20,560.6</u> | <u>20,764.2</u> |
| | <u>\$ 22,388.6</u> | <u>\$ 22,940.7</u> |

Ranges of discount rates for lease liabilities are as follows:

| | December 31, 2020 | December 31, 2021 |
|-------------------------|------------------------------|------------------------------|
| Land | 0.48%-2.14% | 0.39%-2.14% |
| Buildings | 0.54%-3.88% | 0.39%-3.88% |
| Machinery and equipment | - | 0.71% |
| Office equipment | 0.28%-3.88% | 0.28%-3.88% |

c. Material terms of right-of-use assets

The Company leases land and buildings mainly for the use of plants and offices with lease terms of 1 to 36 years. The lease contracts for land located in the R.O.C. specify that lease payments will be adjusted every 2 years on the basis of changes in announced land value prices. The Company does not have purchase options to acquire the leasehold land and buildings at the end of the lease terms.

d. Subleases

The Company subleases the right to use its buildings and machinery and equipment under operating leases with lease terms of 1 to 6 years.

The maturity analysis of lease payments receivable under operating subleases is as follows:

| | December 31, 2020 | December 31, 2021 |
|--------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Year 1 | <u>\$ 144.1</u> | <u>\$ 60.8</u> |

e. Other lease information

| | Years Ended December 31 | | |
|---|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Expenses relating to short-term leases | <u>\$ 5,007.1</u> | <u>\$ 3,153.5</u> | <u>\$ 5,250.3</u> |
| Expenses relating to variable lease payments not included in the measurement of lease liabilities | <u>\$ 195.1</u> | <u>\$ 257.0</u> | <u>\$ 168.7</u> |
| | | | |
| | Years Ended December 31 | | |
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Total cash outflow for leases | <u>\$ 7,724.4</u> | <u>\$ 6,354.6</u> | <u>\$ 7,510.8</u> |

17. INTANGIBLE ASSETS

| | Goodwill | Technology License Fees | Software and System Design Costs | Patent and Others | Total |
|--|-----------------------|----------------------------|--|-----------------------|-----------------------|
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| <u>Cost</u> | | | | | |
| Balance at January 1, 2019 | \$ 5,795.5 | \$ 10,974.5 | \$ 29,594.6 | \$ 7,656.3 | \$ 54,020.9 |
| Additions | - | 4,879.6 | 3,710.4 | 647.8 | 9,237.8 |
| Disposals or retirements | - | - | (260.9) | - | (260.9) |
| Effect of exchange rate changes | <u>(102.1)</u> | <u>0.9</u> | <u>(20.1)</u> | <u>(1.2)</u> | <u>(122.5)</u> |
| Balance at December 31, 2019 | <u>\$ 5,693.4</u> | <u>\$ 15,855.0</u> | <u>\$ 33,024.0</u> | <u>\$ 8,302.9</u> | <u>\$ 62,875.3</u> |
| <u>Accumulated amortization and impairment</u> | | | | | |
| Balance at January 1, 2019 | \$ - | \$ 8,756.0 | \$ 23,023.7 | \$ 5,239.1 | \$ 37,018.8 |
| Additions | - | 1,066.9 | 3,747.3 | 658.2 | 5,472.4 |
| Disposals or retirements | - | - | (258.6) | - | (258.6) |
| Effect of exchange rate changes | <u>-</u> | <u>0.9</u> | <u>(10.3)</u> | <u>(0.9)</u> | <u>(10.3)</u> |
| Balance at December 31, 2019 | <u>\$ -</u> | <u>\$ 9,823.8</u> | <u>\$ 26,502.1</u> | <u>\$ 5,896.4</u> | <u>\$ 42,222.3</u> |
| Carrying amounts at December 31, 2019 | <u>\$ 5,693.4</u> | <u>\$ 6,031.2</u> | <u>\$ 6,521.9</u> | <u>\$ 2,406.5</u> | <u>\$ 20,653.0</u> |
| <u>Cost</u> | | | | | |
| Balance at January 1, 2020 | \$ 5,693.4 | \$ 15,855.0 | \$ 33,024.0 | \$ 8,302.9 | \$ 62,875.3 |
| Additions | - | 6,308.9 | 3,275.8 | 2,974.8 | 12,559.5 |
| Disposals or retirements | - | - | (60.5) | - | (60.5) |
| Effect of exchange rate changes | <u>(256.8)</u> | <u>(2.2)</u> | <u>(0.3)</u> | <u>(0.1)</u> | <u>(259.4)</u> |
| Balance at December 31, 2020 | <u>\$ 5,436.6</u> | <u>\$ 22,161.7</u> | <u>\$ 36,239.0</u> | <u>\$ 11,277.6</u> | <u>\$ 75,114.9</u> |
| <u>Accumulated amortization and impairment</u> | | | | | |
| Balance at January 1, 2020 | \$ - | \$ 9,823.8 | \$ 26,502.1 | \$ 5,896.4 | \$ 42,222.3 |
| Additions | - | 2,404.5 | 3,669.2 | 1,112.5 | 7,186.2 |
| Disposals or retirements | - | - | (59.9) | - | (59.9) |
| Effect of exchange rate changes | <u>-</u> | <u>(2.1)</u> | <u>0.3</u> | <u>-</u> | <u>(1.8)</u> |
| Balance at December 31, 2020 | <u>\$ -</u> | <u>\$ 12,226.2</u> | <u>\$ 30,111.7</u> | <u>\$ 7,008.9</u> | <u>\$ 49,346.8</u> |
| Carrying amounts at December 31, 2020 | <u>\$ 5,436.6</u> | <u>\$ 9,935.5</u> | <u>\$ 6,127.3</u> | <u>\$ 4,268.7</u> | <u>\$ 25,768.1</u> |

(Continued)

| | Goodwill | Technology License Fees | Software and System Design Costs | Patent and Others | Total |
|--|----------------------|------------------------------------|---|------------------------------|----------------------|
| | NT\$ | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Cost</u> | | | | | |
| Balance at January 1, 2021 | \$ 5,436.6 | \$ 22,161.7 | \$ 36,239.0 | \$ 11,277.6 | \$ 75,114.9 |
| Additions | - | 1,372.8 | 7,726.2 | 219.5 | 9,318.5 |
| Disposals or retirements | - | - | (318.7) | - | (318.7) |
| Effect of exchange rate changes | (57.4) | (0.5) | 4.5 | 0.1 | (53.3) |
| Balance at December 31, 2021 | \$ 5,379.2 | \$ 23,534.0 | \$ 43,651.0 | \$ 11,497.2 | \$ 84,061.4 |
| <u>Accumulated amortization and impairment</u> | | | | | |
| Balance at January 1, 2021 | \$ - | \$ 12,226.2 | \$ 30,111.7 | \$ 7,008.9 | \$ 49,346.8 |
| Additions | - | 2,686.8 | 4,323.9 | 1,196.5 | 8,207.2 |
| Disposals or retirements | - | - | (317.5) | - | (317.5) |
| Effect of exchange rate changes | - | (0.6) | 3.5 | 0.3 | 3.2 |
| Balance at December 31, 2021 | \$ - | \$ 14,912.4 | \$ 34,121.6 | \$ 8,205.7 | \$ 57,239.7 |
| Carrying amounts at December 31, 2021 | \$ 5,379.2 | \$ 8,621.6 | \$ 9,529.4 | \$ 3,291.5 | \$ 26,821.7 |
| | | | | | (Concluded) |

The Company's goodwill has been tested for impairment at the end of the annual reporting period and the recoverable amount is determined based on the value in use. The value in use was calculated based on the cash flow forecast from the financial budgets covering the future five-year period, and the Company used annual discount rates of 8.0% in both years in its test of impairment as of December 31, 2020 and 2021, to reflect the relevant specific risk in the cash-generating unit.

For the years ended December 31, 2019, 2020 and 2021, the Company did not recognize any impairment loss on goodwill.

18. SHORT-TERM LOANS

| | December 31, 2020 | December 31, 2021 |
|----------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Unsecured loans | | |
| Amount | \$ 88,559.0 | \$ 114,921.3 |
| Loan content | | |
| US\$ (in millions) | \$ 200.0 | \$ - |
| EUR (in millions) | 2,398.0 | 3,652.9 |
| Annual interest rate | (0.54)%-0.33% | (0.73)%-0% |
| Maturity date | Due by February 2021 | Due by June 2022 |

19. BONDS PAYABLE

| | December 31, 2020 | December 31, 2021 |
|----------------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Domestic unsecured bonds | \$ 173,197.0 | \$ 312,448.0 |
| Overseas unsecured bonds | 84,291.0 | 304,414.0 |
| Less: Discounts on bonds payable | (782.9) | (2,391.4) |
| Less: Current portion | <u>(2,600.0)</u> | <u>(4,400.0)</u> |
| | <u>\$ 254,105.1</u> | <u>\$ 610,070.6</u> |

The major terms of domestic unsecured bonds are as follows:

| Issuance | Tranche | Issuance Period | Total Amount NT\$ (In Millions) | Coupon Rate | Repayment and Interest Payment |
|---------------------------------|----------------|-------------------------------------|--|------------------------|---|
| <u>NT\$ unsecured bonds</u> | | | | | |
| 101-3 | - | October 2012 to October 2022 | \$ 4,400.0 | 1.53% | Bullet repayment; interest payable annually |
| 101-4 | B | January 2013 to January 2020 | 10,000.0 | 1.35% | The same as above |
| | C | January 2013 to January 2023 | 3,000.0 | 1.49% | The same as above |
| 102-1 | B | February 2013 to February 2020 | 11,600.0 | 1.38% | The same as above |
| | C | February 2013 to February 2023 | 3,600.0 | 1.50% | The same as above |
| 102-2 | A | July 2013 to July 2020 | 10,200.0 | 1.50% | The same as above |
| | B | July 2013 to July 2023 | 3,500.0 | 1.70% | The same as above |
| 102-4 | D | September 2013 to March 2021 | 2,600.0 | 1.85% | Bullet repayment; interest payable annually (interest for the six months prior to maturity will accrue on the basis of actual days and be repayable at maturity) |
| | E | September 2013 to March 2023 | 5,400.0 | 2.05% | The same as above |
| | F | September 2013 to September 2023 | 2,600.0 | 2.10% | Bullet repayment; interest payable annually |
| 109-1 | A | March 2020 to March 2025 | 3,000.0 | 0.58% | The same as above |
| | B | March 2020 to March 2027 | 10,500.0 | 0.62% | The same as above |
| | C | March 2020 to March 2030 | 10,500.0 | 0.64% | The same as above |

(Continued)

| Issuance | Tranche | Issuance Period | Total Amount NT\$ (In Millions) | Coupon Rate | Repayment and Interest Payment |
|-----------------------|----------------|-------------------------------------|--|------------------------|---|
| 109-2 | A | April 2020 to April 2025 | \$ 5,900.0 | 0.52% | Bullet repayment; interest payable annually |
| | B | April 2020 to April 2027 | 10,400.0 | 0.58% | The same as above |
| | C | April 2020 to April 2030 | 5,300.0 | 0.60% | The same as above |
| 109-3 | A | May 2020 to May 2025 | 4,500.0 | 0.55% | The same as above |
| | B | May 2020 to May 2027 | 7,500.0 | 0.60% | The same as above |
| | C | May 2020 to May 2030 | 2,400.0 | 0.64% | The same as above |
| 109-4 | A | July 2020 to July 2025 | 5,700.0 | 0.58% | Two equal installments in last two years; interest payable annually |
| | B | July 2020 to July 2027 | 6,300.0 | 0.65% | The same as above |
| | C | July 2020 to July 2030 | 1,900.0 | 0.67% | The same as above |
| 109-5 | A | September 2020 to September 2025 | 4,800.0 | 0.50% | The same as above |
| | B | September 2020 to September 2027 | 8,000.0 | 0.58% | The same as above |
| | C | September 2020 to September 2030 | 2,800.0 | 0.60% | The same as above |
| 109-6 (green bond) | A | December 2020 to December 2025 | 1,600.0 | 0.40% | The same as above |
| | B | December 2020 to December 2027 | 5,600.0 | 0.44% | The same as above |
| | C | December 2020 to December 2030 | 4,800.0 | 0.48% | The same as above |
| 109-7 | A | December 2020 to December 2025 | 1,900.0 | 0.36% | The same as above |
| | B | December 2020 to December 2027 | 10,200.0 | 0.41% | The same as above |
| | C | December 2020 to December 2030 | 6,400.0 | 0.45% | The same as above |
| 110-1 | A | March 2021 to March 2026 | 4,800.0 | 0.50% | Bullet repayment; interest payable annually |
| | B | March 2021 to March 2028 | 11,400.0 | 0.55% | The same as above |
| | C | March 2021 to March 2031 | 4,900.0 | 0.60% | The same as above |
| 110-2 | A | May 2021 to May 2026 | 5,200.0 | 0.50% | The same as above |
| | B | May 2021 to May 2028 | 8,400.0 | 0.58% | The same as above |
| | C | May 2021 to May 2031 | 5,600.0 | 0.65% | The same as above |

(Continued)

| Issuance | Tranche | Issuance Period | Total Amount NT\$ (In Millions) | Coupon Rate | Repayment and Interest Payment |
|-----------------|----------------|--------------------------------|--|------------------------|---|
| 110-3 | A | June 2021 to June 2026 | \$ 6,900.0 | 0.52% | Bullet repayment; interest payable annually |
| | B | June 2021 to June 2028 | 7,900.0 | 0.58% | The same as above |
| | C | June 2021 to June 2031 | 4,900.0 | 0.65% | The same as above |
| 110-4 | A | August 2021 to August 2025 | 4,000.0 | 0.485% | The same as above |
| | B | August 2021 to August 2026 | 8,000.0 | 0.50% | The same as above |
| | C | August 2021 to August 2028 | 5,400.0 | 0.55% | The same as above |
| | D | August 2021 to August 2031 | 4,200.0 | 0.62% | The same as above |
| 110-6 | A | October 2021 to April 2026 | 3,200.0 | 0.535% | The same as above |
| | B | October 2021 to October 2026 | 6,900.0 | 0.54% | The same as above |
| | C | October 2021 to October 2028 | 4,600.0 | 0.60% | The same as above |
| | D | October 2021 to October 2031 | 1,600.0 | 0.62% | The same as above |
| 110-7 | A | December 2021 to December 2026 | 7,700.0 | 0.65% | The same as above |
| | B | December 2021 to June 2027 | 3,500.0 | 0.675% | The same as above |
| | C | December 2021 to December 2028 | 5,500.0 | 0.72% | The same as above |
| (Concluded) | | | | | |

| Issuance | Tranche | Issuance Period | Total Amount US\$ (In Millions) | Coupon Rate | Repayment and Interest Payment |
|-----------------------------|----------------|----------------------------------|--|------------------------|--|
| <u>US\$ unsecured bonds</u> | | | | | |
| 109-1 | - | September 2020 to September 2060 | US\$ 1,000.0 | 2.70% | Bullet repayment (callable on the 5th anniversary of the issue date and every anniversary thereafter); interest payable annually |
| 110-5 | - | September 2021 to September 2051 | 1,000.0 | 3.10% | The same as above |

The major terms of overseas unsecured bonds are as follows:

| Issuance Period | Total Amount US\$ (In Millions) | Coupon Rate | Repayment and Interest Payment |
|-------------------------------------|--|------------------------|---|
| September 2020 to September 2025 | US\$ 1,000.0 | 0.75% | Bullet repayment (callable at any time, in whole or in part, at the relevant redemption price according to relevant agreements); interest payable semi-annually |
| September 2020 to September 2027 | 750.0 | 1.00% | The same as above |
| September 2020 to September 2030 | 1,250.0 | 1.375% | The same as above |
| April 2021 to April 2026 | 1,100.0 | 1.25% | The same as above |
| April 2021 to April 2028 | 900.0 | 1.75% | The same as above |
| April 2021 to April 2031 | 1,500.0 | 2.25% | The same as above |
| October 2021 to October 2026 | 1,250.0 | 1.75% | The same as above |
| October 2021 to October 2031 | 1,250.0 | 2.50% | The same as above |
| October 2021 to October 2041 | 1,000.0 | 3.125% | The same as above |
| October 2021 to October 2051 | 1,000.0 | 3.25% | The same as above |

The Company issued domestic unsecured bonds during the period from January 1, 2022 to April 14, 2022, the major terms are as follows:

| Issuance | Tranche | Issuance Period | Total Amount NT\$ (In Millions) | Coupon Rate | Repayment and Interest Payment |
|-----------------------------|----------------|------------------------------|--|------------------------|---|
| <u>NT\$ unsecured bonds</u> | | | | | |
| 111-1 (green bond) | A | January 2022 to January 2027 | \$ 2,100.0 | 0.63% | Bullet repayment; interest payable annually |
| | B | January 2022 to January 2029 | 3,300.0 | 0.72% | The same as above |
| 111-2 | A | March 2022 to September 2026 | 3,000.0 | 0.84% | The same as above |
| | B | March 2022 to March 2027 | 9,600.0 | 0.85% | The same as above |
| | C | March 2022 to March 2029 | 1,600.0 | 0.90% | The same as above |

20. LONG-TERM BANK LOANS

| | December 31, 2020 NT\$ (In Millions) | December 31, 2021 NT\$ (In Millions) |
|--------------------------------------|---|---|
| Unsecured loans | \$ 2,000.0 | \$ 3,510.0 |
| Less: Discounts on government grants | (32.4) | (34.2) |
| Less: Current portion | <u>-</u> | <u>(166.7)</u> |
| | <u>\$ 1,967.6</u> | <u>\$ 3,309.1</u> |
| Loan content | | |
| Annual interest rate | 0.4% | 0.4%-0.9% |
| Maturity date | Due by September 2025 | Due by September 2026 |

The long-term bank loans of the Company are with preferential interest rates subsidized by the government, and the loans are used to fund capital expenditure qualifying for the subsidy.

21. RETIREMENT BENEFIT PLANS

a. Defined contribution plans

The plan under the R.O.C. Labor Pension Act (the “Act”) is deemed a defined contribution plan. Pursuant to the Act, TSMC and VisEra Tech have made monthly contributions equal to 6% of each employee’s monthly salary to employees’ pension accounts. Furthermore, TSMC North America, TSMC Arizona, TSMC China, TSMC Nanjing, TSMC Europe, TSMC Canada and TSMC Technology also make monthly contributions at certain percentages of the basic salary of their employees. Accordingly, the Company recognized expenses of NT\$2,609.7 million, NT\$2,809.5 million and NT\$3,711.0 million for the years ended December 31, 2019, 2020 and 2021, respectively.

b. Defined benefit plans

TSMC has defined benefit plans under the R.O.C. Labor Standards Law that provide benefits based on an employee’s length of service and average monthly salary for the six-month period prior to retirement. The Company contributes an amount equal to 2% of salaries paid each month to their respective pension funds (the Funds), which are administered by the Labor Pension Fund Supervisory Committee (the Committee) and deposited in the Committee’s name in the Bank of Taiwan. Before the end of each year, the Company assesses the balance in the Funds. If the amount of the balance in the Funds is inadequate to pay retirement benefits for employees who conform to retirement requirements in the next year, the Company is required to fund the difference in one appropriation that should be made before the end of March of the next year. The Funds are operated and managed by the government’s designated authorities; as such, the Company does not have any right to intervene in the investments of the Funds.

Amounts recognized in respect of these defined benefit plans were as follows:

| | Years Ended December 31 | | |
|---|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Current service cost | \$ 135.6 | \$ 123.3 | \$ 145.3 |
| Net interest expense | <u>124.0</u> | <u>81.6</u> | <u>47.2</u> |
| Components of defined benefit costs recognized in profit or loss | <u>259.6</u> | <u>204.9</u> | <u>192.5</u> |
| Remeasurement on the net defined benefit liability: | | | |
| Return on plan assets (excluding amounts included in net interest expense) | (124.4) | (139.2) | (73.3) |
| Actuarial loss (gain) arising from experience adjustments | (438.0) | 494.1 | 94.3 |
| Actuarial loss (gain) arising from changes in demographic assumptions | (233.2) | - | 277.4 |
| Actuarial loss (gain) arising from changes in financial assumptions | <u>541.7</u> | <u>3,161.9</u> | <u>(540.5)</u> |
| Components of defined benefit costs recognized in other comprehensive income | <u>(253.9)</u> | <u>3,516.8</u> | <u>(242.1)</u> |
| Total | <u>\$ 5.7</u> | <u>\$ 3,721.7</u> | <u>\$ (49.6)</u> |

The pension costs of the aforementioned defined benefit plans were recognized in profit or loss by the following categories:

| | Years Ended December 31 | | |
|-------------------------------------|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Cost of revenue | \$ 157.8 | \$ 126.3 | \$ 124.5 |
| Research and development expenses | 72.7 | 57.3 | 52.8 |
| General and administrative expenses | 25.1 | 18.2 | 12.5 |
| Marketing expenses | <u>4.0</u> | <u>3.1</u> | <u>2.7</u> |
| | <u>\$ 259.6</u> | <u>\$ 204.9</u> | <u>\$ 192.5</u> |

The amounts arising from the defined benefit obligation of the Company were as follows:

| | December 31, 2020 | December 31, 2021 |
|---|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Present value of defined benefit obligation | \$ 16,980.3 | \$ 16,585.5 |
| Fair value of plan assets | <u>(5,066.2)</u> | <u>(5,548.6)</u> |
| Net defined benefit liability | <u>\$ 11,914.1</u> | <u>\$ 11,036.9</u> |

Movements in the present value of the defined benefit obligation were as follows:

| | Years Ended December 31 | | |
|---|--------------------------------|----------------------|----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Balance, beginning of year | \$ 13,662.7 | \$ 13,484.1 | \$ 16,980.3 |
| Current service cost | 135.6 | 123.3 | 145.3 |
| Interest expense | 175.4 | 118.8 | 66.7 |
| Remeasurement: | | | |
| Actuarial loss (gain) arising from experience adjustments | (438.0) | 494.1 | 94.3 |
| Actuarial loss (gain) arising from changes in demographic assumptions | (233.2) | - | 277.4 |
| Actuarial loss (gain) arising from changes in financial assumptions | 541.7 | 3,161.9 | (540.5) |
| Benefits paid from plan assets | (344.1) | (399.0) | (431.8) |
| Benefits paid directly by the Company | <u>(16.0)</u> | <u>(2.9)</u> | <u>(6.2)</u> |
| Balance, end of year | <u>\$ 13,484.1</u> | <u>\$ 16,980.3</u> | <u>\$ 16,585.5</u> |

Movements in the fair value of the plan assets were as follows:

| | Years Ended December 31 | | |
|--|--------------------------------|----------------------|----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Balance, beginning of year | \$ 4,011.3 | \$ 4,301.6 | \$ 5,066.2 |
| Interest income | 51.4 | 37.2 | 19.5 |
| Remeasurement: | | | |
| Return on plan assets (excluding amounts included in net interest expense) | 124.4 | 139.2 | 73.3 |
| Contributions from employer | 458.6 | 987.2 | 821.4 |
| Benefits paid from plan assets | <u>(344.1)</u> | <u>(399.0)</u> | <u>(431.8)</u> |
| Balance, end of year | <u>\$ 4,301.6</u> | <u>\$ 5,066.2</u> | <u>\$ 5,548.6</u> |

The fair value of the plan assets by major categories at the end of reporting period was as follows:

| | December 31, 2020 | December 31, 2021 |
|--------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Cash | \$ 632.8 | \$ 1,001.0 |
| Equity instruments | 2,926.7 | 2,951.8 |
| Debt instruments | <u>1,506.7</u> | <u>1,595.8</u> |
| | <u>\$ 5,066.2</u> | <u>\$ 5,548.6</u> |

The actuarial valuations of the present value of the defined benefit obligation were carried out by qualified actuaries. The principal assumptions of the actuarial valuation were as follows:

| | Measurement Date | |
|-----------------------------|------------------------------|------------------------------|
| | December 31, 2020 | December 31, 2021 |
| Discount rate | 0.40% | 0.75% |
| Future salary increase rate | 3.00% (Note) | 3.00% |

Note: The Company has an additional 20 percent pay raise in 2021.

Through the defined benefit plans under the R.O.C. Labor Standards Law, the Company is exposed to the following risks:

- 1) Investment risk: The pension funds are invested in equity and debt securities, bank deposits, etc. The investment is conducted at the discretion of the government's designated authorities or under the mandated management. However, under the R.O.C. Labor Standards Law, the rate of return on assets shall not be less than the average interest rate on a two-year time deposit published by the local banks and the government is responsible for any shortfall in the event that the rate of return is less than the required rate of return.
- 2) Interest risk: A decrease in the government bond interest rate will increase the present value of the defined benefit obligation; however, this will be partially offset by an increase in the return on the debt investments of the plan assets.

Assuming a hypothetical decrease in interest rate at the end of the reporting period contributed to a decrease of 0.5% (and not below 0.0%) in the discount rate and all other assumptions were held constant, the present value of the defined benefit obligation would increase by NT\$694.7 million and NT\$780.5 million as of December 31, 2020 and 2021, respectively.

- 3) Salary risk: The present value of the defined benefit obligation is calculated by reference to the future salaries of plan participants. As such, an increase in the salary of the plan participants will increase the present value of the defined benefit obligation.

Assuming the expected salary rate increases by 0.5% at the end of the reporting period and all other assumptions were held constant, the present value of the defined benefit obligation would increase by NT\$836.0 million and NT\$759.5 million as of December 31, 2020 and 2021 respectively.

The sensitivity analysis presented above may not be representative of the actual change in the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another as some of the assumptions may be correlated.

Furthermore, in presenting the above sensitivity analysis, the present value of the defined benefit obligation has been calculated using the projected unit credit method at the end of the reporting period, which is the same as that applied in calculating the defined benefit obligation liability.

The Company expects to make contributions of NT\$2,269.9 million to the defined benefit plans in the next year starting from December 31, 2021. The weighted average duration of the defined benefit obligation is 9 years.

22. EQUITY

a. Capital stock

| | December 31, 2020 | December 31, 2021 |
|------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Authorized shares | <u>28,050.0</u> | <u>28,050.0</u> |
| Authorized capital | <u>\$ 280,500.0</u> | <u>\$ 280,500.0</u> |
| Issued and paid shares | <u>25,930.3</u> | <u>25,930.3</u> |
| Issued capital | <u>\$ 259,303.8</u> | <u>\$ 259,303.8</u> |

A holder of issued common shares with par value of NT\$10 per share is entitled to vote and to receive dividends.

The authorized shares include 500.0 million shares allocated for the exercise of employee stock options.

As of December 31, 2021, 1,064.2 million ADSs of TSMC were traded on the NYSE. The number of common shares represented by the ADSs was 5,321.2 million shares (one ADS represents five common shares).

b. Capital surplus

| | December 31, 2020 | December 31, 2021 |
|---|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| Additional paid-in capital | \$ 24,185.0 | \$ 24,185.0 |
| From merger | 22,804.5 | 22,804.5 |
| From convertible bonds | 8,892.9 | 8,892.9 |
| From difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal | - | 8,406.3 |
| From share of changes in equities of subsidiaries | 121.8 | 113.9 |
| From share of changes in equities of associates | 302.5 | 307.2 |
| Donations | <u>40.5</u> | <u>51.7</u> |
| | <u>\$ 56,347.2</u> | <u>\$ 64,761.5</u> |

Under the R.O.C. relevant laws, the capital surplus generated from the excess of the issuance price over the par value of capital stock (including the stock issued for new capital, mergers and convertible bonds), the difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal and donations may be used to offset a deficit; in addition, when the Company has no deficit, such capital surplus may be distributed as cash dividends or stock dividends up to a certain

percentage of TSMC's paid-in capital. The capital surplus from share of changes in equities of subsidiaries and associates and dividend of a claim extinguished by a prescription may be used to offset a deficit.

c. Retained earnings and dividend policy

TSMC's Articles of Incorporation provide that, earnings distribution may be made on a quarterly basis after the close of each quarter. Distribution of earnings by way of cash dividends should be approved by TSMC's Board of Directors and reported to TSMC's shareholders in its meeting. When allocating earnings, TSMC shall first estimate and reserve the taxes to be paid, offset its losses, set aside a legal capital reserve at 10% of the remaining earnings (until the accumulated legal capital reserve equals TSMC's paid-in capital), then set aside a special capital reserve in accordance with relevant laws or regulations or as requested by the authorities in charge. Any balance left over shall be allocated according to relevant laws and the TSMC's Articles of Incorporation.

TSMC's Articles of Incorporation also provide that profits of TSMC may be distributed by way of cash dividend and/or stock dividend. However, distribution of earnings shall be made preferably by way of cash dividend. Distribution of earnings may also be made by way of stock dividend, provided that the ratio for stock dividend shall not exceed 50% of the total distribution.

The legal capital reserve may be used to offset a deficit, or be distributed as dividends in cash or stocks for the portion in excess of 25% of the paid-in capital if the Company incurs no loss.

Pursuant to existing regulations, the Company is required to set aside additional special capital reserve equivalent to the net debit balance of the other components of stockholders' equity, such as the accumulated balance of foreign currency translation reserve, unrealized valuation gain or loss from fair value through other comprehensive income financial assets, gain or loss from changes in fair value of hedging instruments in cash flow hedges, etc. For the subsequent decrease in the deduction amount to stockholders' equity, any special reserve appropriated may be reversed to the extent that the net debit balance reverses.

The appropriations of 2019, 2020 and 2021 quarterly earnings have been approved by TSMC's Board of Directors in its meeting, respectively. The appropriations and cash dividends per share were as follows:

| | First Quarter of 2019 | Second Quarter of 2019 | Third Quarter of 2019 | Fourth Quarter of 2019 |
|--|----------------------------------|-----------------------------------|----------------------------------|-----------------------------------|
| | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| Resolution date of TSMC's Board of Directors in its meeting | June 5, 2019 | August 13, 2019 | November 12, 2019 | February 11, 2020 |
| Special capital reserve | \$ <u>(4,724.0)</u> | \$ <u>(3,338.2)</u> | \$ <u>3,289.2</u> | \$ <u>16,893.0</u> |
| Cash dividends to shareholders | \$ <u>51,860.8</u> | \$ <u>64,826.0</u> | \$ <u>64,826.0</u> | \$ <u>64,826.0</u> |
| Cash dividends per share (NT\$) | \$ <u>2.0</u> | \$ <u>2.5</u> | \$ <u>2.5</u> | \$ <u>2.5</u> |
| | First Quarter of 2020 | Second Quarter of 2020 | Third Quarter of 2020 | Fourth Quarter of 2020 |
| | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| Resolution date of TSMC's Board of Directors in its meeting | May 12, 2020 | August 11, 2020 | November 10, 2020 | February 9, 2021 |
| Special capital reserve | \$ <u>(2,694.8)</u> | \$ <u>11,884.5</u> | \$ <u>5,501.3</u> | \$ <u>12,420.7</u> |
| Cash dividends to shareholders | \$ <u>64,826.0</u> | \$ <u>64,826.0</u> | \$ <u>64,826.0</u> | \$ <u>64,826.0</u> |
| Cash dividends per share (NT\$) | \$ <u>2.5</u> | \$ <u>2.5</u> | \$ <u>2.5</u> | \$ <u>2.5</u> |

| | First Quarter of 2021 | Second Quarter of 2021 | Third Quarter of 2021 | Fourth Quarter of 2021 |
|--|--------------------------|---------------------------|--------------------------|---------------------------|
| | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| Resolution date of TSMC's Board of Directors in its meeting | June 9, 2021 | August 10, 2021 | November 9, 2021 | February 15, 2022 |
| Special capital reserve | \$ (6,287.0) | \$ 10,201.2 | \$ 710.2 | \$ 3,304.3 |
| Cash dividends to shareholders | \$ 71,308.5 | \$ 71,308.5 | \$ 71,308.5 | \$ 71,308.5 |
| Cash dividends per share (NT\$) | \$ 2.75 | \$ 2.75 | \$ 2.75 | \$ 2.75 |

The special capital reserve for 2021 is to be presented for approval in the TSMC's shareholders' meeting to be held on June 8, 2022 (expected).

d. Others

Changes in others were as follows:

| | Year Ended December 31, 2019 | | | | |
|--|---|--|--|---|---------------|
| | Foreign Currency Translation Reserve | Unrealized Gain (Loss) on Financial Assets at FVTOCI | Gain (Loss) on Hedging Instruments | Unearned Stock-Based Employee Compensation | Total |
| | NT\$ | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| Balance, beginning of year | \$ (12,042.4) | \$ (3,429.3) | \$ 23.6 | \$ (1.8) | \$ (15,449.9) |
| Exchange differences arising on translation of foreign operations | (14,693.5) | - | - | - | (14,693.5) |
| Unrealized gain (loss) on financial assets at FVTOCI | | | | | |
| Equity instruments | - | 334.5 | - | - | 334.5 |
| Debt instruments | - | 3,097.3 | - | - | 3,097.3 |
| Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal | - | (162.1) | - | - | (162.1) |
| Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal | - | (537.8) | - | - | (537.8) |
| Loss allowance adjustments from debt instruments | - | 6.9 | - | - | 6.9 |
| Gain (loss) arising on changes in the fair value of hedging instruments | - | - | (109.6) | - | (109.6) |
| Other comprehensive income transferred to profit or loss due to disposal of subsidiary | 4.6 | - | - | - | 4.6 |
| Transferred to initial carrying amount of hedged items | - | - | 82.3 | - | 82.3 |
| Share of other comprehensive income (loss) of associates | (140.1) | (11.8) | (0.1) | - | (152.0) |
| Share of unearned stock-based employee compensation of associates | - | - | - | 1.6 | 1.6 |
| Income tax effect | - | 9.4 | - | - | 9.4 |
| Balance, end of year | \$ (26,871.4) | \$ (692.9) | \$ (3.8) | \$ (0.2) | \$ (27,568.3) |

| Year Ended December 31, 2020 | | | | | |
|--|---|--|--|---|-----------------------|
| | Foreign Currency Translation Reserve | Unrealized Gain (Loss) on Financial Assets at FVTOCI | Gain (Loss) on Hedging Instruments | Unearned Stock-Based Employee Compensation | Total |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Balance, beginning of year | \$ (26,871.4) | \$ (692.9) | \$ (3.8) | \$ (0.2) | \$ (27,568.3) |
| Exchange differences arising on translation of foreign operations | (29,846.8) | - | - | - | (29,846.8) |
| Unrealized gain (loss) on financial assets at FVTOCI | | | | | |
| Equity instruments | - | 423.2 | - | - | 423.2 |
| Debt instruments | - | 3,907.0 | - | - | 3,907.0 |
| Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal | - | 108.7 | - | - | 108.7 |
| Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal | - | (1,439.4) | - | - | (1,439.4) |
| Loss allowance adjustments from debt instruments | - | (0.9) | - | - | (0.9) |
| Gain (loss) arising on changes in the fair value of hedging instruments | - | - | 24.1 | - | 24.1 |
| Transferred to initial carrying amount of hedged items | - | - | (20.3) | - | (20.3) |
| Share of other comprehensive income (loss) of associates | (283.4) | 15.5 | - | - | (267.9) |
| Share of unearned stock-based employee compensation of associates | - | - | - | 0.2 | 0.2 |
| Income tax effect | - | 0.6 | - | - | 0.6 |
| Balance, end of year | <u>\$ (57,001.6)</u> | <u>\$ 2,321.8</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (54,679.8)</u> |

| Year Ended December 31, 2021 | | | | | |
|--|---|--|--|---|-----------------------|
| | Foreign Currency Translation Reserve | Unrealized Gain (Loss) on Financial Assets at FVTOCI | Gain (Loss) on Hedging Instruments | Unearned Stock-Based Employee Compensation | Total |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Balance, beginning of year | \$ (57,001.6) | \$ 2,321.8 | \$ - | \$ - | \$ (54,679.8) |
| Exchange differences arising on translation of foreign operations | (6,181.7) | - | - | - | (6,181.7) |
| Unrealized gain (loss) on financial assets at FVTOCI | | | | | |
| Equity instruments | - | 1,898.2 | - | - | 1,898.2 |
| Debt instruments | - | (3,339.9) | - | - | (3,339.9) |
| Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal | - | (187.7) | - | - | (187.7) |
| Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal | - | (93.2) | - | - | (93.2) |
| Loss allowance adjustments from debt instruments | - | 1.3 | - | - | 1.3 |
| Gain (loss) arising on changes in the fair value of hedging instruments | - | - | 90.2 | - | 90.2 |
| Transferred to initial carrying amount of hedged items | - | - | 48.5 | - | 48.5 |
| Share of other comprehensive income (loss) of associates | (120.0) | 30.0 | (14.7) | - | (104.7) |
| Income tax effect | - | (56.2) | (3.4) | - | (59.6) |
| Balance, end of year | <u>\$ (63,303.3)</u> | <u>\$ 574.3</u> | <u>\$ 120.6</u> | <u>\$ -</u> | <u>\$ (62,608.4)</u> |

The aforementioned other equity includes the changes in other equities of TSMC and TSMC's share of its subsidiaries and associates.

e. Treasury stock

For TSMC's shareholders' interests, TSMC's Board of Directors approved a share buyback plan on February 15, 2022 to repurchase 1.4 million shares during the period from February 16, 2022 to April 15, 2022. The shares purchased will be cancelled subsequently.

23. NET REVENUE

a. Disaggregation of revenue from contracts with customers

| Product | Years Ended December 31 | | |
|---------|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Wafer | \$ 927,317.3 | \$ 1,178,456.3 | \$ 1,405,300.3 |
| Others | <u>142,668.1</u> | <u>160,798.5</u> | <u>182,114.7</u> |
| | <u>\$ 1,069,985.4</u> | <u>\$ 1,339,254.8</u> | <u>\$ 1,587,415.0</u> |

| Geography | Years Ended December 31 | | |
|------------------------------------|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Taiwan | \$ 84,255.2 | \$ 129,082.9 | \$ 203,963.7 |
| United States | 634,713.0 | 817,911.0 | 1,015,996.4 |
| China | 208,101.4 | 233,783.3 | 164,552.1 |
| Europe, the Middle East and Africa | 67,568.2 | 70,213.4 | 89,010.1 |
| Japan | 57,468.6 | 63,299.2 | 71,920.8 |
| Others | <u>17,879.0</u> | <u>24,965.0</u> | <u>41,971.9</u> |
| | <u>\$ 1,069,985.4</u> | <u>\$ 1,339,254.8</u> | <u>\$ 1,587,415.0</u> |

The Company categorized the net revenue mainly based on the countries where the customers are headquartered.

| Platform | Years Ended December 31 | | |
|------------------------------|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Smartphone | \$ 523,612.9 | \$ 645,303.6 | \$ 695,091.2 |
| High Performance Computing | 315,822.3 | 439,810.0 | 587,780.1 |
| Internet of Things | 86,342.7 | 110,355.2 | 133,006.0 |
| Automotive | 47,914.5 | 44,367.5 | 67,076.4 |
| Digital Consumer Electronics | 53,733.4 | 54,555.7 | 55,577.2 |
| Others | <u>42,559.6</u> | <u>44,862.8</u> | <u>48,884.1</u> |
| | <u>\$ 1,069,985.4</u> | <u>\$ 1,339,254.8</u> | <u>\$ 1,587,415.0</u> |

| Resolution | Years Ended December 31 | | |
|-----------------------|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| 5-nanometer | \$ - | \$ 90,934.5 | \$ 262,327.4 |
| 7-nanometer | 249,548.1 | 394,837.0 | 440,383.1 |
| 10-nanometer | 23,266.4 | 3,403.1 | 660.0 |
| 16-nanometer | 186,700.9 | 197,959.0 | 191,058.9 |
| 20-nanometer | 9,535.8 | 8,450.9 | 5,668.8 |
| 28-nanometer | 149,578.7 | 149,367.7 | 153,066.6 |
| 40/45-nanometer | 93,366.3 | 103,176.5 | 103,413.6 |
| 65-nanometer | 69,250.0 | 61,226.7 | 66,467.9 |
| 90-nanometer | 25,624.2 | 29,380.4 | 32,260.3 |
| 0.11/0.13 micron | 22,947.3 | 33,197.1 | 40,558.5 |
| 0.15/0.18 micron | 77,564.5 | 86,008.5 | 86,700.3 |
| 0.25 micron and above | <u>19,935.1</u> | <u>20,514.9</u> | <u>22,734.9</u> |
| Wafer revenue | <u>\$ 927,317.3</u> | <u>\$ 1,178,456.3</u> | <u>\$ 1,405,300.3</u> |

b. Contract balances

| | January 1, 2020 | December 31, 2020 | December 31, 2021 |
|--|--------------------|----------------------|----------------------|
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Contract liabilities (classified under accrued expenses and other current liabilities) | <u>\$ 6,784.3</u> | <u>\$ 13,775.1</u> | <u>\$ 39,762.6</u> |

The changes in the contract liability balances primarily result from the timing difference between the satisfaction of performance obligation and the customer's payment.

The Company recognized revenue from the beginning balance of contract liability, which amounted to NT\$3,876.6 million, NT\$4,737.9 million and NT\$11,590.4 million for the years ended December 31, 2019, 2020 and 2021, respectively.

c. Temporary receipts from customers

| | December 31, 2021 |
|---|-----------------------|
| | NT\$ (In Millions) |
| Current portion (classified under accrued expenses and other current liabilities) | \$ 30,612.7 |
| Noncurrent portion (classified under other noncurrent liabilities) | <u>155,381.5</u> |
| | <u>\$ 185,994.2</u> |

The Company's temporary receipts from customer are payments made by customers to the Company to retain the Company's capacity. When the terms and conditions set forth in the agreements are subsequently satisfied, the treatment of temporary receipts will be determined by mutual consent.

d. Refund liabilities

Estimated sales returns and other allowances is made and adjusted based on historical experience and the consideration of varying contractual terms. As of December 31, 2020 and 2021, the aforementioned refund liabilities amounted to NT\$33,194.8 million and NT\$41,038.0 million (classified under accrued expenses and other current liabilities), respectively.

