

# SECURITIES AND EXCHANGE COMMISSION

Washington, DC 20549

## FORM 20-F

☐ REGISTRATION STATEMENT PURSUANT TO SECTION 12(b) OR 12(g) OF THE SECURITIES EXCHANGE ACT OF 1934

OR

☒ ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the fiscal year ended December 31, 2002

OR

☐ TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from \_\_\_\_\_ to \_\_\_\_\_

Commission file number 1-14700

台灣積體電路製造股份有限公司

(Exact Name of Registrant as Specified in Its Charter)

Taiwan Semiconductor Manufacturing Company Limited

(Translation of Registrant's Name Into English)

Republic of China

(Jurisdiction of Incorporation or Organization)

No. 8, Li-Hsin Road 6

Science-Based Industrial Park

Hsinchu, Taiwan

Republic of China

(Address of Principal Executive Offices)

Securities registered or to be registered pursuant to Section 12(b) of the Act:

Title of Each Class

Name of Each Exchange  
on Which Registered

Common Shares, par value NT\$10.00 each

The New York Stock Exchange, Inc.\*

Securities registered or to be registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Securities for which there is a reporting obligation pursuant to Section 15(d) of the Act:

None

(Title of Class)

Indicate the number of outstanding shares of each of the issuer's classes of capital or common stock as of the close of the period covered by the annual report.

As of December 31, 2002, 18,622,886,745 Common Shares, par value NT\$10 each were outstanding.

Indicate by check mark whether the registrant: (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark which financial statement item the registrant has elected to follow. Item 17 ☐ Item 18 ☒

\* Not for trading, but only in connection with the listing on the New York Stock Exchange, Inc. of American Depositary Shares representing such Common Shares

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“TSMC” and “tsmc” are our registered trademarks and TSMC-Online and NEXSYS are trademarks used by us.

**CAUTIONARY STATEMENT FOR PURPOSES OF THE “SAFE HARBOR”  
PROVISIONS OF THE PRIVATE SECURITIES LITIGATION REFORM ACT OF 1995**

Except for historical matters, the matters discussed in this Annual Report on Form 20-F are forward-looking statements that are subject to significant risks and uncertainties. Forward-looking statements include, but are not limited to, statements under the following headings: (i) “Item 3. Key Information—Risk Factors”, about expansion plans, dedicated foundry revenues, the foundry segment and certain intellectual property rights; (ii) “Item 4. Information on the Company—Industry Background”, about the expected growth rate of the semiconductor industry and the dedicated foundry segment; (iii) “Item 4. Information on the Company—Our History and Structure”, about expansion plans in Mainland China; (iv) “Item 4. Information on the Company—Our Facilities”, about our capacity expansion plans; (v) “Item 4. Information on the Company—Manufacturing Capacity and Technology”, about commercial production using 90-nanometer technology; (vi) “Item 4. Information on the Company—Capacity Expansion and Technology Upgrade Plans”, about capacity expansion, capital expenditures, technological upgrades and commitments by customers for future capacity; (vii) “Item 4. Information on the Company—Markets and Customers”, about our customer base; (viii) “Item 4. Information on the Company—Research and Development”, about our plans to continue to invest significant amounts on research and development and the qualification of 90-nanometer process technology and the development of 65-nanometer process technology; (ix) “Item 4. Information on the Company—Competition”, about competition from semiconductor manufacturers; (x) “Item 4. Information on the Company—Electricity and Water”, about the Hsinchu Science Park and Tainan Science Park water supply; (xi) “Item 5. Operating and Financial Reviews and Prospects—Results of Operations—Operating Expenses”, about annual research and development expenditures; (xii) “Item 5. Operating and Financial Reviews and Prospects—Year Ended December 31, 2002 Compared to Year Ended December 31, 2001—Income Tax Benefit (Expense)” about additional valuation allowances for tax credits generated in 2003; (xiii) “Item 5. Operating and Financial Reviews and Prospects—Liquidity and Capital Resources” about our depreciation and amortization expenses, capital expenditures and financing project expansion; (xiv) “Item 5. Operating and Financial Reviews and Prospects—Taxation”, about the tax exemption period for Fab 12 (Phase I); (xv) “Item 5. Operating and Financial Reviews and Prospects—US GAAP Reconciliation”, about payment of employee bonuses with common shares; and (xvi) “Item 6. Directors, Senior Management and Employees—Employees”, about our current expectation not to make any additional grants under the employee stock option plan before June 25, 2003; (xvii) “Item 8. Financial Information—Dividends and Dividend Policy”, about the plan to pay future dividends, if any. Please see “Item 3. Key Information—Risk Factors” for a discussion of certain factors that may cause actual results to differ materially from those indicated by our forward-looking statements.

## GLOSSARY OF TECHNICAL TERMS

|                                     |                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ASIC .....                          | Application Specific Integrated Circuit. A custom-designed integrated circuit that performs specific functions that would otherwise require a number of off-the-shelf integrated circuits to perform. The use of an ASIC in place of a standard integrated circuit reduces product size and cost and also improves reliability.  |
| BiCMOS .....                        | Integrated circuit fabrication technology that produces both bipolar transistors and CMOS transistors and combines them on one chip.                                                                                                                                                                                             |
| Cell .....                          | A primary unit that normally repeats many times in an integrated circuit. For example, a cell represents a bit in a memory integrated circuit.                                                                                                                                                                                   |
| CMOS .....                          | Complementary Metal Oxide Silicon. Currently the most common integrated circuit fabrication process technology, CMOS is one of the latest fabrication techniques to use metal oxide semiconductor transistors.                                                                                                                   |
| CVD .....                           | Chemical Vapor Deposition. A process in which gaseous chemicals react on a heated surface to form solid crystalline materials.                                                                                                                                                                                                   |
| Die .....                           | A piece of a semiconductor wafer containing the circuitry of a single chip.                                                                                                                                                                                                                                                      |
| DRAM .....                          | Dynamic Random Access Memory. A type of volatile memory product that is used in electronic systems to store data and program instructions. It is the most common type of RAM and must be refreshed with electricity thousands of times per second or else it will fade away.                                                