24. INTEREST INCOME

| | Years Ended December 31 | | |
|------------------------------------|-------------------------|-------------------|-------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Interest income | | | |
| Bank deposits | \$ 11,454.0 | \$ 5,139.1 | \$ 2,834.8 |
| Financial assets at FVTPL | 339.5 | 2.5 | - |
| Financial assets at FVTOCI | 3,476.2 | 3,121.9 | 2,192.5 |
| Financial assets at amortized cost | <u>919.7</u> | <u>754.9</u> | <u>681.5</u> |
| | <u>\$ 16,189.4</u> | <u>\$ 9,018.4</u> | <u>\$ 5,708.8</u> |

25. FINANCE COSTS

| | Years Ended December 31 | | |
|-------------------|-------------------------|-------------------|-------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Interest expense | | | |
| Corporate bonds | \$ 1,139.9 | \$ 1,337.3 | \$ 5,203.0 |
| Lease liabilities | 240.9 | 227.8 | 193.3 |
| Bank loans | 1,869.4 | 500.9 | 17.6 |
| Others | <u>0.7</u> | <u>15.5</u> | <u>0.3</u> |
| | <u>\$ 3,250.9</u> | <u>\$ 2,081.5</u> | <u>\$ 5,414.2</u> |

26. OTHER GAINS AND LOSSES, NET

| | Years Ended December 31 | | |
|--|-------------------------|---------------|---------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Gain on disposal of financial assets, net | | | |
| Investments in debt instruments at FVTOCI | \$ 537.8 | \$ 1,439.4 | \$ 93.2 |
| Loss on disposal of subsidiaries | (4.6) | - | - |
| Gain (loss) on financial instruments at FVTPL, net | | | |
| Mandatorily measured at FVTPL | (2,360.7) | 8,244.5 | (7,973.6) |
| Gain arising from fair value hedges, net | 13.1 | - | - |

(Continued)

| | Years Ended December 31 | | |
|--|-------------------------|--------------------|---------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| The reversal (accrual) of expected credit loss of financial assets | | | |
| Investments in debt instruments at FVTOCI | \$ (6.9) | \$ 0.9 | \$ (1.3) |
| Financial assets at amortized cost | 5.2 | (4.6) | 4.0 |
| Other gains, net | <u>665.1</u> | <u>426.2</u> | <u>489.7</u> |
| | <u>\$ (1,151.0)</u> | <u>\$ 10,106.4</u> | <u>\$ (7,388.0)</u> |
| | | | (Concluded) |

27. INCOME TAX

- a. Income tax expense recognized in profit or loss

Income tax expense consisted of the following:

| | Years Ended December 31 | | |
|---|-------------------------|--------------------|--------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Current income tax expense | | | |
| Current tax expense recognized in the current year | \$ 47,135.5 | \$ 87,452.7 | \$107,694.4 |
| Income tax adjustments on prior years | (10,193.8) | (7,589.4) | (14,539.5) |
| Other income tax adjustments | <u>(41.5)</u> | <u>150.2</u> | <u>152.2</u> |
| | <u>36,900.2</u> | <u>80,013.5</u> | <u>93,307.1</u> |
| Deferred income tax benefit | | | |
| The origination and reversal of temporary differences | (1,065.1) | (6,275.2) | (17,530.0) |
| Investment tax credits | <u>-</u> | <u>-</u> | <u>(5,621.7)</u> |
| | <u>(1,065.1)</u> | <u>(6,275.2)</u> | <u>(23,151.7)</u> |
| Income tax expense recognized in profit or loss | <u>\$ 35,835.1</u> | <u>\$ 73,738.3</u> | <u>\$ 70,155.4</u> |

A reconciliation of income before income tax and income tax expense recognized in profit or loss was as follows:

| | Years Ended December 31 | | |
|-------------------|-------------------------|---------------------|---------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Income before tax | <u>\$ 389,862.1</u> | <u>\$ 584,746.3</u> | <u>\$ 663,036.0</u> |
| | | | (Continued) |

| | Years Ended December 31 | | |
|--|-------------------------|-----------------------|-----------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Income tax expense at the statutory rate | \$ 79,056.5 | \$ 118,831.3 | \$ 134,595.2 |
| Tax effect of adjusting items: | | | |
| Nondeductible (deductible) items in determining taxable income | (4,183.5) | 1,015.9 | 11,279.5 |
| Tax-exempt income | (39,808.1) | (65,988.1) | (89,852.9) |
| Additional income tax under the Alternative Minimum Tax Act | 10,367.9 | 18,872.8 | 32,852.7 |
| Additional income tax on unappropriated earnings | 7,628.1 | 14,747.3 | 18,849.5 |
| The origination and reversal of temporary differences | (1,065.1) | (6,275.2) | (17,530.0) |
| Income tax credits | (5,925.4) | (26.5) | (5,651.3) |
| | 46,070.4 | 81,177.5 | 84,542.7 |
| Income tax adjustments on prior years | (10,193.8) | (7,589.4) | (14,539.5) |
| Other income tax adjustments | (41.5) | 150.2 | 152.2 |
| Income tax expense recognized in profit or loss | <u>\$ 35,835.1</u> | <u>\$ 73,738.3</u> | <u>\$ 70,155.4</u> (Concluded) |

Under the amendment to the R.O.C Statute of Industrial Innovation in 2019, the amounts of unappropriated earnings in 2018 and thereafter used for building or purchasing specific assets or technologies can qualify for deduction when computing the income tax on unappropriated earnings.

The income tax adjustments on prior years were primarily due to the difference between the actual and estimated income tax on unappropriated earnings.

For the years ended December 31, 2019, 2020 and 2021, the Company applied a tax rate of 20% for entities subject to the R.O.C. Income Tax Law; for other jurisdictions, taxes are calculated using the applicable tax rate for each individual jurisdiction.

b. Income tax expense recognized in other comprehensive income

| | Years Ended December 31 | | |
|--|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Deferred income tax benefit (expense) | | | |
| Related to remeasurement of defined benefit obligation | \$ (30.4) | \$ 422.1 | \$ (29.1) |
| Related to unrealized gain/loss on investments in equity instruments at FVTOCI | 9.4 | 0.6 | (56.2) |
| Related to gain/loss on cash flow hedges | <u>-</u> | <u>-</u> | <u>(3.4)</u> |
| | <u>\$ (21.0)</u> | <u>\$ 422.7</u> | <u>\$ (88.7)</u> |

c. Deferred income tax balance

The analysis of deferred income tax assets and liabilities was as follows:

| | December 31, 2020 | December 31, 2021 |
|---|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Deferred income tax assets</u> | | |
| Temporary differences | | |
| Depreciation | \$ 19,354.4 | \$ 34,720.7 |
| Refund liability | 3,755.1 | 5,986.2 |
| Investment tax credits | - | 5,621.7 |
| Net defined benefit liability | 1,342.1 | 1,237.1 |
| Unrealized loss on inventories | 858.5 | 899.0 |
| Deferred compensation cost | 330.3 | 374.0 |
| Investments in equity instruments at FVTOCI | 66.3 | 10.1 |
| Others | <u>251.5</u> | <u>305.1</u> |
| | <u>\$ 25,958.2</u> | <u>\$ 49,153.9</u> |
| <u>Deferred income tax liabilities</u> | | |
| Temporary differences | | |
| Unrealized exchange gains | \$ (866.5) | \$ (706.3) |
| Others | <u>(863.4)</u> | <u>(1,167.6)</u> |
| | <u>\$ (1,729.9)</u> | <u>\$ (1,873.9)</u> |

| | Year Ended December 31, 2019 | | | | |
|---|---|-----------------------|---|--|---------------------------------|
| | Recognized in | | | | Balance, End of Year |
| | Balance, Beginning of Year | Profit or Loss | Other Comprehensive Income | Effect of Exchange Rate Changes | Balance, End of Year |
| | NT\$ | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Deferred income tax assets</u> | | | | | |
| Temporary differences | | | | | |
| Depreciation | \$ 11,839.2 | \$ 1,727.8 | \$ - | \$ (19.8) | \$ 13,547.2 |
| Refund liability | 2,594.0 | (443.2) | - | (0.4) | 2,150.4 |
| Net defined benefit liability | 1,084.9 | (38.2) | (30.4) | - | 1,016.3 |
| Unrealized loss on inventories | 751.0 | (280.8) | - | (0.8) | 469.4 |
| Deferred compensation cost | 271.7 | 59.4 | - | (8.0) | 323.1 |
| Investments in equity instruments at FVTOCI | 56.2 | 0.1 | 9.4 | - | 65.7 |
| Others | <u>209.4</u> | <u>151.1</u> | <u>-</u> | <u>(4.2)</u> | <u>356.3</u> |
| | <u>\$ 16,806.4</u> | <u>\$ 1,176.2</u> | <u>\$ (21.0)</u> | <u>\$ (33.2)</u> | <u>\$ 17,928.4</u> |
| <u>Deferred income tax liabilities</u> | | | | | |
| Temporary differences | | | | | |
| Unrealized exchange gains | \$ (61.7) | \$ (271.9) | \$ - | \$ - | \$ (333.6) |
| Others | <u>(171.6)</u> | <u>160.8</u> | <u>-</u> | <u>-</u> | <u>(10.8)</u> |
| | <u>\$ (233.3)</u> | <u>\$ (111.1)</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (344.4)</u> |

| | Year Ended December 31, 2020 | | | | |
|---|----------------------------------|---------------------|----------------------------------|---------------------------------------|-------------------------|
| | Recognized in | | | | |
| | Balance, Beginning of Year | Profit or Loss | Other Comprehensive Income | Effect of Exchange Rate Changes | Balance, End of Year |
| | NTS | NTS | NTS | NTS | NTS |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Deferred income tax assets</u> | | | | | |
| Temporary differences | | | | | |
| Depreciation | \$ 13,547.2 | \$ 5,824.0 | \$ - | \$ (16.8) | \$ 19,354.4 |
| Refund liability | 2,150.4 | 1,606.1 | - | (1.4) | 3,755.1 |
| Net defined benefit liability | 1,016.3 | (96.3) | 422.1 | - | 1,342.1 |
| Unrealized loss on inventories | 469.4 | 391.1 | - | (2.0) | 858.5 |
| Deferred compensation cost | 323.1 | 27.4 | - | (20.2) | 330.3 |
| Investments in equity instruments at FVTOCI | 65.7 | - | 0.6 | - | 66.3 |
| Others | 356.3 | (91.6) | - | (13.2) | 251.5 |
| | <u>\$ 17,928.4</u> | <u>\$ 7,660.7</u> | <u>\$ 422.7</u> | <u>\$ (53.6)</u> | <u>\$ 25,958.2</u> |
| <u>Deferred income tax liabilities</u> | | | | | |
| Temporary differences | | | | | |
| Unrealized exchange gains | \$ (333.6) | \$ (532.9) | \$ - | \$ - | \$ (866.5) |
| Others | (10.8) | (852.6) | - | - | (863.4) |
| | <u>\$ (344.4)</u> | <u>\$ (1,385.5)</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (1,729.9)</u> |

| | Year Ended December 31, 2021 | | | | |
|---|----------------------------------|--------------------|----------------------------------|---------------------------------------|-------------------------|
| | Recognized in | | | | |
| | Balance, Beginning of Year | Profit or Loss | Other Comprehensive Income | Effect of Exchange Rate Changes | Balance, End of Year |
| | NTS | NTS | NTS | NTS | NTS |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Deferred income tax assets</u> | | | | | |
| Temporary differences | | | | | |
| Depreciation | \$ 19,354.4 | \$ 15,365.7 | \$ - | \$ 0.6 | \$ 34,720.7 |
| Refund liability | 3,755.1 | 2,231.5 | - | (0.4) | 5,986.2 |
| Investment tax credits | - | 5,621.7 | - | - | 5,621.7 |
| Net defined benefit liability | 1,342.1 | (75.9) | (29.1) | - | 1,237.1 |
| Unrealized loss on inventories | 858.5 | 41.0 | - | (0.5) | 899.0 |
| Deferred compensation cost | 330.3 | 49.2 | - | (5.5) | 374.0 |
| Investments in equity instruments at FVTOCI | 66.3 | - | (56.2) | - | 10.1 |
| Others | 251.5 | 59.1 | - | (5.5) | 305.1 |
| | <u>\$ 25,958.2</u> | <u>\$ 23,292.3</u> | <u>\$ (85.3)</u> | <u>\$ (11.3)</u> | <u>\$ 49,153.9</u> |
| <u>Deferred income tax liabilities</u> | | | | | |
| Temporary differences | | | | | |
| Unrealized exchange gains | \$ (866.5) | \$ 160.2 | \$ - | \$ - | \$ (706.3) |
| Others | (863.4) | (300.8) | (3.4) | - | (1,167.6) |
| | <u>\$ (1,729.9)</u> | <u>\$ (140.6)</u> | <u>\$ (3.4)</u> | <u>\$ -</u> | <u>\$ (1,873.9)</u> |

- d. The deductible temporary differences for which no deferred income tax assets have been recognized

As of December 31, 2020 and 2021, the aggregate deductible temporary differences for which no deferred income tax assets have been recognized amounted to NT\$55,521.0 million and NT\$66,431.3 million, respectively.

- e. Unused tax-exemption information

As of December 31, 2021, the profits generated from the following project of TSMC are exempt from income tax for a five-year period:

Tax-exemption Period

Construction and expansion of 2009 by TSMC

2018 to 2022

- f. The information of unrecognized deferred income tax liabilities associated with investments

As of December 31, 2020 and 2021, the aggregate taxable temporary differences associated with investments in subsidiaries not recognized as deferred income tax liabilities amounted to NT\$152,827.4 million and NT\$177,552.8 million, respectively.

- g. Income tax examination

The tax authorities have examined income tax returns of TSMC through 2019. All investment tax credit adjustments assessed by the tax authorities have been recognized accordingly.

28. EARNINGS PER SHARE

| | Years Ended December 31 | | |
|-------------|-------------------------|-----------------|-----------------|
| | 2019 (NT\$) | 2020 (NT\$) | 2021 (NT\$) |
| Basic EPS | <u>\$ 13.65</u> | <u>\$ 19.70</u> | <u>\$ 22.84</u> |
| Diluted EPS | <u>\$ 13.65</u> | <u>\$ 19.70</u> | <u>\$ 22.84</u> |

EPS is computed as follows:

| | Amounts (Numerator) NT\$ (In Millions) | Number of Shares (Denominator) (In Millions) | EPS (NT\$) |
|--|---|---|-----------------|
| <u>Year Ended December 31, 2019</u> | | | |
| Basic/Diluted EPS | | | |
| Net income available to common shareholders of the parent | <u>\$ 353,948.0</u> | <u>25,930.3</u> | <u>\$ 13.65</u> |
| <u>Year Ended December 31, 2020</u> | | | |
| Basic/Diluted EPS | | | |
| Net income available to common shareholders of the parent | <u>\$ 510,744.0</u> | <u>25,930.3</u> | <u>\$ 19.70</u> |
| <u>Year Ended December 31, 2021</u> | | | |
| Basic/Diluted EPS | | | |
| Net income available to common shareholders of the parent | <u>\$ 592,359.2</u> | <u>25,930.3</u> | <u>\$ 22.84</u> |

29. SHARE-BASED PAYMENT ARRANGEMENTS

- a. Employee restricted stock awards

The issuance of employee restricted stock awards (RSAs) for year 2021 of no more than 2.6 million common shares has been approved by TSMC's shareholders' meeting held on July 26, 2021. The grants will be made free of charge. Under the aforementioned resolution, TSMC's Board of Directors approved the issuance of RSAs of 1.4 million shares. The grant date and the issuance date will be on March 1, 2022.

Vesting conditions of the aforementioned arrangement are as follow:

- 1) The RSAs granted to a key management personnel can only be vested if
 - the key management personnel remains employed by TSMC on the last date of each vesting period;
 - during the vesting period, the key management personnel may not breach any agreement with the TSMC or violate the TSMC's work rules; and
 - certain key management personnel performance metrics and the TSMC's business performance metrics are met.
- 2) The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of the TSMC's business performance metrics.
- 3) The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on the TSMC's relative Total Shareholder Return ("TSR", including capital gains and dividends) achievement to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's evaluation of the TSMC's Environmental, Social, and Governance ("ESG") achievements. The number of shares so calculated should be rounded down to the nearest integral.

**TSMC's TSR relative to the
TSR of S&P 500 IT Index**

Ratio of Shares to be Vested

| | |
|--|---|
| Above the Index by X percentage points | $50\% + X * 2.5\%$, with the maximum of 100% |
| Equal to the Index | 50% |
| Below the Index by X percentage points | $50\% - X * 2.5\%$, with the minimum of 0% |

Restrictions imposed on the key management personnel' rights in the RSAs before the vesting conditions are fulfilled:

- 1) During each vesting period, no key management personnel granted RSAs, except for inheritance, may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.
- 2) Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and etc. shall be exercised by the engaged trustee/custodian on the key management personnel's behalf. Any other shareholder rights including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of TSMC.
- 3) Granted RSAs shall be deposited in a trust/custody account.

In April 2022, TSMC's Board of Directors approved the issuance of RSAs for year 2022 of no more than 3.1 million common shares. The grants will be made free of charge. The actual number of shares to be issued will be resolved by the Board of Directors after the RSAs is approved at the shareholders' meeting and by the competent authority.

b. Cash-settled share-based payment arrangements

In February 2022, TSMC executed a compensation plan to grant no more than 0.3 million units of employee cash-settled share-based payment arrangement without consideration. One unit of the right represents a right to the market value of one TSMC's common share when vested. The vesting conditions and the ratio of units to be vested for key management personnel of the plan are the same as the aforementioned RSAs for year 2021.

30. ADDITIONAL INFORMATION OF EXPENSES BY NATURE

| | Years Ended December 31 | | |
|--|-------------------------|-----------------------|-----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| a. Depreciation of property, plant and equipment and right-of-use assets | | | |
| Recognized in cost of revenue | \$ 256,530.9 | \$ 299,311.4 | \$ 386,103.9 |
| Recognized in operating expenses | 24,856.7 | 25,191.3 | 27,936.2 |
| Recognized in other operating income and expenses | <u>24.2</u> | <u>35.7</u> | <u>147.6</u> |
| | <u>\$ 281,411.8</u> | <u>\$ 324,538.4</u> | <u>\$ 414,187.7</u> |
| b. Amortization of intangible assets | | | |
| Recognized in cost of revenue | \$ 3,069.9 | \$ 4,837.7 | \$ 5,574.3 |
| Recognized in operating expenses | <u>2,402.5</u> | <u>2,348.5</u> | <u>2,632.9</u> |
| | <u>\$ 5,472.4</u> | <u>\$ 7,186.2</u> | <u>\$ 8,207.2</u> |
| c. Employee benefits expenses | | | |
| Post-employment benefits | | | |
| Defined contribution plans | \$ 2,609.7 | \$ 2,809.5 | \$ 3,711.0 |
| Defined benefit plans | <u>259.6</u> | <u>204.9</u> | <u>192.5</u> |
| | 2,869.3 | 3,014.4 | 3,903.5 |
| Other employee benefits | <u>107,115.3</u> | <u>137,803.0</u> | <u>161,043.6</u> |
| | <u>\$ 109,984.6</u> | <u>\$ 140,817.4</u> | <u>\$ 164,947.1</u> |
| Employee benefits expense summarized by function | | | |
| Recognized in cost of revenue | \$ 64,702.0 | \$ 83,099.0 | \$ 98,012.8 |
| Recognized in operating expenses | <u>45,282.6</u> | <u>57,718.4</u> | <u>66,934.3</u> |
| | <u>\$ 109,984.6</u> | <u>\$ 140,817.4</u> | <u>\$ 164,947.1</u> |

According to TSMC's Articles of Incorporation, TSMC shall allocate compensation to directors and profit sharing bonus to employees of TSMC not more than 0.3% and not less than 1% of annual profits during the period, respectively.

TSMC accrued profit sharing bonus to employees based on a percentage of net income before income tax, profit sharing bonus to employees and compensation to directors during the period; compensation to directors was expensed based on estimated amount payable. If there is a change in the proposed amounts after the annual consolidated financial statements are authorized for issue, the differences are recorded as a change in accounting estimate. Accrued profit sharing bonus to employees is illustrated below:

| | Years Ended December 31 | | |
|-----------------------------------|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Profit sharing bonus to employees | <u>\$ 23,165.7</u> | <u>\$ 34,753.2</u> | <u>\$ 35,601.5</u> |

TSMC's profit sharing bonus to employees and compensation to directors for 2019, 2020 and 2021 had been approved by the Board of Directors of TSMC, as illustrated below:

| | Years Ended December 31 | | |
|---|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Resolution Date of TSMC's Board of Directors in its meeting | February 11, 2020 | February 9, 2021 | February 15, 2022 |
| Profit sharing bonus to employees | <u>\$ 23,165.7</u> | <u>\$ 34,753.2</u> | <u>\$ 35,601.5</u> |
| Compensation to directors | <u>\$ 360.4</u> | <u>\$ 509.8</u> | <u>\$ 487.5</u> |

There is no significant difference between the aforementioned approved amounts and the amounts charged against earnings of 2019, 2020 and 2021, respectively

31. CASH FLOW INFORMATION

a. Non-cash transactions

| | Years Ended December 31 | | |
|---|--------------------------------|-------------------------------|-------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Additions of financial assets at FVTOCI | \$ 257,824.5 | \$ 268,653.5 | \$ 253,613.9 |
| Conversion of convertible bonds into equity securities | - | (120.5) | - |
| Exchange of equity instruments | - | - | (106.2) |
| Changes in accrued expenses and other current liabilities | <u>(266.3)</u> | <u>(5,895.5)</u> | <u>2,381.0</u> |
| Payments for acquisition of financial assets at FVTOCI | <u>\$ 257,558.2</u> | <u>\$ 262,637.5</u> | <u>\$ 255,888.7</u> |
| Disposal of financial assets at FVTOCI | \$ 229,525.1 | \$ 269,011.8 | \$ 251,201.4 |
| Changes in other financial assets | 919.4 | (2,079.9) | 3,509.3 |
| Exchange of equity instruments | <u>-</u> | <u>-</u> | <u>(106.2)</u> |
| Proceeds from disposal of financial assets at FVTOCI | <u>\$ 230,444.5</u> | <u>\$ 266,931.9</u> | <u>\$ 254,604.5</u> |

(Continued)

| | Years Ended December 31 | | |
|--|-------------------------|-----------------------|----------------------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Additions of property, plant and equipment | \$ 564,283.0 | \$ 525,720.7 | \$ 835,406.3 |
| Changes in other financial assets | 472.5 | 584.7 | 1,934.0 |
| Exchange of assets | (3,287.1) | (1.1) | (3,256.5) |
| Changes in payables to contractors and equipment suppliers | (100,963.9) | (19,085.9) | 5,153.3 |
| Transferred to initial carrying amount of hedged items | <u>(82.3)</u> | <u>20.3</u> | <u>(41.4)</u> |
| Payments for acquisition of property, plant and equipment | <u>\$ 460,422.2</u> | <u>\$ 507,238.7</u> | <u>\$ 839,195.7</u> |
| Additions of intangible assets | \$ 9,237.7 | \$ 12,559.5 | \$ 9,318.5 |
| Changes in other financial assets | 22.2 | 10.5 | 2.9 |
| Changes in account payable | 70.0 | 191.4 | - |
| Changes in accrued expenses and other current liabilities | <u>-</u> | <u>(3,219.0)</u> | <u>(280.7)</u> |
| Payments for acquisition of intangible assets | <u>\$ 9,329.9</u> | <u>\$ 9,542.4</u> | <u>\$ 9,040.7</u> (Concluded) |

b. Reconciliation of liabilities arising from financing activities

| | Non-cash changes | | | | | Balance as of December 31, 2019 NT\$ (In Millions) |
|-------------------|--|---|--|--|--|--|
| | Balance as of January 1, 2019 NT\$ (In Millions) | Financing Cash Flow NT\$ (In Millions) | Foreign Exchange Movement NT\$ (In Millions) | Leases Modifications NT\$ (In Millions) | Other Changes (Note) NT\$ (In Millions) | |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Short-term loans | \$ 88,754.7 | \$ 31,804.3 | \$ (2,036.7) | \$ - | \$ - | \$ 118,522.3 |
| Bonds payable | 91,800.0 | (34,900.0) | - | - | - | 56,900.0 |
| Lease liabilities | <u>19,903.6</u> | <u>(3,174.0)</u> | <u>(73.3)</u> | <u>419.7</u> | <u>240.9</u> | <u>17,316.9</u> |
| Total | <u>\$ 200,458.3</u> | <u>\$ (6,269.7)</u> | <u>\$ (2,110.0)</u> | <u>\$ 419.7</u> | <u>\$ 240.9</u> | <u>\$ 192,739.2</u> |

| | Non-cash changes | | | | | Balance as of December 31, 2020 NT\$ (In Millions) |
|----------------------|--|---|--|--|--|--|
| | Balance as of January 1, 2020 NT\$ (In Millions) | Financing Cash Flow NT\$ (In Millions) | Foreign Exchange Movement NT\$ (In Millions) | Leases Modifications NT\$ (In Millions) | Other Changes (Note) NT\$ (In Millions) | |
| | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) | NT\$ (In Millions) |
| Short-term loans | \$ 118,522.3 | \$ (31,571.6) | \$ 1,608.3 | \$ - | \$ - | \$ 88,559.0 |
| Bonds payable | 56,900.0 | 204,535.0 | (4,758.6) | - | 28.7 | 256,705.1 |
| Long-term bank loans | - | 2,000.0 | - | - | (32.4) | 1,967.6 |
| Lease liabilities | <u>17,316.9</u> | <u>(2,819.7)</u> | <u>(78.5)</u> | <u>7,742.2</u> | <u>227.7</u> | <u>22,388.6</u> |
| Total | <u>\$ 192,739.2</u> | <u>\$ 172,143.7</u> | <u>\$ (3,228.8)</u> | <u>\$ 7,742.2</u> | <u>\$ 224.0</u> | <u>\$ 369,620.3</u> |

| | Balance as of January 1, 2021 | Financing Cash Flow | Non-cash changes | | | Balance as of December 31, 2021 |
|----------------------|-------------------------------------|------------------------|--|--|--|---------------------------------------|
| | NT\$ (In Millions) | NT\$ (In Millions) | Foreign Exchange Movement NT\$ (In Millions) | Leases Modifications NT\$ (In Millions) | Other Changes (Note) NT\$ (In Millions) | NT\$ (In Millions) |
| Short-term loans | \$ 88,559.0 | \$ 35,668.4 | \$ (8,777.5) | \$ - | \$ (528.6) | \$ 114,921.3 |
| Bonds payable | 256,705.1 | 361,255.1 | (3,646.9) | - | 157.3 | 614,470.6 |
| Long-term bank loans | 1,967.6 | 1,510.0 | - | - | (1.8) | 3,475.8 |
| Lease liabilities | <u>22,388.6</u> | <u>(2,178.3)</u> | <u>(82.3)</u> | <u>2,619.4</u> | <u>193.3</u> | <u>22,940.7</u> |
| Total | \$ 369,620.3 | \$ 396,255.2 | \$ (12,506.7) | \$ 2,619.4 | \$ (179.8) | \$ 755,808.4 |

Note: Other changes include discounts on short-term loans, amortization of bonds payable, amortization of long-term bank loan interest subsidy and financial cost of lease liabilities.

32. CAPITAL MANAGEMENT

The Company requires significant amounts of capital to build and expand its production facilities and acquire additional equipment. In consideration of the industry dynamics, the Company manages its capital in a manner to ensure that it has sufficient and necessary financial resources to fund its working capital needs, capital asset purchases, research and development activities, dividend payments, debt service requirements and other business requirements associated with its existing operations over the next 12 months.

33. FINANCIAL INSTRUMENTS

a. Categories of financial instruments

| | December 31, 2020 NT\$ (In Millions) | December 31, 2021 NT\$ (In Millions) |
|-------------------------------|---|---|
| | | |
| Financial assets | | |
| FVTPL (Note 1) | \$ 2,259.4 | \$ 159.0 |
| FVTOCI (Note 2) | 129,918.7 | 129,607.1 |
| Hedging financial assets | 0.1 | 13.5 |
| Amortized cost (Note 3) | <u>826,293.6</u> | <u>1,283,715.7</u> |
| | <u>\$ 958,471.8</u> | <u>\$ 1,413,495.3</u> |
| Financial liabilities | | |
| FVTPL (Note 4) | \$ 94.1 | \$ 681.9 |
| Hedging financial liabilities | 1.2 | 9.6 |
| Amortized cost (Note 5) | <u>748,129.3</u> | <u>1,355,957.2</u> |
| | <u>\$ 748,224.6</u> | <u>\$ 1,356,648.7</u> |

Note 1: Financial assets mandatorily measured at FVTPL.

Note 2: Including notes and accounts receivable (net), equity and debt investments.

Note 3: Including cash and cash equivalents, financial assets at amortized cost, notes and accounts receivable (including related parties), other receivables and refundable deposits.

Note 4: Held for trading.

Note 5: Including short-term loans, accounts payable (including related parties), payables to contractors and equipment suppliers, cash dividends payable, accrued expenses and other current liabilities, bonds payable, long-term bank loans, guarantee deposits and other noncurrent liabilities.

b. Financial risk management objectives

The Company manages its exposure to foreign currency risk, interest rate risk, equity price risk, credit risk and liquidity risk with the objective to reduce the potentially adverse effects the market uncertainties may have on its financial performance.

The plans for material treasury activities are reviewed by the Audit Committees and/or Board of Directors in accordance with procedures required by relevant regulations or internal controls. During the implementation of such plans, the Company must comply with certain treasury procedures that provide guiding principles for overall financial risk management and segregation of duties.

c. Market risk

The Company is exposed to the financial market risks, primarily changes in foreign currency exchange rates, interest rates and equity investment prices. A portion of these risks is hedged.

Foreign currency risk

Substantially all the Company's sales are denominated in U.S. dollars and over half of its capital expenditures are denominated in currencies other than NT dollars, primarily in U.S. dollars, Japanese yen and Euros. As a result, any significant fluctuations to its disadvantage in the exchanges rate of NT dollar against such currencies, in particular a weakening of U.S. dollar against NT dollar, would have an adverse impact on the revenue and operating profit as expressed in NT dollars. The Company uses foreign currency derivative contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT dollar-denominated assets and liabilities and certain forecasted transactions. These hedges reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on the assets and liabilities.

Based on a sensitivity analysis performed on the Company's total monetary assets and liabilities for the years ended December 31, 2019, 2020 and 2021, a hypothetical adverse foreign currency exchange rate change of 10% would have decreased its net income by NT\$2,137.3 million, NT\$897.7 million and NT\$1,435.3 million, respectively, and decreased its other comprehensive income by NT\$107.7 million for the year ended December 2019, after taking into account hedges and offsetting positions.

Interest rate risk

The Company is exposed to interest rate risks primarily related to its investment portfolio and outstanding debt. Changes in interest rates affect the interest earned on the Company's cash and cash equivalents and fixed income securities, the fair value of those securities, as well as the interest paid on its debt.

The Company's cash and cash equivalents as well as fixed income investments in both fixed- and floating-rate securities carry a degree of interest rate risk. The majority of the Company's fixed income investments are fixed-rate securities, which are classified as financial assets at FVTOCI, and may have their fair value adversely affected due to a rise in interest rates. At the same time, if interest rates fall, cash and cash equivalents as well as floating-rate securities may generate less interest income than expected. The Company has entered and may in the future enter into interest rate futures to partially hedge the interest rate risk on its fixed income investments. However, these hedges can offset only a small portion of the financial impact from movements in interest rates.

Based on a sensitivity analysis performed on the Company's fixed income investments at the end of the reporting period, interest rates increase of 100 basis points (1.00%) across all maturities would have decreased the Company's other comprehensive income by NT\$3,516.6 million, NT\$3,143.6 million and NT\$3,767.1 million for the years ended December 31, 2019, 2020, and 2021, respectively.

All of the Company's short-term debt is floating-rate, hence a rise in interest rates may result in higher interest expense than expected. The majority of the Company's long-term debt is fixed-rate and measured at amortized cost and as such, changes in interest rates would not affect the future cash flows and the carrying amount.

Other price risk

The Company is exposed to equity price risk arising from financial assets at FVTOCI.

Assuming a hypothetical decrease of 10% in prices of the equity investments at the end of the reporting period for the years ended December 31, 2019, 2020 and 2021, the other comprehensive income would have decreased by NT\$401.9 million, NT\$446.5 million and NT\$595.8 million, respectively.

d. Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial losses to the Company. The Company is exposed to credit risks from operating activities, primarily accounts receivable, and from investing activities, primarily deposits, fixed-income investments and other financial instruments with banks. Credit risk is managed separately for business related and financial related exposures. As of the end of the reporting period, the Company's maximum credit risk exposure is equal to the carrying amount of financial assets.

Business related credit risk

The Company's accounts receivable are from its customers worldwide. The majority of the Company's outstanding accounts receivable are not covered by collaterals or guarantees. While the Company has procedures to monitor and manage credit risk exposure on accounts receivable, there is no assurance such procedures will effectively eliminate losses resulting from its credit risk. This risk is heightened during periods when economic conditions worsen.

As of December 31, 2021 and 2020, the Company's ten largest customers accounted for 79% of accounts receivable in both years. The Company considers the concentration of credit risk for the remaining accounts receivable not material.

Financial credit risk

The Company mitigates its financial credit risk by selecting counterparties with investment grade credit ratings and by limiting the exposure to any individual counterparty. The Company regularly monitors and reviews the limit applied to counterparties and adjusts the limit according to market conditions and the credit standing of the counterparties.

The objective of the Company's investment policy is to achieve a return that will allow the Company to preserve principal and support liquidity requirements. The policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. The Company assesses whether there has been a significant increase in credit risk in the invested securities since initial recognition by reviewing changes in external credit ratings, financial market conditions and material information of the issuers.

The Company assesses the 12-month expected credit loss and lifetime expected credit loss based on the probability of default and loss given default provided by external credit rating agencies. The current credit risk assessment policies are as follows:

| Category | Description | Basis for Recognizing Expected Credit Loss | Expected Credit Loss Ratio |
|------------|--|---|----------------------------|
| Performing | Credit rating is investment grade on valuation date | 12 months expected credit loss | 0-0.1% |
| Doubtful | Credit rating is non-investment grade on valuation date | Lifetime expected credit loss-not credit impaired | - |
| In default | Credit rating is CC or below on valuation date | Lifetime expected credit loss-credit impaired | - |
| Write-off | There is evidence indicating that the debtor is in severe financial difficulty and the Company has no realistic prospect of recovery | Amount is written off | - |

For the years ended December 31, 2019, 2020 and 2021, the expected credit loss increased NT\$0.6 million, increased NT\$1.1 million and decreased NT\$3.3 million, respectively. The changes were mainly due to investment portfolio adjustment.

e. Liquidity risk management

The objective of liquidity risk management is to ensure the Company has sufficient liquidity to fund its business operations over the next 12 months. The Company manages its liquidity risk by maintaining adequate cash and cash equivalents, financial assets at FVTOCI-current, financial assets at amortized cost-current and sufficient cost-efficient funding.

The table below summarizes the maturity profile of the Company's financial liabilities based on contractual undiscounted payments, including principal and interest.

| | Less Than 1 Year NT\$ (In Millions) | 1-3 Years NT\$ (In Millions) | 3-5 Years NT\$ (In Millions) | More Than 5 Years NT\$ (In Millions) | Total NT\$ (In Millions) |
|--|--|------------------------------------|------------------------------------|---|--------------------------------|
| <u>December 31, 2020</u> | | | | | |
| <u>Non-derivative financial liabilities</u> | | | | | |
| Short-term loans | \$ 88,557.5 | \$ - | \$ - | \$ - | \$ 88,557.5 |
| Accounts payable (including related parties) | 41,095.0 | - | - | - | 41,095.0 |
| Payables to contractors and equipment suppliers | 157,805.0 | - | - | - | 157,805.0 |
| Accrued expenses and other current liabilities | 71,995.7 | - | - | - | 71,995.7 |
| Bonds payable | 5,328.0 | 27,631.6 | 59,986.8 | 207,152.1 | 300,098.5 |
| Long-term bank loans | 8.0 | 847.4 | 1,170.9 | - | 2,026.3 |
| Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note) | 2,024.2 | 3,566.7 | 3,198.8 | 15,067.9 | 23,857.6 |
| | <u>366,813.4</u> | <u>32,045.7</u> | <u>64,356.5</u> | <u>222,220.0</u> | <u>685,435.6</u> |
| <u>Derivative financial instruments</u> | | | | | |
| Forward exchange contracts | | | | | |
| Outflows | 177,764.2 | - | - | - | 177,764.2 |
| Inflows | (181,458.0) | - | - | - | (181,458.0) |
| | <u>(3,693.8)</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>(3,693.8)</u> |
| | <u>\$ 363,119.6</u> | <u>\$ 32,045.7</u> | <u>\$ 64,356.5</u> | <u>\$ 222,220.0</u> | <u>\$ 681,741.8</u> |

| | Less Than 1 Year NTS (In Millions) | 1-3 Years NTS (In Millions) | 3-5 Years NTS (In Millions) | More Than 5 Years NTS (In Millions) | Total NTS (In Millions) |
|--|---|-----------------------------------|-----------------------------------|--|-------------------------------|
| <u>December 31, 2021</u> | | | | | |
| <u>Non-derivative financial liabilities</u> | | | | | |
| Short-term loans | \$ 114,767.0 | \$ - | \$ - | \$ - | \$ 114,767.0 |
| Accounts payable (including related parties) | 48,722.8 | - | - | - | 48,722.8 |
| Payables to contractors and equipment suppliers | 145,742.2 | - | - | - | 145,742.2 |
| Accrued expenses and other current liabilities | 120,240.4 | - | - | - | 120,240.4 |
| Bonds payable | 13,580.6 | 42,801.4 | 191,458.1 | 506,505.0 | 754,345.1 |
| Long-term bank loans | 183.7 | 2,217.1 | 1,153.9 | - | 3,554.7 |
| Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note) | 2,371.6 | 3,896.2 | 3,385.3 | 14,649.2 | 24,302.3 |
| Others | - | 164,991.9 | - | - | 164,991.9 |
| | <u>445,608.3</u> | <u>213,906.6</u> | <u>195,997.3</u> | <u>521,154.2</u> | <u>1,376,666.4</u> |
| <u>Derivative financial instruments</u> | | | | | |
| Forward exchange contracts | | | | | |
| Outflows | 187,708.0 | - | - | - | 187,708.0 |
| Inflows | (187,631.9) | - | - | - | (187,631.9) |
| | <u>76.1</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>76.1</u> |
| | <u>\$ 445,684.4</u> | <u>\$ 213,906.6</u> | <u>\$ 195,997.3</u> | <u>\$ 521,154.2</u> | <u>\$ 1,376,742.5</u> |

Note: Information about the maturity analysis for lease liabilities more than 5 years:

| | 5-10 Years NTS (In Millions) | 10-15 Years NTS (In Millions) | 15-20 Years NTS (In Millions) | More Than 20 Years NTS (In Millions) | Total NTS (In Millions) |
|--------------------------|------------------------------------|-------------------------------------|-------------------------------------|---|-------------------------------|
| <u>December 31, 2020</u> | | | | | |
| Lease liabilities | \$ <u>7,402.0</u> | \$ <u>5,253.9</u> | \$ <u>2,255.2</u> | \$ <u>156.8</u> | \$ <u>15,067.9</u> |
| <u>December 31, 2021</u> | | | | | |
| Lease liabilities | \$ <u>7,513.9</u> | \$ <u>5,043.1</u> | \$ <u>1,972.7</u> | \$ <u>119.5</u> | \$ <u>14,649.2</u> |

f. Fair value of financial instruments

1) Fair value measurements recognized in the consolidated statements of financial position

Fair value measurements are grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The timing of transfers between levels within the fair value hierarchy is at the end of reporting period.

2) Fair value of financial instruments that are measured at fair value on a recurring basis

Fair value hierarchy

The following table presents the Company's financial assets and liabilities measured at fair value on a recurring basis:

| December 31, 2020 | | | |
|--|---------------|---------------|---------------|
| | Level 1 | Level 2 | Level 3 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| <u>Financial assets at FVTPL</u> | | | |
| Mandatorily measured at FVTPL | | | |
| Forward exchange contracts | \$ - | \$ 2,259.4 | \$ - |
| | | | \$ 2,259.4 |
| <u>Financial assets at FVTOCI</u> | | | |
| Investments in debt instruments | | | |
| Corporate bonds | \$ - | \$ 56,593.6 | \$ - |
| Agency bonds/Agency mortgage-backed securities | - | 43,977.1 | - |
| Government bonds | 13,279.2 | 180.3 | - |
| Asset-backed securities | - | 8,368.3 | - |
| Investments in equity instruments | | | |
| Non-publicly traded equity investments | - | - | 4,514.9 |
| Publicly traded stocks | 50.0 | - | - |
| Notes and accounts receivable, net | - | 2,955.3 | - |
| | \$ 13,329.2 | \$ 112,074.6 | \$ 4,514.9 |
| | | | \$ 129,918.7 |
| <u>Hedging financial assets</u> | | | |
| Fair value hedges | | | |
| Interest rate futures contracts | \$ 0.1 | \$ - | \$ - |
| | | | \$ 0.1 |
| <u>Financial liabilities at FVTPL</u> | | | |
| Held for trading | | | |
| Forward exchange contracts | \$ - | \$ 94.1 | \$ - |
| | | | \$ 94.1 |
| <u>Hedging financial liabilities</u> | | | |
| Fair value hedges | | | |
| Interest rate futures contracts | \$ 1.2 | \$ - | \$ - |
| | | | \$ 1.2 |

Because certain equity investment's quoted price (unadjusted) in active markets became available in the fourth quarter of 2020, its fair value hierarchy was transferred from Level 2 to Level 1.

| December 31, 2021 | | | |
|----------------------------------|---------------|---------------|---------------|
| | Level 1 | Level 2 | Level 3 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| <u>Financial assets at FVTPL</u> | | | |
| Mandatorily measured at FVTPL | | | |
| Forward exchange contracts | \$ - | \$ 159.0 | \$ - |
| | | | \$ 159.0 |

(Continued)

| December 31, 2021 | | | | |
|--|--------------------|---------------------|-------------------|---------------------|
| | Level 1 | Level 2 | Level 3 | Total |
| | NT\$ | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) | (In Millions) |
| <u>Financial assets at FVTOCI</u> | | | | |
| Investments in debt instruments | | | | |
| Corporate bonds | \$ - | \$ 57,253.2 | \$ - | \$ 57,253.2 |
| Agency bonds/Agency mortgage-backed securities | - | 32,070.1 | - | 32,070.1 |
| Government bonds | 21,267.0 | 78.8 | - | 21,345.8 |
| Asset-backed securities | - | 8,660.4 | - | 8,660.4 |
| Investments in equity instruments | | | | |
| Non-publicly traded equity investments | - | - | 5,887.9 | 5,887.9 |
| Publicly traded stocks | 189.8 | - | - | 189.8 |
| Notes and accounts receivable, net | - | 4,199.9 | - | 4,199.9 |
| | <u>\$ 21,456.8</u> | <u>\$ 102,262.4</u> | <u>\$ 5,887.9</u> | <u>\$ 129,607.1</u> |
| <u>Hedging financial assets</u> | | | | |
| Cash flow hedges | | | | |
| Forward interest rate contracts | <u>\$ -</u> | <u>\$ 13.5</u> | <u>\$ -</u> | <u>\$ 13.5</u> |
| <u>Financial liabilities at FVTPL</u> | | | | |
| Held for trading | | | | |
| Forward exchange contracts | <u>\$ -</u> | <u>\$ 681.9</u> | <u>\$ -</u> | <u>\$ 681.9</u> |
| <u>Hedging financial liabilities</u> | | | | |
| Fair value hedges | | | | |
| Interest rate futures contracts | <u>\$ 9.6</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 9.6</u> |
| | | | | (Concluded) |

Reconciliation of Level 3 fair value measurements of financial assets

The financial assets measured at Level 3 fair value were equity investments classified as financial assets at FVTOCI and financial assets at FVTPL. Reconciliations for the years ended December 31, 2019, 2020 and 2021 are as follows:

| Years Ended December 31 | | | |
|--|-------------------|-------------------|-------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Balance, beginning of year | \$ 3,910.7 | \$ 4,208.9 | \$ 4,514.9 |
| Additions | 372.3 | 175.2 | 319.2 |
| Recognized in profit or loss | - | (3.8) | - |
| Recognized in other comprehensive income or loss | 129.5 | 409.0 | 1,821.8 |
| Disposals and proceeds from return of capital of investments | (76.5) | (51.1) | (700.2) |
| Transfers out of level 3 (Note) | (43.6) | - | - |
| Effect of exchange rate changes | <u>(83.5)</u> | <u>(223.3)</u> | <u>(67.8)</u> |
| Balance, end of year | <u>\$ 4,208.9</u> | <u>\$ 4,514.9</u> | <u>\$ 5,887.9</u> |

Note: The transfer from Level 3 to Level 2 is because observable market data became available for such equity investment.

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of financial assets and financial liabilities are determined as follows:

- The fair values of corporate bonds, agency bonds, agency mortgage-backed securities, asset-backed securities and government bonds are determined by quoted market prices provided by third party pricing services.
- The fair values of forward contracts are measured using forward rates and discount rates derived from quoted market prices.
- The fair value of accounts receivable classified as at FVTOCI is determined by the present value of future cash flows based on the discount rate that reflects the credit risk of counterparties.

Valuation techniques and assumptions used in Level 3 fair value measurement

The fair values of non-publicly traded equity investments (excluding those trading on the Emerging Stock Board) are mainly determined by using the asset approach and market approach.

The asset approach takes into account the net asset value measured at the fair value by independent parties. On December 31, 2020 and 2021, the Company uses unobservable inputs derived from discount for lack of marketability of 10%. When other inputs remain equal, the fair value will decrease by NT\$39.0 million and NT\$51.4 million, respectively, if discounts for lack of marketability increase by 1%.

For the remaining few investments, the market approach is used to arrive at their fair values, for which the recent financing activities of investees, the market transaction prices of the similar companies and market conditions are considered.

3) Fair value of financial instruments that are not measured at fair value

Except as detailed in the following table, the Company considers that the carrying amounts of financial instruments in the consolidated financial statements that are not measured at fair value approximate their fair values.

Fair value hierarchy

The table below sets out the fair value hierarchy for the Company's financial assets and liabilities which are not required to be measured at fair value:

| December 31, 2020 | |
|-------------------|--------------------|
| Carrying Amount | Level 2 Fair Value |
| NT\$ | NT\$ |
| (In Millions) | (In Millions) |

Financial assets

Financial assets at amortized costs

Corporate bonds

\$ 10,970.2

\$ 11,053.6

(Continued)

| | December 31, 2020 | |
|--|-------------------|-----------------------------|
| | Carrying Amount | Level 2 Fair Value |
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Financial liabilities</u> | | |
| Financial liabilities at amortized costs | | |
| Bonds payable | \$ 256,705.1 | \$ 257,551.2 (Concluded) |

| | December 31, 2021 | |
|-------------------------------------|-------------------|--------------------|
| | Carrying Amount | Level 2 Fair Value |
| | NT\$ | NT\$ |
| | (In Millions) | (In Millions) |
| <u>Financial assets</u> | | |
| Financial assets at amortized costs | | |
| Corporate bonds | \$ 5,307.0 | \$ 5,318.0 |

| | | |
|--|--------------|--------------|
| <u>Financial liabilities</u> | | |
| Financial liabilities at amortized costs | | |
| Bonds payable | \$ 614,470.7 | \$ 613,514.7 |

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of corporate bonds and the Company's bonds payable are determined by quoted market prices provided by third party pricing services.

34. RELATED PARTY TRANSACTIONS

Intercompany balances and transactions between TSMC and its subsidiaries, which are related parties of TSMC, have been eliminated upon consolidation; therefore, those items are not disclosed in this note. The following is a summary of significant transactions between the Company and other related parties:

a. Related party name and categories

| Related Party Name | Related Party Categories |
|---------------------------------------|--------------------------|
| GUC | Associates |
| VIS | Associates |
| SSMC | Associates |
| Xintec | Associates |
| TSMC Education and Culture Foundation | Other related parties |
| TSMC Charity Foundation | Other related parties |

b. Net revenue

| | | Years Ended December 31 | | |
|--------------------------------|---------------------------------|-------------------------|-------------------|-------------------|
| | | 2019 | 2020 | 2021 |
| | | NT\$ | NT\$ | NT\$ |
| | | (In Millions) | (In Millions) | (In Millions) |
| <u>Item</u> | <u>Related Party Categories</u> | | | |
| Net revenue from sale of goods | Associates | <u>\$ 6,253.9</u> | <u>\$ 8,129.8</u> | <u>\$ 8,475.9</u> |

c. Purchases

| | | Years Ended December 31 | | |
|---------------------------------|--|-------------------------|-------------------|-------------------|
| | | 2019 | 2020 | 2021 |
| | | NT\$ | NT\$ | NT\$ |
| | | (In Millions) | (In Millions) | (In Millions) |
| <u>Related Party Categories</u> | | | | |
| Associates | | <u>\$ 6,301.4</u> | <u>\$ 7,606.4</u> | <u>\$ 7,569.8</u> |

d. Receivables from related parties

| | | December 31, 2020 | December 31, 2021 |
|--|--------------------------------------|----------------------|----------------------|
| | | NT\$ | NT\$ |
| | | (In Millions) | (In Millions) |
| <u>Item</u> | <u>Related Party Name/Categories</u> | | |
| Receivables from related parties | GUC | \$ 370.6 | \$ 597.8 |
| | Xintec | <u>187.5</u> | <u>117.5</u> |
| | | <u>\$ 558.1</u> | <u>\$ 715.3</u> |
| Other receivables from related parties | SSMC | \$ 45.3 | \$ 50.4 |
| | VIS | 4.3 | 11.1 |
| | Other associates | <u>1.0</u> | <u>-</u> |
| | | <u>\$ 50.6</u> | <u>\$ 61.5</u> |

e. Payables to related parties

| | | December 31, 2020 | December 31, 2021 |
|-----------------------------|--------------------------------------|----------------------|----------------------|
| | | NT\$ | NT\$ |
| | | (In Millions) | (In Millions) |
| <u>Item</u> | <u>Related Party Name/Categories</u> | | |
| Payables to related parties | Xintec | \$ 1,358.6 | \$ 725.3 |
| | VIS | 311.4 | 357.2 |
| | SSMC | 400.8 | 349.2 |
| | Other associates | <u>36.9</u> | <u>5.5</u> |
| | | <u>\$ 2,107.7</u> | <u>\$ 1,437.2</u> |

f. Accrued expenses and other current liabilities

| | | December 31, 2020 | December 31, 2021 |
|----------------------|---------------------------------|------------------------------|------------------------------|
| | | NT\$ | NT\$ |
| | | (In Millions) | (In Millions) |
| <u>Item</u> | <u>Related Party Categories</u> | | |
| Contract liabilities | Associates | \$ - | \$ 726.4 |

g. Others

| | | Years Ended December 31 | | |
|------------------------|---------------------------------|--------------------------------|----------------------|----------------------|
| | | 2019 | 2020 | 2021 |
| | | NT\$ | NT\$ | NT\$ |
| | | (In Millions) | (In Millions) | (In Millions) |
| <u>Item</u> | <u>Related Party Categories</u> | | | |
| Manufacturing expenses | Associates | \$ 2,823.0 | \$ 5,440.0 | \$ 5,459.9 |

The sales prices and payment terms to related parties were not significantly different from those of sales to third parties. For other related party transactions, price and terms were determined in accordance with mutual agreements.

The Company leased factory and office from associates. The lease terms and prices were both determined in accordance with mutual agreements. The rental expenses were paid to associates monthly; the related expenses were both classified under manufacturing expenses.

h. Compensation of key management personnel

The compensation to directors and other key management personnel were as follows:

| | Years Ended December 31 | | |
|------------------------------|--------------------------------|----------------------|----------------------|
| | 2019 | 2020 | 2021 |
| | NT\$ | NT\$ | NT\$ |
| | (In Millions) | (In Millions) | (In Millions) |
| Short-term employee benefits | \$ 1,922.2 | \$ 2,666.7 | \$ 2,886.8 |
| Post-employment benefits | <u>2.7</u> | <u>2.3</u> | <u>2.9</u> |
| | <u>\$ 1,924.9</u> | <u>\$ 2,669.0</u> | <u>\$ 2,889.7</u> |

The compensation to directors and other key management personnel were determined by the Compensation Committee of TSMC in accordance with the individual performance and market trends.

35. PLEDGED ASSETS

The Company provided certificate of deposits recorded in other financial assets as collateral mainly for building construction, building lease agreements and energy purchase agreements. As of December 31, 2020 and 2021, the aforementioned other financial assets amounted to NT\$135.4 million and NT\$210.2 million, respectively.

36. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

Significant contingent liabilities and unrecognized commitments of the Company as of the end of the reporting period, excluding those disclosed in other notes, were as follows:

- a. Under a technical cooperation agreement with Industrial Technology Research Institute, the R.O.C. Government or its designee approved by TSMC can use up to 35% of TSMC's capacity provided TSMC's outstanding commitments to its customers are not prejudiced. The term of this agreement is for five years beginning from January 1, 1987 and is automatically renewed for successive periods of five years unless otherwise terminated by either party with one year prior notice. As of December 31, 2021, the R.O.C. Government did not invoke such right.
- b. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company, SSMC, which is an integrated circuit foundry in Singapore. TSMC's equity interest in SSMC was 32%. Nevertheless, in September 2006, Philips spun-off its semiconductor subsidiary which was renamed as NXP B.V. Further, TSMC and NXP B.V. purchased all the SSMC shares owned by EDB Investments Pte Ltd. pro rata according to the Shareholders Agreement on November 15, 2006. After the purchase, TSMC and NXP B.V. currently own approximately 39% and 61% of the SSMC shares, respectively. TSMC and NXP B.V. are required, in the aggregate, to purchase at least 70% of SSMC's capacity, but TSMC alone is not required to purchase more than 28% of the capacity. If any party defaults on the commitment and the capacity utilization of SSMC falls below a specific percentage of its capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs. There was no default from the aforementioned commitment as of December 31, 2021.
- c. TSMC entered into long-term purchase agreements of materials and supplies and agreements of waste disposal with multiple suppliers. The relative minimum fulfillment quantity and price are specified in the agreements.
- d. TSMC entered into a long-term purchase agreement of equipment. The relative fulfillment quantity and price are specified in the agreement.
- e. TSMC entered into long-term energy purchase agreements with multiple suppliers. The relative fulfillment period, quantity and price are specified in the agreements.
- f. Amounts available under unused letters of credit as of December 31, 2020 and 2021 were NT\$56.2 million and NT\$136.7 million, respectively.

37. SIGNIFICANT OPERATION LOSSES

On January 19, 2019, the Company discovered a wafer contamination issue in a fab in Taiwan caused by a batch of unqualified photoresist materials. After investigation, the Company immediately stopped using the unqualified materials. An estimated loss of NT\$3,400.0 million related to this event was recognized in cost of revenue for the three months ended March 31, 2019.

38. OPERATING SEGMENTS INFORMATION

a. Operating segments, segment revenue and operating results

TSMC's chief operating decision makers periodically review operating results, focusing on operating income generated by foundry segment. Operating results are used for resource allocation and/or performance assessment. As a result, the Company has only one operating segment, the foundry segment. The foundry segment engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

The basis for the measurement of income from operations is the same as that for the preparation of financial statements. Please refer to the consolidated statements of comprehensive income for the related segment revenue and operating results.

b. Geographic and major customers' information were as follows:

1) Geographic information

| | December 31, 2020 | December 31, 2021 |
|------------------------------------|------------------------------|------------------------------|
| | NT\$ | NT\$ |
| Noncurrent Assets | (In Millions) | (In Millions) |
| Taiwan | \$ 1,569,080.4 | \$ 1,953,007.7 |
| United States | 9,455.5 | 41,208.7 |
| China | 34,456.4 | 41,895.2 |
| Europe, the Middle East and Africa | 174.2 | 143.9 |
| Japan | 327.2 | 1,011.0 |
| Others | 3.0 | 0.5 |
| | <u>\$ 1,613,496.7</u> | <u>\$ 2,037,267.0</u> |

Noncurrent assets include property, plant and equipment, right-of-use assets, intangible assets and other noncurrent assets.

2) Major customers representing at least 10% of net revenue

| | Years Ended December 31 | | | | | |
|------------|--------------------------------|----------|----------------------|----------|----------------------|----------|
| | 2019 | | 2020 | | 2021 | |
| | Amount | % | Amount | % | Amount | % |
| | NT\$ | | NT\$ | | NT\$ | |
| | (In Millions) | | (In Millions) | | (In Millions) | |
| Customer A | \$ 247,213.3 | 23 | \$ 336,775.5 | 25 | \$ 405,403.0 | 26 |
| Customer B | NA (Note) | NA | NA | NA | 153,740.8 | 10 |
| Customer C | 152,876.9 | 14 | 167,390.8 | 12 | NA | NA |

Note: Revenue less than 10% of the Company's net revenue.

**Taiwan Semiconductor Manufacturing
Company Limited and Subsidiaries**

**Consolidated Financial Statements for the
Three Months Ended March 31, 2022 and 2021 and
Independent Auditors' Review Report**

INDEPENDENT AUDITORS' REVIEW REPORT

The Board of Directors and Shareholders
Taiwan Semiconductor Manufacturing Company Limited

Introduction

We have reviewed the accompanying consolidated balance sheets of Taiwan Semiconductor Manufacturing Company Limited and its subsidiaries (collectively, the "Company") as of March 31, 2022 and 2021, the related consolidated statements of comprehensive income of changes in equity, and of cash flows for the three months then ended, and the related notes to the consolidated financial statements, including a summary of significant accounting policies (collectively referred to as the "consolidated financial statements"). Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Accounting Standard 34 "Interim Financial Reporting" endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China. Our responsibility is to express a conclusion on the consolidated financial statements based on our reviews.

Scope of Review

We conducted our reviews in accordance with Statement of Auditing Standards No. 65 "Review of Financial Information Performed by the Independent Auditor of the Entity". A review of consolidated financial statements consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our reviews, nothing has come to our attention that caused us to believe that the accompanying consolidated financial statements do not present fairly, in all material respects the consolidated financial position of the Company as of March 31, 2022 and 2021, its consolidated financial performance and its consolidated cash flows for the three months then ended March 31, 2022 and 2021, and in accordance with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and International Accounting Standard 34 "Interim Financial Reporting" endorsed and issued into effect by the Financial Supervisory Commission of the Republic of China.

The engagement partners on the reviews resulting in this independent auditors' review report are Mei Yen Chiang and Shang Chih Lin.

Deloitte & Touche
Taipei, Taiwan
Republic of China

May 10, 2022

Notice to Readers

The accompanying consolidated financial statements are intended only to present the consolidated financial position, financial performance and cash flows in accordance with accounting principles and practices generally accepted in the Republic of China and not those of any other jurisdictions. The standards, procedures and practices to review such consolidated financial statements are those generally applied in the Republic of China.

For the convenience of readers, the independent auditors' review report and the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the Republic of China. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language independent auditors' review report and consolidated financial statements shall prevail.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED BALANCE SHEETS (In Thousands of New Taiwan Dollars)

| | March 31, 2022 (Reviewed) | | December 31, 2021 (Audited) | | March 31, 2021 (Reviewed) | |
|---|------------------------------|------------|--------------------------------|------------|------------------------------|------------|
| | Amount | % | Amount | % | Amount | % |
| ASSETS | | | | | | |
| CURRENT ASSETS | | | | | | |
| Cash and cash equivalents (Note 6) | \$ 1,151,589,646 | 29 | \$ 1,064,990,192 | 29 | \$ 664,727,857 | 23 |
| Financial assets at fair value through profit or loss (Note 7) | 758,452 | - | 159,048 | - | 26,897 | - |
| Financial assets at fair value through other comprehensive income (Note 8) | 120,995,765 | 3 | 119,519,251 | 3 | 125,208,307 | 4 |
| Financial assets at amortized cost (Note 9) | 8,425,386 | - | 3,773,571 | - | 6,694,422 | - |
| Hedging financial assets (Note 10) | 286,824 | - | 13,468 | - | 64,349 | - |
| Notes and accounts receivable, net (Note 11) | 212,846,891 | 5 | 197,586,109 | 5 | 167,143,336 | 6 |
| Receivables from related parties (Note 31) | 581,010 | - | 715,324 | - | 335,572 | - |
| Other receivables from related parties (Note 31) | 58,165 | - | 61,531 | - | 52,591 | - |
| Inventories (Note 12) | 200,118,682 | 5 | 193,102,321 | 5 | 154,567,568 | 5 |
| Other financial assets (Note 32) | 16,243,656 | 1 | 16,630,611 | 1 | 15,131,465 | 1 |
| Other current assets | <u>10,333,155</u> | - | <u>10,521,481</u> | - | <u>5,834,459</u> | - |
| Total current assets | <u>1,722,237,632</u> | <u>43</u> | <u>1,607,072,907</u> | <u>43</u> | <u>1,139,786,823</u> | <u>39</u> |
| NONCURRENT ASSETS | | | | | | |
| Financial assets at fair value through other comprehensive income (Note 8) | 6,011,937 | - | 5,887,892 | - | 4,401,224 | - |
| Financial assets at amortized cost (Note 9) | 15,605,898 | - | 1,533,391 | - | 4,434,410 | - |
| Investments accounted for using equity method (Note 13) | 24,119,008 | 1 | 21,963,418 | 1 | 20,294,816 | 1 |
| Property, plant and equipment (Note 14) | 2,104,330,654 | 53 | 1,975,118,704 | 53 | 1,658,551,290 | 57 |
| Right-of-use assets (Note 15) | 32,922,146 | 1 | 32,734,537 | 1 | 32,282,312 | 1 |
| Intangible assets (Note 16) | 25,620,051 | 1 | 26,821,697 | 1 | 25,012,688 | 1 |
| Deferred income tax assets (Note 4) | 53,903,541 | 1 | 49,153,886 | 1 | 31,254,225 | 1 |
| Refundable deposits | 4,073,354 | - | 2,624,854 | - | 1,193,924 | - |
| Other noncurrent assets | <u>3,852,446</u> | - | <u>2,592,169</u> | - | <u>1,919,749</u> | - |
| Total noncurrent assets | <u>2,270,439,035</u> | <u>57</u> | <u>2,118,430,548</u> | <u>57</u> | <u>1,779,344,638</u> | <u>61</u> |
| TOTAL | <u>\$ 3,992,676,667</u> | <u>100</u> | <u>\$ 3,725,503,455</u> | <u>100</u> | <u>\$ 2,919,131,461</u> | <u>100</u> |
| LIABILITIES AND EQUITY | | | | | | |
| CURRENT LIABILITIES | | | | | | |
| Short-term loans (Notes 17 and 29) | \$ 144,550,897 | 4 | \$ 114,921,333 | 3 | \$ 137,123,748 | 5 |
| Financial liabilities at fair value through profit or loss (Note 7) | 2,203,138 | - | 681,914 | - | 1,958,208 | - |
| Hedging financial liabilities (Note 10) | - | - | 9,642 | - | - | - |
| Accounts payable | 48,653,183 | 1 | 47,285,603 | 1 | 36,653,115 | 1 |
| Payables to related parties (Note 31) | 1,450,896 | - | 1,437,186 | - | 1,944,990 | - |
| Salary and bonus payable | 21,077,111 | 1 | 23,802,100 | 1 | 15,696,178 | 1 |
| Accrued profit sharing bonus to employees and compensation to directors (Note 28) | 48,766,534 | 1 | 36,524,741 | 1 | 44,149,585 | 1 |
| Payables to contractors and equipment suppliers | 122,915,512 | 3 | 145,742,148 | 4 | 109,037,744 | 4 |
| Cash dividends payable (Note 20) | 142,617,093 | 4 | 142,617,093 | 4 | 129,651,902 | 4 |
| Income tax payable (Note 4) | 87,693,132 | 2 | 59,647,152 | 2 | 74,018,602 | 3 |
| Long-term liabilities - current portion (Notes 18, 19 and 29) | 16,791,667 | - | 4,566,667 | - | - | - |
| Accrued expenses and other current liabilities (Notes 15, 21, 29 and 31) | <u>186,148,544</u> | <u>5</u> | <u>162,267,779</u> | <u>4</u> | <u>111,414,540</u> | <u>4</u> |
| Total current liabilities | <u>822,867,707</u> | <u>21</u> | <u>739,503,358</u> | <u>20</u> | <u>661,648,612</u> | <u>23</u> |

| | | | | | | |
|---|-------------------------|---------------|-------------------------|--------------|-------------------------|------------|
| NONCURRENT LIABILITIES | | | | | | |
| Bonds payable (Notes 18 and 29) | 629,650,221 | 16 | 610,070,652 | 16 | 276,838,303 | 10 |
| Long-term bank loans (Notes 19 and 29) | 3,087,714 | - | 3,309,131 | - | 2,623,824 | - |
| Deferred income tax liabilities (Note 4) | 1,899,315 | - | 1,873,877 | - | 1,895,572 | - |
| Lease liabilities (Notes 15 and 29) | 21,065,933 | - | 20,764,214 | 1 | 21,074,764 | 1 |
| Net defined benefit liability (Note 4) | 8,533,290 | - | 11,036,879 | - | 11,294,513 | - |
| Guarantee deposits | 706,708 | - | 686,762 | - | 349,500 | - |
| Others (Note 21) | <u>183,397,025</u> | <u>5</u> | <u>167,525,377</u> | <u>5</u> | <u>2,409,411</u> | <u>-</u> |
| Total noncurrent liabilities | <u>848,340,206</u> | <u>21</u> | <u>815,266,892</u> | <u>22</u> | <u>316,485,887</u> | <u>11</u> |
| Total liabilities | <u>1,671,207,913</u> | <u>42</u> | <u>1,554,770,250</u> | <u>42</u> | <u>978,134,499</u> | <u>34</u> |
| EQUITY ATTRIBUTABLE TO SHAREHOLDERS OF THE PARENT | | | | | | |
| Capital stock (Notes 4 and 20) | <u>259,317,675</u> | <u>6</u> | <u>259,303,805</u> | <u>7</u> | <u>259,303,805</u> | <u>9</u> |
| Capital surplus (Notes 4, 20 and 27) | <u>65,215,135</u> | <u>2</u> | <u>64,761,602</u> | <u>2</u> | <u>64,753,607</u> | <u>2</u> |
| Retained earnings (Notes 4 and 20) | | | | | | |
| Appropriated as legal capital reserve | 311,146,899 | 8 | 311,146,899 | 8 | 311,146,899 | 11 |
| Appropriated as special capital reserve | 62,608,515 | 1 | 59,304,212 | 2 | 54,679,873 | 2 |
| Unappropriated earnings | <u>1,664,506,123</u> | <u>42</u> | <u>1,536,378,550</u> | <u>41</u> | <u>1,297,445,035</u> | <u>44</u> |
| | <u>2,038,261,537</u> | <u>51</u> | <u>1,906,829,661</u> | <u>51</u> | <u>1,663,271,807</u> | <u>57</u> |
| | | | <u>(62,608,515)</u> | | <u>(48,392,823)</u> | |
| Others (Notes 4, 20 and 27) | <u>(47,492,685)</u> | <u>(1))</u> | | <u>(2))</u> | | <u>(2)</u> |
| Treasury shares (Notes 4 and 20) | <u>(871,566)</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| Equity attributable to shareholders of the parent | 2,314,430,096 | 58 | 2,168,286,553 | 58 | 1,938,936,396 | 66 |
| NON - CONTROLLING INTERESTS | <u>7,038,658</u> | <u>-</u> | <u>2,446,652</u> | <u>-</u> | <u>2,060,566</u> | <u>-</u> |
| Total equity | <u>2,321,468,754</u> | <u>58</u> | <u>2,170,733,205</u> | <u>58</u> | <u>1,940,996,962</u> | <u>66</u> |
| TOTAL | <u>\$ 3,992,676,667</u> | <u>100</u> | <u>\$ 3,725,503,455</u> | <u>100</u> | <u>\$ 2,919,131,461</u> | <u>100</u> |

The accompanying notes are an integral part of the consolidated financial statements.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

(Reviewed, Not Audited)

| | Three Months Ended March 31 | | | |
|---|-----------------------------|-----------|--------------------|------------|
| | 2022 | | 2021 | |
| | Amount | % | Amount | % |
| NET REVENUE (Notes 21, 31 and 36) | \$ 491,075,873 | 100 | \$ 362,410,230 | 100 |
| COST OF REVENUE (Notes 12, 28 and 31) | <u>217,872,707</u> | <u>44</u> | <u>172,570,800</u> | <u>48</u> |
| GROSS PROFIT | <u>273,203,166</u> | <u>56</u> | <u>189,839,430</u> | <u>52</u> |
| OPERATING EXPENSES (Notes 28 and 31) | | | | |
| Research and development | 36,048,540 | 7 | 30,756,358 | 8 |
| General and administrative | 10,500,027 | 2 | 6,524,245 | 2 |
| Marketing | <u>2,062,623</u> | <u>1</u> | <u>1,831,230</u> | <u>-</u> |
| Total operating expenses | <u>48,611,190</u> | <u>10</u> | <u>39,111,833</u> | <u>10</u> |
| OTHER OPERATING INCOME AND EXPENSES, NET (Notes 14, 15 and 28) | <u>(801,858)</u> | <u>-</u> | <u>(189,407)</u> | <u>-</u> |
| INCOME FROM OPERATIONS (Note 36) | <u>223,790,118</u> | <u>46</u> | <u>150,538,190</u> | <u>42</u> |
| NON-OPERATING INCOME AND EXPENSES | | | | |
| Share of profits of associates | 1,725,490 | - | 1,267,112 | - |
| Interest income (Note 22) | 1,673,879 | - | 1,460,904 | - |
| Other income | 308,383 | - | 308,084 | - |
| Foreign exchange gain, net (Note 34) | 1,742,888 | - | 5,473,989 | 2 |
| Finance costs (Note 23) | (2,140,766) | - | (772,095) | - |
| Other gains and losses, net (Note 24) | <u>(268,296)</u> | <u>-</u> | <u>(3,211,795)</u> | <u>(1)</u> |
| Total non-operating income and expenses | <u>3,041,578</u> | <u>-</u> | <u>4,526,199</u> | <u>1</u> |
| INCOME BEFORE INCOME TAX | 226,831,696 | 46 | 155,064,389 | 43 |
| INCOME TAX EXPENSE (Notes 4 and 25) | <u>23,958,322</u> | <u>5</u> | <u>15,325,640</u> | <u>4</u> |
| NET INCOME | <u>202,873,374</u> | <u>41</u> | <u>139,738,749</u> | <u>39</u> |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

(Reviewed, Not Audited)

| | Three Months Ended March 31 | | | |
|--|-----------------------------|-----------|-----------------------|-----------|
| | 2022 | | 2021 | |
| | Amount | % | Amount | % |
| OTHER COMPREHENSIVE INCOME (LOSS) | | | | |
| (Notes 20 and 25) | | | | |
| Items that will not be reclassified subsequently to profit or loss: | | | | |
| Unrealized gain (loss) on investments in equity instruments at fair value through other comprehensive income | \$ 315,959 | - | \$ (109,189) | - |
| Loss on hedging instruments | - | - | (41,416) | - |
| Share of other comprehensive income of associates | 43,839 | - | 8,147 | - |
| Income tax expense related to items that will not be reclassified subsequently | <u>(15)</u> | <u>-</u> | <u>(55,771)</u> | <u>-</u> |
| | <u>359,783</u> | <u>-</u> | <u>(198,229)</u> | <u>-</u> |
| Items that may be reclassified subsequently to profit or loss: | | | | |
| Exchange differences arising on translation of foreign operations | 19,345,591 | 4 | 7,805,805 | 2 |
| Unrealized loss on investments in debt instruments at fair value through other comprehensive income | (5,105,144) | (1) | (1,666,021) | (1) |
| Gain on hedging instruments | 693,828 | - | - | - |
| Share of other comprehensive income of associates | 164,459 | - | 25,455 | - |
| Income tax expense related to items that may be reclassified subsequently | <u>(47,300)</u> | <u>-</u> | <u>-</u> | <u>-</u> |
| | <u>15,051,434</u> | <u>3</u> | <u>6,165,239</u> | <u>1</u> |
| Other comprehensive income for the period, net of income tax | <u>15,411,217</u> | <u>3</u> | <u>5,967,010</u> | <u>1</u> |
| TOTAL COMPREHENSIVE INCOME FOR THE PERIOD | <u>\$ 218,284,591</u> | <u>44</u> | <u>\$ 145,705,759</u> | <u>40</u> |
| NET INCOME ATTRIBUTABLE TO: | | | | |
| Shareholders of the parent | \$ 202,732,975 | 41 | \$ 139,690,493 | 39 |
| Non-controlling interests | <u>140,399</u> | <u>-</u> | <u>48,256</u> | <u>-</u> |
| | <u>\$ 202,873,374</u> | <u>41</u> | <u>\$ 139,738,749</u> | <u>39</u> |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(In Thousands of New Taiwan Dollars, Except Earnings Per Share)

(Reviewed, Not Audited)

| | Three Months Ended March 31 | | | |
|------------------------------------|-----------------------------|-----------|-----------------------|-----------|
| | 2022 | | 2021 | |
| | Amount | % | Amount | % |
| TOTAL COMPREHENSIVE INCOME | | | | |
| ATTRIBUTABLE TO: | | | | |
| Shareholders of the parent | \$ 218,283,654 | 44 | \$ 145,657,311 | 40 |
| Non-controlling interests | <u>937</u> | <u>-</u> | <u>48,448</u> | <u>-</u> |
| | <u>\$ 218,284,591</u> | <u>44</u> | <u>\$ 145,705,759</u> | <u>40</u> |
| EARNINGS PER SHARE (NT\$, Note 26) | | | | |
| Basic earnings per share | <u>\$ 7.82</u> | | <u>\$ 5.39</u> | |
| Diluted earnings per share | <u>\$ 7.82</u> | | <u>\$ 5.39</u> | |

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In Thousands of New Taiwan Dollars)

The accompanying notes are an integral part of the consolidated financial statements.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

| | Three Months Ended March 31 | |
|--|-----------------------------|----------------|
| | 2022 | 2021 |
| CASH FLOWS FROM OPERATING ACTIVITIES | | |
| Income before income tax | \$ 226,831,696 | \$ 155,064,389 |
| Adjustments for: | | |
| Depreciation expense | 108,934,265 | 98,972,867 |
| Amortization expense | 2,167,798 | 1,927,451 |
| Expected credit losses recognized (reversal) on investments in debt instruments | 11,768 | (497) |
| Finance costs | 2,140,766 | 772,095 |
| Share of profits of associates | (1,725,490) | (1,267,112) |
| Interest income | (1,673,879) | (1,460,904) |
| Share-based compensation | 27,453 | 1,704 |
| Loss (gain) on disposal or retirement of property, plant and equipment, net | 48,257 | (9,960) |
| Impairment loss on property, plant and equipment | 790,740 | 274,388 |
| Loss (gain) on disposal of investments in debt instruments at fair value through other comprehensive income, net | 140,778 | (2,986) |
| Loss (gain) on foreign exchange, net | 2,074,789 | (4,773,733) |
| Dividend income | (75) | (169,167) |
| Others | (258,328) | (192,049) |
| Changes in operating assets and liabilities: | | |
| Financial instruments at fair value through profit or loss | 918,808 | 3,929,781 |
| Notes and accounts receivable, net | (15,260,809) | (21,663,073) |
| Receivables from related parties | 134,314 | 222,559 |
| Other receivables from related parties | 3,366 | (1,946) |
| Inventories | (7,016,361) | (17,214,161) |
| Other financial assets | 1,229,128 | (2,917,033) |
| Other current assets | (1,132,181) | 771,765 |
| Accounts payable | 1,367,580 | (2,334,169) |
| Payables to related parties | 13,710 | (162,728) |
| Salary and bonus payable | (2,724,989) | (4,375,063) |
| Accrued profit sharing bonus to employees and compensation to directors | 12,241,793 | 8,468,539 |
| Accrued expenses and other current liabilities | 5,607,202 | 14,976,395 |
| Other noncurrent liabilities | 40,423,182 | - |
| Net defined benefit liability | (2,503,589) | (619,561) |
| Cash generated from operations | 372,811,692 | 228,217,791 |
| Income taxes paid | (642,004) | (402,085) |
| Net cash generated by operating activities | 372,169,688 | 227,815,706 |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

| | Three Months Ended March 31 | |
|---|------------------------------------|----------------------|
| | 2022 | 2021 |
| CASH FLOWS FROM INVESTING ACTIVITIES | | |
| Acquisitions of: | | |
| Financial assets at fair value through other comprehensive income | \$ (37,834,407) | \$ (77,662,402) |
| Financial assets at amortized cost | (18,155,340) | - |
| Property, plant and equipment | (262,134,719) | (248,028,725) |
| Intangible assets | (583,003) | (580,694) |
| Proceeds from disposal or redemption of: | | |
| Financial assets at fair value through other comprehensive income | 29,254,025 | 81,167,791 |
| Property, plant and equipment | 609,153 | 57,901 |
| Proceeds from return of capital of investments in equity instruments at fair value through other comprehensive income | - | 62,837 |
| Derecognition of hedging financial instruments | 536,873 | 112,133 |
| Interest received | 1,526,825 | 1,494,002 |
| Proceeds from government grants - property, plant and equipment | 64,544 | - |
| Proceeds from government grants - others | 3,085 | - |
| Other dividends received | 75 | 169,167 |
| Increase in prepayments for leases | - | (1,200,000) |
| Refundable deposits paid | (1,670,390) | (47,212) |
| Refundable deposits refunded | <u>309,488</u> | <u>203,788</u> |
| Net cash used in investing activities | <u>(288,073,791)</u> | <u>(244,251,414)</u> |
| CASH FLOWS FROM FINANCING ACTIVITIES | | |
| Increase in short-term loans | 30,529,474 | 52,072,068 |
| Proceeds from issuance of bonds | 19,600,000 | 21,100,000 |
| Repayment of bonds | - | (2,600,000) |
| Proceeds from long-term bank loans | - | 660,000 |
| Payments for transaction costs attributable to the issuance of bonds | (21,200) | (21,702) |
| Treasury stock acquired | (871,566) | - |
| Repayment of the principal portion of lease liabilities | (523,177) | (532,552) |
| Interest paid | (1,103,792) | (772,710) |
| Guarantee deposits received | 8,502 | 91,458 |
| Guarantee deposits refunded | (1,648) | (4,107) |
| Cash dividends | (71,308,546) | (64,825,951) |
| Disposal of ownership interests in subsidiaries (without losing control) | - | 9,451,798 |
| Increase in non-controlling interests | <u>4,605,765</u> | <u>155</u> |
| Net cash generated by (used in) financing activities | <u>(19,086,188)</u> | <u>14,618,457</u> |

(Continued)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

CONSOLIDATED STATEMENTS OF CASH FLOWS

(In Thousands of New Taiwan Dollars)

(Reviewed, Not Audited)

| | <u>Three Months Ended March 31</u> | |
|--|------------------------------------|-----------------------|
| | <u>2022</u> | <u>2021</u> |
| EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS | \$ <u>21,589,745</u> | \$ <u>6,374,461</u> |
| NET INCREASE IN CASH AND CASH EQUIVALENTS | 86,599,454 | 4,557,210 |
| CASH AND CASH EQUIVALENTS, BEGINNING OF PERIOD | <u>1,064,990,192</u> | <u>660,170,647</u> |
| CASH AND CASH EQUIVALENTS, END OF PERIOD | <u>\$1,151,589,646</u> | <u>\$ 664,727,857</u> |

The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

FOR THE THREE MONTHS ENDED MARCH 31, 2022 AND 2021

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

(Reviewed, Not Audited)

1. GENERAL

Taiwan Semiconductor Manufacturing Company Limited (TSMC), a Republic of China (R.O.C.) corporation, was incorporated on February 21, 1987. TSMC is a dedicated foundry in the semiconductor industry which engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

On September 5, 1994, TSMC's shares were listed on the Taiwan Stock Exchange (TWSE). On October 8, 1997, TSMC listed some of its shares of stock on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs).

The address of its registered office and principal place of business is No. 8, Li-Hsin Rd. 6, Hsinchu Science Park, Taiwan. The principal operating activities of TSMC's subsidiaries are described in Note 4.

2. THE AUTHORIZATION OF FINANCIAL STATEMENTS

The accompanying consolidated financial statements were approved and authorized for issue by the Board of Directors on May 10, 2022.

3. APPLICATION OF NEW AND REVISED INTERNATIONAL FINANCIAL REPORTING STANDARDS

- a. Initial application of the amendments to the International Financial Reporting Standards (IFRS), International Accounting Standards (IAS), IFRIC Interpretations (IFRIC), and SIC Interpretations (SIC) (collectively, "IFRSs") endorsed and issued into effect by the Financial Supervisory Commission (FSC)

The initial application of the amendments to the IFRSs endorsed and issued into effect by the FSC did not have a significant effect on the accounting policies of TSMC and its subsidiaries (collectively as the "Company").

- b. The IFRSs issued by International Accounting Standards Board (IASB), but not yet endorsed and issued into effect by the FSC

| New, Revised or Amended Standards and Interpretations | Effective Date Issued by IASB |
|--|-------------------------------|
| Amendments to IFRS 10 and IAS 28 "Sale or Contribution of Assets between an Investor and its Associate or Joint Venture" | To be determined by IASB |
| Amendments to IAS 1 "Classification of Liabilities as Current or Non-current" | January 1, 2023 |
| Amendments to IAS 1 "Disclosure of Accounting Policies" | January 1, 2023 |
| Amendments to IAS 8 "Definition of Accounting Estimates" | January 1, 2023 |
| Amendments to IAS 12 "Deferred Tax related to Assets and Liabilities arising from a Single Transaction" | January 1, 2023 |

As of the date the accompanying consolidated financial statements were issued, the Company continues in evaluating the impact on its financial position and financial performance from the initial adoption of the aforementioned standards or interpretations and related applicable period. The related impact will be disclosed when the Company completes its evaluation.

4. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

Except for the following, the accounting policies applied in these consolidated financial statements are consistent with those applied in the consolidated financial statements for the year ended December 31, 2021.

For the convenience of readers, the accompanying consolidated financial statements have been translated into English from the original Chinese version prepared and used in the R.O.C. If there is any conflict between the English version and the original Chinese version or any difference in the interpretation of the two versions, the Chinese-language consolidated financial statements shall prevail.

Statement of Compliance

The accompanying consolidated financial statements have been prepared in conformity with the Regulations Governing the Preparation of Financial Reports by Securities Issuers and IAS 34, "Interim Financial Reporting," endorsed and issued into effect by the FSC. The consolidated financial statements do not present all the disclosures required for a complete set of annual consolidated financial statements prepared under the IFRSs endorsed and issued into effect by the FSC (collectively, "Taiwan-IFRSs").

Basis of Consolidation

The basis of preparation and the basis for the consolidated financial statements

The basis of preparation and the basis for the consolidated financial statements applied in these consolidated financial statements are consistent with those applied in the consolidated financial statements for the year ended December 31, 2021.

The subsidiaries in the consolidated financial statements

The detail information of the subsidiaries at the end of reporting period is as follows:

| Name of Investor | Name of Investee | Main Businesses and Products | Establishment and Operating Location | Percentage of Ownership | | | Note |
|------------------|--|--|--------------------------------------|-------------------------|-------------------|----------------|------|
| | | | | March 31, 2022 | December 31, 2021 | March 31, 2021 | |
| TSMC | TSMC North America | Sales and marketing of integrated circuits and other semiconductor devices | San Jose, California, U.S.A. | 100% | 100% | 100% | - |
| | TSMC Europe B.V. (TSMC Europe) | Customer service and supporting activities | Amsterdam, the Netherlands | 100% | 100% | 100% | a) |
| | TSMC Japan Limited (TSMC Japan) | Customer service and supporting activities | Yokohama, Japan | 100% | 100% | 100% | a) |
| | TSMC Design Technology Japan, Inc. (TSMC JDC) | Engineering support activities | Yokohama, Japan | 100% | 100% | 100% | a) |
| | TSMC Japan 3DIC R&D Center, Inc. (TSMC 3DIC) | Engineering support activities | Yokohama, Japan | 100% | 100% | 100% | a) |
| | TSMC Korea Limited (TSMC Korea) | Customer service and supporting activities | Seoul, Korea | 100% | 100% | 100% | a) |
| | TSMC Partners, Ltd. (TSMC Partners) | Investing in companies involved in the semiconductor design and manufacturing, and other investment activities | Tortola, British Virgin Islands | 100% | 100% | 100% | a) |
| | TSMC Global, Ltd. (TSMC Global) | Investment activities | Tortola, British Virgin Islands | 100% | 100% | 100% | - |
| | TSMC China Company Limited (TSMC China) | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | Shanghai, China | 100% | 100% | 100% | - |
| | TSMC Nanjing Company Limited (TSMC Nanjing) | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | Nanjing, China | 100% | 100% | 100% | - |
| | VisEra Technologies Company Ltd. (VisEra Tech) | Research, design, development, manufacturing, sales, packaging and test of color filter | Hsin-Chu, Taiwan | 73% | 73% | 73% | - |

(Continued)

| Name of Investor | Name of Investee | Main Businesses and Products | Establishment and Operating Location | Percentage of Ownership | | | Note |
|------------------|---|--|--------------------------------------|-------------------------|-------------------|----------------|--------|
| | | | | March 31, 2022 | December 31, 2021 | March 31, 2021 | |
| TSMC | TSMC Arizona Corporation (TSMC Arizona) | Manufacturing, sales and testing of integrated circuits and other semiconductor devices | Phoenix, Arizona, U.S.A. | 100% | 100% | 100% | a), b) |
| | Japan Advanced Semiconductor Manufacturing, Inc. (JASM) | Manufacturing, sales, testing and computer aided design of integrated circuits and other semiconductor devices | Kumamoto, Japan | 81% | 100% | - | a), c) |
| | VentureTech Alliance Fund II, L.P. (VTAF II) | Investing in technology start-up companies | Cayman Islands | 98% | 98% | 98% | a) |
| | VentureTech Alliance Fund III, L.P. (VTAF III) | Investing in technology start-up companies | Cayman Islands | 98% | 98% | 98% | a) |
| | Emerging Fund L.P. (Emerging Fund) | Investing in technology start-up companies | Cayman Islands | 99.9% | 99.9% | 99.9% | a) |
| TSMC Partners | TSMC Development, Inc. (TSMC Development) | Investing in companies involved in semiconductor manufacturing | Delaware, U.S.A. | 100% | 100% | 100% | - |
| | TSMC Technology, Inc. (TSMC Technology) | Engineering support activities | Delaware, U.S.A. | 100% | 100% | 100% | a) |
| | TSMC Design Technology Canada Inc. (TSMC Canada) | Engineering support activities | Ontario, Canada | 100% | 100% | 100% | a) |
| TSMC Development | WaferTech, LLC (WaferTech) | Manufacturing, sales and testing of integrated circuits and other semiconductor devices | Washington, U.S.A. | 100% | 100% | 100% | - |
| VTAF III | Growth Fund Limited (Growth Fund) | Investing in technology start-up companies | Cayman Islands | 100% | 100% | 100% | a) |

(Concluded)

Note a: This is an immaterial subsidiary for which the consolidated financial statements are neither reviewed nor audited by the Company's independent auditors.

Note b: TSMC Arizona is established in November 2020. Under the terms of the development agreement entered into between TSMC Arizona and the City of Phoenix, the City of Phoenix commits approximately US\$205 million toward various public infrastructure projects in the area of the proposed manufacturing facility, conditioned on TSMC Arizona's achieving a minimum project scale with defined spending and job-creation thresholds.

Note c: JASM is established in December 2021 and has increased its capital in January 2022. After the increase in capital, TSMC's shareholding in JASM decreased from 100% to 81%. In addition, JASM increased its capital by issuing noncumulative preferred shares in April 2022. TSMC's shareholding in JASM decreased from 81% to 71% and the proportion of voting right remain 81%. The aforementioned transactions were accounted for as an equity transaction since the transaction did not change TSMC's control over JASM.

Retirement Benefits

Pension cost for an interim period is calculated on a year-to-date basis by using the actuarially determined pension cost rate at the end of the prior financial year.

Treasury Stock

Treasury stock represents the outstanding shares that the Company buys back from market, which is stated at cost and shown as a deduction in shareholders' equity. When the Company retires treasury stock, the treasury stock account is reduced and the common stock as well as the capital surplus - additional paid-in capital are reversed on a pro rata basis. When the book value of the treasury stock exceeds the sum of the par value and additional paid-in capital, the difference is charged to capital surplus - treasury stock transactions and to retained earnings for any remaining amount.

Share-based payment arrangements

a. Equity-settled share-based payment arrangements

Restricted shares for employees are expensed on a straight-line basis over the vesting period, based on the fair value at the grant date and the Company's best estimate of the number expected to ultimately vest, with a corresponding increase in other equity - unearned employee benefits.

When restricted shares for employees are issued, other equity - unearned employee benefits is recognized on the grant date, with a corresponding increase in capital surplus - restricted shares for employees. Dividends paid to employees on restricted shares which do not need to be returned if employees resign in the vesting period are recognized as expenses upon the dividend declaration with a corresponding adjustment in retained earnings.

At the end of each reporting period, the Company revises its estimate of the number of restricted shares for employees that are expected to vest. The impact from such revision is recognized in profit or loss so that the cumulative expenses reflect the revised estimate, with a corresponding adjustment to capital surplus - restricted shares for employees.

b. Cash-settled share-based payment arrangements

For cash-settled share-based payments, a liability is recognized for the services acquired, measured at the fair value of the liability incurred. At the end of each reporting period until the liability is settled, and at the date of settlement, the fair value of the liability is remeasured, with any changes in fair value recognized in profit or loss.

Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax. The interim period income tax expense is accrued using the tax rate that would be applicable to expected total annual earnings, that is, the estimated average annual effective income tax rate applied to the pre-tax income of the interim period.

5. CRITICAL ACCOUNTING JUDGMENTS AND KEY SOURCES OF ESTIMATION AND UNCERTAINTY

The Company has considered the economic implications of COVID-19 on critical accounting estimations and will continue evaluating the impact on its financial position and financial performance as a result of the pandemic. In addition, the same critical accounting judgments and key sources of estimates and uncertainty have been followed in these consolidated financial statements as were applied in the preparation of the Company's consolidated financial statements for the year ended December 31, 2021.

6. CASH AND CASH EQUIVALENTS

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|----------------------------|------------------------|------------------------|-----------------------|
| Cash and deposits in banks | \$1,150,018,438 | \$ 1,058,808,104 | \$ 655,679,622 |
| Commercial paper | 999,273 | - | 1,139,850 |
| Government bonds | 571,935 | 906,743 | 4,236,566 |
| Repurchase agreements | - | 5,275,345 | 3,560,524 |
| Agency bonds | - | - | 82,670 |
| Corporate bonds | - | - | 28,625 |
| | <u>\$1,151,589,646</u> | <u>\$1,064,990,192</u> | <u>\$ 664,727,857</u> |

Deposits in banks consisted of highly liquid time deposits that were readily convertible to known amounts of cash and were subject to an insignificant risk of changes in value.

7. FINANCIAL ASSETS AND LIABILITIES AT FAIR VALUE THROUGH PROFIT OR LOSS

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------------------|---------------------|----------------------|---------------------|
| <u>Financial assets</u> | | | |
| Mandatorily measured at FVTPL | | | |
| Forward exchange contracts | <u>\$ 758,452</u> | <u>\$ 159,048</u> | <u>\$ 26,897</u> |
| <u>Financial liabilities</u> | | | |
| Held for trading | | | |
| Forward exchange contracts | <u>\$ 2,203,138</u> | <u>\$ 681,914</u> | <u>\$ 1,958,208</u> |

The Company entered into forward exchange contracts to manage exposures due to fluctuations of foreign exchange rates. These forward exchange contracts did not meet the criteria for hedge accounting. Therefore, the Company did not apply hedge accounting treatment for these forward exchange contracts.

Outstanding forward exchange contracts consisted of the following:

| | Maturity Date | Contract Amount (In Thousands) | |
|--------------------------|----------------------------|-----------------------------------|-------------|
| <u>March 31, 2022</u> | | | |
| Sell NT\$ | April 2022 to June 2022 | NT\$ | 118,373,692 |
| Sell US\$ | April 2022 to May 2022 | US\$ | 1,674,736 |
| <u>December 31, 2021</u> | | | |
| Sell NT\$ | January 2022 to March 2022 | NT\$ | 132,734,482 |
| Sell US\$ | January 2022 to March 2022 | US\$ | 2,009,148 |
| <u>March 31, 2021</u> | | | |
| Sell NT\$ | April 2021 to June 2021 | NT\$ | 160,197,609 |
| Sell US\$ | April 2021 to June 2021 | US\$ | 1,516,973 |

8. FINANCIAL ASSETS AT FAIR VALUE THROUGH OTHER COMPREHENSIVE INCOME

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--|---------------------------|------------------------------|---------------------------|
| Investments in debt instruments at FVTOCI | | | |
| Corporate bonds | \$ 59,119,180 | \$ 57,253,161 | \$ 56,344,907 |
| Agency bonds/Agency mortgage-backed securities | 32,024,446 | 32,070,114 | 43,032,383 |
| Government bonds | 20,392,667 | 21,345,794 | 18,512,796 |
| Asset-backed securities | 8,938,231 | 8,660,424 | 7,110,253 |
| Commercial paper | - | - | 151,187 |
| | <u>120,474,524</u> | <u>119,329,493</u> | <u>125,151,526</u> |
| Investments in equity instruments at FVTOCI | | | |
| Non-publicly traded equity investments | 6,011,937 | 5,887,892 | 4,401,224 |
| Publicly traded stocks | <u>521,241</u> | <u>189,758</u> | <u>56,781</u> |
| | <u>6,533,178</u> | <u>6,077,650</u> | <u>4,458,005</u> |
| | <u>\$ 127,007,702</u> | <u>\$ 125,407,143</u> | <u>\$ 129,609,531</u> |
| Current | \$ 120,995,765 | \$ 119,519,251 | \$ 125,208,307 |
| Noncurrent | <u>6,011,937</u> | <u>5,887,892</u> | <u>4,401,224</u> |
| | <u>\$ 127,007,702</u> | <u>\$ 125,407,143</u> | <u>\$ 129,609,531</u> |

These investments in equity instruments are held for medium to long-term purposes and therefore are accounted for as FVTOCI. For dividends recognized from these investments, please refer to consolidated statements of cash flows. As of March 31, 2022 and 2021, all of the dividends are mainly from investments held at the end of the reporting period.

For the three months ended March 31, 2022, as the Company adjusted its investment portfolios, equity investments designated at FVTOCI were divested for NT\$36,025 thousand. The related other equity-unrealized gain/loss on financial assets at FVTOCI of NT\$7,447 thousand was transferred to increase retained earnings.

As of March 31, 2022 and 2021, the cumulative loss allowance for expected credit loss of NT\$34,972 thousand and NT\$32,705 thousand was recognized under investments in debt instruments at FVTOCI, respectively. Refer to Note 30 for information relating to the credit risk management and expected credit loss.

9. FINANCIAL ASSETS AT AMORTIZED COST

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------------------------|----------------------|----------------------|----------------------|
| Corporate bonds | \$ 24,045,849 | \$ 5,310,039 | \$ 11,135,778 |
| Less: Allowance for impairment loss | <u>(14,565)</u> | <u>(3,077)</u> | <u>(6,946)</u> |
| | <u>\$ 24,031,284</u> | <u>\$ 5,306,962</u> | <u>\$ 11,128,832</u> |
| Current | \$ 8,425,386 | \$ 3,773,571 | \$ 6,694,422 |
| Noncurrent | <u>15,605,898</u> | <u>1,533,391</u> | <u>4,434,410</u> |
| | <u>\$ 24,031,284</u> | <u>\$ 5,306,962</u> | <u>\$ 11,128,832</u> |

Refer to Note 30 for information relating to credit risk management and expected credit loss for financial assets at amortized cost.

10. HEDGING FINANCIAL INSTRUMENTS

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--|-------------------|----------------------|-------------------|
| <u>Financial assets - current</u> | | | |
| Fair value hedges | | | |
| Interest rate futures contracts | \$ 78,343 | \$ - | \$ 64,349 |
| Cash flow hedges | | | |
| Forward interest rate contracts | <u>208,481</u> | <u>13,468</u> | <u>-</u> |
| | <u>\$ 286,824</u> | <u>\$ 13,468</u> | <u>\$ 64,349</u> |
| <u>Financial liabilities - current</u> | | | |
| Fair value hedges | | | |
| Interest rate futures contracts | <u>\$ -</u> | <u>\$ 9,642</u> | <u>\$ -</u> |
| <u>Fair value hedge</u> | | | |

The Company entered into interest rate futures contracts, which are used to partially hedge against the fair value changes caused by interest rate fluctuation in the Company's fixed income investments. The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%.

On the basis of economic relationships, the value of the interest rate futures contracts and the value of the hedged financial assets change in opposite directions in response to movements in interest rates.

The main source of hedge ineffectiveness in these hedging relationships is the credit risk of the hedged financial assets, which is not reflected in the fair value of the interest rate futures contracts. No other sources of ineffectiveness emerged from these hedging relationships during the hedging period. Amount of hedge ineffectiveness recognized in profit or loss is classified under other gains and losses, net.

The following tables summarize the information relating to the hedges of interest rate risk.

March 31, 2022

| Hedging Instruments | Contract Amount (US\$ in Thousands) | Maturity |
|---|--|---|
| Interest rate futures contracts - US Treasury futures | US\$ 95,100 | June 2022 |
| Hedged Items | Asset Carrying Amount | Accumulated Amount of Fair Value Hedge Adjustments |
| Financial assets at FVTOCI | \$ 4,849,920 | \$ (78,343) |

December 31, 2021

| Hedging Instruments | Contract Amount (US\$ in Thousands) | Maturity |
|---|--|---|
| Interest rate futures contracts - US Treasury futures | US\$ 53,900 | March 2022 |
| Hedged Items | Asset Carrying Amount | Accumulated Amount of Fair Value Hedge Adjustments |
| Financial assets at FVTOCI | \$ 4,079,274 | \$ 9,642 |

March 31, 2021

| Hedging Instruments | Contract Amount (US\$ in Thousands) | Maturity |
|---|--|---|
| Interest rate futures contracts - US Treasury futures | US\$ 111,900 | June 2021 |
| Hedged Items | Asset Carrying Amount | Accumulated Amount of Fair Value Hedge Adjustments |
| Financial assets at FVTOCI | \$ 8,355,989 | \$ (64,349) |

The effect for the three months ended March 31, 2022 and 2021 is detailed below:

| Hedging Instruments/Hedged Items | Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness | |
|---|---|------------------|
| | Three Months Ended March 31 | |
| | 2022 | 2021 |
| Hedging Instruments | | |
| Interest rate futures contracts - US Treasury futures | \$ 118,201 | \$ 176,576 |
| Hedged Items | | |
| Financial assets at FVTOCI | <u>(118,201)</u> | <u>(176,576)</u> |
| | <u>\$ -</u> | <u>\$ -</u> |

Cash flow hedge

The Company entered into forward contracts to partially hedge foreign exchange rate risks or interest rate risks associated with certain highly probable forecast transactions (capital expenditures or issuance of debts). The hedge ratio is adjusted in response to the changes in the financial market and capped at 100%. The forward contracts have maturities of 12 months or less.

On the basis of economic relationships, the Company expects that the value of forward contracts and the value of hedged transactions will change in opposite directions in response to movements in foreign exchange rates or interest rates.

The main source of hedge ineffectiveness in these hedging relationships is driven by the effect of the counterparty's own credit risk on the fair value of forward contracts. No other sources of ineffectiveness emerged from these hedging relationships. For the three months ended March 31, 2022 and 2021, refer to Note 20(d) for gain or loss arising from changes in the fair value of hedging instruments, the amount transferred to initial carrying amount of hedged items and the amount reclassified to finance costs of hedged items.

The following tables summarize the information relating to the hedges of interest rate risks.

March 31, 2022

| Hedging Instruments | Contract Amount (In Thousands) | Maturity | Balance in Other Equity (Continuing Hedges) |
|---------------------------------|-----------------------------------|------------|--|
| Forward interest rate contracts | US\$ 310,000 | April 2022 | \$ 774,693 |

The effect for the three months ended March 31, 2022 and 2021 is detailed below:

| Hedging Instruments/Hedged Items | Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness | |
|---|--|--------------------|
| | Three Months Ended March 31 | |
| | 2022 | 2021 |
| Hedging Instruments | | |
| Forward exchange contracts (capital expenditures) | <u>\$ -</u> | <u>\$ (41,416)</u> |
| Forward interest rate contracts (issuance of debts) | <u>\$ 695,172</u> | <u>\$ -</u> |
| | | (Continued) |

| Hedging Instruments/Hedged Items | Increase (Decrease) in Value Used for Calculating Hedge Ineffectiveness | |
|---|--|-------------|
| | Three Months Ended March 31 | |
| | 2022 | 2021 |
| Hedged Items | | |
| Forecast transaction (capital expenditures) | \$ - | \$ 41,416 |
| Forecast transaction (issuance of debts) | <u>\$ (695,172)</u> | <u>\$ -</u> |
| | | (Concluded) |

11. NOTES AND ACCOUNTS RECEIVABLE, NET

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------------------|-----------------------|-----------------------|-----------------------|
| At amortized cost | | | |
| Notes and accounts receivable | \$ 208,021,317 | \$ 193,733,220 | \$ 164,301,003 |
| Less: Loss allowance | <u>(407,375)</u> | <u>(347,020)</u> | <u>(319,588)</u> |
| | 207,613,942 | 193,386,200 | 163,981,415 |
| At FVTOCI | <u>5,232,949</u> | <u>4,199,909</u> | <u>3,161,921</u> |
| | <u>\$ 212,846,891</u> | <u>\$ 197,586,109</u> | <u>\$ 167,143,336</u> |

The Company signed a contract with the bank to sell certain accounts receivable without recourse and transaction cost required. These accounts receivable are classified as at FVTOCI because they are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets.

In principle, the payment term granted to customers is due 30 days from the invoice date or 30 days from the end of the month when the invoice is issued. Aside from recognizing impairment loss for credit-impaired accounts receivable, the Company recognizes loss allowance based on the expected credit loss ratio of customers by different risk levels with consideration of factors of historical loss ratios and customers' financial conditions, competitiveness and business outlook. For accounts receivable past due over 90 days without collaterals or guarantees, the Company recognizes loss allowance at full amount.

Aging analysis of notes and accounts receivable

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------------|-----------------------|-----------------------|-----------------------|
| Not past due | \$ 206,199,341 | \$ 191,740,045 | \$ 156,777,256 |
| Past due | | | |
| Past due within 30 days | 7,043,117 | 6,186,814 | 10,442,040 |
| Past due 31-60 days | 11,555 | 6,182 | 243,554 |
| Past due 61-120 days | 253 | 88 | 74 |
| Past due over 121 days | - | - | - |
| Less: Loss allowance | <u>(407,375)</u> | <u>(347,020)</u> | <u>(319,588)</u> |
| | <u>\$ 212,846,891</u> | <u>\$ 197,586,109</u> | <u>\$ 167,143,336</u> |

All of the Company's accounts receivable classified as at FVTOCI were not past due.

Movements of the loss allowance for accounts receivable

| | Three Months Ended March 31 | |
|---------------------------------|------------------------------------|-------------------|
| | 2022 | 2021 |
| Balance, beginning of period | \$ 347,020 | \$ 246,626 |
| Provision | 60,328 | 72,953 |
| Effect of exchange rate changes | <u>27</u> | <u>9</u> |
| Balance, end of period | <u>\$ 407,375</u> | <u>\$ 319,588</u> |

For the three months ended March 31, 2022 and 2021, the changes in loss allowance were mainly due to the variations in the balance of accounts receivable of different risk levels.

12. INVENTORIES

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--------------------------|---------------------------|------------------------------|---------------------------|
| Finished goods | \$ 34,078,491 | \$ 32,562,750 | \$ 23,486,808 |
| Work in process | 138,341,260 | 137,700,402 | 108,203,608 |
| Raw materials | 11,727,816 | 11,111,122 | 13,742,135 |
| Supplies and spare parts | <u>15,971,115</u> | <u>11,728,047</u> | <u>9,135,017</u> |
| | <u>\$ 200,118,682</u> | <u>\$ 193,102,321</u> | <u>\$ 154,567,568</u> |

Write-down of inventories to net realizable value and reversal of write-down of inventories resulting from the increase in net realizable value were included in the cost of revenue during reporting period. The amounts are illustrated below:

| | Three Months Ended March 31 | |
|---------------------------------------|------------------------------------|-------------------|
| | 2022 | 2021 |
| Reversal of write-down of inventories | <u>\$ 61,167</u> | <u>\$ 476,399</u> |

13. INVESTMENTS ACCOUNTED FOR USING EQUITY METHOD

Associates consisted of the following:

| Name of Associate | Principal Activities | Place of Incorporation and Operation | Carrying Amount | | | % of Ownership and Voting Rights Held by the Company | | |
|--|---|--------------------------------------|-----------------|-------------------|----------------|--|-------------------|----------------|
| | | | March 31, 2022 | December 31, 2021 | March 31, 2021 | March 31, 2022 | December 31, 2021 | March 31, 2021 |
| Vanguard International Semiconductor Corporation (VIS) | Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks | Hsinchu, Taiwan | \$ 11,969,823 | \$ 10,613,127 | \$ 9,691,577 | 28% | 28% | 28% |
| Systems on Silicon Manufacturing Company Pte Ltd. (SSMC) | Manufacturing and sales of integrated circuits and other semiconductor devices | Singapore | 7,255,271 | 6,795,699 | 6,280,146 | 39% | 39% | 39% |

(Continued)

| Name of Associate | Principal Activities | Place of Incorporation and Operation | Carrying Amount | | | % of Ownership and Voting Rights Held by the Company | | |
|--|---|--------------------------------------|----------------------|----------------------|----------------------|--|-------------------|----------------|
| | | | March 31, 2022 | December 31, 2021 | March 31, 2021 | March 31, 2022 | December 31, 2021 | March 31, 2021 |
| Xintec Inc. (Xintec) | Wafer level chip size packaging and wafer level post passivation interconnection service | Taoyuan, Taiwan | \$ 3,192,971 | \$ 3,046,961 | \$ 2,796,080 | 41% | 41% | 41% |
| Global Unichip Corporation (GUC) | Researching, developing, manufacturing, testing and marketing of integrated circuits | Hsinchu, Taiwan | 1,679,084 | 1,484,683 | 1,497,735 | 35% | 35% | 35% |
| Mutual-Pak Technology Co., Ltd. (Mutual-Pak) | Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID | New Taipei, Taiwan | <u>21,859</u> | <u>22,948</u> | <u>29,278</u> | 28% | 28% | 28% |
| | | | <u>\$ 24,119,008</u> | <u>\$ 21,963,418</u> | <u>\$ 20,294,816</u> | | | |

(Concluded)

The market prices of the associates' ownership held by the Company in publicly traded stocks calculated by the closing price at the end of the reporting period are summarized as follows. The closing price represents the quoted price in active markets, the level 1 fair value measurement.

| Name of Associate | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------|----------------------|----------------------|----------------------|
| VIS | <u>\$ 57,795,825</u> | <u>\$ 73,347,312</u> | <u>\$ 50,136,137</u> |
| GUC | <u>\$ 23,577,369</u> | <u>\$ 27,359,085</u> | <u>\$ 18,605,112</u> |
| Xintec | <u>\$ 14,522,291</u> | <u>\$ 15,913,315</u> | <u>\$ 20,142,028</u> |

14. PROPERTY, PLANT AND EQUIPMENT

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|------------------------------------|------------------------|------------------------|------------------------|
| Assets used by the Company | \$2,104,326,119 | \$1,975,113,974 | \$1,657,464,257 |
| Assets subject to operating leases | <u>4,535</u> | <u>4,730</u> | <u>1,087,033</u> |
| | <u>\$2,104,330,654</u> | <u>\$1,975,118,704</u> | <u>\$1,658,551,290</u> |

a. Assets used by the Company

| | Land and Land Improvements | Buildings | Machinery and Equipment | Office Equipment | Equipment under Installation and Construction in Progress | Total |
|---------------------------------|----------------------------|-----------------------|-------------------------|----------------------|---|-------------------------|
| <u>Cost</u> | | | | | | |
| Balance at January 1, 2022 | \$ 6,488,230 | \$ 576,597,777 | \$ 3,984,749,236 | \$ 76,154,170 | \$ 593,155,733 | \$ 5,237,145,146 |
| Additions | 553,702 | 6,138,909 | 82,559,973 | 2,262,408 | 143,859,010 | 235,374,002 |
| Disposals or retirements | - | (718) | (9,809,295) | (46,089) | - | (9,856,102) |
| Effect of exchange rate changes | <u>99,003</u> | <u>1,425,333</u> | <u>6,163,236</u> | <u>165,124</u> | <u>2,099,307</u> | <u>9,952,003</u> |
| Balance at March 31, 2022 | <u>\$ 7,140,935</u> | <u>\$ 584,161,301</u> | <u>\$ 4,063,663,150</u> | <u>\$ 78,535,613</u> | <u>\$ 739,114,050</u> | <u>\$ 5,472,615,049</u> |

(Continued)

| | Land and Land Improvements | Buildings | Machinery and Equipment | Office Equipment | Equipment under Installation and Construction in Progress | Total |
|--|-------------------------------|-----------------------|----------------------------|----------------------|--|-------------------------|
| <u>Accumulated depreciation and impairment</u> | | | | | | |
| Balance at January 1, 2022 | \$ 499,826 | \$ 306,165,242 | \$ 2,903,539,441 | \$ 51,826,663 | \$ - | \$ 3,262,031,172 |
| Additions | 332 | 8,911,148 | 97,030,303 | 2,299,566 | - | 108,241,349 |
| Disposals or retirements | - | (590) | (9,186,394) | (45,910) | - | (9,232,894) |
| Impairment | - | - | - | - | 790,740 | 790,740 |
| Effect of exchange rate changes | 16,696 | 905,073 | 5,411,722 | 125,072 | - | 6,458,563 |
| Balance at March 31, 2022 | <u>\$ 516,854</u> | <u>\$ 315,980,873</u> | <u>\$ 2,996,795,072</u> | <u>\$ 54,205,391</u> | <u>\$ 790,740</u> | <u>\$ 3,368,288,930</u> |
| Carrying amounts at January 1, 2022 | <u>\$ 5,988,404</u> | <u>\$ 270,432,535</u> | <u>\$ 1,081,209,795</u> | <u>\$ 24,327,507</u> | <u>\$ 593,155,733</u> | <u>\$ 1,975,113,974</u> |
| Carrying amounts at March 31, 2022 | <u>\$ 6,624,081</u> | <u>\$ 268,180,428</u> | <u>\$ 1,066,868,078</u> | <u>\$ 24,330,222</u> | <u>\$ 738,323,310</u> | <u>\$ 2,104,326,119</u> |
| <u>Cost</u> | | | | | | |
| Balance at January 1, 2021 | \$ 3,942,625 | \$ 522,447,474 | \$ 3,607,005,732 | \$ 68,862,648 | \$ 223,965,360 | \$ 4,426,223,839 |
| Additions | - | 16,847,995 | 96,583,844 | 2,868,362 | 84,765,969 | 201,066,170 |
| Disposals or retirements | - | (3,903) | (2,248,013) | (24,549) | - | (2,276,465) |
| Transfers from assets subject to operating leases | - | 35,478 | - | - | - | 35,478 |
| Transfers to assets subject to operating leases | - | - | (244,579) | - | - | (244,579) |
| Effect of exchange rate changes | 10,662 | 451,026 | 2,328,717 | 53,921 | 213,799 | 3,058,125 |
| Balance at March 31, 2021 | <u>\$ 3,953,287</u> | <u>\$ 539,778,070</u> | <u>\$ 3,703,425,701</u> | <u>\$ 71,760,382</u> | <u>\$ 308,945,128</u> | <u>\$ 4,627,862,568</u> |
| <u>Accumulated depreciation and impairment</u> | | | | | | |
| Balance at January 1, 2021 | \$ 506,129 | \$ 271,799,471 | \$ 2,555,529,969 | \$ 43,802,332 | \$ - | \$ 2,871,637,901 |
| Additions | 334 | 8,107,322 | 88,029,504 | 2,159,047 | - | 98,296,207 |
| Disposals or retirements | - | (3,752) | (2,174,066) | (23,805) | - | (2,201,623) |
| Transfers from assets subject to operating leases | - | 15,646 | - | - | - | 15,646 |
| Transfers to assets subject to operating leases | - | - | (68,279) | - | - | (68,279) |
| Impairment | - | - | 274,388 | - | - | 274,388 |
| Effect of exchange rate changes | 7,391 | 282,148 | 2,115,572 | 38,960 | - | 2,444,071 |
| Balance at March 31, 2021 | <u>\$ 513,854</u> | <u>\$ 280,200,835</u> | <u>\$ 2,643,707,088</u> | <u>\$ 45,976,534</u> | <u>\$ -</u> | <u>\$ 2,970,398,311</u> |
| Carrying amounts at January 1, 2021 | <u>\$ 3,436,496</u> | <u>\$ 250,648,003</u> | <u>\$ 1,051,475,763</u> | <u>\$ 25,060,316</u> | <u>\$ 223,965,360</u> | <u>\$ 1,554,585,938</u> |
| Carrying amounts at March 31, 2021 | <u>\$ 3,439,433</u> | <u>\$ 259,577,235</u> | <u>\$ 1,059,718,613</u> | <u>\$ 25,783,848</u> | <u>\$ 308,945,128</u> | <u>\$ 1,657,464,257</u> |

(Concluded)

The significant part of the Company's buildings includes main plants, mechanical and electrical power equipment and clean rooms, and the related depreciation is calculated using the estimated useful lives of 20 years, 10 years and 10 years, respectively.

In the first quarter of 2022 and 2021, the Company recognized an impairment loss of NT\$790,740 thousand and NT\$274,388 thousand for certain equipment under machinery and equipment that were assessed to have no future use, and the recoverable amounts of the aforementioned assets were nil. Such impairment loss was recognized in other operating income and expenses.

Information about capitalized interest is set out in Note 23.

b. Assets subject to operating leases

| | Buildings | Machinery and Equipment | Total |
|---|------------------|------------------------------------|--------------|
| <u>Cost</u> | | | |
| Balance at January 1, 2022 | \$ 192,051 | \$ - | \$ 192,051 |
| Balance at March 31, 2022 | \$ 192,051 | \$ - | \$ 192,051 |
| <u>Accumulated depreciation</u> | | | |
| Balance at January 1, 2022 | \$ 187,321 | \$ - | \$ 187,321 |
| Additions | 195 | - | 195 |
| Balance at March 31, 2022 | \$ 187,516 | \$ - | \$ 187,516 |
| Carrying amounts at January 1, 2022 | \$ 4,730 | \$ - | \$ 4,730 |
| Carrying amounts at March 31, 2022 | \$ 4,535 | \$ - | \$ 4,535 |
| <u>Cost</u> | | | |
| Balance at January 1, 2021 | \$ 227,529 | \$ 1,199,011 | \$ 1,426,540 |
| Transfers to assets used by the Company | (35,478) | - | (35,478) |
| Transfers from assets used by the Company | - | 244,579 | 244,579 |
| Balance at March 31, 2021 | \$ 192,051 | \$ 1,443,590 | \$ 1,635,641 |
| <u>Accumulated depreciation</u> | | | |
| Balance at January 1, 2021 | \$ 201,366 | \$ 221,992 | \$ 423,358 |
| Additions | 437 | 72,180 | 72,617 |
| Transfers to assets used by the Company | (15,646) | - | (15,646) |
| Transfers from assets used by the Company | - | 68,279 | 68,279 |
| Balance at March 31, 2021 | \$ 186,157 | \$ 362,451 | \$ 548,608 |
| Carrying amounts at January 1, 2021 | \$ 26,163 | \$ 977,019 | \$ 1,003,182 |
| Carrying amounts at March 31, 2021 | \$ 5,894 | \$ 1,081,139 | \$ 1,087,033 |

Operating leases relate to leases of buildings and leases of machinery and equipment with lease terms ranging between approximately 1 to 5 years. The lessees do not have purchase options to acquire the assets at the expiration of the lease periods.

The maturity analysis of operating lease payments receivable from the buildings and machinery and equipment is as follows:

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--------|---------------------------|------------------------------|---------------------------|
| Year 1 | \$ 13,633 | \$ 17,978 | \$ 144,893 |
| Year 2 | - | - | 12,744 |
| | \$ 13,633 | \$ 17,978 | \$ 157,637 |

15. LEASE ARRANGEMENTS

a. Right-of-use assets

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--|----------------------|------------------------------------|----------------------|
| <u>Carrying amounts</u> | | | |
| Land | \$ 29,934,878 | \$ 29,778,636 | \$ 29,774,748 |
| Buildings | 2,954,237 | 2,918,133 | 2,469,406 |
| Machinery and equipment | 3,384 | 3,474 | - |
| Office equipment | <u>29,647</u> | <u>34,294</u> | <u>38,158</u> |
| | <u>\$ 32,922,146</u> | <u>\$ 32,734,537</u> | <u>\$ 32,282,312</u> |
| | | Three Months Ended March 31 | |
| | | 2022 | 2021 |
| Additions to right-of-use assets | | <u>\$ 1,010,298</u> | <u>\$ 5,176,718</u> |
| | | Three Months Ended March 31 | |
| | | 2022 | 2021 |
| Depreciation of right-of-use assets | | | |
| Land | | \$ 466,962 | \$ 445,402 |
| Buildings | | 219,598 | 153,130 |
| Machinery and equipment | | 202 | - |
| Office equipment | | <u>5,959</u> | <u>5,511</u> |
| | | <u>\$ 692,721</u> | <u>\$ 604,043</u> |
| Income from subleasing right-of-use assets (classified under other operating income and expenses, net) | | <u>\$ 20,722</u> | <u>\$ 20,426</u> |

b. Lease liabilities

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|---|----------------------|----------------------|----------------------|
| <u>Carrying amounts</u> | | | |
| Current portion (classified under accrued expenses and other current liabilities) | \$ 2,186,386 | \$ 2,176,451 | \$ 1,897,567 |
| Noncurrent portion | <u>21,065,933</u> | <u>20,764,214</u> | <u>21,074,764</u> |
| | <u>\$ 23,252,319</u> | <u>\$ 22,940,665</u> | <u>\$ 22,972,331</u> |

Ranges of discount rates for lease liabilities are as follows:

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------------|---------------------------|------------------------------|---------------------------|
| Land | 0.39%-2.14% | 0.39%-2.14% | 0.45%-2.14% |
| Buildings | 0.39%-3.88% | 0.39%-3.88% | 0.54%-3.88% |
| Machinery and equipment | 0.71% | 0.71% | - |
| Office equipment | 0.28%-3.88% | 0.28%-3.88% | 0.28%-3.88% |

c. Material terms of right-of-use assets

The Company leases land and buildings mainly for the use of plants and offices with lease terms of 1 to 36 years. The lease contracts for land located in the R.O.C. specify that lease payments will be adjusted every 2 years on the basis of changes in announced land value prices. The Company does not have purchase options to acquire the leasehold land and buildings at the end of the lease terms.

d. Subleases

The Company subleases the right to use its buildings and machinery and equipment under operating leases with lease terms of 1 to 6 years.

The maturity analysis of lease payments receivable under operating subleases is as follows:

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--------|---------------------------|------------------------------|---------------------------|
| Year 1 | <u>\$ 59,284</u> | <u>\$ 60,771</u> | <u>\$ 142,551</u> |

e. Other lease information

| | Three Months Ended March 31 | |
|---|------------------------------------|---------------------|
| | 2022 | 2021 |
| Expenses relating to short-term leases | <u>\$ 1,132,590</u> | <u>\$ 1,279,409</u> |
| Expenses relating to variable lease payments not included in the measurement of lease liabilities | <u>\$ 29,217</u> | <u>\$ 67,572</u> |
| | Three Months Ended March 31 | |
| | 2022 | 2021 |
| Total cash outflow for leases | <u>\$ 1,769,080</u> | <u>\$ 1,763,360</u> |

16. INTANGIBLE ASSETS

| | Goodwill | Technology License Fees | Software and System Design Costs | Patent and Others | Total |
|--|---------------------|----------------------------|--|----------------------|----------------------|
| <u>Cost</u> | | | | | |
| Balance at January 1, 2022 | \$ 5,379,164 | \$ 23,533,959 | \$ 43,650,957 | \$ 11,497,309 | \$ 84,061,389 |
| Additions | - | 23,836 | 811,722 | 47 | 835,605 |
| Disposals or retirements | - | - | (47,625) | - | (47,625) |
| Effect of exchange rate changes | 125,467 | 2,561 | 22,190 | 3,305 | 153,523 |
| Balance at March 31, 2022 | <u>\$ 5,504,631</u> | <u>\$ 23,560,356</u> | <u>\$ 44,437,244</u> | <u>\$ 11,500,661</u> | <u>\$ 85,002,892</u> |
| <u>Accumulated amortization and impairment</u> | | | | | |
| Balance at January 1, 2022 | \$ - | \$ 14,912,293 | \$ 34,121,578 | \$ 8,205,821 | \$ 57,239,692 |
| Additions | - | 679,290 | 1,193,382 | 295,126 | 2,167,798 |
| Disposals or retirements | - | - | (47,625) | - | (47,625) |
| Effect of exchange rate changes | - | 2,561 | 18,851 | 1,564 | 22,976 |
| Balance at March 31, 2022 | <u>\$ -</u> | <u>\$ 15,594,144</u> | <u>\$ 35,286,186</u> | <u>\$ 8,502,511</u> | <u>\$ 59,382,841</u> |
| Carrying amounts at January 1, 2022 | <u>\$ 5,379,164</u> | <u>\$ 8,621,666</u> | <u>\$ 9,529,379</u> | <u>\$ 3,291,488</u> | <u>\$ 26,821,697</u> |
| Carrying amounts at March 31, 2022 | <u>\$ 5,504,631</u> | <u>\$ 7,966,212</u> | <u>\$ 9,151,058</u> | <u>\$ 2,998,150</u> | <u>\$ 25,620,051</u> |
| <u>Cost</u> | | | | | |
| Balance at January 1, 2021 | \$ 5,436,602 | \$ 22,161,712 | \$ 36,238,967 | \$ 11,277,701 | \$ 75,114,982 |
| Additions | - | 471,970 | 642,617 | 42 | 1,114,629 |
| Effect of exchange rate changes | 55,673 | 1,350 | 6,131 | 473 | 63,627 |
| Balance at March 31, 2021 | <u>\$ 5,492,275</u> | <u>\$ 22,635,032</u> | <u>\$ 36,887,715</u> | <u>\$ 11,278,216</u> | <u>\$ 76,293,238</u> |
| <u>Accumulated amortization and impairment</u> | | | | | |
| Balance at January 1, 2021 | \$ - | \$ 12,226,066 | \$ 30,111,759 | \$ 7,008,978 | \$ 49,346,803 |
| Additions | - | 659,640 | 963,616 | 304,195 | 1,927,451 |
| Effect of exchange rate changes | - | 1,350 | 4,556 | 390 | 6,296 |
| Balance at March 31, 2021 | <u>\$ -</u> | <u>\$ 12,887,056</u> | <u>\$ 31,079,931</u> | <u>\$ 7,313,563</u> | <u>\$ 51,280,550</u> |
| Carrying amounts at January 1, 2021 | <u>\$ 5,436,602</u> | <u>\$ 9,935,646</u> | <u>\$ 6,127,208</u> | <u>\$ 4,268,723</u> | <u>\$ 25,768,179</u> |
| Carrying amounts at March 31, 2021 | <u>\$ 5,492,275</u> | <u>\$ 9,747,976</u> | <u>\$ 5,807,784</u> | <u>\$ 3,964,653</u> | <u>\$ 25,012,688</u> |

The Company's goodwill has been tested for impairment at the end of the annual reporting period and the recoverable amount is determined based on the value in use. The value in use was calculated based on the cash flow forecast from the financial budgets covering the future five-year period, and the Company used annual discount rate of 8.0% in its test of impairment as of December 31, 2021 to reflect the relevant specific risk in the cash-generating unit.

17. SHORT-TERM LOANS

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|----------------------|-----------------------|-----------------------|-----------------------|
| Unsecured loans | | | |
| Amount | <u>\$ 144,550,897</u> | <u>\$ 114,921,333</u> | <u>\$ 137,123,748</u> |
| Loan content | | | |
| JPY (in thousands) | \$ 165,150,000 | \$ - | \$ - |
| EUR (in thousands) | 3,305,121 | 3,652,935 | 4,109,808 |
| Annual interest rate | (0.33)%-0.1% | (0.73)%-0% | (0.26)%-0.01% |
| Maturity date | Due by July 2022 | Due by June 2022 | Due by July 2021 |

18. BONDS PAYABLE

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|----------------------------------|-----------------------|-----------------------|-----------------------|
| Domestic unsecured bonds | \$ 333,896,000 | \$ 312,448,000 | \$ 192,107,000 |
| Overseas unsecured bonds | 314,578,000 | 304,414,000 | 85,521,000 |
| Less: Discounts on bonds payable | (2,423,779) | (2,391,348) | (789,697) |
| Less: Current portion | <u>(16,400,000)</u> | <u>(4,400,000)</u> | <u>-</u> |
| | <u>\$ 629,650,221</u> | <u>\$ 610,070,652</u> | <u>\$ 276,838,303</u> |

The Company issued domestic unsecured bonds for the three months ended March 31, 2022, the major terms are as follows:

| Issuance | Tranche | Issuance Period | Total Amount | Coupon Rate | Repayment and Interest Payment |
|-----------------------------|---------|------------------------------|--------------|-------------|---|
| <u>NT\$ unsecured bonds</u> | | | | | |
| 111-1 (Green bond) | A | January 2022 to January 2027 | \$ 2,100,000 | 0.63% | Bullet repayment; interest payable annually |
| | B | January 2022 to January 2029 | 3,300,000 | 0.72% | The same as above |
| 111-2 | A | March 2022 to September 2026 | 3,000,000 | 0.84% | The same as above |
| | B | March 2022 to March 2027 | 9,600,000 | 0.85% | The same as above |
| | C | March 2022 to March 2029 | 1,600,000 | 0.90% | The same as above |

The major terms of overseas unsecured bonds are as follows:

| Issuance Period | Total Amount (US\$ in Thousands) | | Coupon Rate | Repayment and Interest Payment |
|----------------------------------|-------------------------------------|-----------|-------------|---|
| September 2020 to September 2025 | US\$ | 1,000,000 | 0.75% | Bullet repayment (callable at any time, in whole or in part, at the relevant redemption price according to relevant agreements); interest payable semi-annually |
| September 2020 to September 2027 | | 750,000 | 1.00% | The same as above |
| September 2020 to September 2030 | | 1,250,000 | 1.375% | The same as above |
| April 2021 to April 2026 | | 1,100,000 | 1.25% | The same as above |

(Continued)

| Issuance Period | Total Amount (US\$ in Thousands) | Coupon Rate | Repayment and Interest Payment |
|---------------------------------|---|--------------------|---|
| April 2021 to April 2028 | US\$ 900,000 | 1.75% | Bullet repayment (callable at any time, in whole or in part, at the relevant redemption price according to relevant agreements); interest payable semi-annually |
| April 2021 to April 2031 | 1,500,000 | 2.25% | The same as above |
| October 2021 to October 2026 | 1,250,000 | 1.75% | The same as above |
| October 2021 to October 2031 | 1,250,000 | 2.50% | The same as above |
| October 2021 to October 2041 | 1,000,000 | 3.125% | The same as above |
| October 2021 to October 2051 | 1,000,000 | 3.25% | The same as above |

(Concluded)

The company issued overseas unsecured bonds during the period from April 1, 2022 to May 10, 2022, the major terms are as follows:

| Issuance Period | Total Amount (US\$ in Thousands) | Coupon Rate | Repayment and Interest Payment |
|-----------------------------|---|--------------------|---|
| April 2022 to April 2027 | US\$ 1,000,000 | 3.875% | Bullet repayment (callable at any time, in whole or in part, at the relevant redemption price according to relevant agreements); interest payable semi-annually |
| April 2022 to April 2029 | 500,000 | 4.125% | The same as above |
| April 2022 to April 2032 | 1,000,000 | 4.25% | The same as above |
| April 2022 to April 2052 | 1,000,000 | 4.50% | The same as above |

19. LONG-TERM BANK LOANS

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|--------------------------------------|---------------------------|------------------------------|---------------------------|
| Unsecured loans | \$ 3,510,000 | \$ 3,510,000 | \$ 2,660,000 |
| Less: Discounts on government grants | (30,619) | (34,202) | (36,176) |
| Less: Current portion | <u>(391,667)</u> | <u>(166,667)</u> | <u>-</u> |
| | <u>\$ 3,087,714</u> | <u>\$ 3,309,131</u> | <u>\$ 2,623,824</u> |
| Loan content | | | |
| Annual interest rate | 0.4%-0.9% | 0.4%-0.9% | 0.4%-0.6% |
| Maturity date | Due by September 2026 | Due by September 2026 | Due by March 2026 |

The long-term bank loans of the Company are with preferential interest rates subsidized by the government, and the loans are used to fund capital expenditure qualifying for the subsidy.

20. EQUITY

a. Capital stock

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|---------------------------------------|-----------------------|-----------------------|-----------------------|
| Authorized shares (in thousands) | 28,050,000 | 28,050,000 | 28,050,000 |
| Authorized capital | <u>\$ 280,500,000</u> | <u>\$ 280,500,000</u> | <u>\$ 280,500,000</u> |
| Issued and paid shares (in thousands) | 25,931,767 | 25,930,380 | 25,930,380 |
| Issued capital | <u>\$ 259,317,675</u> | <u>\$ 259,303,805</u> | <u>\$ 259,303,805</u> |

A holder of issued common shares with par value of NT\$10 per share is entitled to vote and to receive dividends.

The authorized shares include 500,000 thousand shares allocated for the exercise of employee stock options.

On March 1, 2022, the Company issued employee restricted stocks awards (RSAs) for its employees in a total of 1,387 thousand shares with a par value of NT\$10 each. The aforementioned issuance of new shares was approved by the relevant authority and the registration has been completed. Please refer to Note 27 for the information on RSAs.

As of March 31, 2022, 1,064,099 thousand ADSs of TSMC were traded on the NYSE. The number of common shares represented by the ADSs was 5,320,496 thousand shares (one ADS represents five common shares).

b. Capital surplus

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|---|----------------------|----------------------|----------------------|
| Additional paid-in capital | \$ 24,184,939 | \$ 24,184,939 | \$ 24,184,939 |
| From merger | 22,804,510 | 22,804,510 | 22,804,510 |
| From convertible bonds | 8,892,847 | 8,892,847 | 8,892,847 |
| From difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal | 8,406,282 | 8,406,282 | 8,406,282 |
| From share of changes in equities of subsidiaries | 129,426 | 113,952 | 121,843 |
| From share of changes in equities of associates | 307,352 | 307,322 | 302,608 |
| Donations | 51,750 | 51,750 | 40,578 |
| Employee restricted shares | <u>438,029</u> | <u>-</u> | <u>-</u> |
| | <u>\$ 65,215,135</u> | <u>\$ 64,761,602</u> | <u>\$ 64,753,607</u> |

Under the relevant laws, the capital surplus generated from the excess of the issuance price over the par value of capital stock (including the stock issued for new capital, mergers and convertible bonds), the difference between the consideration received and the carrying amount of the subsidiaries' net assets during actual disposal and donations may be used to offset a deficit; in addition, when the Company has no deficit, such capital surplus may be distributed as cash dividends or stock dividends up to a certain percentage of TSMC's paid-in capital. The capital surplus from share of changes in equities of subsidiaries and associates and dividend of a claim extinguished by a prescription may be used to offset

a deficit; however, when generated from issuance of restricted shares for employees, such capital surplus may not be used for any purpose.

c. Retained earnings and dividend policy

TSMC's Articles of Incorporation provide that, earnings distribution may be made on a quarterly basis after the close of each quarter. Distribution of earnings by way of cash dividends should be approved by TSMC's Board of Directors and reported to TSMC's shareholders in its meeting. When allocating earnings, TSMC shall first estimate and reserve the taxes to be paid, offset its losses, set aside a legal capital reserve at 10% of the remaining earnings (until the accumulated legal capital reserve equals TSMC's paid-in capital), then set aside a special capital reserve in accordance with relevant laws or regulations or as requested by the authorities in charge. Any balance left over shall be allocated according to relevant laws and the TSMC's Articles of Incorporation.

TSMC's Articles of Incorporation also provide that profits of TSMC may be distributed by way of cash dividend and/or stock dividend. However, distribution of earnings shall be made preferably by way of cash dividend. Distribution of earnings may also be made by way of stock dividend, provided that the ratio for stock dividend shall not exceed 50% of the total distribution.

The legal capital reserve may be used to offset a deficit, or be distributed as dividends in cash or stocks for the portion in excess of 25% of the paid-in capital if the Company incurs no loss.

Pursuant to existing regulations, the Company is required to set aside additional special capital reserve equivalent to the net debit balance of the other components of stockholders' equity, such as the accumulated balance of foreign currency translation reserve, unrealized valuation gain or loss from fair value through other comprehensive income financial assets, gain or loss from changes in fair value of hedging instruments in cash flow hedges, etc. For the subsequent decrease in the deduction amount to stockholders' equity, any special reserve appropriated may be reversed to the extent that the net debit balance reverses.

The appropriations of 2022, 2021 and 2020 quarterly earnings have been approved by TSMC's Board of Directors in its meeting, respectively. The appropriations and cash dividends per share were as follows:

| Resolution Date of TSMC's Board of Directors in its meeting | First Quarter of 2022 May 10, 2022 | | | |
|--|---|--|--|--|
| Special capital reserve | <u>\$ (15,541,054)</u> | | | |
| Cash dividends to shareholders | <u>\$ 71,308,546</u> | | | |
| Cash dividends per share (NT\$) | <u>\$ 2.75</u> | | | |

| Resolution Date of TSMC's Board of Directors in its meeting | Fourth Quarter of 2021 February 15, 2022 | Third Quarter of 2021 November 9, 2021 | Second Quarter of 2021 August 10, 2021 | First Quarter of 2021 June 9, 2021 |
|--|---|---|---|---|
| Special capital reserve | <u>\$ 3,304,303</u> | <u>\$ 710,169</u> | <u>\$ 10,201,220</u> | <u>\$ (6,287,050)</u> |
| Cash dividends to shareholders | <u>\$ 71,308,546</u> | <u>\$ 71,308,547</u> | <u>\$ 71,308,546</u> | <u>\$ 71,308,546</u> |
| Cash dividends per share (NT\$) | <u>\$ 2.75</u> | <u>\$ 2.75</u> | <u>\$ 2.75</u> | <u>\$ 2.75</u> |

| Resolution Date of TSMC's Board of Directors in its meeting | Fourth Quarter of 2020 February 9, 2021 | Third Quarter of 2020 November 10, 2020 | Second Quarter of 2020 August 11, 2020 | First Quarter of 2020 May 12, 2020 |
|--|--|--|---|---|
| Special capital reserve | \$ 12,420,727 | \$ 5,501,351 | \$ 11,884,457 | \$ (2,694,841) |
| Cash dividends to shareholders | \$ 64,825,951 | \$ 64,825,951 | \$ 64,825,951 | \$ 64,825,951 |
| Cash dividends per share (NT\$) | \$ 2.5 | \$ 2.5 | \$ 2.5 | \$ 2.5 |

The special capital reserve for 2021 is to be presented for approval in the TSMC's shareholders' meeting to be held on June 8, 2022 (expected).

d. Others

Changes in others were as follows:

| | Three Months Ended March 31, 2022 | | | | |
|--|---|---|---|---|------------------------|
| | Foreign Currency Translation Reserve | Unrealized Gain (Loss) on Financial Assets at FVTOCI | Gain (Loss) on Hedging Instruments | Unearned Stock-Based Employee Compensation | Total |
| Balance, beginning of period | \$ (63,303,361) | \$ 574,310 | \$ 120,536 | \$ - | \$ (62,608,515) |
| Exchange differences arising on translation of foreign operations | 19,485,016 | - | - | - | 19,485,016 |
| Unrealized gain (loss) on financial assets at FVTOCI | | | | | |
| Equity instruments | - | 315,996 | - | - | 315,996 |
| Debt instruments | - | (5,246,561) | - | - | (5,246,561) |
| Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal | - | (7,447) | - | - | (7,447) |
| Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal | - | 140,778 | - | - | 140,778 |
| Loss allowance adjustments from debt instruments | - | 639 | - | - | 639 |
| Gain (loss) arising on changes in the fair value of hedging instruments | - | - | 693,828 | - | 693,828 |
| Transferred to initial carrying amount of hedged items | - | - | (2,178) | - | (2,178) |
| Issuance of shares | - | - | - | (451,899) | (451,899) |
| Share-based payment expenses recognized | - | - | - | 26,675 | 26,675 |
| Share of other comprehensive income (loss) of associates | 164,459 | 10,561 | 33,278 | - | 208,298 |
| Income tax effect | - | (15) | (47,300) | - | (47,315) |
| Balance, end of period | <u>\$ (43,653,886)</u> | <u>\$ (4,211,739)</u> | <u>\$ 798,164</u> | <u>\$ (425,224)</u> | <u>\$ (47,492,685)</u> |
| | Three Months Ended March 31, 2021 | | | | |
| | Foreign Currency Translation Reserve | Unrealized Gain (Loss) on Financial Assets at FVTOCI | Gain (Loss) on Hedging Instruments | Unearned Stock-Based Employee Compensation | Total |
| Balance, beginning of period | \$ (57,001,627) | \$ 2,321,754 | \$ - | \$ - | \$ (54,679,873) |
| Exchange differences arising on translation of foreign operations | 7,805,730 | - | - | - | 7,805,730 |
| Unrealized gain (loss) on financial assets at FVTOCI | | | | | |
| Equity instruments | - | (109,306) | - | - | (109,306) |
| Debt instruments | - | (1,662,791) | - | - | (1,662,791) |
| Cumulative unrealized gain (loss) of equity instruments transferred to retained earnings due to disposal | - | 278,816 | - | - | 278,816 |
| Cumulative unrealized gain (loss) of debt instruments transferred to profit or loss due to disposal | - | (2,986) | - | - | (2,986) |

(Continued)

| Three Months Ended March 31, 2021 | | | | | |
|---|---|--|--|---|------------------------|
| | Foreign Currency Translation Reserve | Unrealized Gain (Loss) on Financial Assets at FVTOCI | Gain (Loss) on Hedging Instruments | Unearned Stock-Based Employee Compensation | Total |
| Loss allowance adjustments from debt instruments | \$ - | \$ (244) | \$ - | \$ - | \$ (244) |
| Gain (loss) arising on changes in the fair value of hedging instruments | - | - | (41,416) | - | (41,416) |
| Transferred to initial carrying amount of hedged items | - | - | 41,416 | - | 41,416 |
| Share of other comprehensive income (loss) of associates | 25,455 | 8,147 | - | - | 33,602 |
| Income tax effect | - | (55,771) | - | - | (55,771) |
| Balance, end of period | <u>\$ (49,170,442)</u> | <u>\$ 777,619</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ (48,392,823)</u> |

(Concluded)

The aforementioned other equity includes the changes in other equities of TSMC and TSMC's share of its subsidiaries and associates.

e. Treasury stock

For TSMC's shareholders' interests, TSMC's Board of Directors approved a share buyback program on February 15, 2022 to repurchase 1,387 thousand shares. As of March 31, 2022, TSMC has completed this share buyback program. On May 10, 2022, TSMC's Board of Directors resolved to cancel the 1,387 thousand shares and set May 10, 2022 as the record date for capital reduction.

Under the Securities and Exchange Act, the Company shall neither pledge treasury stocks nor exercise shareholders' rights on these stocks, such as the rights to dividends and to vote.

21. NET REVENUE

a. Disaggregation of revenue from contracts with customers

| Product | Three Months Ended March 31 | |
|------------------------------------|-----------------------------|-----------------------|
| | 2022 | 2021 |
| Wafer | \$ 438,636,751 | \$ 322,472,256 |
| Others | <u>52,439,122</u> | <u>39,937,974</u> |
| | <u>\$ 491,075,873</u> | <u>\$ 362,410,230</u> |
| Geography | Three Months Ended March 31 | |
| | 2022 | 2021 |
| Taiwan | \$ 64,309,017 | \$ 57,729,034 |
| United States | 306,126,682 | 237,363,271 |
| China | 55,336,614 | 23,209,742 |
| Europe, the Middle East and Africa | 25,880,221 | 19,874,058 |
| Japan | 24,571,176 | 14,956,168 |
| Others | <u>14,852,163</u> | <u>9,277,957</u> |
| | <u>\$ 491,075,873</u> | <u>\$ 362,410,230</u> |

The Company categorized the net revenue mainly based on the countries where the customers are headquartered.

| Platform | Three Months Ended March 31 | |
|------------------------------|-----------------------------|-----------------------|
| | 2022 | 2021 |
| Smartphone | \$ 195,999,894 | \$ 163,207,797 |
| High Performance Computing | 202,245,162 | 127,843,387 |
| Internet of Things | 39,045,775 | 30,122,731 |
| Automotive | 23,731,218 | 14,605,540 |
| Digital Consumer Electronics | 14,478,836 | 15,414,085 |
| Others | <u>15,574,988</u> | <u>11,216,690</u> |
| | <u>\$ 491,075,873</u> | <u>\$ 362,410,230</u> |

| Resolution | Three Months Ended March 31 | |
|-----------------------|-----------------------------|-----------------------|
| | 2022 | 2021 |
| 5-nanometer | \$ 86,291,790 | \$ 45,613,201 |
| 7-nanometer | 132,325,105 | 111,021,375 |
| 10-nanometer | 3,145 | 457,038 |
| 16-nanometer | 60,867,539 | 45,307,582 |
| 20-nanometer | 2,154,465 | 1,201,403 |
| 28-nanometer | 47,447,095 | 36,664,175 |
| 40/45-nanometer | 34,029,970 | 23,190,957 |
| 65-nanometer | 21,186,906 | 15,623,227 |
| 90-nanometer | 9,264,496 | 8,724,440 |
| 0.11/0.13 micron | 13,376,585 | 8,697,466 |
| 0.15/0.18 micron | 25,523,798 | 20,609,550 |
| 0.25 micron and above | <u>6,165,857</u> | <u>5,361,842</u> |
| Wafer revenue | <u>\$ 438,636,751</u> | <u>\$ 322,472,256</u> |

b. Contract balances

| | March 31, 2022 | December 31, 2021 | March 31, 2021 | January 1, 2021 |
|--|----------------------|----------------------|----------------------|----------------------|
| Contract liabilities (classified under accrued expenses and other current liabilities) | <u>\$ 50,674,704</u> | <u>\$ 39,762,588</u> | <u>\$ 25,383,112</u> | <u>\$ 13,775,088</u> |

The changes in the contract liability balances primarily result from the timing difference between the satisfaction of performance obligation and the customer's payment.

The Company recognized revenue from the beginning balance of contract liability, which amounted to NT\$30,878,412 thousand and NT\$9,013,776 thousand for the three months ended March 31, 2022 and 2021, respectively.

c. Temporary receipts from customers

| | March 31, 2022 | December 31, 2021 |
|---|---------------------------|------------------------------|
| Current portion (classified under accrued expenses and other current liabilities) | \$ 47,557,073 | \$ 30,612,702 |
| Noncurrent portion (classified under other noncurrent liabilities) | <u>169,649,199</u> | <u>155,381,485</u> |
| | <u>\$ 217,206,272</u> | <u>\$ 185,994,187</u> |

The Company's temporary receipts from customer are payments made by customers to the Company to retain the Company's capacity. When the terms and conditions set forth in the agreements are subsequently satisfied, the treatment of temporary receipts, either by refund or by accounts receivable offsetting, will be determined by mutual consent.

22. INTEREST INCOME

| | Three Months Ended March 31 | |
|------------------------------------|------------------------------------|---------------------|
| | 2022 | 2021 |
| Interest income | | |
| Bank deposits | \$ 991,993 | \$ 631,061 |
| Financial assets at FVTOCI | 540,490 | 626,707 |
| Financial assets at amortized cost | <u>141,396</u> | <u>203,136</u> |
| | <u>\$ 1,673,879</u> | <u>\$ 1,460,904</u> |

23. FINANCE COSTS

| | Three Months Ended March 31 | |
|--|------------------------------------|-------------------|
| | 2022 | 2021 |
| Interest expense | | |
| Corporate bonds | \$ 2,387,309 | \$ 715,104 |
| Lease liabilities | 46,518 | 49,777 |
| Bank loans | 6,621 | 7,129 |
| Others | 87 | 85 |
| Less: Capitalized interest under property, plant and equipment | <u>(299,769)</u> | <u>-</u> |
| | <u>\$ 2,140,766</u> | <u>\$ 772,095</u> |

Information about capitalized interest is as follows:

| | Three Months Ended March 31, 2022 |
|---------------------|--|
| Capitalization rate | 0.56%-2.64% |

24. OTHER GAINS AND LOSSES, NET

| | Three Months Ended March 31 | |
|--|------------------------------------|-----------------------|
| | 2022 | 2021 |
| Gain (loss) on disposal of financial assets, net | | |
| Investments in debt instruments at FVTOCI | \$ (140,778) | \$ 2,986 |
| Loss on financial instruments at FVTPL, net | | |
| Mandatorily measured at FVTPL | (372,903) | (3,354,527) |
| The reversal (accrual) of expected credit loss of financial assets | | |
| Investments in debt instruments at FVTOCI | (639) | 244 |
| Financial assets at amortized cost | (11,129) | 253 |
| Other gains, net | <u>257,153</u> | <u>139,249</u> |
| | <u>\$ (268,296)</u> | <u>\$ (3,211,795)</u> |

25. INCOME TAX

a. Income tax expense recognized in profit or loss

Income tax expense consisted of the following:

| | Three Months Ended March 31 | |
|---|------------------------------------|----------------------|
| | 2022 | 2021 |
| Current income tax expense | | |
| Current tax expense recognized in the current period | \$ 28,676,190 | \$ 20,456,956 |
| Income tax adjustments on prior years | (33,608) | - |
| Other income tax adjustments | <u>40,467</u> | <u>38,385</u> |
| | <u>28,683,049</u> | <u>20,495,341</u> |
| Deferred income tax benefit | | |
| The origination and reversal of temporary differences | (3,774,727) | (3,854,881) |
| Investment tax credits | <u>(950,000)</u> | <u>(1,314,820)</u> |
| | <u>(4,724,727)</u> | <u>(5,169,701)</u> |
| Income tax expense recognized in profit or loss | <u>\$ 23,958,322</u> | <u>\$ 15,325,640</u> |

b. Income tax expense recognized in other comprehensive income

| | Three Months Ended March 31 | |
|--|------------------------------------|------------------|
| | 2022 | 2021 |
| Deferred income tax expense | | |
| Related to unrealized gain/loss on investments in equity instruments at FVTOCI | \$ 15 | \$ 55,771 |
| Related to gain/loss on cash flow hedges | <u>47,300</u> | <u>-</u> |
| | <u>\$ 47,315</u> | <u>\$ 55,771</u> |

c. Income tax examination

The tax authorities have examined income tax returns of TSMC through 2020. All investment tax credit adjustments assessed by the tax authorities have been recognized accordingly.

26. EARNINGS PER SHARE

| | Three Months Ended March 31 | |
|-------------|------------------------------------|----------------|
| | 2022 | 2021 |
| Basic EPS | <u>\$ 7.82</u> | <u>\$ 5.39</u> |
| Diluted EPS | <u>\$ 7.82</u> | <u>\$ 5.39</u> |

EPS is computed as follows:

| | Three Months Ended March 31 | |
|--|------------------------------------|-----------------------|
| | 2022 | 2021 |
| Basic EPS | | |
| Net income available to common shareholders of the parent | <u>\$ 202,732,975</u> | <u>\$ 139,690,493</u> |
| Weighted average number of common shares outstanding used in the computation of basic EPS (in thousands) | <u>25,929,791</u> | <u>25,930,380</u> |
| Basic EPS (in dollars) | <u>\$ 7.82</u> | <u>\$ 5.39</u> |
| Diluted EPS | | |
| Net income available to common shareholders of the parent | <u>\$ 202,732,975</u> | <u>\$ 139,690,493</u> |
| Weighted average number of common shares outstanding used in the computation of basic EPS (in thousands) | <u>25,929,791</u> | <u>25,930,380</u> |
| Effects of all dilutive potential common shares | <u>43</u> | <u>-</u> |
| Weighted average number of common shares used in the computation of diluted EPS (in thousands) | <u>25,929,834</u> | <u>25,930,380</u> |
| Diluted EPS (in dollars) | <u>\$ 7.82</u> | <u>\$ 5.39</u> |

27. SHARE-BASED PAYMENT ARRANGEMENTS

a. Equity-settled share-based payment-RSAs

The issuance of RSAs for year 2021 (2021 RSAs) of no more than 2,600 thousand common shares has been approved by TSMC's shareholders' meeting held on July 26, 2021. The grants will be made free of charge. Under the aforementioned resolution, TSMC's Board of Directors approved the issuance of RSAs of 1,387 thousand shares. The grant date and the issuance date were both March 1, 2022.

Vesting conditions of the aforementioned arrangement are as follow:

- 1) The RSAs granted to key management personnel can only be vested if
 - the key management personnel remain employed by TSMC on the last date of each vesting period;
 - during the vesting period, the key management personnel may not breach any agreement with the TSMC or violate the TSMC's work rules; and
 - certain key management personnel performance metrics and the TSMC's business performance metrics are met.
- 2) The maximum percentage of granted RSAs that may be vested each year shall be as follows: one-year anniversary of the grant: 50%; two-year anniversary of the grant: 25%; and three-year anniversary of the grant: 25%; provided that the actual percentage and number of the RSAs to be vested in each year will be calculated based on the achievement of the TSMC's business performance metrics.

- 3) The maximum number of RSAs that may be vested in each year will be set as 110%, among which 100% will be subject to a calculation based on the TSMC's relative Total Shareholder Return ("TSR", including capital gains and dividends) achievement to determine the number of RSAs to be vested; this number will be further subject to a modifier to increase or decrease up to 10% based on the Compensation Committee's evaluation of the TSMC's Environmental, Social, and Governance ("ESG") achievements. The number of shares so calculated should be rounded down to the nearest integral.

| TSMC's TSR relative to the TSR of S&P 500 IT Index | Ratio of Shares to be Vested |
|---|--|
| Above the Index by X percentage points | 50% + X * 2.5%, with the maximum of 100% |
| Equal to the Index | 50% |
| Below the Index by X percentage points | 50% - X * 2.5%, with the minimum of 0% |

Restrictions imposed on the key management personnel' rights in the RSAs before the vesting conditions are fulfilled:

- 1) During each vesting period, no key management personnel granted RSAs, except for inheritance, may sell, pledge, transfer, give to another person, create any encumbrance on, or otherwise dispose of, any shares under the unvested RSAs.
- 2) Before the vesting conditions are fulfilled, the attendance, proposal rights, speech rights, voting rights and etc. shall be exercised by the engaged trustee/custodian on the key management personnel's behalf. Any other shareholder rights including but not limited to the entitlement to any distribution regarding dividends, bonuses and capital reserve, and the subscription right of the new shares issued for any capital increase, are the same as those of holders of common shares of TSMC.
- 3) Details of granted 2021 RSAs are as follows:

| | Number of Stocks (In Thousands) Three Months Ended March 31, 2022 |
|--|--|
| Balance, beginning of period | - |
| Issuance of stocks | <u>1,387</u> |
| Balance, end of period | <u><u>1,387</u></u> |
| Weighted-average fair value of RSAs (in dollars) | <u>\$ 325.81</u> |

The 2021 RSAs is measured at fair value at grant date using the binominal tree approach. Relevant information is as follows:

| | March 1, 2022 (In Dollars) |
|---------------------------|---------------------------------------|
| Stock price at grant date | \$ 604 |
| Expected price volatility | 25.34%-28.28% |
| Expected option life | 1-3 years |
| Risk-free interest rate | 0.57% |

Refer to Note 28 for the compensation costs of the 2021 RSAs recognized by the Company.

On April 12, 2022, TSMC's Board of Directors approved to change the issuance of RSAs for year 2022 (2022 RSAs) of no more than 3,065 thousand common shares. The grants will be made free of charge. The actual number of shares to be issued will be resolved by the Board of Directors after the 2022 RSAs is approved at the shareholders' meeting and by the relevant authority.

b. Cash-settled share-based payment arrangements

On March 1, 2022, TSMC executed a compensation plan to grant 236 thousand units of employee cash-settled share-based payment arrangement free of charge. One unit of the right represents a right to the market value of one TSMC's common share when vested. The vesting conditions and the ratio of units to be vested for key management personnel of the plan are the same as the aforementioned 2021 RSAs.

The compensation cost for the cash-settled share-based payment was measured at fair value by using binominal tree approach and will be measured at the end of each reporting period until settlement. Relevant information is as follows:

| | March 31, 2022 (In Dollars) |
|---------------------------------|--|
| Stock price at measurement date | \$ 581 |
| Expected price volatility | 25.57%-28.66% |
| Expected option life | 1-3 years |
| Risk-free interest rate | 0.65% |

Refer to Note 28 for the compensation costs of the cash-settled share-based payment recognized by the Company. The liabilities under cash-settle share-based payment arrangement amounted to NT\$5,400 thousands as of the end of reporting period.

28. ADDITIONAL INFORMATION OF EXPENSES BY NATURE

| | Three Months Ended March 31 | |
|--|------------------------------------|----------------------|
| | 2022 | 2021 |
| a. Depreciation of property, plant and equipment and right-of-use assets | | |
| Recognized in cost of revenue | \$ 101,657,688 | \$ 92,234,075 |
| Recognized in operating expenses | 7,276,382 | 6,666,175 |
| Recognized in other operating income and expenses | <u>195</u> | <u>72,617</u> |
| | <u>\$ 108,934,265</u> | <u>\$ 98,972,867</u> |
| b. Amortization of intangible assets | | |
| Recognized in cost of revenue | \$ 1,502,075 | \$ 1,286,904 |
| Recognized in operating expenses | <u>665,723</u> | <u>640,547</u> |
| | <u>\$ 2,167,798</u> | <u>\$ 1,927,451</u> |

| | Three Months Ended March 31 | |
|--|------------------------------------|----------------------|
| | 2022 | 2021 |
| c. Employee benefits expenses | | |
| Post-employment benefits | | |
| Defined contribution plans | \$ 1,041,302 | \$ 770,255 |
| Defined benefit plans | <u>52,174</u> | <u>48,111</u> |
| | <u>1,093,476</u> | <u>818,366</u> |
| Share-based payments | | |
| Equity-settled | 27,453 | 1,704 |
| Cash-settled | <u>5,400</u> | <u>-</u> |
| | <u>32,853</u> | <u>1,704</u> |
| Other employee benefits | <u>48,920,997</u> | <u>37,262,394</u> |
| | <u>\$ 50,047,326</u> | <u>\$ 38,082,464</u> |
| Employee benefits expense summarized by function | | |
| Recognized in cost of revenue | \$ 29,725,863 | \$ 22,806,447 |
| Recognized in operating expenses | <u>20,321,463</u> | <u>15,276,017</u> |
| | <u>\$ 50,047,326</u> | <u>\$ 38,082,464</u> |

According to TSMC's Articles of Incorporation, TSMC shall allocate compensation to directors and profit sharing bonus to employees of TSMC not more than 0.3% and not less than 1% of annual profits during the period, respectively.

TSMC accrued profit sharing bonus to employees based on a percentage of net income before income tax, profit sharing bonus to employees and compensation to directors during the period; compensation to directors was expensed based on estimated amount payable. If there is a change in the proposed amounts after the annual consolidated financial statements are authorized for issue, the differences are recorded as a change in accounting estimate. Accrued profit sharing bonus to employees is illustrated below:

| | Three Months Ended March 31 | |
|-----------------------------------|------------------------------------|---------------------|
| | 2022 | 2021 |
| Profit sharing bonus to employees | <u>\$ 12,110,919</u> | <u>\$ 8,338,300</u> |

TSMC's profit sharing bonus to employees and compensation to directors for 2021 and 2020 had been approved by the Board of Directors of TSMC, as illustrated below:

| | Years Ended December 31 | |
|--|--------------------------------|-------------------------|
| | 2021 | 2020 |
| Resolution Date of TSMC's Board of Directors in its meeting | February 15, 2022 | February 9, 2021 |
| Profit sharing bonus to employees | <u>\$ 35,601,449</u> | <u>\$ 34,753,184</u> |
| Compensation to directors | <u>\$ 487,537</u> | <u>\$ 509,753</u> |

There is no significant difference between the aforementioned approved amounts and the amounts charged against earnings of 2021 and 2020, respectively.

The information about the appropriations of TSMC's profit sharing bonus to employees and compensation to directors is available at the Market Observation Post System website.

29. CASH FLOW INFORMATION

a. Non-cash transactions

| | Three Months Ended March 31 | |
|--|------------------------------------|-----------------------|
| | 2022 | 2021 |
| Additions of financial assets at FVTOCI | \$ 30,280,302 | \$ 85,487,657 |
| Changes in accrued expenses and other current liabilities | <u>7,554,105</u> | <u>(7,825,255)</u> |
| Payments for acquisition of financial assets at FVTOCI | <u>\$ 37,834,407</u> | <u>\$ 77,662,402</u> |
| Disposal of financial assets at FVTOCI | \$ 27,632,125 | \$ 82,609,350 |
| Changes in other financial assets | <u>1,621,900</u> | <u>(1,441,559)</u> |
| Proceeds from disposal of financial assets at FVTOCI | <u>\$ 29,254,025</u> | <u>\$ 81,167,791</u> |
| Additions of property, plant and equipment | \$ 235,374,002 | \$ 201,066,170 |
| Changes in other financial assets | 2,712,702 | 25,275 |
| Changes in payables to contractors and equipment suppliers | 24,209,821 | 46,978,696 |
| Changes in accrued expenses and other current liabilities | 137,963 | - |
| Transferred to initial carrying amount of hedged items | - | (41,416) |
| Capitalized interests | <u>(299,769)</u> | <u>-</u> |
| Payments for acquisition of property, plant and equipment | <u>\$ 262,134,719</u> | <u>\$ 248,028,725</u> |
| Additions of intangible assets | \$ 835,605 | \$ 1,114,629 |
| Changes in other financial assets | 6,228 | 2,216 |
| Changes in accrued expenses and other current liabilities | <u>(258,830)</u> | <u>(536,151)</u> |
| Payments for acquisition of intangible assets | <u>\$ 583,003</u> | <u>\$ 580,694</u> |

b. Reconciliation of liabilities arising from financing activities

| | Non-cash Changes | | | | | |
|----------------------|--|--------------------------------|--|---------------------------------|---------------------------------|---|
| | Balance as of January 1, 2022 | Financing Cash Flow | Foreign Exchange Movement | Leases Modifications | Other Changes (Note) | Balance as of March 31, 2022 |
| Short-term loans | \$ 114,921,333 | \$ 30,529,474 | \$ (639,610) | \$ - | \$ (260,300) | \$ 144,550,897 |
| Bonds payable | 614,470,652 | 19,578,800 | 11,940,274 | - | 60,495 | 646,050,221 |
| Long-term bank loans | 3,475,798 | - | - | - | 3,583 | 3,479,381 |
| Lease liabilities | <u>22,940,665</u> | <u>(568,784)</u> | <u>44,580</u> | <u>789,340</u> | <u>46,518</u> | <u>23,252,319</u> |
| Total | <u>\$ 755,808,448</u> | <u>\$ 49,539,490</u> | <u>\$ 11,345,244</u> | <u>\$ 789,340</u> | <u>\$ (149,704)</u> | <u>\$ 817,332,818</u> |

| | Non-cash Changes | | | | | |
|----------------------|--|--------------------------------|--|---------------------------------|---------------------------------|---|
| | Balance as of January 1, 2021 | Financing Cash Flow | Foreign Exchange Movement | Leases Modifications | Other Changes (Note) | Balance as of March 31, 2021 |
| Short-term loans | \$ 88,559,026 | \$ 52,072,068 | \$ (3,379,508) | \$ - | \$ (127,838) | \$ 137,123,748 |
| Bonds payable | 256,705,084 | 18,478,298 | 1,630,604 | - | 24,317 | 276,838,303 |
| Long-term bank loans | 1,967,611 | 660,000 | - | - | (3,787) | 2,623,824 |
| Lease liabilities | <u>22,388,674</u> | <u>(569,543)</u> | <u>7,068</u> | <u>1,096,355</u> | <u>49,777</u> | <u>22,972,331</u> |
| Total | <u>\$ 369,620,395</u> | <u>\$ 70,640,823</u> | <u>\$ (1,741,836)</u> | <u>\$ 1,096,355</u> | <u>\$ (57,531)</u> | <u>\$ 439,558,206</u> |

Note: Other changes include discounts on short-term loans, amortization of bonds payable, amortization of long-term bank loan interest subsidy and financial cost of lease liabilities.

30. FINANCIAL INSTRUMENTS

a. Categories of financial instruments

| | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-------------------------------|------------------------|------------------------|-----------------------|
| Financial assets | | | |
| FVTPL (Note 1) | \$ 758,452 | \$ 159,048 | \$ 26,897 |
| FVTOCI (Note 2) | 132,240,651 | 129,607,052 | 132,771,452 |
| Hedging financial assets | 286,824 | 13,468 | 64,349 |
| Amortized cost (Note 3) | <u>1,404,191,057</u> | <u>1,283,715,674</u> | <u>856,551,656</u> |
| | <u>\$1,537,476,984</u> | <u>\$1,413,495,242</u> | <u>\$ 989,414,354</u> |
| Financial liabilities | | | |
| FVTPL (Note 4) | \$ 2,203,138 | \$ 681,914 | \$ 1,958,208 |
| Hedging financial liabilities | - | 9,642 | - |
| Amortized cost (Note 5) | <u>1,424,821,862</u> | <u>1,355,957,244</u> | <u>778,356,988</u> |
| | <u>\$1,427,025,000</u> | <u>\$1,356,648,800</u> | <u>\$ 780,315,196</u> |

Note 1: Financial assets mandatorily measured at FVTPL.

Note 2: Including notes and accounts receivable (net), equity and debt investments.

Note 3: Including cash and cash equivalents, financial assets at amortized cost, notes and accounts receivable (including related parties), other receivables and refundable deposits.

Note 4: Held for trading.

Note 5: Including short-term loans, accounts payable (including related parties), payables to contractors and equipment suppliers, cash dividends payable, accrued expenses and other current liabilities, bonds payable, long-term bank loans, guarantee deposits and other noncurrent liabilities.

b. Financial risk management objectives

The Company manages its exposure to foreign currency risk, interest rate risk, equity price risk, credit risk and liquidity risk with the objective to reduce the potentially adverse effects the market uncertainties may have on its financial performance.

The plans for material treasury activities are reviewed by the Audit Committees and/or Board of Directors in accordance with procedures required by relevant regulations or internal controls. During the implementation of such plans, the Company must comply with certain treasury procedures that provide guiding principles for overall financial risk management and segregation of duties.

c. Market risk

The Company is exposed to the financial market risks, primarily changes in foreign currency exchange rates, interest rates and equity investment prices. A portion of these risks is hedged.

Foreign currency risk

Substantially all the Company's sales are denominated in U.S. dollars and over half of its capital expenditures are denominated in currencies other than NT dollars, primarily in U.S. dollars, Japanese yen and Euros. As a result, any significant fluctuations to its disadvantage in the exchanges rate of NT dollar

against such currencies, in particular a weakening of U.S. dollar against NT dollar, would have an adverse impact on the revenue and operating profit as expressed in NT dollars. The Company uses foreign currency derivative contracts, such as currency forwards or currency swaps, to protect against currency exchange rate risks associated with non-NT dollar-denominated assets and liabilities and certain forecasted transactions. These hedges reduce, but do not entirely eliminate, the effect of foreign currency exchange rate movements on the assets and liabilities.

Based on a sensitivity analysis performed on the Company's total monetary assets and liabilities for the three months ended March 31, 2022 and 2021, a hypothetical adverse foreign currency exchange rate change of 10% would have decreased its net income by NT\$264,924 thousand and NT\$119,478 thousand respectively, after taking into account hedges and offsetting positions.

Interest rate risk

The Company is exposed to interest rate risks primarily in relation to its investment portfolio and outstanding debt. Changes in interest rates affect the interest earned on the Company's cash and cash equivalents and fixed income securities, the fair value of those securities, as well as the interest paid on its debt.

The Company's cash and cash equivalents as well as fixed income investments in both fixed- and floating-rate securities carry a degree of interest rate risk. The majority of the Company's fixed income investments are fixed-rate securities, which are classified as financial assets at FVTOCI, and may have their fair value adversely affected due to a rise in interest rates. At the same time, if interest rates fall, cash and cash equivalents as well as floating-rate securities may generate less interest income than expected. The Company has entered and may in the future enter into interest rate derivatives to partially hedge the interest rate risk on its fixed income investments and anticipated debt issuance. However, these hedges can offset only a limited portion of the financial impact from movements in interest rates.

Based on a sensitivity analysis performed on the Company's fixed income investments at the end of the reporting period, interest rates increase of 100 basis points (1.00%) across all maturities would have decreased the Company's other comprehensive income by NT\$3,866,513 thousand and NT\$3,830,396 thousand for the three months ended March 31, 2022 and 2021, respectively.

All of the Company's short-term debt is floating-rate, hence a rise in interest rates may result in higher interest expense than expected. The majority of the Company's long-term debt is fixed-rate and measured at amortized cost and as such, changes in interest rates would not affect future cash flows or the carrying amount.

Other price risk

The Company is exposed to equity price risk arising from financial assets at FVTOCI.

Assuming a hypothetical decrease of 10% in prices of the equity investments at the end of the reporting period for the three months ended March 31, 2022 and 2021, the other comprehensive income would have decreased by NT\$641,086 thousand and NT\$435,500 thousand, respectively.

d. Credit risk management

Credit risk refers to the risk that a counterparty will default on its contractual obligations resulting in financial losses to the Company. The Company is exposed to credit risks from operating activities, primarily accounts receivable, and from investing activities, primarily deposits, fixed-income investments and other financial instruments with banks. Credit risk is managed separately for business related and financial related exposures. As of the end of the reporting period, the Company's maximum credit risk exposure is equal to the carrying amount of financial assets.

Business related credit risk

The Company's accounts receivable are from its customers worldwide. The majority of the Company's outstanding accounts receivable are not covered by collaterals or guarantees. While the Company has procedures to monitor and manage credit risk exposure on accounts receivable, there is no assurance such procedures will effectively eliminate losses resulting from its credit risk. This risk is heightened during periods when economic conditions worsen.

As of March 31, 2022, December 31, 2021 and March 31, 2021, the Company's ten largest customers accounted for 77%, 79% and 81% of accounts receivable, respectively. The Company considers the concentration of credit risk for the remaining accounts receivable not material.

Financial credit risk

The Company mitigates its financial credit risk by selecting counterparties with investment grade credit ratings and by limiting the exposure to any individual counterparty. The Company regularly monitors and reviews the limit applied to counterparties and adjusts the limit according to market conditions and the credit standing of the counterparties.

The objective of the Company's investment policy is to achieve a return that will allow the Company to preserve principal and support liquidity requirements. The policy generally requires securities to be investment grade and limits the amount of credit exposure to any one issuer. The Company assesses whether there has been a significant increase in credit risk in the invested securities since initial recognition by reviewing changes in external credit ratings, financial market conditions and material information of the issuers.

The Company assesses the 12-month expected credit loss and lifetime expected credit loss based on the probability of default and loss given default provided by external credit rating agencies. The current credit risk assessment policies are as follows:

| Category | Description | Basis for Recognizing Expected Credit Loss | Expected Credit Loss Ratio |
|------------|--|---|----------------------------|
| Performing | Credit rating is investment grade on valuation date | 12 months expected credit loss | 0-0.1% |
| Doubtful | Credit rating is non-investment grade on valuation date | Lifetime expected credit loss-not credit impaired | - |
| In default | Credit rating is CC or below on valuation date | Lifetime expected credit loss-credit impaired | - |
| Write-off | There is evidence indicating that the debtor is in severe financial difficulty and the Company has no realistic prospect of recovery | Amount is written off | - |

For the three months ended March 31, 2022 and 2021, the expected credit loss increased NT\$13,251 thousand and NT\$72 thousand, respectively. The changes were mainly due to investment portfolio adjustment.

e. Liquidity risk management

The objective of liquidity risk management is to ensure the Company has sufficient liquidity to fund its business operations over the next 12 months. The Company manages its liquidity risk by maintaining adequate cash and cash equivalents, financial assets at FVTOCI-current, financial assets at amortized cost-current and sufficient cost-efficient funding.

The table below summarizes the maturity profile of the Company's financial liabilities based on contractual undiscounted payments, including principal and interest.

| | Less Than 1 Year | 1-3 Years | 3-5 Years | More Than 5 Years | Total |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-------------------------|
| <u>March 31, 2022</u> | | | | | |
| <u>Non-derivative financial liabilities</u> | | | | | |
| Short-term loans | \$ 144,319,482 | \$ - | \$ - | \$ - | \$ 144,319,482 |
| Accounts payable (including related parties) | 50,104,079 | - | - | - | 50,104,079 |
| Payables to contractors and equipment suppliers | 122,915,512 | - | - | - | 122,915,512 |
| Accrued expenses and other current liabilities | 133,188,535 | - | - | - | 133,188,535 |
| Bonds payable | 25,950,667 | 34,548,367 | 217,114,383 | 511,136,444 | 788,749,861 |
| Long-term bank loans | 408,541 | 2,312,035 | 831,241 | - | 3,551,817 |
| Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note) | 2,393,049 | 4,063,304 | 3,506,271 | 14,712,410 | 24,675,034 |
| Others | - | 179,498,305 | 1,612,212 | - | 181,110,517 |
| | <u>479,279,865</u> | <u>220,422,011</u> | <u>223,064,107</u> | <u>525,848,854</u> | <u>1,448,614,837</u> |
| <u>Derivative financial instruments</u> | | | | | |
| Forward exchange contracts | | | | | |
| Outflows | 164,383,214 | - | - | - | 164,383,214 |
| Inflows | (163,176,210) | - | - | - | (163,176,210) |
| | <u>1,207,004</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>1,207,004</u> |
| | <u>\$ 480,486,869</u> | <u>\$ 220,422,011</u> | <u>\$ 223,064,107</u> | <u>\$ 525,848,854</u> | <u>\$ 1,449,821,841</u> |
| <u>December 31, 2021</u> | | | | | |
| <u>Non-derivative financial liabilities</u> | | | | | |
| Short-term loans | \$ 114,767,034 | \$ - | \$ - | \$ - | \$ 114,767,034 |
| Accounts payable (including related parties) | 48,722,789 | - | - | - | 48,722,789 |
| Payables to contractors and equipment suppliers | 145,742,148 | - | - | - | 145,742,148 |
| Accrued expenses and other current liabilities | 120,240,359 | - | - | - | 120,240,359 |
| Bonds payable | 13,580,628 | 42,801,397 | 191,458,126 | 506,504,958 | 754,345,109 |
| Long-term bank loans | 183,671 | 2,217,112 | 1,153,900 | - | 3,554,683 |
| Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note) | 2,371,568 | 3,896,249 | 3,385,295 | 14,649,235 | 24,302,347 |
| Others | - | 164,991,929 | - | - | 164,991,929 |
| | <u>445,608,197</u> | <u>213,906,687</u> | <u>195,997,321</u> | <u>521,154,193</u> | <u>1,376,666,398</u> |
| <u>Derivative financial instruments</u> | | | | | |
| Forward exchange contracts | | | | | |
| Outflows | 187,708,035 | - | - | - | 187,708,035 |
| Inflows | (187,631,930) | - | - | - | (187,631,930) |
| | <u>76,105</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>76,105</u> |
| | <u>\$ 445,684,302</u> | <u>\$ 213,906,687</u> | <u>\$ 195,997,321</u> | <u>\$ 521,154,193</u> | <u>\$ 1,376,742,503</u> |

(Continued)

| | Less Than 1 Year | 1-3 Years | 3-5 Years | More Than 5 Years | Total |
|--|-----------------------|----------------------|----------------------|-----------------------|-----------------------|
| <u>March 31, 2021</u> | | | | | |
| <u>Non-derivative financial liabilities</u> | | | | | |
| Short-term loans | \$ 137,010,603 | \$ - | \$ - | \$ - | \$ 137,010,603 |
| Accounts payable (including related parties) | 38,598,105 | - | - | - | 38,598,105 |
| Payables to contractors and equipment suppliers | 109,037,744 | - | - | - | 109,037,744 |
| Accrued expenses and other current liabilities | 84,040,207 | - | - | - | 84,040,207 |
| Bonds payable | 2,857,268 | 27,814,618 | 65,387,462 | 224,879,168 | 320,938,516 |
| Long-term bank loans | 11,918 | 1,268,093 | 1,417,817 | - | 2,697,828 |
| Lease liabilities (including those classified under accrued expenses and other current liabilities) (Note) | <u>2,066,589</u> | <u>3,531,137</u> | <u>3,255,856</u> | <u>15,547,402</u> | <u>24,400,984</u> |
| | <u>373,622,434</u> | <u>32,613,848</u> | <u>70,061,135</u> | <u>240,426,570</u> | <u>716,723,987</u> |
| <u>Derivative financial instruments</u> | | | | | |
| Forward exchange contracts | | | | | |
| Outflows | 202,369,428 | - | - | - | 202,369,428 |
| Inflows | <u>(201,120,385)</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>(201,120,385)</u> |
| | <u>1,249,043</u> | <u>-</u> | <u>-</u> | <u>-</u> | <u>1,249,043</u> |
| | <u>\$ 374,871,477</u> | <u>\$ 32,613,848</u> | <u>\$ 70,061,135</u> | <u>\$ 240,426,570</u> | <u>\$ 717,973,030</u> |
| | | | | | (Concluded) |

Note: Information about the maturity analysis for lease liabilities more than 5 years:

| | 5-10 Years | 10-15 Years | 15-20 Years | More Than 20 Years | Total |
|--------------------------|---------------------|---------------------|---------------------|-----------------------|----------------------|
| <u>March 31, 2022</u> | | | | | |
| Lease liabilities | <u>\$ 7,640,579</u> | <u>\$ 5,055,506</u> | <u>\$ 1,920,759</u> | <u>\$ 95,566</u> | <u>\$ 14,712,410</u> |
| <u>December 31, 2021</u> | | | | | |
| Lease liabilities | <u>\$ 7,513,939</u> | <u>\$ 5,043,067</u> | <u>\$ 1,972,740</u> | <u>\$ 119,489</u> | <u>\$ 14,649,235</u> |
| <u>March 31, 2021</u> | | | | | |
| Lease liabilities | <u>\$ 7,636,929</u> | <u>\$ 5,364,218</u> | <u>\$ 2,363,051</u> | <u>\$ 183,204</u> | <u>\$ 15,547,402</u> |

f. Fair value of financial instruments

1) Fair value measurements recognized in the consolidated balance sheets

Fair value measurements are grouped into Levels 1 to 3 based on the degree to which the fair value is observable:

- Level 1 fair value measurements are those derived from quoted prices (unadjusted) in active markets for identical assets or liabilities;
- Level 2 fair value measurements are those derived from inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (i.e. as prices) or indirectly (i.e. derived from prices); and
- Level 3 fair value measurements are those derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

The timing of transfers between levels within the fair value hierarchy is at the end of reporting period.

2) Fair value of financial instruments that are measured at fair value on a recurring basis

Fair value hierarchy

The following table presents the Company's financial assets and liabilities measured at fair value on a recurring basis:

| | March 31, 2022 | | | |
|--|-----------------------|-----------------------|---------------------|-----------------------|
| | Level 1 | Level 2 | Level 3 | Total |
| <u>Financial assets at FVTPL</u> | | | | |
| Mandatorily measured at FVTPL | | | | |
| Forward exchange contracts | \$ - | \$ 758,452 | \$ - | \$ 758,452 |
| <u>Financial assets at FVTOCI</u> | | | | |
| Investments in debt instruments | | | | |
| Corporate bonds | \$ - | \$ 59,119,180 | \$ - | \$ 59,119,180 |
| Agency bonds/Agency mortgage-backed securities | - | 32,024,446 | - | 32,024,446 |
| Government bonds | 20,312,877 | 79,790 | - | 20,392,667 |
| Asset-backed securities | - | 8,938,231 | - | 8,938,231 |
| Investments in equity instruments | | | | |
| Non-publicly traded equity investments | - | - | 6,011,937 | 6,011,937 |
| Publicly traded stocks | 521,241 | - | - | 521,241 |
| Notes and accounts receivable, net | - | 5,232,949 | - | 5,232,949 |
| | <u>\$ 20,834,118</u> | <u>\$ 105,394,596</u> | <u>\$ 6,011,937</u> | <u>\$ 132,240,651</u> |
| <u>Hedging financial assets</u> | | | | |
| Fair value hedges | | | | |
| Interest rate futures contracts | \$ 78,343 | \$ - | \$ - | \$ 78,343 |
| Cash flow hedges | | | | |
| Forward interest rate contract | - | 208,481 | - | 208,481 |
| | <u>\$ 78,343</u> | <u>\$ 208,481</u> | <u>\$ -</u> | <u>\$ 286,824</u> |
| <u>Financial liabilities at FVTPL</u> | | | | |
| Held for trading | | | | |
| Forward exchange contracts | \$ - | \$ 2,203,138 | \$ - | \$ 2,203,138 |
| December 31, 2021 | | | | |
| | Level 1 | Level 2 | Level 3 | Total |
| <u>Financial assets at FVTPL</u> | | | | |
| Mandatorily measured at FVTPL | | | | |
| Forward exchange contracts | \$ - | \$ 159,048 | \$ - | \$ 159,048 |
| <u>Financial assets at FVTOCI</u> | | | | |
| Investments in debt instruments | | | | |
| Corporate bonds | \$ - | \$ 57,253,161 | \$ - | \$ 57,253,161 |
| Agency bonds/Agency mortgage-backed securities | - | 32,070,114 | - | 32,070,114 |
| Government bonds | 21,267,002 | 78,792 | - | 21,345,794 |
| Asset-backed securities | - | 8,660,424 | - | 8,660,424 |

(Continued)

| December 31, 2021 | | | | |
|--|----------------------|-----------------------|---------------------|-----------------------|
| | Level 1 | Level 2 | Level 3 | Total |
| Investments in equity instruments | | | | |
| Non-publicly traded equity investments | \$ - | \$ - | \$ 5,887,892 | \$ 5,887,892 |
| Publicly traded stocks | 189,758 | - | - | 189,758 |
| Notes and accounts receivable, net | - | 4,199,909 | - | 4,199,909 |
| | <u>\$ 21,456,760</u> | <u>\$ 102,262,400</u> | <u>\$ 5,887,892</u> | <u>\$ 129,607,052</u> |
| <u>Hedging financial assets</u> | | | | |
| Cash flow hedges | | | | |
| Forward interest rate contracts | <u>\$ -</u> | <u>\$ 13,468</u> | <u>\$ -</u> | <u>\$ 13,468</u> |
| <u>Financial liabilities at FVTPL</u> | | | | |
| Held for trading | | | | |
| Forward exchange contracts | <u>\$ -</u> | <u>\$ 681,914</u> | <u>\$ -</u> | <u>\$ 681,914</u> |
| <u>Hedging financial liabilities</u> | | | | |
| Fair value hedges | | | | |
| Interest rate futures contracts | <u>\$ 9,642</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 9,642</u> |
| | | | | (Concluded) |
| March 31, 2021 | | | | |
| | Level 1 | Level 2 | Level 3 | Total |
| <u>Financial assets at FVTPL</u> | | | | |
| Mandatorily measured at FVTPL | | | | |
| Forward exchange contracts | <u>\$ -</u> | <u>\$ 26,897</u> | <u>\$ -</u> | <u>\$ 26,897</u> |
| <u>Financial assets at FVTOCI</u> | | | | |
| Investments in debt instruments | | | | |
| Corporate bonds | \$ - | \$ 56,344,907 | \$ - | \$ 56,344,907 |
| Agency bonds/Agency mortgage-backed securities | - | 43,032,383 | - | 43,032,383 |
| Government bonds | 18,330,490 | 182,306 | - | 18,512,796 |
| Asset-backed securities | - | 7,110,253 | - | 7,110,253 |
| Commercial paper | - | 151,187 | - | 151,187 |
| Investments in equity instruments | | | | |
| Non-publicly traded equity investments | - | - | 4,401,224 | 4,401,224 |
| Publicly traded stocks | 56,781 | - | - | 56,781 |
| Notes and accounts receivable, net | - | 3,161,921 | - | 3,161,921 |
| | <u>\$ 18,387,271</u> | <u>\$ 109,982,957</u> | <u>\$ 4,401,224</u> | <u>\$ 132,771,452</u> |
| <u>Hedging financial assets</u> | | | | |
| Fair value hedges | | | | |
| Interest rate futures contracts | <u>\$ 64,349</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 64,349</u> |
| <u>Financial liabilities at FVTPL</u> | | | | |
| Held for trading | | | | |
| Forward exchange contracts | <u>\$ -</u> | <u>\$ 1,958,208</u> | <u>\$ -</u> | <u>\$ 1,958,208</u> |

Reconciliation of Level 3 fair value measurements of financial assets

The financial assets measured at Level 3 fair value were equity investments classified as financial assets at FVTOCI. Reconciliations for the three months ended March 31, 2022 and 2021 are as follows:

| | <u>Three Months Ended March 31</u> | |
|--|------------------------------------|---------------------|
| | <u>2022</u> | <u>2021</u> |
| Balance, beginning of period | \$ 5,887,892 | \$ 4,514,940 |
| Additions | - | 13,654 |
| Recognized in other comprehensive income or loss | 101,879 | (115,193) |
| Disposals and proceeds from return of capital of investments | - | (62,837) |
| Transfers out of level 3 (Note) | (139,770) | |
| Effect of exchange rate changes | <u>161,936</u> | <u>50,660</u> |
| Balance, end of period | <u>\$ 6,011,937</u> | <u>\$ 4,401,224</u> |

Note: The transfer from level 3 to level 1 is because quoted prices (unadjusted) in active markets data became available for the equity investments.

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of financial assets and financial liabilities are determined as follows:

- The fair values of corporate bonds, agency bonds, agency mortgage-backed securities, asset-backed securities and government bonds are determined by quoted market prices provided by third party pricing services.
- The fair values of forward contracts are measured using forward rates and discount rates derived from quoted market prices.
- The fair value of accounts receivable classified as at FVTOCI is determined by the present value of future cash flows based on the discount rate that reflects the credit risk of counterparties.

Valuation techniques and assumptions used in Level 3 fair value measurement

The fair values of non-publicly traded equity investments (excluding those trading on the Emerging Stock Board) are mainly determined by using the asset approach and market approach.

The asset approach takes into account the net asset value measured at the fair value by independent parties. On March 31, 2022, December 31, 2021 and March 31, 2021, the Company uses unobservable inputs derived from discount for lack of marketability of 10%. When other inputs remain equal, the fair value will decrease by NT\$53,913 thousand, NT\$51,372 thousand and NT\$37,450 thousand, respectively, if discounts for lack of marketability increase by 1%.

For the remaining few investments, the market approach is used to arrive at their fair values, for which the recent financing activities of investees, the market transaction prices of the similar companies and market conditions are considered.

3) Fair value of financial instruments that are not measured at fair value

Except as detailed in the following table, the Company considers that the carrying amounts of financial instruments in the consolidated financial statements that are not measured at fair value approximate their fair values.

Fair value hierarchy

The table below sets out the fair value hierarchy for the Company's financial assets and liabilities which are not required to be measured at fair value:

| | March 31, 2022 | |
|--|--------------------------|---------------------------|
| | Carrying Amount | Level 2 Fair Value |
| <u>Financial assets</u> | | |
| Financial assets at amortized costs | | |
| Corporate bonds | <u>\$ 24,031,284</u> | <u>\$ 23,863,002</u> |
| <u>Financial liabilities</u> | | |
| Financial liabilities at amortized costs | | |
| Bonds payable | <u>\$ 646,050,221</u> | <u>\$ 611,593,356</u> |
| | December 31, 2021 | |
| | Carrying Amount | Level 2 Fair Value |
| <u>Financial assets</u> | | |
| Financial assets at amortized costs | | |
| Corporate bonds | <u>\$ 5,306,962</u> | <u>\$ 5,317,957</u> |
| <u>Financial liabilities</u> | | |
| Financial liabilities at amortized costs | | |
| Bonds payable | <u>\$ 614,470,652</u> | <u>\$ 613,514,692</u> |
| | March 31, 2021 | |
| | Carrying Amount | Level 2 Fair Value |
| <u>Financial assets</u> | | |
| Financial assets at amortized costs | | |
| Corporate bonds | <u>\$ 11,128,832</u> | <u>\$ 11,184,551</u> |
| <u>Financial liabilities</u> | | |
| Financial liabilities at amortized costs | | |
| Bonds payable | <u>\$ 276,838,303</u> | <u>\$ 271,608,448</u> |

Valuation techniques and assumptions used in Level 2 fair value measurement

The fair values of corporate bonds and the Company's bonds payable are determined by quoted market prices provided by third party pricing services.

31. RELATED PARTY TRANSACTIONS

Intercompany balances and transactions between TSMC and its subsidiaries, which are related parties of TSMC, have been eliminated upon consolidation; therefore those items are not disclosed in this note. The following is a summary of significant transactions between the Company and other related parties:

a. Related party name and categories

| <u>Related Party Name</u> | <u>Related Party Categories</u> |
|---------------------------------------|---------------------------------|
| GUC | Associates |
| VIS | Associates |
| SSMC | Associates |
| Xintec | Associates |
| TSMC Education and Culture Foundation | Other related parties |
| TSMC Charity Foundation | Other related parties |

b. Net revenue

| | | <u>Three Months Ended March 31</u> | |
|--------------------------------|---------------------------------|------------------------------------|---------------------|
| | | <u>2022</u> | <u>2021</u> |
| <u>Item</u> | <u>Related Party Categories</u> | | |
| Net revenue from sale of goods | Associates | <u>\$ 2,284,204</u> | <u>\$ 1,631,091</u> |

c. Purchases

| | | <u>Three Months Ended March 31</u> | |
|---------------------------------|--|------------------------------------|---------------------|
| | | <u>2022</u> | <u>2021</u> |
| <u>Related Party Categories</u> | | | |
| Associates | | <u>\$ 1,477,741</u> | <u>\$ 1,896,521</u> |

d. Receivables from related parties

| | | <u>March 31,</u> | <u>December 31,</u> | <u>March 31,</u> |
|--|--------------------------------------|-------------------|---------------------|-------------------|
| | | <u>2022</u> | <u>2021</u> | <u>2021</u> |
| <u>Item</u> | <u>Related Party Name/Categories</u> | | | |
| Receivables from related parties | GUC | \$ 449,272 | \$ 597,836 | \$ 203,167 |
| | Xintec | <u>131,738</u> | <u>117,488</u> | <u>132,405</u> |
| | | <u>\$ 581,010</u> | <u>\$ 715,324</u> | <u>\$ 335,572</u> |
| Other receivables from related parties | SSMC | \$ 53,055 | \$ 50,375 | \$ 48,552 |
| | VIS | 5,110 | 11,156 | 4,036 |
| | Other associates | <u>-</u> | <u>-</u> | <u>3</u> |
| | | <u>\$ 58,165</u> | <u>\$ 61,531</u> | <u>\$ 52,591</u> |

e. Payables to related parties

| | | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|-----------------------------|--------------------------------------|---------------------|----------------------|---------------------|
| <u>Item</u> | <u>Related Party Name/Categories</u> | | | |
| Payables to related parties | Xintec | \$ 836,481 | \$ 725,325 | \$ 1,086,853 |
| | SSMC | 467,114 | 349,211 | 463,966 |
| | VIS | 134,026 | 357,151 | 376,826 |
| | Others | <u>13,275</u> | <u>5,499</u> | <u>17,345</u> |
| | | <u>\$ 1,450,896</u> | <u>\$ 1,437,186</u> | <u>\$ 1,944,990</u> |

f. Accrued expenses and other current liabilities

| | | March 31, 2022 | December 31, 2021 | March 31, 2021 |
|----------------------|---------------------------------|-------------------|----------------------|-------------------|
| <u>Item</u> | <u>Related Party Categories</u> | | | |
| Contract liabilities | Associates | <u>\$ 595,645</u> | <u>\$ 726,350</u> | <u>\$ 272,287</u> |

g. Others

| | | <u>Three Months Ended March 31</u> | |
|------------------------|---------------------------------|------------------------------------|---------------------|
| | | 2022 | 2021 |
| <u>Item</u> | <u>Related Party Categories</u> | | |
| Manufacturing expenses | Associates | <u>\$ 1,274,569</u> | <u>\$ 1,616,906</u> |

The sales prices and payment terms to related parties were not significantly different from those of sales to third parties. For other related party transactions, price and terms were determined in accordance with mutual agreements.

The Company leased factory and office from associates. The lease terms and prices were both determined in accordance with mutual agreements. The rental expenses were paid to associates monthly; the related expenses were both classified under manufacturing expenses.

h. Compensation of key management personnel

The compensation to directors and other key management personnel were as follows:

| | <u>Three Months Ended March 31</u> | |
|------------------------------|------------------------------------|-------------------|
| | 2022 | 2021 |
| Short-term employee benefits | \$ 881,184 | \$ 612,559 |
| Post-employment benefits | 812 | 719 |
| Share-based payments | <u>31,594</u> | <u>-</u> |
| | <u>\$ 913,590</u> | <u>\$ 613,278</u> |

The compensation to directors and other key management personnel were determined by the Compensation Committee of TSMC in accordance with the individual performance and market trends.

32. PLEDGED ASSETS

The Company provided certificate of deposits recorded in other financial assets as collateral mainly for building construction, building lease agreements and energy purchase agreements. As of March 31, 2022, December 31, 2021 and March 31, 2021, the aforementioned other financial assets amounted to NT\$206,766 thousand, NT\$210,235 thousand and NT\$187,454 thousand, respectively.

33. SIGNIFICANT CONTINGENT LIABILITIES AND UNRECOGNIZED COMMITMENTS

Significant contingent liabilities and unrecognized commitments of the Company as of the end of the reporting period, excluding those disclosed in other notes, were as follows:

- a. Under a technical cooperation agreement with Industrial Technology Research Institute, the R.O.C. Government or its designee approved by TSMC can use up to 35% of TSMC's capacity provided TSMC's outstanding commitments to its customers are not prejudiced. The term of this agreement is for five years beginning from January 1, 1987 and is automatically renewed for successive periods of five years unless otherwise terminated by either party with one year prior notice. As of March 31, 2022, the R.O.C. Government did not invoke such right.
- b. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company, SSMC, which is an integrated circuit foundry in Singapore. TSMC's equity interest in SSMC was 32%. Nevertheless, in September 2006, Philips spun-off its semiconductor subsidiary which was renamed as NXP B.V. Further, TSMC and NXP B.V. purchased all the SSMC shares owned by EDB Investments Pte Ltd. pro rata according to the Shareholders Agreement on November 15, 2006. After the purchase, TSMC and NXP B.V. currently own approximately 39% and 61% of the SSMC shares, respectively. TSMC and NXP B.V. are required, in the aggregate, to purchase at least 70% of SSMC's capacity, but TSMC alone is not required to purchase more than 28% of the capacity. If any party defaults on the commitment and the capacity utilization of SSMC falls below a specific percentage of its capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs. There was no default from the aforementioned commitment as of March 31, 2022.
- c. TSMC entered into long-term purchase agreements of materials and supplies and agreements of waste disposal with multiple suppliers. The relative minimum fulfillment quantity and price are specified in the agreements.
- d. TSMC entered into a long-term purchase agreement of equipment. The relative fulfillment quantity and price are specified in the agreement.
- e. TSMC entered into long-term energy purchase agreements with multiple suppliers. The relative fulfillment period, quantity and price are specified in the agreements.
- f. Amounts available under unused letters of credit as of March 31, 2022, December 31, 2021 and March 31, 2021 were NT\$141,274 thousand, NT\$136,710 thousand and NT\$57,014 thousand, respectively.

34. EXCHANGE RATE INFORMATION OF FOREIGN-CURRENCY FINANCIAL ASSETS AND LIABILITIES

The following information was summarized according to the foreign currencies other than the functional currency of the Company. The exchange rates disclosed were used to translate the foreign currencies into the functional currency. The significant financial assets and liabilities denominated in foreign currencies were as follows:

| | Foreign Currencies (In Thousands) | Exchange Rate (Note 1) | Carrying Amount (In Thousands) |
|------------------------------|---|---------------------------|--------------------------------------|
| <u>March 31, 2022</u> | | | |
| <u>Financial assets</u> | | | |
| Monetary items | | | |
| USD | \$ 13,309,593 | 28.598 | \$ 380,627,746 |
| USD | 1,350,993 | 6.343(Note 2) | 38,635,702 |
| EUR | 42,827 | 31.958 | 1,368,665 |
| JPY | 2,957,023 | 0.2357 | 696,970 |
| <u>Financial liabilities</u> | | | |
| Monetary items | | | |
| USD | 12,961,280 | 28.598 | 370,666,688 |
| EUR | 1,894,115 | 31.958 | 60,532,140 |
| JPY | 256,572,297 | 0.2357 | 60,474,090 |
| JPY | 14,538,105 | 0.0523(Note 3) | 3,426,631 |
| <u>December 31, 2021</u> | | | |
| <u>Financial assets</u> | | | |
| Monetary items | | | |
| USD | 11,445,396 | 27.674 | 316,739,883 |
| USD | 2,023,233 | 6.379(Note 2) | 55,990,951 |
| EUR | 14,964 | 31.460 | 470,776 |
| EUR | 40,326 | 7.252(Note 4) | 1,268,665 |
| JPY | 10,921,880 | 0.2414 | 2,636,542 |
| <u>Financial liabilities</u> | | | |
| Monetary items | | | |
| USD | 11,958,503 | 27.674 | 330,939,620 |
| EUR | 3,539,320 | 31.460 | 111,347,020 |
| JPY | 112,456,908 | 0.2414 | 27,147,098 |

(Continued)

| | Foreign Currencies (In Thousands) | Exchange Rate (Note 1) | Carrying Amount (In Thousands) |
|------------------------------|--|-----------------------------------|---|
| <u>March 31, 2021</u> | | | |
| <u>Financial assets</u> | | | |
| Monetary items | | | |
| USD | \$ 6,540,695 | 28.507 | \$ 186,455,585 |
| USD | 1,463,976 | 6.557 (Note 2) | 41,733,577 |
| EUR | 7,432 | 33.365 | 247,962 |
| JPY | 9,955,724 | 0.2578 | 2,566,586 |
| <u>Financial liabilities</u> | | | |
| Monetary items | | | |
| USD | 6,463,941 | 28.507 | 184,267,559 |
| EUR | 4,166,735 | 33.365 | 139,023,117 |
| JPY | 93,826,378 | 0.2578 | 24,188,440 (Concluded) |

Note 1: Except as otherwise noted, exchange rate represents the number of NT dollar for which one foreign currency could be exchanged.

Note 2: The exchange rate represents the number of RMB for which one U.S. dollar could be exchanged.

Note 3: The exchange rate represents the number of RMB for which one Japanese yen could be exchanged.

Note 4: The exchange rate represents the number of RMB for which one Euro could be exchanged.

Please refer to the consolidated statements of comprehensive income for the total of realized and unrealized foreign exchange gain and loss for the three months ended March 31, 2022 and 2021, respectively. Since there were varieties of foreign currency transactions and functional currencies within the subsidiaries of the Company, the Company was unable to disclose foreign exchange gain (loss) towards each foreign currency with significant impact.

35. ADDITIONAL DISCLOSURES

Following are the additional disclosures required by the Securities and Futures Bureau for TSMC:

- Financings provided: See Table 1 attached;
- Endorsement/guarantee provided: See Table 2 attached;
- Marketable securities held (excluding investments in subsidiaries and associates): See Table 3 attached;
- Marketable securities acquired and disposed of at costs or prices of at least NT\$300 million or 20% of the paid-in capital: See Table 4 attached;
- Acquisition of individual real estate properties at costs of at least NT\$300 million or 20% of the paid-in capital: See Table 5 attached;

- f. Disposal of individual real estate properties at prices of at least NT\$300 million or 20% of the paid-in capital: None;
- g. Total purchases from or sales to related parties of at least NT\$100 million or 20% of the paid-in capital: See Table 6 attached;
- h. Receivables from related parties amounting to at least NT\$100 million or 20% of the paid-in capital: See Table 7 attached;
- i. Information about the derivative financial instruments transaction: See Notes 7 and 10;
- j. Others: The business relationship between the parent and the subsidiaries and significant transactions between them: See Table 8 attached;
- k. Names, locations, and related information of investees over which TSMC exercises significant influence (excluding information on investment in mainland China): See Table 9 attached;
- l. Information on investment in mainland China
 - 1) The name of the investee in mainland China, the main businesses and products, its issued capital, method of investment, information on inflow or outflow of capital, percentage of ownership, income (losses) of the investee, share of profits/losses of investee, ending balance, amount received as dividends from the investee, and the limitation on investee: See Table 10 attached.
 - 2) Significant direct or indirect transactions with the investee, its prices and terms of payment, unrealized gain or loss, and other related information which is helpful to understand the impact of investment in mainland China on financial reports: See Table 8 attached.
- m. Information of major shareholders

List of all shareholders with ownership of 5 percent or greater showing the names and the number of shares and percentage of ownership held by each shareholder: See Table 11 attached.

36. OPERATING SEGMENTS INFORMATION

TSMC's chief operating decision makers periodically review operating results, focusing on operating income generated by foundry segment. Operating results are used for resource allocation and/or performance assessment. As a result, the Company has only one operating segment, the foundry segment. The foundry segment engages mainly in the manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing of masks.

The basis for the measurement of income from operations is the same as that for the preparation of financial statements. Please refer to the consolidated statements of comprehensive income for the related segment revenue and operating results.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

FINANCINGS PROVIDED

FOR THE THREE MONTHS ENDED MARCH 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| No. | Financing Company | Counterparty | Financial Statement Account | Related Party | Maximum Balance for the Period (Foreign Currencies in Thousands) (Note 2) | Ending Balance (Foreign Currencies in Thousands) (Note 2) | Amount Actually Drawn (Foreign Currencies in Thousands) | Interest Rate | Nature for Financing | Transaction Amounts | Reason for Financing | Allowance for Bad Debt | Collateral | | Financing Limits for Each Borrowing Company (Notes 1) | Financing Company's Total Financing Amount Limits (Notes 1) |
|-----|-------------------|--------------|--|---------------|---|---|---|---------------|---|---------------------|----------------------|------------------------|------------|-------|---|---|
| | | | | | | | | | | | | | Item | Value | | |
| 1 | TSMC China | TSMC Nanjing | Other receivables from related parties | Yes | \$ 38,863,060 (RMB 6,400,000)& (US\$ 350,000) | \$ 38,863,060 (RMB 6,400,000)& (US\$ 350,000) | \$ 25,247,040 (RMB 5,600,000) | 1.30%-1.50% | The need for short-term and long-term financing | \$ - | Operating capital | \$ - | - | \$ - | \$ 79,496,635 | \$ 79,496,635 |

Note 1: The aggregate amount available for lending to TSMC Nanjing from TSMC China shall not exceed the net worth of TSMC China.

Note 2: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

TABLE 2

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

ENDORSEMENTS/GUARANTEES PROVIDED
FOR THE THREE MONTHS ENDED MARCH 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| No. | Endorsee/Provider | Guaranteed Party | | Limits on Endorsement/ Guarantee Amount Provided to Each Party (Notes 1 and 2) | Maximum Balance for the Period (Foreign Currencies in Thousands) (Note 3) | Ending Balance (Foreign Currencies in Thousands) (Note 3) | Amount Actually Drawn (US\$ in Thousands) | Amount of Endorsement/ Guarantee Collateralized by Properties | Ratio of Accumulated Endorsement/ Guarantee to Net Equity per Latest Financial Statements | Maximum Endorsement/ Guarantee Amount Allowable (Notes 1 and 2) | Guarantee Provided by Parent Company | Guarantee Provided by A Subsidiary | Guarantee Provided to Subsidiaries in Mainland China |
|-----|-------------------|---|--|--|--|--|--|---|---|---|--------------------------------------|------------------------------------|--|
| | | Name | Nature of Relationship | | | | | | | | | | |
| 0 | TSMC | TSMC North America TSMC Global TSMC Arizona | Subsidiary Subsidiary Subsidiary | \$ 578,607,524 578,607,524 578,607,524 | \$ 2,379,734 (US\$ 83,213) 214,485,000 (US\$ 7,500,000) 229,711,147 (US\$ 8,032,420) | \$ 2,379,734 (US\$ 83,213) 214,485,000 (US\$ 7,500,000) 229,711,147 (US\$ 8,032,420) | \$ 2,379,734 (US\$ 83,213) 185,887,000 (US\$ 6,500,000) 129,618,147 (US\$ 4,532,420) | \$ - - - | 0.10% 9.27% 9.93% | \$ 578,607,524 578,607,524 578,607,524 | Yes Yes Yes | No No No | No No No |
| 1 | TSMC Japan | TSMC JDC | The same parent company | 327,037 | 311,124 (JPY 1,320,000) | 311,124 (JPY 1,320,000) | 311,124 (JPY 1,320,000) | - | 0.01% | 327,037 | No | No | No |

Note 1: The total amount of the endorsement/guarantee provided by TSMC to TSMC North America, TSMC Global and TSMC Arizona shall not exceed twenty-five percent (25%) of TSMC's net worth.

Note 2: The total amount of the endorsement/guarantee provided by TSMC Japan to TSMC JDC shall not exceed two hundred and fifty percent (250%) of TSMC Japan's net worth.

Note 3: The maximum balance for the period and ending balance represent the amounts approved by the Board of Directors.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

MARKETABLE SECURITIES HELD

MARCH 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|--|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC | Non-publicly traded equity investments United Industrial Gases Co., Ltd. | - | Financial assets at fair value through other comprehensive income | □ 21,230 | \$ 513,266 | 10 | \$ 513,266 | |
| | Shin-Etsu Handotai Taiwan Co., Ltd. | - | " | 10,500 | 397,488 | 7 | 397,488 | |
| | Global Investment Holding Inc. | - | " | 10,442 | 104,674 | 6 | 104,674 | |
| | Crimson Asia Capital | - | " | - | 2,321 | 1 | 2,321 | |
| TSMC Partners | Non-publicly traded equity investments Shanghai Walden Venture Capital Enterprise | - | Financial assets at fair value through other comprehensive income | - | US\$ 45,511 | 6 | US\$ 45,511 | |
| | China Walden Venture Investments II, L.P. | - | " | - | US\$ 16,456 | 9 | US\$ 16,456 | |
| | China Walden Venture Investments III, L.P. | - | " | - | US\$ 11,755 | 4 | US\$ 11,755 | |
| | Tela Innovations | - | " | 6,942 | - | 22 | - | |
| | Movella Inc. | - | " | 6,333 | - | 10 | - | |
| | Corporate bond Bank of America Corporation | - | Financial assets at fair value through other comprehensive income | - | US\$ 79,795 | N/A | US\$ 79,795 | |
| TSMC Global | Morgan Stanley | - | " | - | US\$ 70,664 | N/A | US\$ 70,664 | |
| | The Goldman Sachs Group, Inc. | - | " | - | US\$ 56,810 | N/A | US\$ 56,810 | |
| | Citigroup Inc. | - | " | - | US\$ 51,985 | N/A | US\$ 51,985 | |
| | JPMorgan Chase & Co. | - | " | - | US\$ 44,558 | N/A | US\$ 44,558 | |
| | Wells Fargo & Company | - | " | - | US\$ 41,803 | N/A | US\$ 41,803 | |
| | AbbVie Inc. | - | " | - | US\$ 33,188 | N/A | US\$ 33,188 | |
| | Mitsubishi UFJ Financial Group, Inc. | - | " | - | US\$ 32,567 | N/A | US\$ 32,567 | |
| | Sumitomo Mitsui Financial Group, Inc. | - | " | - | US\$ 29,634 | N/A | US\$ 29,634 | |
| | HSBC Holdings plc | - | " | - | US\$ 25,182 | N/A | US\$ 25,182 | |
| | Banco Santander, S.A. | - | " | - | US\$ 24,732 | N/A | US\$ 24,732 | |
| | Athene Global Funding | - | " | - | US\$ 24,262 | N/A | US\$ 24,262 | |
| | Lloyds Banking Group plc | - | " | - | US\$ 21,644 | N/A | US\$ 21,644 | |
| | Metropolitan Life Global Funding I | - | " | - | US\$ 20,340 | N/A | US\$ 20,340 | |
| | BNP Paribas SA | - | " | - | US\$ 19,589 | N/A | US\$ 19,589 | |
| | Hyundai Capital America, Inc. | - | " | - | US\$ 18,898 | N/A | US\$ 18,898 | |
| | Oracle Corporation | - | " | - | US\$ 18,146 | N/A | US\$ 18,146 | |
| | Nordea Bank Abp | - | " | - | US\$ 17,066 | N/A | US\$ 17,066 | |
| | Volkswagen Group of America Finance, LLC | - | " | - | US\$ 16,794 | N/A | US\$ 16,794 | |
| | AT&T Inc. | - | " | - | US\$ 16,547 | N/A | US\$ 16,547 | |
| | Principal Life Global Funding II | - | " | - | US\$ 16,541 | N/A | US\$ 16,541 | |
| | Nat West Markets Plc | - | " | - | US\$ 15,969 | N/A | US\$ 15,969 | |
| | The Toronto-Dominion Bank | - | " | - | US\$ 15,854 | N/A | US\$ 15,854 | |
| | Sumitomo Mitsui Trust Bank, Limited | - | " | - | US\$ 15,763 | N/A | US\$ 15,763 | |
| | Toyota Motor Credit Corporation | - | " | - | US\$ 15,138 | N/A | US\$ 15,138 | |
| | Credit Suisse AG, New York Branch | - | " | - | US\$ 14,577 | N/A | US\$ 14,577 | |
| | Apple Inc. | - | " | - | US\$ 14,517 | N/A | US\$ 14,517 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|---|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Mizuho Financial Group, Inc. | - | Financial assets at fair value through other comprehensive income | - | US\$ 14,492 | N/A | US\$ 14,492 | |
| | ING Groep N.V. | - | " | - | US\$ 14,444 | N/A | US\$ 14,444 | |
| | Deutsche Bank AG - New York Branch | - | " | - | US\$ 13,964 | N/A | US\$ 13,964 | |
| | The Bank of Nova Scotia | - | " | - | US\$ 13,454 | N/A | US\$ 13,454 | |
| | Standard Chartered PLC | - | " | - | US\$ 13,027 | N/A | US\$ 13,027 | |
| | AIG Global Funding | - | " | - | US\$ 12,757 | N/A | US\$ 12,757 | |
| | Royal Bank of Canada | - | " | - | US\$ 12,523 | N/A | US\$ 12,523 | |
| | Macquarie Group Limited | - | " | - | US\$ 12,505 | N/A | US\$ 12,505 | |
| | Nationwide Building Society | - | " | - | US\$ 12,411 | N/A | US\$ 12,411 | |
| | Société Générale Société anonyme | - | " | - | US\$ 12,364 | N/A | US\$ 12,364 | |
| | Capital One Financial Corporation | - | " | - | US\$ 12,189 | N/A | US\$ 12,189 | |
| | BPCE SA | - | " | - | US\$ 11,896 | N/A | US\$ 11,896 | |
| | S&P Global Inc. | - | " | - | US\$ 11,885 | N/A | US\$ 11,885 | |
| | Equitable Financial Life Global Funding | - | " | - | US\$ 11,781 | N/A | US\$ 11,781 | |
| | NTT Finance Corporation | - | " | - | US\$ 11,653 | N/A | US\$ 11,653 | |
| | Bank of Montreal | - | " | - | US\$ 11,518 | N/A | US\$ 11,518 | |
| | Banque Fédérative du Crédit Mutuel Société anonyme | - | " | - | US\$ 11,450 | N/A | US\$ 11,450 | |
| | Protective Life Global Funding | - | " | - | US\$ 11,378 | N/A | US\$ 11,378 | |
| | Barclays PLC | - | " | - | US\$ 11,290 | N/A | US\$ 11,290 | |
| | National Securities Clearing Corporation | - | " | - | US\$ 11,203 | N/A | US\$ 11,203 | |
| | Verizon Communications Inc. | - | " | - | US\$ 10,318 | N/A | US\$ 10,318 | |
| | Nomura Holdings, Inc. | - | " | - | US\$ 10,065 | N/A | US\$ 10,065 | |
| | Chevron Corporation | - | " | - | US\$ 9,878 | N/A | US\$ 9,878 | |
| | Credit Agricole SA London Branch | - | " | - | US\$ 9,678 | N/A | US\$ 9,678 | |
| | Fédération des caisses Desjardins du Québec | - | " | - | US\$ 9,602 | N/A | US\$ 9,602 | |
| | U.S. Bancorp | - | " | - | US\$ 9,372 | N/A | US\$ 9,372 | |
| | Roper Technologies, Inc. | - | " | - | US\$ 9,329 | N/A | US\$ 9,329 | |
| | Equinor ASA | - | " | - | US\$ 9,211 | N/A | US\$ 9,211 | |
| | Amazon.com, Inc. | - | " | - | US\$ 9,110 | N/A | US\$ 9,110 | |
| | Merck & Co., Inc. | - | " | - | US\$ 9,103 | N/A | US\$ 9,103 | |
| | Canadian Imperial Bank of Commerce | - | " | - | US\$ 8,844 | N/A | US\$ 8,844 | |
| | Santander UK Group Holdings plc | - | " | - | US\$ 8,837 | N/A | US\$ 8,837 | |
| | Bristol-Myers Squibb Company | - | " | - | US\$ 8,661 | N/A | US\$ 8,661 | |
| | Roche Holdings, Inc. | - | " | - | US\$ 8,605 | N/A | US\$ 8,605 | |
| | New York Life Global Funding | - | " | - | US\$ 8,430 | N/A | US\$ 8,430 | |
| | Guardian Life Global Funding | - | " | - | US\$ 7,915 | N/A | US\$ 7,915 | |
| | KfW | - | " | - | US\$ 7,865 | N/A | US\$ 7,865 | |
| | International Bank for Reconstruction and Development | - | " | - | US\$ 7,840 | N/A | US\$ 7,840 | |
| | UnitedHealth Group Incorporated | - | " | - | US\$ 7,790 | N/A | US\$ 7,790 | |
| | AstraZeneca Finance LLC | - | " | - | US\$ 7,711 | N/A | US\$ 7,711 | |
| | Inter-American Development Bank | - | " | - | US\$ 7,602 | N/A | US\$ 7,602 | |
| | Great-West Lifeco U.S. Finance 2020, Lp | - | " | - | US\$ 7,566 | N/A | US\$ 7,566 | |
| | Suncorp-Metway Limited | - | " | - | US\$ 7,545 | N/A | US\$ 7,545 | |
| | Equifax Inc. | - | " | - | US\$ 7,438 | N/A | US\$ 7,438 | |
| | Northwestern Mutual Global Funding | - | " | - | US\$ 7,361 | N/A | US\$ 7,361 | |
| | Santander UK plc | - | " | - | US\$ 7,255 | N/A | US\$ 7,255 | |
| | UBS Group AG | - | " | - | US\$ 7,081 | N/A | US\$ 7,081 | |
| | AstraZeneca PLC | - | " | - | US\$ 6,750 | N/A | US\$ 6,750 | |
| | Intuit Inc. | - | " | - | US\$ 6,742 | N/A | US\$ 6,742 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Daimler Trucks Finance North America LLC | - | Financial assets at fair value through other comprehensive income | - | US\$ 6,728 | N/A | US\$ 6,728 | |
| | SMBC Aviation Capital Finance DAC | - | " | - | US\$ 6,728 | N/A | US\$ 6,728 | |
| | American Express Company | - | " | - | US\$ 6,713 | N/A | US\$ 6,713 | |
| | Prudential Funding Corp. | - | " | - | US\$ 6,712 | N/A | US\$ 6,712 | |
| | Jackson National Life Global Funding | - | " | - | US\$ 6,510 | N/A | US\$ 6,510 | |
| | Cargill, Incorporated | - | " | - | US\$ 6,429 | N/A | US\$ 6,429 | |
| | UBS Group Funding (Switzerland) AG | - | " | - | US\$ 6,309 | N/A | US\$ 6,309 | |
| | Danske Bank A/S | - | " | - | US\$ 6,290 | N/A | US\$ 6,290 | |
| | Montpelier Re Holdings Ltd. | - | " | - | US\$ 6,246 | N/A | US\$ 6,246 | |
| | Banco Bilbao Vizcaya Argentaria, S.A. | - | " | - | US\$ 6,212 | N/A | US\$ 6,212 | |
| | Discover Bank (New Castle, Delaware) | - | " | - | US\$ 6,182 | N/A | US\$ 6,182 | |
| | Huntington Bancshares Incorporated | - | " | - | US\$ 6,046 | N/A | US\$ 6,046 | |
| | Exxon Mobil Corporation | - | " | - | US\$ 5,994 | N/A | US\$ 5,994 | |
| | The Bank of New York Mellon Corporation | - | " | - | US\$ 5,962 | N/A | US\$ 5,962 | |
| | ANZ New Zealand (Int'l) Limited | - | " | - | US\$ 5,877 | N/A | US\$ 5,877 | |
| | GSK Consumer Healthcare Capital US LLC | - | " | - | US\$ 5,876 | N/A | US\$ 5,876 | |
| | Scentre Group Trust 1 | - | " | - | US\$ 5,870 | N/A | US\$ 5,870 | |
| | Exelon Corporation | - | " | - | US\$ 5,862 | N/A | US\$ 5,862 | |
| | Fox Corporation | - | " | - | US\$ 5,830 | N/A | US\$ 5,830 | |
| | Swedbank AB (publ) | - | " | - | US\$ 5,801 | N/A | US\$ 5,801 | |
| | Enel Finance International N.V. | - | " | - | US\$ 5,722 | N/A | US\$ 5,722 | |
| | WPP Finance 2010 | - | " | - | US\$ 5,687 | N/A | US\$ 5,687 | |
| | Macquarie Bank Limited | - | " | - | US\$ 5,684 | N/A | US\$ 5,684 | |
| | UBS AG, London Branch | - | " | - | US\$ 5,575 | N/A | US\$ 5,575 | |
| | The Charles Schwab Corporation | - | " | - | US\$ 5,552 | N/A | US\$ 5,552 | |
| | ASB Bank Limited | - | " | - | US\$ 5,547 | N/A | US\$ 5,547 | |
| | Siemens Financieringsmaatschappij N.V. | - | " | - | US\$ 5,540 | N/A | US\$ 5,540 | |
| | Pacific Life Global Funding II | - | " | - | US\$ 5,530 | N/A | US\$ 5,530 | |
| | W. P. Carey Inc. | - | " | - | US\$ 5,496 | N/A | US\$ 5,496 | |
| | Intel Corporation | - | " | - | US\$ 5,471 | N/A | US\$ 5,471 | |
| | Alabama Power Company | - | " | - | US\$ 5,456 | N/A | US\$ 5,456 | |
| | Pioneer Natural Resources Company | - | " | - | US\$ 5,428 | N/A | US\$ 5,428 | |
| | Cox Communications, Inc. | - | " | - | US\$ 5,386 | N/A | US\$ 5,386 | |
| | Fiserv, Inc. | - | " | - | US\$ 5,228 | N/A | US\$ 5,228 | |
| | Capital One, National Association | - | " | - | US\$ 5,170 | N/A | US\$ 5,170 | |
| | Five Corners Funding Trust | - | " | - | US\$ 5,108 | N/A | US\$ 5,108 | |
| | Brookfield Finance Inc. | - | " | - | US\$ 5,022 | N/A | US\$ 5,022 | |
| | CVS Health Corporation | - | " | - | US\$ 5,005 | N/A | US\$ 5,005 | |
| | Credit Suisse Group Funding (Guernsey) Limited | - | " | - | US\$ 4,967 | N/A | US\$ 4,967 | |
| | CGI Inc. | - | " | - | US\$ 4,897 | N/A | US\$ 4,897 | |
| | Intercontinental Exchange, Inc. | - | " | - | US\$ 4,671 | N/A | US\$ 4,671 | |
| | HP Inc. | - | " | - | US\$ 4,587 | N/A | US\$ 4,587 | |
| | DNB Bank ASA | - | " | - | US\$ 4,574 | N/A | US\$ 4,574 | |
| | Ryder System, Inc. | - | " | - | US\$ 4,571 | N/A | US\$ 4,571 | |
| | Thermo Fisher Scientific Inc. | - | " | - | US\$ 4,558 | N/A | US\$ 4,558 | |
| | CenterPoint Energy, Inc. | - | " | - | US\$ 4,532 | N/A | US\$ 4,532 | |
| | Sprint Spectrum Co Llc | - | " | - | US\$ 4,472 | N/A | US\$ 4,472 | |
| | NatWest Group plc | - | " | - | US\$ 4,447 | N/A | US\$ 4,447 | |
| | Comcast Corporation | - | " | - | US\$ 4,437 | N/A | US\$ 4,437 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | American International Group, Inc. | - | Financial assets at fair value through other comprehensive income | - | US\$ 4,405 | N/A | US\$ 4,405 | |
| | Bank of New Zealand | - | " | - | US\$ 4,373 | N/A | US\$ 4,373 | |
| | MPLX LP | - | " | - | US\$ 4,371 | N/A | US\$ 4,371 | |
| | OGE Energy Corp. | - | " | - | US\$ 4,356 | N/A | US\$ 4,356 | |
| | Brighthouse Financial Global Funding | - | " | - | US\$ 4,242 | N/A | US\$ 4,242 | |
| | Florida Power & Light Company | - | " | - | US\$ 4,195 | N/A | US\$ 4,195 | |
| | AvalonBay Communities, Inc. | - | " | - | US\$ 4,149 | N/A | US\$ 4,149 | |
| | Daimler Finance North America LLC | - | " | - | US\$ 4,120 | N/A | US\$ 4,120 | |
| | 7-Eleven, Inc. | - | " | - | US\$ 4,088 | N/A | US\$ 4,088 | |
| | CNO Global Funding | - | " | - | US\$ 4,043 | N/A | US\$ 4,043 | |
| | Coöperatieve Rabobank U.A. | - | " | - | US\$ 4,005 | N/A | US\$ 4,005 | |
| | Element Fleet Management Corp. | - | " | - | US\$ 4,004 | N/A | US\$ 4,004 | |
| | Svenska Handelsbanken AB (publ) | - | " | - | US\$ 3,988 | N/A | US\$ 3,988 | |
| | Fidelity National Information Services, Inc. | - | " | - | US\$ 3,966 | N/A | US\$ 3,966 | |
| | Mondelez International, Inc. | - | " | - | US\$ 3,953 | N/A | US\$ 3,953 | |
| | European Bank for Reconstruction and Development | - | " | - | US\$ 3,912 | N/A | US\$ 3,912 | |
| | Coca-Cola Europacific Partners PLC | - | " | - | US\$ 3,873 | N/A | US\$ 3,873 | |
| | Ameren Corporation | - | " | - | US\$ 3,853 | N/A | US\$ 3,853 | |
| | Appalachian Power Company | - | " | - | US\$ 3,785 | N/A | US\$ 3,785 | |
| | Dominion Energy, Inc. | - | " | - | US\$ 3,774 | N/A | US\$ 3,774 | |
| | Public Storage | - | " | - | US\$ 3,766 | N/A | US\$ 3,766 | |
| | B.A.T. International Finance p.l.c. | - | " | - | US\$ 3,752 | N/A | US\$ 3,752 | |
| | V.F. Corporation | - | " | - | US\$ 3,642 | N/A | US\$ 3,642 | |
| | Bayer US Finance II LLC | - | " | - | US\$ 3,641 | N/A | US\$ 3,641 | |
| | BorgWarner Inc. | - | " | - | US\$ 3,620 | N/A | US\$ 3,620 | |
| | Fifth Third Bancorp | - | " | - | US\$ 3,576 | N/A | US\$ 3,576 | |
| | Public Service Electric and Gas Company | - | " | - | US\$ 3,548 | N/A | US\$ 3,548 | |
| | Monongahela Power Company | - | " | - | US\$ 3,529 | N/A | US\$ 3,529 | |
| | Trust Bank | - | " | - | US\$ 3,504 | N/A | US\$ 3,504 | |
| | Welltower Inc. | - | " | - | US\$ 3,497 | N/A | US\$ 3,497 | |
| | Ross Stores, Inc. | - | " | - | US\$ 3,422 | N/A | US\$ 3,422 | |
| | Diageo Capital plc | - | " | - | US\$ 3,421 | N/A | US\$ 3,421 | |
| | Credit Suisse Group AG | - | " | - | US\$ 3,412 | N/A | US\$ 3,412 | |
| | American Honda Finance Corporation | - | " | - | US\$ 3,380 | N/A | US\$ 3,380 | |
| | HSBC Bank Canada | - | " | - | US\$ 3,352 | N/A | US\$ 3,352 | |
| | Highmark Inc. | - | " | - | US\$ 3,340 | N/A | US\$ 3,340 | |
| | F&G Global Funding | - | " | - | US\$ 3,334 | N/A | US\$ 3,334 | |
| | Verisk Analytics, Inc. | - | " | - | US\$ 3,316 | N/A | US\$ 3,316 | |
| | ERAC USA Finance LLC | - | " | - | US\$ 3,302 | N/A | US\$ 3,302 | |
| | USAA Capital Corp. | - | " | - | US\$ 3,288 | N/A | US\$ 3,288 | |
| | Pfizer Inc. | - | " | - | US\$ 3,284 | N/A | US\$ 3,284 | |
| | Anheuser-Busch Companies, LLC | - | " | - | US\$ 3,219 | N/A | US\$ 3,219 | |
| | Penske Truck Leasing Co., L.P. | - | " | - | US\$ 3,217 | N/A | US\$ 3,217 | |
| | Xcel Energy Inc. | - | " | - | US\$ 3,158 | N/A | US\$ 3,158 | |
| | The Western Union Company | - | " | - | US\$ 3,114 | N/A | US\$ 3,114 | |
| | Johnson & Johnson | - | " | - | US\$ 3,088 | N/A | US\$ 3,088 | |
| | ONE Gas, Inc. | - | " | - | US\$ 3,076 | N/A | US\$ 3,076 | |
| | Nestlé Holdings, Inc. | - | " | - | US\$ 3,072 | N/A | US\$ 3,072 | |
| | CNA Financial Corporation | - | " | - | US\$ 3,046 | N/A | US\$ 3,046 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Southern California Gas Company | - | Financial assets at fair value through other comprehensive income | - | US\$ 3,028 | N/A | US\$ 3,028 | |
| | PNC Bank, National Association | - | " | - | US\$ 3,026 | N/A | US\$ 3,026 | |
| | Baidu, Inc. | - | " | - | US\$ 3,018 | N/A | US\$ 3,018 | |
| | Air Lease Corporation | - | " | - | US\$ 3,017 | N/A | US\$ 3,017 | |
| | Ralph Lauren Corporation | - | " | - | US\$ 3,003 | N/A | US\$ 3,003 | |
| | Avangrid, Inc. | - | " | - | US\$ 2,978 | N/A | US\$ 2,978 | |
| | Oncor Electric Delivery Company LLC | - | " | - | US\$ 2,976 | N/A | US\$ 2,976 | |
| | BOC Aviation Limited | - | " | - | US\$ 2,924 | N/A | US\$ 2,924 | |
| | Novartis Capital Corporation | - | " | - | US\$ 2,886 | N/A | US\$ 2,886 | |
| | Hewlett Packard Enterprise Company | - | " | - | US\$ 2,865 | N/A | US\$ 2,865 | |
| | Baxalta Incorporated | - | " | - | US\$ 2,854 | N/A | US\$ 2,854 | |
| | TORONTO-DOMINION BANK/THE | - | " | - | US\$ 2,844 | N/A | US\$ 2,844 | |
| | MIZUHO FINANCIAL GROUP INC FXD-FXD | - | " | - | US\$ 2,839 | N/A | US\$ 2,839 | |
| | National Bank of Canada | - | " | - | US\$ 2,839 | N/A | US\$ 2,839 | |
| | Phillips 66 | - | " | - | US\$ 2,835 | N/A | US\$ 2,835 | |
| | Eversource Energy | - | " | - | US\$ 2,791 | N/A | US\$ 2,791 | |
| | B.A.T Capital Corporation | - | " | - | US\$ 2,785 | N/A | US\$ 2,785 | |
| | Ameriprise Financial, Inc. | - | " | - | US\$ 2,779 | N/A | US\$ 2,779 | |
| | Chevron Phillips Chemical Company LLC | - | " | - | US\$ 2,775 | N/A | US\$ 2,775 | |
| | PPL Electric Utilities Corporation | - | " | - | US\$ 2,743 | N/A | US\$ 2,743 | |
| | Eastern Energy Gas Holdings, LLC | - | " | - | US\$ 2,709 | N/A | US\$ 2,709 | |
| | Ventas Realty, Limited Partnership | - | " | - | US\$ 2,692 | N/A | US\$ 2,692 | |
| | Public Service Enterprise Group Incorporated | - | " | - | US\$ 2,617 | N/A | US\$ 2,617 | |
| | Gilead Sciences, Inc. | - | " | - | US\$ 2,614 | N/A | US\$ 2,614 | |
| | Air Products and Chemicals, Inc. | - | " | - | US\$ 2,594 | N/A | US\$ 2,594 | |
| | International Business Machines Corporation | - | " | - | US\$ 2,580 | N/A | US\$ 2,580 | |
| | Baxter International Inc. | - | " | - | US\$ 2,577 | N/A | US\$ 2,577 | |
| | NBN Co Limited | - | " | - | US\$ 2,561 | N/A | US\$ 2,561 | |
| | GA Global Funding Trust | - | " | - | US\$ 2,556 | N/A | US\$ 2,556 | |
| | Nuveen Finance, LLC | - | " | - | US\$ 2,548 | N/A | US\$ 2,548 | |
| | Cigna Corporation | - | " | - | US\$ 2,530 | N/A | US\$ 2,530 | |
| | The PNC Financial Services Group, Inc. | - | " | - | US\$ 2,496 | N/A | US\$ 2,496 | |
| | Realty Income Corporation | - | " | - | US\$ 2,493 | N/A | US\$ 2,493 | |
| | Workday, Inc. | - | " | - | US\$ 2,489 | N/A | US\$ 2,489 | |
| | GRH America, Inc. | - | " | - | US\$ 2,487 | N/A | US\$ 2,487 | |
| | CMS Energy Corporation | - | " | - | US\$ 2,464 | N/A | US\$ 2,464 | |
| | Pinnacle West Capital Corporation | - | " | - | US\$ 2,457 | N/A | US\$ 2,457 | |
| | AutoZone, Inc. | - | " | - | US\$ 2,454 | N/A | US\$ 2,454 | |
| | American Electric Power Company, Inc. | - | " | - | US\$ 2,420 | N/A | US\$ 2,420 | |
| | Kimco Realty Corporation | - | " | - | US\$ 2,420 | N/A | US\$ 2,420 | |
| | Magellan Midstream Partners, L.P. | - | " | - | US\$ 2,416 | N/A | US\$ 2,416 | |
| | Southern California Edison Company | - | " | - | US\$ 2,402 | N/A | US\$ 2,402 | |
| | Yara International ASA | - | " | - | US\$ 2,398 | N/A | US\$ 2,398 | |
| | John Deere Capital Corporation | - | " | - | US\$ 2,375 | N/A | US\$ 2,375 | |
| | RGA Global Funding | - | " | - | US\$ 2,373 | N/A | US\$ 2,373 | |
| | BP Capital Markets America, Inc. | - | " | - | US\$ 2,369 | N/A | US\$ 2,369 | |
| | WEC Energy Group, Inc. | - | " | - | US\$ 2,349 | N/A | US\$ 2,349 | |
| | Crédit Agricole S.A. | - | " | - | US\$ 2,347 | N/A | US\$ 2,347 | |
| | Texas Instruments Incorporated | - | " | - | US\$ 2,343 | N/A | US\$ 2,343 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Georgia Power Company | - | Financial assets at fair value through other comprehensive income | - | US\$ 2,342 | N/A | US\$ 2,342 | |
| | Chevron U.S.A. Inc. | - | " | - | US\$ 2,340 | N/A | US\$ 2,340 | |
| | Shire Acquisitions Investments Ireland Designated Activity Company | - | " | - | US\$ 2,312 | N/A | US\$ 2,312 | |
| | Reynolds American Inc. | - | " | - | US\$ 2,302 | N/A | US\$ 2,302 | |
| | Empower Finance 2020, LP | - | " | - | US\$ 2,292 | N/A | US\$ 2,292 | |
| | Berkshire Hathaway Inc. | - | " | - | US\$ 2,276 | N/A | US\$ 2,276 | |
| | O'Reilly Automotive, Inc. | - | " | - | US\$ 2,261 | N/A | US\$ 2,261 | |
| | NiSource Inc. | - | " | - | US\$ 2,218 | N/A | US\$ 2,218 | |
| | Reckitt Benckiser Treasury Services plc | - | " | - | US\$ 2,204 | N/A | US\$ 2,204 | |
| | Union Pacific Corporation | - | " | - | US\$ 2,197 | N/A | US\$ 2,197 | |
| | Health Care Service Corporation, a Mutual Legal Reserve Company | - | " | - | US\$ 2,129 | N/A | US\$ 2,129 | |
| | Georgia-Pacific LLC | - | " | - | US\$ 2,094 | N/A | US\$ 2,094 | |
| | DTE Energy Company | - | " | - | US\$ 2,092 | N/A | US\$ 2,092 | |
| | The East Ohio Gas Company | - | " | - | US\$ 2,086 | N/A | US\$ 2,086 | |
| | Mead Johnson Nutrition Company | - | " | - | US\$ 2,067 | N/A | US\$ 2,067 | |
| | Magna International Inc. | - | " | - | US\$ 2,053 | N/A | US\$ 2,053 | |
| | General Electric Company | - | " | - | US\$ 2,039 | N/A | US\$ 2,039 | |
| | Amphenol Corporation | - | " | - | US\$ 2,031 | N/A | US\$ 2,031 | |
| | Citizens Bank, National Association | - | " | - | US\$ 2,020 | N/A | US\$ 2,020 | |
| | Reliance Standard Life Global Funding II | - | " | - | US\$ 2,018 | N/A | US\$ 2,018 | |
| | Tucson Electric Power Company | - | " | - | US\$ 1,983 | N/A | US\$ 1,983 | |
| | Olympus Corporation | - | " | - | US\$ 1,977 | N/A | US\$ 1,977 | |
| | Keurig Dr Pepper Inc. | - | " | - | US\$ 1,970 | N/A | US\$ 1,970 | |
| | Oris Worldwide Corporation | - | " | - | US\$ 1,941 | N/A | US\$ 1,941 | |
| | Love's Companies, Inc. | - | " | - | US\$ 1,883 | N/A | US\$ 1,883 | |
| | Shinhan Financial Group Co., Ltd. | - | " | - | US\$ 1,874 | N/A | US\$ 1,874 | |
| | AmerisourceBergen Corporation | - | " | - | US\$ 1,871 | N/A | US\$ 1,871 | |
| | Kinder Morgan, Inc. | - | " | - | US\$ 1,861 | N/A | US\$ 1,861 | |
| | Mitsubishi Corporation | - | " | - | US\$ 1,835 | N/A | US\$ 1,835 | |
| | NBK SPC Limited | - | " | - | US\$ 1,825 | N/A | US\$ 1,825 | |
| | Sydney Airport Finance Company Pty Ltd | - | " | - | US\$ 1,819 | N/A | US\$ 1,819 | |
| | Kentucky Utilities Company | - | " | - | US\$ 1,799 | N/A | US\$ 1,799 | |
| | DuPont de Nemours, Inc. | - | " | - | US\$ 1,791 | N/A | US\$ 1,791 | |
| | Caterpillar Financial Services Corporation | - | " | - | US\$ 1,763 | N/A | US\$ 1,763 | |
| | Evergy Kansas Central, Inc. | - | " | - | US\$ 1,760 | N/A | US\$ 1,760 | |
| | Enbridge Inc. | - | " | - | US\$ 1,754 | N/A | US\$ 1,754 | |
| | Wipro IT Services LLC | - | " | - | US\$ 1,741 | N/A | US\$ 1,741 | |
| | Gulfstream Natural Gas System, L.L.C. | - | " | - | US\$ 1,730 | N/A | US\$ 1,730 | |
| | Burlington Northern Santa Fe, LLC | - | " | - | US\$ 1,701 | N/A | US\$ 1,701 | |
| | Infor, Inc. | - | " | - | US\$ 1,700 | N/A | US\$ 1,700 | |
| | Walmart Inc. | - | " | - | US\$ 1,694 | N/A | US\$ 1,694 | |
| | Tyson Foods, Inc. | - | " | - | US\$ 1,684 | N/A | US\$ 1,684 | |
| | Quest Diagnostics Incorporated | - | " | - | US\$ 1,668 | N/A | US\$ 1,668 | |
| | ITC Holdings Corp. | - | " | - | US\$ 1,656 | N/A | US\$ 1,656 | |
| | Berkshire Hathaway Energy Company | - | " | - | US\$ 1,642 | N/A | US\$ 1,642 | |
| | Raytheon Technologies Corporation | - | " | - | US\$ 1,630 | N/A | US\$ 1,630 | |
| | University of California | - | " | - | US\$ 1,617 | N/A | US\$ 1,617 | |
| | Midwest Connector Capital Company LLC | - | " | - | US\$ 1,605 | N/A | US\$ 1,605 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Emerson Electric Co. | - | Financial assets at fair value through other comprehensive income | - | US\$ 1,598 | N/A | US\$ 1,598 | |
| | eBay Inc. | - | " | - | US\$ 1,598 | N/A | US\$ 1,598 | |
| | Anthem, Inc. | - | " | - | US\$ 1,572 | N/A | US\$ 1,572 | |
| | Westpac Banking Corporation | - | " | - | US\$ 1,572 | N/A | US\$ 1,572 | |
| | APT Pipelines Limited | - | " | - | US\$ 1,557 | N/A | US\$ 1,557 | |
| | MetLife, Inc. | - | " | - | US\$ 1,556 | N/A | US\$ 1,556 | |
| | UBS AG (LONDON BRANCH) | - | " | - | US\$ 1,546 | N/A | US\$ 1,546 | |
| | Suntory Holdings Limited | - | " | - | US\$ 1,546 | N/A | US\$ 1,546 | |
| | Glencore Funding LLC | - | " | - | US\$ 1,542 | N/A | US\$ 1,542 | |
| | Barclays Bank PLC | - | " | - | US\$ 1,530 | N/A | US\$ 1,530 | |
| | UBS Group Funding (Jersey) Ltd. | - | " | - | US\$ 1,529 | N/A | US\$ 1,529 | |
| | Mondelez International Holdings Netherlands Bv | - | " | - | US\$ 1,524 | N/A | US\$ 1,524 | |
| | Essex Portfolio Limited Partnership | - | " | - | US\$ 1,523 | N/A | US\$ 1,523 | |
| | Brookfield Finance LLC | - | " | - | US\$ 1,517 | N/A | US\$ 1,517 | |
| | Duke Energy Florida, LLC | - | " | - | US\$ 1,512 | N/A | US\$ 1,512 | |
| | CK Hutchison International (19) Limited | - | " | - | US\$ 1,507 | N/A | US\$ 1,507 | |
| | The Southern Company | - | " | - | US\$ 1,504 | N/A | US\$ 1,504 | |
| | KEB Hana Bank | - | " | - | US\$ 1,502 | N/A | US\$ 1,502 | |
| | Alimentation Couche-Tard Inc. | - | " | - | US\$ 1,497 | N/A | US\$ 1,497 | |
| | NSTAR Electric Company | - | " | - | US\$ 1,497 | N/A | US\$ 1,497 | |
| | Marsh & McLennan Companies, Inc. | - | " | - | US\$ 1,475 | N/A | US\$ 1,475 | |
| | Marathon Petroleum Corporation | - | " | - | US\$ 1,460 | N/A | US\$ 1,460 | |
| | National Rural Utilities Cooperative Finance Corporation | - | " | - | US\$ 1,393 | N/A | US\$ 1,393 | |
| | Alliant Energy Finance, LLC | - | " | - | US\$ 1,376 | N/A | US\$ 1,376 | |
| | Eastern Gas Transmission and Storage, Inc. | - | " | - | US\$ 1,354 | N/A | US\$ 1,354 | |
| | Virginia Electric and Power Company | - | " | - | US\$ 1,332 | N/A | US\$ 1,332 | |
| | NetApp, Inc. | - | " | - | US\$ 1,314 | N/A | US\$ 1,314 | |
| | Truist Financial Corporation | - | " | - | US\$ 1,302 | N/A | US\$ 1,302 | |
| | Met Tower Global Funding | - | " | - | US\$ 1,292 | N/A | US\$ 1,292 | |
| | Andrew W. Mellon Foundation, The | - | " | - | US\$ 1,282 | N/A | US\$ 1,282 | |
| | Entergy Arkansas, LLC | - | " | - | US\$ 1,279 | N/A | US\$ 1,279 | |
| | Martin Marietta Materials, Inc. | - | " | - | US\$ 1,278 | N/A | US\$ 1,278 | |
| | PACCAR Financial Corp. | - | " | - | US\$ 1,263 | N/A | US\$ 1,263 | |
| | State Of Tennessee | - | " | - | US\$ 1,228 | N/A | US\$ 1,228 | |
| | Skandinaviska Enskilda Banken AB (publ) | - | " | - | US\$ 1,108 | N/A | US\$ 1,108 | |
| | The Curators of the University of Missouri | - | " | - | US\$ 1,094 | N/A | US\$ 1,094 | |
| | State Street Corporation | - | " | - | US\$ 1,084 | N/A | US\$ 1,084 | |
| | IBERDROLA INTL BV | - | " | - | US\$ 1,074 | N/A | US\$ 1,074 | |
| | Enterprise Products Operating LLC | - | " | - | US\$ 1,070 | N/A | US\$ 1,070 | |
| | The Cleveland Electric Illuminating Company | - | " | - | US\$ 1,057 | N/A | US\$ 1,057 | |
| | Baker Hughes Holdings LLC | - | " | - | US\$ 1,051 | N/A | US\$ 1,051 | |
| | Foxconn (Far East) Limited | - | " | - | US\$ 1,044 | N/A | US\$ 1,044 | |
| | Sinopec Group Overseas Development (2014) Ltd. | - | " | - | US\$ 1,026 | N/A | US\$ 1,026 | |
| | BBVA México, S.A., Institución de Banca Múltiple, Grupo Financiero BBVA México | - | " | - | US\$ 1,025 | N/A | US\$ 1,025 | |
| | Baltimore Gas and Electric Company | - | " | - | US\$ 1,008 | N/A | US\$ 1,008 | |
| | Entergy Mississippi, LLC | - | " | - | US\$ 1,006 | N/A | US\$ 1,006 | |
| | Texas Eastern Transmission, LP | - | " | - | US\$ 1,003 | N/A | US\$ 1,003 | |
| | Panasonic Corporation | - | " | - | US\$ 1,001 | N/A | US\$ 1,001 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Loews Corporation | - | Financial assets at fair value through other comprehensive income | - | US\$ 1,001 | N/A | US\$ 1,001 | |
| | Kaiser Foundation Hospitals | - | " | - | US\$ 1,000 | N/A | US\$ 1,000 | |
| | Kansas City Southern | - | " | - | US\$ 995 | N/A | US\$ 995 | |
| | Prisco Global Funding I | - | " | - | US\$ 994 | N/A | US\$ 994 | |
| | MassMutual Global Funding II | - | " | - | US\$ 993 | N/A | US\$ 993 | |
| | Denver City & County Housing Authority | - | " | - | US\$ 992 | N/A | US\$ 992 | |
| | Board Of Regents State Of Iowa | - | " | - | US\$ 976 | N/A | US\$ 976 | |
| | Unilever Capital Corporation | - | " | - | US\$ 901 | N/A | US\$ 901 | |
| | Aflac Incorporated | - | " | - | US\$ 900 | N/A | US\$ 900 | |
| | QNB Finance Ltd. | - | " | - | US\$ 886 | N/A | US\$ 886 | |
| | KeyBank National Association | - | " | - | US\$ 859 | N/A | US\$ 859 | |
| | BHP Billiton Finance (USA) Limited | - | " | - | US\$ 853 | N/A | US\$ 853 | |
| | Hormel Foods Corporation | - | " | - | US\$ 835 | N/A | US\$ 835 | |
| | CubeSmart, L.P. | - | " | - | US\$ 808 | N/A | US\$ 808 | |
| | TransCanada Pipelines Limited | - | " | - | US\$ 807 | N/A | US\$ 807 | |
| | Palm Beach County, Florida | - | " | - | US\$ 805 | N/A | US\$ 805 | |
| | Aetna Inc. | - | " | - | US\$ 803 | N/A | US\$ 803 | |
| | BMW US Capital, LLC | - | " | - | US\$ 803 | N/A | US\$ 803 | |
| | Sinopec Capital (2013) Ltd. | - | " | - | US\$ 801 | N/A | US\$ 801 | |
| | Oregon Health & Science University | - | " | - | US\$ 788 | N/A | US\$ 788 | |
| | Niagara Mohawk Power Corporation | - | " | - | US\$ 776 | N/A | US\$ 776 | |
| | The Walt Disney Company | - | " | - | US\$ 775 | N/A | US\$ 775 | |
| | Visa Inc. | - | " | - | US\$ 763 | N/A | US\$ 763 | |
| | Tencent Holdings Limited | - | " | - | US\$ 749 | N/A | US\$ 749 | |
| | Southern Power Company | - | " | - | US\$ 748 | N/A | US\$ 748 | |
| | Canadian Natural Resources Limited | - | " | - | US\$ 712 | N/A | US\$ 712 | |
| | Sky Limited | - | " | - | US\$ 710 | N/A | US\$ 710 | |
| | Warner Media, LLC | - | " | - | US\$ 709 | N/A | US\$ 709 | |
| | MASCO CORP | - | " | - | US\$ 704 | N/A | US\$ 704 | |
| | Sinopec Group Overseas Development (2017) Limited | - | " | - | US\$ 700 | N/A | US\$ 700 | |
| | Hyundai Capital Services, Inc. | - | " | - | US\$ 688 | N/A | US\$ 688 | |
| | Sodexo, Inc. | - | " | - | US\$ 683 | N/A | US\$ 683 | |
| | Automatic Data Processing, Inc. | - | " | - | US\$ 668 | N/A | US\$ 668 | |
| | Norsk Hydro ASA | - | " | - | US\$ 665 | N/A | US\$ 665 | |
| | Abbott Laboratories | - | " | - | US\$ 660 | N/A | US\$ 660 | |
| | Alia Group Limited | - | " | - | US\$ 650 | N/A | US\$ 650 | |
| | Stryker Corporation | - | " | - | US\$ 646 | N/A | US\$ 646 | |
| | State Of Washington | - | " | - | US\$ 644 | N/A | US\$ 644 | |
| | Bell Canada, Inc. | - | " | - | US\$ 626 | N/A | US\$ 626 | |
| | QUALCOMM Incorporated | - | " | - | US\$ 604 | N/A | US\$ 604 | |
| | Intact U.S. Holdings Inc. | - | " | - | US\$ 602 | N/A | US\$ 602 | |
| | Sinopec Group Overseas Development (2012) Ltd. | - | " | - | US\$ 601 | N/A | US\$ 601 | |
| | DH Europe Finance II S.a.r.l. | - | " | - | US\$ 601 | N/A | US\$ 601 | |
| | Republic Services, Inc. | - | " | - | US\$ 595 | N/A | US\$ 595 | |
| | Florida Hurricane Catastrophe Fund Finance Corporation | - | " | - | US\$ 593 | N/A | US\$ 593 | |
| | Lincoln National Corporation | - | " | - | US\$ 582 | N/A | US\$ 582 | |
| | American Water Capital Corp. | - | " | - | US\$ 579 | N/A | US\$ 579 | |
| | Port of Morrow | - | " | - | US\$ 577 | N/A | US\$ 577 | |
| | Duke Energy Progress, LLC | - | " | - | US\$ 557 | N/A | US\$ 557 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Fifth Third Bank, National Association | - | Financial assets at fair value through other comprehensive income | - | US\$ 550 | N/A | US\$ 550 | |
| | Shell International Finance B.V. | - | " | - | US\$ 543 | N/A | US\$ 543 | |
| | Arizona Public Service Company | - | " | - | US\$ 539 | N/A | US\$ 539 | |
| | ConocoPhillips Company | - | " | - | US\$ 517 | N/A | US\$ 517 | |
| | State of Hawaii | - | " | - | US\$ 516 | N/A | US\$ 516 | |
| | United Parcel Service, Inc. | - | " | - | US\$ 515 | N/A | US\$ 515 | |
| | TTX Company | - | " | - | US\$ 504 | N/A | US\$ 504 | |
| | McCormick & Company, Incorporated | - | " | - | US\$ 502 | N/A | US\$ 502 | |
| | 174 Power Global Corporation | - | " | - | US\$ 501 | N/A | US\$ 501 | |
| | Trane Technologies Luxembourg Finance S.A. | - | " | - | US\$ 501 | N/A | US\$ 501 | |
| | Gsk Consumer Healthcare Capital Uk Plc | - | " | - | US\$ 499 | N/A | US\$ 499 | |
| | SOCIETE GENERALE SA | - | " | - | US\$ 498 | N/A | US\$ 498 | |
| | Commonwealth Bank of Australia | - | " | - | US\$ 496 | N/A | US\$ 496 | |
| | Ecolab Inc. | - | " | - | US\$ 492 | N/A | US\$ 492 | |
| | Altria Group, Inc. | - | " | - | US\$ 481 | N/A | US\$ 481 | |
| | Simon Property Group, L.P. | - | " | - | US\$ 478 | N/A | US\$ 478 | |
| | Genuine Parts Company | - | " | - | US\$ 477 | N/A | US\$ 477 | |
| | DENSO Corporation | - | " | - | US\$ 462 | N/A | US\$ 462 | |
| | Brazos Higher Education Authority Inc | - | " | - | US\$ 441 | N/A | US\$ 441 | |
| | The Home Depot, Inc. | - | " | - | US\$ 433 | N/A | US\$ 433 | |
| | Target Corporation | - | " | - | US\$ 419 | N/A | US\$ 419 | |
| | PayPal Holdings, Inc. | - | " | - | US\$ 415 | N/A | US\$ 415 | |
| | National Australia Bank Limited | - | " | - | US\$ 407 | N/A | US\$ 407 | |
| | University of Massachusetts Building Authority | - | " | - | US\$ 404 | N/A | US\$ 404 | |
| | Boston Properties Limited Partnership | - | " | - | US\$ 402 | N/A | US\$ 402 | |
| | Komatsu Finance America, Inc. | - | " | - | US\$ 400 | N/A | US\$ 400 | |
| | Banco del Estado de Chile | - | " | - | US\$ 396 | N/A | US\$ 396 | |
| | Comerica Bank | - | " | - | US\$ 395 | N/A | US\$ 395 | |
| | Sierra Pacific Power Company | - | " | - | US\$ 394 | N/A | US\$ 394 | |
| | Entergy Corporation | - | " | - | US\$ 391 | N/A | US\$ 391 | |
| | McKesson Corporation | - | " | - | US\$ 389 | N/A | US\$ 389 | |
| | Honeywell International Inc. | - | " | - | US\$ 386 | N/A | US\$ 386 | |
| | Duke Energy Corporation | - | " | - | US\$ 380 | N/A | US\$ 380 | |
| | NIKE, Inc. | - | " | - | US\$ 373 | N/A | US\$ 373 | |
| | PepsiCo, Inc. | - | " | - | US\$ 371 | N/A | US\$ 371 | |
| | The Norinchukin Bank | - | " | - | US\$ 368 | N/A | US\$ 368 | |
| | StanCorp Financial Group, Inc. | - | " | - | US\$ 368 | N/A | US\$ 368 | |
| | Entergy Louisiana, LLC | - | " | - | US\$ 364 | N/A | US\$ 364 | |
| | Principal Financial Group, Inc. | - | " | - | US\$ 351 | N/A | US\$ 351 | |
| | Pernod Ricard SA | - | " | - | US\$ 347 | N/A | US\$ 347 | |
| | First Republic Bank | - | " | - | US\$ 347 | N/A | US\$ 347 | |
| | Aon Corporation | - | " | - | US\$ 345 | N/A | US\$ 345 | |
| | Rabobank Nederland - New York Branch | - | " | - | US\$ 336 | N/A | US\$ 336 | |
| | Amgen Inc. | - | " | - | US\$ 321 | N/A | US\$ 321 | |
| | Mid-America Apartments, L.P. | - | " | - | US\$ 310 | N/A | US\$ 310 | |
| | BP Capital Markets p.l.c. | - | " | - | US\$ 306 | N/A | US\$ 306 | |
| | The Allstate Corporation | - | " | - | US\$ 304 | N/A | US\$ 304 | |
| | Philip Morris International Inc. | - | " | - | US\$ 299 | N/A | US\$ 299 | |
| | TotalEnergies Capital International | - | " | - | US\$ 297 | N/A | US\$ 297 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|---|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Starbucks Corporation | - | Financial assets at fair value through other comprehensive income | - | US\$ 293 | N/A | US\$ 293 | |
| | Alabama State Federal Aid Highway Finance Authority | - | " | - | US\$ 293 | N/A | US\$ 293 | |
| | Aptiv PLC | - | " | - | US\$ 292 | N/A | US\$ 292 | |
| | BOC Aviation (USA) Corporation | - | " | - | US\$ 288 | N/A | US\$ 288 | |
| | salesforce.com, inc. | - | " | - | US\$ 288 | N/A | US\$ 288 | |
| | QatarEnergy | - | " | - | US\$ 279 | N/A | US\$ 279 | |
| | Johnson Controls International plc | - | " | - | US\$ 279 | N/A | US\$ 279 | |
| | Southern Natural Gas Company, L.L.C. | - | " | - | US\$ 270 | N/A | US\$ 270 | |
| | Sales Tax Securitization Corporation Of Chicago | - | " | - | US\$ 250 | N/A | US\$ 250 | |
| | The Huntington National Bank | - | " | - | US\$ 249 | N/A | US\$ 249 | |
| | Equitable Holdings, Inc. | - | " | - | US\$ 248 | N/A | US\$ 248 | |
| | E. I. du Pont de Nemours and Company | - | " | - | US\$ 235 | N/A | US\$ 235 | |
| | Waste Management, Inc. | - | " | - | US\$ 231 | N/A | US\$ 231 | |
| | Nasdaq, Inc. | - | " | - | US\$ 217 | N/A | US\$ 217 | |
| | Children's Hospital Of Orange County | - | " | - | US\$ 214 | N/A | US\$ 214 | |
| | The Pennsylvania State University | - | " | - | US\$ 208 | N/A | US\$ 208 | |
| | Oregon Education Districts | - | " | - | US\$ 201 | N/A | US\$ 201 | |
| | Suncor Energy Inc. | - | " | - | US\$ 200 | N/A | US\$ 200 | |
| | Dere & Company | - | " | - | US\$ 199 | N/A | US\$ 199 | |
| | Riverside County Infrastructure Financing Authority | - | " | - | US\$ 199 | N/A | US\$ 199 | |
| | Los Angeles Department of Water and Power, California | - | " | - | US\$ 197 | N/A | US\$ 197 | |
| | Saudi Arabian Oil Company | - | " | - | US\$ 195 | N/A | US\$ 195 | |
| | NongHyup Bank | - | " | - | US\$ 190 | N/A | US\$ 190 | |
| | San Francisco Public Utilities Commission | - | " | - | US\$ 184 | N/A | US\$ 184 | |
| | Hoover Alabama Board Of Education | - | " | - | US\$ 175 | N/A | US\$ 175 | |
| | Dormitory Authority of the State of New York | - | " | - | US\$ 152 | N/A | US\$ 152 | |
| | Electricité de France S.A. | - | " | - | US\$ 101 | N/A | US\$ 101 | |
| | Beth Israel Deaconess Medical Center, Inc. | - | " | - | US\$ 92 | N/A | US\$ 92 | |
| | Municipal Improvement Corporation of Los Angeles | - | " | - | US\$ 79 | N/A | US\$ 79 | |
| | Pima County, Arizona | - | " | - | US\$ 77 | N/A | US\$ 77 | |
| | State of Wisconsin | - | " | - | US\$ 62 | N/A | US\$ 62 | |
| | Huntington Beach California | - | " | - | US\$ 49 | N/A | US\$ 49 | |
| | City of Worcester, MA | - | " | - | US\$ 30 | N/A | US\$ 30 | |
| | Nueces County | - | " | - | US\$ 24 | N/A | US\$ 24 | |
| | Citigroup Global Markets Inc. | - | Financial assets at amortized cost | - | US\$ 249,919 | N/A | US\$ 245,829 | |
| | The Goldman Sachs Group, Inc. | - | " | - | US\$ 185,467 | N/A | US\$ 185,198 | |
| | Goldman Sachs Finance Corp International Ltd. | - | " | - | US\$ 149,866 | N/A | US\$ 149,676 | |
| | Citigroup Global Markets Holdings Inc. | - | " | - | US\$ 99,968 | N/A | US\$ 99,662 | |
| | Bank of America Corporation | - | " | - | US\$ 54,881 | N/A | US\$ 54,566 | |
| | Citigroup Inc. | - | " | - | US\$ 48,873 | N/A | US\$ 48,682 | |
| | Wells Fargo & Company | - | " | - | US\$ 30,342 | N/A | US\$ 30,091 | |
| | JPMorgan Chase & Co. | - | " | - | US\$ 20,998 | N/A | US\$ 20,725 | |
| | Government bond | - | | - | | | | |
| | United States Department of The Treasury | - | Financial assets at fair value through other comprehensive income | - | US\$ 710,290 | N/A | US\$ 710,290 | |
| | Emirate of Abu Dhabi | - | " | - | US\$ 1,467 | N/A | US\$ 1,467 | |
| | Qatar | - | " | - | US\$ 1,323 | N/A | US\$ 1,323 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|---|-------------------------------|--|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | Agency bonds/Agency mortgage-backed securities FEDERAL NATIONAL MORTGAGE ASSOCIATION | - | Financial assets at fair value through other comprehensive income | - | US\$ 581,619 | N/A | US\$ 581,619 | |
| | Federal Home Loan Mortgage Corporation | - | " | - | US\$ 324,204 | N/A | US\$ 324,204 | |
| | Government National Mortgage Association | - | " | - | US\$ 213,992 | N/A | US\$ 213,992 | |
| | Asset-backed securities | | | | | | | |
| | Hyundai Auto Receivables Trust 2021-C | - | Financial assets at fair value through other comprehensive income | - | US\$ 10,566 | N/A | US\$ 10,566 | |
| | JPMBB Commercial Mortgage Securities Trust 2014-C24 | - | " | - | US\$ 9,890 | N/A | US\$ 9,890 | |
| | BX Trust 2022-LBA6 | - | " | - | US\$ 9,825 | N/A | US\$ 9,825 | |
| | Wells Fargo Commercial Mortgage Trust 2016-Bnk1 | - | " | - | US\$ 9,451 | N/A | US\$ 9,451 | |
| | Ford Credit Auto Owner Trust 2021-Rev2 | - | " | - | US\$ 7,833 | N/A | US\$ 7,833 | |
| | Citigroup Commercial Mortgage Trust 2015-GC33 | - | " | - | US\$ 7,808 | N/A | US\$ 7,808 | |
| | Ford Credit Auto Owner Trust 2020-REV2 | - | " | - | US\$ 6,826 | N/A | US\$ 6,826 | |
| | Morgan Stanley Capital I Trust 2021-L6 | - | " | - | US\$ 6,555 | N/A | US\$ 6,555 | |
| | Morgan Stanley Bank America Merrill Lynch Trust 2016-C30 | - | " | - | US\$ 6,422 | N/A | US\$ 6,422 | |
| | Bank 2020-BNK26 | - | " | - | US\$ 6,397 | N/A | US\$ 6,397 | |
| | Bank 2017-Bnk6 | - | " | - | US\$ 6,077 | N/A | US\$ 6,077 | |
| | Benchmark 2019-B11 Mortgage Trust | - | " | - | US\$ 5,980 | N/A | US\$ 5,980 | |
| | Wells Fargo Commercial Mortgage Trust 2016-C35 | - | " | - | US\$ 5,788 | N/A | US\$ 5,788 | |
| | GM Financial Consumer Automobile Receivables Trust 2021-4 | - | " | - | US\$ 5,778 | N/A | US\$ 5,778 | |
| | Citigroup Commercial Mortgage Trust 2021-PRM2 | - | " | - | US\$ 5,510 | N/A | US\$ 5,510 | |
| | BBCMS 2018-Tall Mortgage Trust | - | " | - | US\$ 5,365 | N/A | US\$ 5,365 | |
| | Hudson Yards 2016-10HY Mortgage Trust | - | " | - | US\$ 5,310 | N/A | US\$ 5,310 | |
| | WFRBS Commercial Mortgage Trust 2013-C13 | - | " | - | US\$ 5,210 | N/A | US\$ 5,210 | |
| | Wells Fargo Commercial Mortgage Trust 2021-C59 | - | " | - | US\$ 5,132 | N/A | US\$ 5,132 | |
| | Citigroup Commercial Mortgage Trust 2014-GC21 | - | " | - | US\$ 5,117 | N/A | US\$ 5,117 | |
| | CSAIL 2018-CX11 | - | " | - | US\$ 5,005 | N/A | US\$ 5,005 | |
| | Morgan Stanley Bank America Merrill Lynch Trust 2013-C10 | - | " | - | US\$ 4,758 | N/A | US\$ 4,758 | |
| | GM Financial Revolving Receivables Trust 2021-1 | - | " | - | US\$ 4,578 | N/A | US\$ 4,578 | |
| | MRCO 2019-Pfc Mortgage Trust | - | " | - | US\$ 4,528 | N/A | US\$ 4,528 | |
| | Commerce 2015-CCRE24 Mortgage Trust | - | " | - | US\$ 4,447 | N/A | US\$ 4,447 | |
| | Honda Auto Receivables 2021 - 4 Owner Trust | - | " | - | US\$ 4,413 | N/A | US\$ 4,413 | |
| | Bank 2017 - BNK7 | - | " | - | US\$ 4,271 | N/A | US\$ 4,271 | |
| | BANK 2017-BNK5 | - | " | - | US\$ 3,990 | N/A | US\$ 3,990 | |
| | JPMCC 2017-JP7 | - | " | - | US\$ 3,964 | N/A | US\$ 3,964 | |
| | Bank 2019-Bnk17 | - | " | - | US\$ 3,956 | N/A | US\$ 3,956 | |
| | Bank 2019-Bnk22 | - | " | - | US\$ 3,795 | N/A | US\$ 3,795 | |
| | J.P. Morgan Chase Commercial Mortgage Securities Trust 2012-LC9 | - | " | - | US\$ 3,646 | N/A | US\$ 3,646 | |
| | Msbam 2016-C29 | - | " | - | US\$ 3,622 | N/A | US\$ 3,622 | |
| | Msbam 2016-C31 | - | " | - | US\$ 3,472 | N/A | US\$ 3,472 | |
| | UBS-Barclays Commercial Mortgage Trust 2012-C2 | - | " | - | US\$ 3,127 | N/A | US\$ 3,127 | |
| | UBS-Barclays Commercial Mortgage Trust 2013-C6 | - | " | - | US\$ 3,126 | N/A | US\$ 3,126 | |
| | WFRBS Commercial Mortgage Trust 2014-C25 | - | " | - | US\$ 3,017 | N/A | US\$ 3,017 | |
| | GS Mortgage Securities Trust 2015-GC32 | - | " | - | US\$ 3,004 | N/A | US\$ 3,004 | |
| | Wells Fargo Commercial Mortgage Trust 2017-C40 | - | " | - | US\$ 2,976 | N/A | US\$ 2,976 | |
| | GS Mortgage Securities Corporation Trust 2018-RIVR | - | " | - | US\$ 2,957 | N/A | US\$ 2,957 | |
| | UBS Commercial Mortgage Trust 2018-C10 | - | " | - | US\$ 2,912 | N/A | US\$ 2,912 | |
| | Sreit Commercial Mortgage Trust 2021-Mfp | - | " | - | US\$ 2,840 | N/A | US\$ 2,840 | |
| | JPMDB 2017-C7 | - | " | - | US\$ 2,749 | N/A | US\$ 2,749 | |
| | Benchmark 2018-B3 Commercial Mortgage Trust | - | " | - | US\$ 2,688 | N/A | US\$ 2,688 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|---|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | GS Mortgage Securities Trust 2013-GCJ12 | - | Financial assets at fair value through other comprehensive income | - | US\$ 2,608 | N/A | US\$ 2,608 | |
| | Ford Credit Auto Owner Trust 2020-Rev1 | - | " | - | US\$ 2,414 | N/A | US\$ 2,414 | |
| | JPMBB Commercial Mortgage Securities Trust 2015-C28 | - | " | - | US\$ 2,358 | N/A | US\$ 2,358 | |
| | Wells Fargo Commercial Mortgage Trust 2020-C55 | - | " | - | US\$ 2,295 | N/A | US\$ 2,295 | |
| | Morgan Stanley Bank of America Merrill Lynch Trust 2013-C7 | - | " | - | US\$ 2,281 | N/A | US\$ 2,281 | |
| | Citigroup Commercial Mortgage Trust 2015-P1 | - | " | - | US\$ 2,272 | N/A | US\$ 2,272 | |
| | Mic Commercial Mortgage Trust 2021-Mhc | - | " | - | US\$ 2,253 | N/A | US\$ 2,253 | |
| | BBCMS Mortgage Trust 2020-C8 | - | " | - | US\$ 2,221 | N/A | US\$ 2,221 | |
| | Bank 2021-bnk33 | - | " | - | US\$ 2,165 | N/A | US\$ 2,165 | |
| | Citigroup Commercial Mortgage Trust 2015-GC27 | - | " | - | US\$ 2,145 | N/A | US\$ 2,145 | |
| | Morgan Stanley Capital I Trust | - | " | - | US\$ 2,120 | N/A | US\$ 2,120 | |
| | Dolp Trust 2021-NYC | - | " | - | US\$ 2,074 | N/A | US\$ 2,074 | |
| | Morgan Stanley Capital I Trust 2018-H3 | - | " | - | US\$ 2,029 | N/A | US\$ 2,029 | |
| | Commerce 2013-CCRE12 Mortgage Trust | - | " | - | US\$ 2,023 | N/A | US\$ 2,023 | |
| | UBS Commercial Mortgage Trust 2018-C11 | - | " | - | US\$ 2,022 | N/A | US\$ 2,022 | |
| | Benchmark 2018-B4 Mortgage Trust | - | " | - | US\$ 2,019 | N/A | US\$ 2,019 | |
| | UBS-Barclays Commercial Mortgage Trust 2012-C3 | - | " | - | US\$ 1,961 | N/A | US\$ 1,961 | |
| | CGCMT 2017-P8 Mortgage Trust | - | " | - | US\$ 1,957 | N/A | US\$ 1,957 | |
| | Morgan Stanley Bank of America Merrill Lynch Trust 2012-C6 | - | " | - | US\$ 1,941 | N/A | US\$ 1,941 | |
| | Wells Fargo Commercial Mortgage Trust 2015-C30 | - | " | - | US\$ 1,623 | N/A | US\$ 1,623 | |
| | JPMBB Commercial Mortgage Securities Trust 2015-C27 | - | " | - | US\$ 1,561 | N/A | US\$ 1,561 | |
| | Wells Fargo Commercial Mortgage Trust 2018-C44 | - | " | - | US\$ 1,547 | N/A | US\$ 1,547 | |
| | Morgan Stanley Capital I Trust 2021-L5 | - | " | - | US\$ 1,515 | N/A | US\$ 1,515 | |
| | Morgan Stanley Bank of America Merrill Lynch Trust 2013-C8 | - | " | - | US\$ 1,509 | N/A | US\$ 1,509 | |
| | COMM 2020-CBM Mortgage Trust | - | " | - | US\$ 1,490 | N/A | US\$ 1,490 | |
| | JPMBB Commercial Mortgage Securities Trust 2013-C12 | - | " | - | US\$ 1,479 | N/A | US\$ 1,479 | |
| | Wells Fargo Commercial Mortgage Trust 2015-C29 | - | " | - | US\$ 1,292 | N/A | US\$ 1,292 | |
| | Toyota Auto Receivables 2018-D Owner Trust | - | " | - | US\$ 1,288 | N/A | US\$ 1,288 | |
| | Hyundai Auto Receivables Trust 2018-A | - | " | - | US\$ 1,280 | N/A | US\$ 1,280 | |
| | Digs 2018-Biod Mortgage Trust | - | " | - | US\$ 1,271 | N/A | US\$ 1,271 | |
| | WFRBS Commercial Mortgage Trust 2013-UBS1 | - | " | - | US\$ 1,267 | N/A | US\$ 1,267 | |
| | Honda Auto Receivables 2021-2 Owner Trust | - | " | - | US\$ 1,267 | N/A | US\$ 1,267 | |
| | Toyota Auto Receivables 2021-D Owner Trust | - | " | - | US\$ 1,153 | N/A | US\$ 1,153 | |
| | Morgan Stanley Capital I Trust 2015 - UBSS8 | - | " | - | US\$ 1,011 | N/A | US\$ 1,011 | |
| | JPMCC Commercial Mortgage Securities Trust 2016 - JP3 | - | " | - | US\$ 968 | N/A | US\$ 968 | |
| | Citigroup Commercial Mortgage Trust 2013-GCJ11 | - | " | - | US\$ 942 | N/A | US\$ 942 | |
| | Wells Fargo Commercial Mortgage Trust 2012-LC5 | - | " | - | US\$ 927 | N/A | US\$ 927 | |
| | COMM 2013-LC6 Mortgage Trust | - | " | - | US\$ 917 | N/A | US\$ 917 | |
| | Commerce 2014-Ccre17 Mortgage Trust | - | " | - | US\$ 909 | N/A | US\$ 909 | |
| | COMM 2012-CCRE5 Mortgage Trust | - | " | - | US\$ 906 | N/A | US\$ 906 | |
| | Morgan Stanley Bank Of America Merrill Lynch Trust 2013-C13 | - | " | - | US\$ 890 | N/A | US\$ 890 | |
| | WFRBS Commercial Mortgage Trust 2013-C17 | - | " | - | US\$ 862 | N/A | US\$ 862 | |
| | 280 Park Avenue Trust 2017 - 280P | - | " | - | US\$ 826 | N/A | US\$ 826 | |
| | BX Trust 2021-BXMF | - | " | - | US\$ 824 | N/A | US\$ 824 | |
| | GS Mortgage Securities Trust 2014-GC22 | - | " | - | US\$ 821 | N/A | US\$ 821 | |
| | Benchmark 2019-B14 Mortgage Trust | - | " | - | US\$ 814 | N/A | US\$ 814 | |
| | Morgan Stanley Capital I Trust 2019-H6 | - | " | - | US\$ 800 | N/A | US\$ 800 | |
| | Elp Commercial Mortgage Trust 2021-Elp | - | " | - | US\$ 784 | N/A | US\$ 784 | |
| | Bx 2021-21M Mortgage Trust | - | " | - | US\$ 780 | N/A | US\$ 780 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|---|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| TSMC Global | GS Mortgage Securities Trust 2019-GSA1 | - | Financial assets at fair value through other comprehensive income | - | US\$ 761 | N/A | US\$ 761 | |
| | GS Mortgage Securities Trust 2014-GC24 | - | " | - | US\$ 729 | N/A | US\$ 729 | |
| | Wells Fargo Commercial Mortgage Trust 2015-L-C20 | - | " | - | US\$ 649 | N/A | US\$ 649 | |
| | Benchmark 2019-B9 Mortgage Trust | - | " | - | US\$ 608 | N/A | US\$ 608 | |
| | Equis 2021-Eqaz Mortgage Trust | - | " | - | US\$ 588 | N/A | US\$ 588 | |
| | Benchmark 2019-B15 Mortgage Trust | - | " | - | US\$ 578 | N/A | US\$ 578 | |
| | Gs Mortgage Securities Corporation Trust 2020-Uptn | - | " | - | US\$ 569 | N/A | US\$ 569 | |
| | Wells Fargo Commercial Mortgage Trust 2015-C28 | - | " | - | US\$ 551 | N/A | US\$ 551 | |
| | JPMBB Commercial Mortgage Securities Trust 2014-C19 | - | " | - | US\$ 549 | N/A | US\$ 549 | |
| | CF 2019-CF1 Mortgage Trust | - | " | - | US\$ 548 | N/A | US\$ 548 | |
| | Bx Commercial Mortgage Trust 2021-C1P | - | " | - | US\$ 541 | N/A | US\$ 541 | |
| | Bboms Mortgage Trust 2017-C1 | - | " | - | US\$ 535 | N/A | US\$ 535 | |
| | Morgan Stanley Bank Of America Merrill Lynch Trust 2013-C12 | - | " | - | US\$ 529 | N/A | US\$ 529 | |
| | Bank 2019-BNK23 | - | " | - | US\$ 524 | N/A | US\$ 524 | |
| | Citigroup Commercial Mortgage Trust 2018-C5 | - | " | - | US\$ 515 | N/A | US\$ 515 | |
| | Morgan Stanley Capital I Trust 2019-H7 | - | " | - | US\$ 514 | N/A | US\$ 514 | |
| | Wells Fargo Commercial Mortgage Trust 2015-NX83 | - | " | - | US\$ 477 | N/A | US\$ 477 | |
| | Citigroup Commercial Mortgage Trust 2014-GC23 | - | " | - | US\$ 462 | N/A | US\$ 462 | |
| | COMM 2015-CCRE22 Mortgage Trust | - | " | - | US\$ 411 | N/A | US\$ 411 | |
| | JPMCC 2015 - JP1 | - | " | - | US\$ 348 | N/A | US\$ 348 | |
| | JPMDB Commercial Mortgage Securities Trust 2019-COR6 | - | " | - | US\$ 334 | N/A | US\$ 334 | |
| | UBS Barclays Commercial Mortgage Trust 2013-C5 | - | " | - | US\$ 271 | N/A | US\$ 271 | |
| | Citigroup Commercial Mortgage Trust 2014-GC19 | - | " | - | US\$ 251 | N/A | US\$ 251 | |
| VTAF II | GS Mortgage Securities Trust 2014-GC26 | - | " | - | US\$ 243 | N/A | US\$ 243 | |
| | Citigroup Commercial Mortgage Trust 2016-C3 | - | " | - | US\$ 242 | N/A | US\$ 242 | |
| | Wells Fargo Commercial Mortgage Trust 2016-C36 | - | " | - | US\$ 233 | N/A | US\$ 233 | |
| | Citigroup Commercial Mortgage Trust 2015-GC35 | - | " | - | US\$ 214 | N/A | US\$ 214 | |
| | Bank 2020-BNK28 | - | " | - | US\$ 121 | N/A | US\$ 121 | |
| | COMM 2013-CCRE8 Mortgage Trust | - | " | - | US\$ 120 | N/A | US\$ 120 | |
| | BBCMS Mortgage Trust 2020-C7 | - | " | - | US\$ 84 | N/A | US\$ 84 | |
| | Ford Credit Auto Owner Trust 2019-A | - | " | - | US\$ 76 | N/A | US\$ 76 | |
| | Wells Fargo Commercial Mortgage Trust 2015-NXS1 | - | " | - | US\$ 12 | N/A | US\$ 12 | |
| | Non-publicly traded equity investments Primavera Capital Fund II L.P. | - | Financial assets at fair value through other comprehensive income | - | US\$ 92,203 | 4 | US\$ 92,203 | |
| VTAF III | Non-publicly traded equity investments Aether Systems, Inc. | - | Financial assets at fair value through other comprehensive income | 1,085 | US\$ 379 | 20 | US\$ 379 | |
| | 5V Technologies, Inc. | - | " | 4 | - | - | - | |
| | Publicly traded stocks Sentelic Corporation | - | Financial assets at fair value through other comprehensive income | 971 | US\$ 2,986 | 3 | US\$ 2,986 | |
| VTAF III | Non-publicly traded equity investments LiquidLeds Lighting Corp. | - | Financial assets at fair value through other comprehensive income | 1,952 | US\$ 800 | 14 | US\$ 800 | |
| | Neoconix, Inc. | - | " | 4,147 | US\$ 174 | - | US\$ 174 | |

(Continued)

| Held Company Name | Marketable Securities Type and Name | Relationship with the Company | Financial Statement Account | March 31, 2022 | | | | Note |
|-------------------|--|-------------------------------|--|--------------------------------|--|--------------------------------|--|------|
| | | | | Shares/Units (In Thousands) | Carrying Value (Foreign Currencies in Thousands) | Percentage of Ownership (%) | Fair Value (Foreign Currencies in Thousands) | |
| Growth Fund | Non-publicly traded equity investments Asteria Labs, Inc. | - | Financial assets at fair value through other comprehensive income | 637 | US\$ 2,142 | - | US\$ 2,142 | |
| | Publicly traded stocks CNEX Labs, Inc. | - | " | 24 | US\$ 214 | - | US\$ 214 | |
| | Publicly traded stocks Marvell Technology Group Ltd. | - | Financial assets at fair value through other comprehensive income | 30 | US\$ 2,123 | - | US\$ 2,123 | |
| Emerging Fund | Non-publicly traded equity investments Asteria Labs, Inc. | - | Financial assets at fair value through other comprehensive income | 1,487 | US\$ 5,000 | 1 | US\$ 5,000 | |
| | Publicly traded stocks Credo Technology Group Holding Ltd | - | Financial assets at fair value through other comprehensive income | 861 | US\$ 13,118 | 1 | US\$ 13,118 | |

(Concluded)

TABLE 4

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

MARKETABLE SECURITIES ACQUIRED AND DISPOSED OF AT COSTS OR PRICES OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE THREE MONTHS ENDED MARCH 31, 2022

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| Company Name | Marketable Securities Type and Name | Financial Statement Account | Counterparty | Nature of Relationship | Beginning Balance | | Acquisition | | Disposal | | | Gain/Loss on Disposal (Foreign Currencies in Thousands) | Ending Balance (Note) | |
|--|---|---|--------------|------------------------|-----------------------------|--|-----------------------------|--|-----------------------------|--|--|---|-----------------------------|--|
| | | | | | Shares/Units (In Thousands) | Amount (Foreign Currencies in Thousands) | Shares/Units (In Thousands) | Amount (Foreign Currencies in Thousands) | Shares/Units (In Thousands) | Amount (Foreign Currencies in Thousands) | Carrying Value (Foreign Currencies in Thousands) | | Shares/Units (In Thousands) | Amount (Foreign Currencies in Thousands) |
| TSMC | Non-publicly traded equity investments | Investments accounted for using equity method | - | - | 58 | \$ 1,383,554 | 750 | \$ 18,234,347 | - | \$ - | - | \$ - | 808 | \$ 18,960,910 |
| | TSMC 3DIC | " | - | - | 11 | 270,513 | 15 | 364,650 | - | - | - | - | 26 | 630,555 |
| TSMC Global | Corporate bond | Financial assets at fair value through other comprehensive income | - | - | - | US\$ 75,265 | - | US\$ 12,769 | - | US\$ 5,165 | US\$ 5,123 | US\$ 42 | - | US\$ 79,795 |
| | Bank of America Corporation | " | - | - | - | US\$ 65,115 | - | US\$ 12,990 | - | US\$ 4,750 | US\$ 4,678 | US\$ 72 | - | US\$ 70,664 |
| | Morgan Stanley | " | - | - | - | US\$ - | - | US\$ 15,091 | - | US\$ 2,893 | US\$ 2,934 | US\$ (41) | - | US\$ 11,885 |
| | S&P Global Inc. | " | - | - | - | US\$ 6,295 | - | US\$ 10,734 | - | US\$ 5,076 | US\$ 4,999 | US\$ 77 | - | US\$ 11,518 |
| | Bank of Montreal | " | - | - | - | US\$ 99,968 | - | US\$ 150,000 | - | US\$ - | US\$ - | US\$ - | - | US\$ 249,919 |
| | Citigroup Global Markets Inc. | Financial assets at amortized cost | - | - | - | US\$ 51,347 | - | US\$ 134,651 | - | US\$ - | US\$ - | US\$ - | - | US\$ 185,467 |
| | The Goldman Sachs Group, Inc. | " | - | - | - | US\$ - | - | US\$ 150,000 | - | US\$ - | US\$ - | US\$ - | - | US\$ 149,866 |
| | Goldman Sachs Finance Corp | " | - | - | - | US\$ - | - | US\$ 100,000 | - | US\$ - | US\$ - | US\$ - | - | US\$ 99,968 |
| | Citigroup Global Markets Holdings Inc. | " | - | - | - | US\$ - | - | US\$ 54,932 | - | US\$ - | US\$ - | US\$ - | - | US\$ 54,881 |
| | Bank of America Corporation | " | - | - | - | US\$ - | - | US\$ 48,933 | - | US\$ - | US\$ - | US\$ - | - | US\$ 48,873 |
| | Citigroup Inc. | " | - | - | - | US\$ 10,054 | - | US\$ 10,956 | - | US\$ - | US\$ - | US\$ - | - | US\$ 20,998 |
| | JPMorgan Chase & Co. | " | - | - | - | - | - | - | - | - | - | - | - | - |
| Government bond | Financial assets at fair value through other comprehensive income | - | - | - | US\$ 768,483 | - | US\$ 88,976 | US\$ 116,611 | US\$ 117,084 | US\$ (473) | - | US\$ 710,290 | | |
| United States Department of The Treasury | | | | | | | | | | | | | | |
| Agency bonds/Agency mortgage-backed securities | Financial assets at fair value through other comprehensive income | - | - | - | US\$ 460,205 | - | US\$ 232,667 | US\$ 91,612 | US\$ 92,889 | US\$ (1,277) | - | US\$ 568,915 | | |
| FEDERAL NATIONAL MORTGAGE ASSOCIATION | | | | | | | | | | | | | | |
| Federal Home Loan Mortgage Corporation | " | - | - | - | US\$ 253,075 | - | US\$ 122,181 | US\$ 34,547 | US\$ 34,913 | US\$ (366) | - | US\$ 324,204 | | |
| Government National Mortgage Association | " | - | - | - | US\$ 285,581 | - | US\$ 68,802 | US\$ 136,163 | US\$ 138,643 | US\$ (2,480) | - | US\$ 207,572 | | |

Note: The ending balance includes the realized gain/loss on equity investment, the amortization of premium/discount on bonds investments and other related adjustment.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

ACQUISITION OF INDIVIDUAL REAL ESTATE PROPERTIES AT COSTS OF AT LEAST NT\$300 MILLION OR 20% OF THE PAID-IN CAPITAL FOR THE THREE MONTHS ENDED MARCH 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| Company Name | Types of Property | Transaction Date | Transaction Amount (Foreign Currencies in Thousands) | Payment Term | Counterparty | Nature of Relationships | Prior Transaction of Related Counterparty | | | | Price Reference | Purpose of Acquisition | Other Terms |
|--------------|-------------------|-----------------------------|--|--|--|-------------------------|---|---------------|---------------|--------|--|------------------------|-------------|
| | | | | | | | Owner | Relationships | Transfer Date | Amount | | | |
| TSMC | Real estate | February 15, 2022 (Note) | \$213,300,000 (Note) | Based on the terms in the purchase order | 122 counterparties(Note), including : ABB Ltd. Accudevice Co., Ltd. Addtron Technology (Japan), Inc. Aegis Technology Co. Air Liquid Japan G.K. Air Liquide Far Eastern Ltd. Air Water Plant Engineering Co., Ltd. Allis Electric Co., Ltd. Am-Power Machine International Enterprise Co., Ltd. Atlas Copco Taiwan Ltd. Atlas Technology Corp. Capital Machinery Limited Chen Yuan International Co., Ltd. Chenfull International Co., Ltd. Cheng Deh Fire Protection Industrial Corp. Chien Kuo Construction Co., Ltd. China Steel Structure Co., Ltd. Chun Yuan Steel Industry Co., Ltd. | - | N/A | N/A | N/A | N/A | Price comparison and price negotiation | Manufacturing purpose | None |

(Continued)

| Company Name | Types of Property | Transaction Date | Transaction Amount (Foreign Currencies in Thousands) | Payment Term | Counterparty | Nature of Relationships | Prior Transaction of Related Counterparty | | | | Price Reference | Purpose of Acquisition | Other Terms |
|--------------|-------------------|------------------|--|--------------|---|-------------------------|---|---------------|---------------|--------|-----------------|------------------------|-------------|
| | | | | | | | Owner | Relationships | Transfer Date | Amount | | | |
| TSMC | Real estate | | | | Chung-Lin General Contractors, Ltd. Chunghwa Telecom Japan Co., Ltd. Cica-Huntek Chemical Technology Taiwan Co., Ltd. Confederate Technology Co., Ltd. Da-Cin Construction Co., Ltd. Desiccant Technology Corporation Eaton Electric Japan Evergreen Steel Corporation Exyte Taiwan Co., Ltd. Fortune Electric Co., Ltd. Fu Tsu Construction Co., Ltd. Fuji Electric Co., Ltd. Fuji Furukawa E&C Co., Ltd. Green Partners Industry Co., Ltd. Hantech Engineering Co., Ltd. Hitachi Energy Ltd. Hsieh Kun Co., Ltd. Huang Luei Process Industry Co., Ltd. Ingersoll-Rand Southeast Asia (Pte) Ltd. Taiwan Branch (Singapore) J.C. Yang Architect and Associates Japan Material Co., Ltd. JG Environmental Technology Co., Ltd. Jienshan Information Engineering Co., Ltd. JImr-Clean-Air Solution Tech.Services Co., Ltd. | | | | | | | | |

(Continued)

| Company Name | Types of Property | Transaction Date | Transaction Amount (Foreign Currencies in Thousands) | Payment Term | Counterparty | Nature of Relationships | Prior Transaction of Related Counterparty | | | | Price Reference | Purpose of Acquisition | Other Terms |
|--------------|-------------------|------------------|--|--------------|--|-------------------------|---|---------------|---------------|--------|-----------------|------------------------|-------------|
| | | | | | | | Owner | Relationships | Transfer Date | Amount | | | |
| TSMC | Real estate | | | | Johnson Controls York Taiwan Co, Ltd. Jusun Instruments Co., Ltd. Kajima Corporation Kanto Chemical Engineering Co., Ltd. Kao Hsin Engineering Co., Ltd. Kedge Construction Co., Ltd. Kinetics Technology Corporation Koei International Corp. Kuken Kogyo Co., Ltd. Kurita Water Industries Ltd., Taiwan Kyudenko Corporation L&K Engineering Co., Ltd. Lead-Fu Industrials Corporation Lee Ming Construction Co., Ltd. Lumax International Corp., Ltd. Mandartech Interiors Inc. Marketch International Corp. Mega Union Technology Incorporated Mitsubishi Heavy Industries Air-Conditioning & Refrigeration Corporation Mitsubishi Heavy Industries, Ltd. NAGASE & CO. LTD. NEC Facilities, Ltd. Organo Corporation Organo Technology Co., Ltd. Ovivo Taiwan Co., Ltd. | | | | | | | | |

(Continued)

| Company Name | Types of Property | Transaction Date | Transaction Amount (Foreign Currencies in Thousands) | Payment Term | Counterparty | Nature of Relationships | Prior Transaction of Related Counterparty | | | | Price Reference | Purpose of Acquisition | Other Terms |
|--------------|-------------------|------------------|--|--------------|--|-------------------------|---|---------------|---------------|--------|-----------------|------------------------|-------------|
| | | | | | | | Owner | Relationships | Transfer Date | Amount | | | |
| TSMC | Real estate | | | | Pan Asia (Engineers & Constructors) Corporation Quicken System Integration Co., Ltd. Ruentex Engineering & Construction Co., Ltd. SACHEM Inc. San Fu Chemical Co., Ltd. Schneider Electric Taiwan Co., Ltd. Seibu Giken Co., Ltd. Shihlin Electric & Engineering Corporation Shimizu Corporation Siemens Limited SN Tech Corporation Solomon Technology Corporation Sumitomo Corporation Swift Engineering Co., Ltd. Taikisha Ltd. Taisei Corporation Taiwan Gleno Enterprise Co., Ltd. Taiwan Obayashi Corporation Taiwan Puritic Corp. Taiyo Nippon Sanso Corporation TASA Construction Corporation Techgo Industrial Co., Ltd. Toshiba Mitsubishi-Electric Industrial Systems Corporation Toyoko Kagaku Co., Ltd. Trane Taiwan Distribution Limited | | | | | | | | |

(Continued)

| Company Name | Types of Property | Transaction Date | Transaction Amount (Foreign Currencies in Thousands) | Payment Term | Counterparty | Nature of Relationships | Prior Transaction of Related Counterparty | | | | Price Reference | Purpose of Acquisition | Other Terms |
|--------------|-------------------|------------------|--|--------------|--|-------------------------|---|---------------|---------------|--------|-----------------|------------------------|-------------|
| | | | | | | | Owner | Relationships | Transfer Date | Amount | | | |
| TSMC | Real estate | | | | Trusval Technology Co., Ltd. Tung Kang Steel Structure Corp. Uangyih-Tech Industrial Co., Ltd. Unelectra International Corp. United Integrated Services Co., Ltd. Versum Materials Taiwan Co., Ltd. Vertiv Wetall Technology Corporation Wholetech System Hitech Limited Yangtech Engineering Co., Ltd. Yankey Engineering Co., Ltd. Ying Pao Technology Inc. Zhao-Cheng Corp. | | | | | | | | |

Note: The disclosures are expected information based on the capital appropriation approved by the Board of Directors (Right-of-use assets are included). The actual information shall be subject to the final purchase order of TSMC.

(Concluded)

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

TOTAL PURCHASES FROM OR SALES TO RELATED PARTIES OF AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL
FOR THE THREE MONTHS ENDED MARCH 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| Company Name | Related Party | Nature of Relationships | Transaction Details | | | | Abnormal Transaction | | Notes/Accounts Payable or Receivable | | Note |
|--------------|--------------------|-------------------------|---------------------|--|---------------|--|----------------------|---------------|--|---------------|------|
| | | | Purchases/ Sales | Amount (Foreign Currencies in Thousands) | % to Total | Payment Terms | Unit Price | Payment Terms | Ending Balance (Foreign Currencies in Thousands) | % to Total | |
| TSMC | TSMC North America | Subsidiary | Sales | \$ 312,093,871 | 64 | Net 30 days from invoice date (Note) | - | (Note) | \$ 143,259,426 | 72 | |
| | TSMC Nanjing | Subsidiary | Sales | 104,064 | - | Net 30 days from the end of the month of when invoice is issued | - | - | - | - | |
| | GUC | Associate | Sales | 1,608,880 | - | Net 30 days from the end of the month of when invoice is issued | - | - | 297,103 | - | |
| | TSMC Nanjing | Subsidiary | Purchases | 9,270,035 | 25 | Net 30 days from the end of the month of when invoice is issued | - | - | (3,240,195) | 6 | |
| | TSMC China | Subsidiary | Purchases | 6,251,579 | 17 | Net 30 days from the end of the month of when invoice is issued | - | - | (2,349,544) | 4 | |
| | WaferTech | Indirect subsidiary | Purchases | 2,296,848 | 6 | Net 30 days from the end of the month of when invoice is issued | - | - | (789,970) | 1 | |
| | SSMC | Associate | Purchases | 1,087,862 | 3 | Net 30 days from the end of the month of when invoice is issued | - | - | (467,114) | 1 | |
| | VIS | Associate | Purchases | 389,879 | 1 | Net 30 days from the end of the month of when invoice is issued | - | - | (134,026) | - | |
| | GUC | Associate of TSMC | Sales | 502,177 (US\$ 17,964) | - | Net 30 days from invoice date | - | - | 152,042 (US\$ 5,317) | - | |
| VisEra Tech | Xintec | Associate of TSMC | Sales | 170,582 | 7 | Net 60 days from the end of the month of when invoice is issued | - | - | 131,738 | 9 | |

Note: The tenor is determined by the payment terms granted to its clients by TSMC North America.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

**RECEIVABLES FROM RELATED PARTIES AMOUNTING TO AT LEAST NT\$100 MILLION OR 20% OF THE PAID-IN CAPITAL
MARCH 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)**

| Company Name | Related Party | Nature of Relationships | Ending Balance (Foreign Currencies in Thousands) | Turnover Days (Note 1) | Overdue | | Amounts Received in Subsequent Period | Allowance for Bad Debts |
|--------------------|---|---|---|---------------------------|----------------|--------------|---|----------------------------|
| | | | | | Amount | Action Taken | | |
| TSMC | TSMC North America TSMC Nanjing GUC | Subsidiary Subsidiary Associate | \$ 148,621,334 375,084 297,103 | 41 Note 2 20 | \$ - - - | - - - | \$ - - - | \$ - - - |
| TSMC North America | GUC | Associate of TSMC | 152,042 (US\$ 5,317) | 33 | - | - | - | - |
| TSMC 3DIC | TSMC | Parent company | 210,117 (JPY 891,459) | Note 2 | - | - | - | - |
| TSMC China | TSMC Nanjing TSMC | The same parent company Parent company | 25,433,901 (RMB 5,641,447) 2,349,544 (RMB 521,151) | Note 2 29 | - - | - - | - - | - - |
| TSMC Nanjing | TSMC | Parent company | 3,240,195 (RMB 718,705) | 29 | - | - | - | - |
| VisEra Tech | Xintec | Associate of TSMC | 131,738 | 67 | - | - | - | - |
| TSMC Technology | TSMC | The ultimate parent of the Company | 384,904 (US\$ 13,459) | Note 2 | - | - | - | - |
| WaferTech | TSMC | The ultimate parent of the Company | 789,970 (US\$ 27,623) | 30 | - | - | - | - |

Note 1: The calculation of turnover days excludes other receivables from related parties.

Note 2: The ending balance is primarily consisted of other receivables, which is not applicable for the calculation of turnover days.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

**INTERCOMPANY RELATIONSHIPS AND SIGNIFICANT INTERCOMPANY TRANSACTIONS
FOR THE YEAR ENDED MARCH 31, 2022
(Amounts in Thousands of New Taiwan Dollars)**

| No. | Company Name | Counterparty | Nature of Relationship (Note 1) | Intercompany Transactions | | |
|-----|--------------|--------------------|------------------------------------|--|----------------|--|
| | | | | Financial Statements Item | Amount | Percentage of Consolidated Net Revenue or Total Assets |
| 0 | TSMC | TSMC North America | 1 | Net revenue from sale of goods | \$ 312,093,871 | 64% |
| | | | | Receivables from related parties | 143,259,426 | 4% |
| | | | | Other receivables from related parties | 5,361,908 | - |
| | | | | Accrued expenses and other current liabilities | 42,155,773 | 1% |
| | | | | Other noncurrent liabilities | 146,288,207 | 4% |
| | | JASM | 1 | Other noncurrent assets | 1,612,212 | - |
| | | TSMC China | 1 | Purchases | 6,251,579 | 1% |
| | | | | Payables to related parties | 2,349,544 | - |
| | | TSMC Nanjing | 1 | Purchases | 9,270,035 | 2% |
| | | TSMC Technology | 1 | Payables to related parties | 3,240,195 | - |
| | | | | Research and development expenses | 748,001 | - |
| | | WaferTech | 1 | Purchases | 2,296,848 | - |
| | | | | Payables to related parties | 789,970 | - |
| 1 | TSMC China | TSMC Nanjing | 3 | Other receivables from related parties | 25,433,901 | 1% |

Note 1: No. 1 represents the transactions from parent company to subsidiary.

No. 3 represents the transactions between subsidiaries.

Note 2: The sales prices and payment terms of intercompany sales are not significantly different from those to third parties. For other intercompany transactions, prices and terms are determined in accordance with mutual agreements.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

NAMES, LOCATIONS, AND RELATED INFORMATION OF INVESTEE OVER WHICH THE COMPANY EXERCISES SIGNIFICANT INFLUENCE (EXCLUDING INFORMATION ON INVESTMENT IN MAINLAND CHINA)
FOR THE THREE MONTHS ENDED MARCH 31, 2022
(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| Investor Company | Investee Company | Location | Main Businesses and Products | Original Investment Amount | | Balance as of March 31, 2022 | | Net Income (Losses) of the Investee (Foreign Currencies in Thousands) | Share of Profits/Losses of Investee (Note 1) (Foreign Currencies in Thousands) | Note |
|------------------|-------------------------|---------------------------------|---|--|---|------------------------------|-------------------------|---|--|------------|
| | | | | March 31, 2022 (Foreign Currencies in Thousands) | December 31, 2021 (Foreign Currencies in Thousands) | Shares (In Thousands) | Percentage of Ownership | Carrying Value (Foreign Currencies in Thousands) | | |
| TSMC | TSMC Global | Tortola, British Virgin Islands | Investment activities | \$ 355,162,309 | \$ 355,162,309 | 11 | 100 | \$ 382,105,935 | \$ 100,781 | Subsidiary |
| | TSMC Partners | Tortola, British Virgin Islands | Investing in companies involved in the semiconductor design and manufacturing, and other investment activities | 31,456,130 | 31,456,130 | 988,268 | 100 | 57,380,549 | 613,846 | Subsidiary |
| | IASM | Kumamoto, Japan | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | 19,651,268 | 1,416,921 | 808 | 81 | 18,960,910 | (89,501) | Subsidiary |
| | TSMC Arizona | Phoenix, Arizona, U.S.A. | Manufacturing, sales and testing of integrated circuits and other semiconductor devices | 21,643,300 | 21,643,300 | 770 | 100 | 16,471,474 | (1,382,312) | Subsidiary |
| VTAF III | VIS | Hsin-Chu, Taiwan | Manufacturing, sales, packaging, testing and computer-aided design of integrated circuits and other semiconductor devices and the manufacturing and design service of masks | 10,180,677 | 10,180,677 | 464,223 | 28 | 11,969,823 | 4,091,613 | Associate |
| | SSMC | Singapore | Manufacturing and sales of integrated circuits and other semiconductor devices | 5,120,028 | 5,120,028 | 314 | 39 | 7,255,271 | 600,783 | Associate |
| | VisEra Tech | Hsin-Chu, Taiwan | Research, design, development, manufacturing, sales, packaging and test of color filter | 4,224,082 | 4,224,082 | 213,619 | 73 | 6,901,597 | 522,867 | Subsidiary |
| | TSMC North America | San Jose, California, U.S.A | Sales and marketing of integrated circuits and other semiconductor devices | 333,718 | 333,718 | 11,000 | 100 | 4,950,159 | (81,748) | Subsidiary |
| TSMC Partners | Xintee | Taoyuan, Taiwan | Wafer level chip size packaging and wafer level post passivation interconnection service | 1,988,317 | 1,988,317 | 111,282 | 41 | 3,192,971 | 356,038 | Associate |
| | GUC | Hsin-Chu, Taiwan | Researching, developing, manufacturing, testing and marketing of integrated circuits | 386,568 | 386,568 | 46,688 | 35 | 1,679,084 | 545,358 | Associate |
| | TSMC 3DIC Emerging Fund | Yokohama, Japan | Engineering support activities | 643,636 | 278,986 | 26 | 100 | 630,555 | 13,207 | Subsidiary |
| | TSMC Europe | Cayman Islands | Investing in technology start-up companies | 382,858 | 298,618 | - | 99.9 | 611,457 | (1,970) | Subsidiary |
| TSMC Partners | TSMC JDC | Amsterdam, the Netherlands | Customer service and supporting activities | 15,749 | 15,749 | - | 100 | 523,314 | 5,286 | Subsidiary |
| | VTAF III | Yokohama, Japan | Engineering support activities | 410,680 | 410,680 | 15 | 100 | 364,019 | 4,684 | Subsidiary |
| | TSMC Japan | Cayman Islands | Investing in technology start-up companies | 1,321,594 | 1,321,594 | 6 | 98 | 288,649 | (1,782) | Subsidiary |
| | VTAF II | Yokohama, Japan | Customer service and supporting activities | 83,760 | 83,760 | - | 100 | 130,815 | 1,569 | Subsidiary |
| TSMC Partners | TSMC Korea | Cayman Islands | Investing in technology start-up companies | 260,300 | 260,300 | - | 98 | 120,632 | (492) | Subsidiary |
| | TSMC Development | Seoul, Korea | Customer service and supporting activities | 13,656 | 13,656 | 80 | 100 | 41,725 | 338 | Subsidiary |
| | TSMC Technology | Delaware, U.S.A | Investing in companies involved in semiconductor manufacturing | 16,785,276 (US\$ 586,939) | 16,785,276 (US\$ 586,939) | - | 100 | 32,178,498 (US\$1,125,201) | 587,264 (US\$ 21,008) | Subsidiary |
| | TSMC Canada | Delaware, U.S.A | Engineering support activities | 408,437 (US\$ 14,282) | 408,437 (US\$ 14,282) | - | 100 | 866,918 (US\$ 30,314) | 3,050 (US\$ 109) | Subsidiary |
| VTAF III | Growth Fund | Ontario, Canada | Engineering support activities | 65,775 (US\$ 2,300) | 65,775 (US\$ 2,300) | 2,300 | 100 | 299,192 (US\$ 10,462) | 6,137 (US\$ 220) | Subsidiary |
| | Mutual-Pak | Cayman Islands | Investing in technology start-up companies | 74,463 (US\$ 2,604) | 74,463 (US\$ 2,604) | - | 100 | 207,859 (US\$ 7,268) | (205) (US\$ (7)) | Subsidiary |
| | WaferTech | New Taipei, Taiwan | Manufacturing of electronic parts, wholesaling and retailing of electronic materials, and researching, developing and testing of RFID | 45,567 (US\$ 1,593) | 45,567 (US\$ 1,593) | 4,693 | 28 | 21,859 (US\$ 764) | (3,839) (US\$ (137)) | Associate |
| | | Washington, U.S.A | Manufacturing, sales and testing of integrated circuits and other semiconductor devices | - | - | 293,637 | 100 | 5,908,265 (US\$ 206,597) | 569,354 (US\$ 20,368) | Subsidiary |

Note 1: The share of profits/losses of investee includes the effect of unrealized gross profit on intercompany transactions.

Note 2: The share of profits/losses of the investee company is not reflected herein as such amount is already included in the share of profits/losses of the investor company.

Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries

**INFORMATION ON INVESTMENT IN MAINLAND CHINA
FOR THE THREE MONTHS ENDED MARCH 31, 2022**

(Amounts in Thousands of New Taiwan Dollars, Unless Specified Otherwise)

| Investee Company | Main Businesses and Products | Total Amount of Paid-in Capital (RMB in Thousands) | Method of Investment | Accumulated Outflow of Investment from January 1, 2022 (US\$ in Thousands) | Investment Flows | | Accumulated Outflow of Investment from March 31, 2022 (US\$ in Thousands) | Net Income (Losses) of the Investee Company | Percentage of Ownership | Share of Profits/Losses | Carrying Amount as of March 31, 2022 | Accumulated Inward Remittance of Earnings as of March 31, 2022 |
|------------------|--|--|----------------------|--|-----------------------------|--------|---|---|-------------------------|--------------------------|--------------------------------------|--|
| | | | | | Outflow (US\$ in Thousands) | Inflow | | | | | | |
| TSMC China | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | \$ 18,939,667 (RMB 4,502,080) | Note 1 | \$ 18,939,667 (US\$ 596,000) | \$ - | \$ - | \$ 18,939,667 (US\$ 596,000) | \$ 2,845,691 | 100% | \$ 2,759,389 (Note 2) | \$ 79,185,015 | \$ - |
| TSMC Nanjing | Manufacturing, sales, testing and computer-aided design of integrated circuits and other semiconductor devices | 30,521,412 (RMB 6,650,119) | Note 1 | 30,521,412 (US\$ 1,000,000) | - | - | 30,521,412 (US\$ 1,000,000) | 4,706,592 | 100% | 4,706,540 (Note 2) | 52,632,839 | - |

| Accumulated Investment in Mainland China as of March 31, 2022 (US\$ in Thousands) | Investment Amounts Authorized by Investment Commission, MOEA (US\$ in Thousands) | Upper Limit on Investment |
|---|--|------------------------------|
| \$ 49,461,079 (US\$ 1,596,000) | \$ 119,412,667 (US\$ 3,596,000) | \$ 1,392,881,252 (Note 3) |

Note 1: TSMC directly invested US\$596,000 thousand in TSMC China and US\$1,000,000 thousands in TSMC Nanjing.

Note 2: Amount was recognized based on the reviewed financial statements.

Note 3: The upper limit on investment in mainland China is determined by sixty percent (60%) of the Company's consolidated net worth.

Taiwan Semiconductor Manufacturing Company Limited
INFORMATION ON MAJOR SHAREHOLDERS
March 31, 2022

| Shareholders (Note) | Shares | |
|---|--------------------|----------------------|
| | Total Shares Owned | Ownership Percentage |
| ADR-Taiwan Semiconductor Manufacturing Company, Ltd. National Development Fund, Executive Yuan | 5,320,495,663 | 20.52% |
| | 1,653,709,980 | 6.38% |

Note: Major shareholders shows the list of all shareholders with ownership of 5 percent or greater.

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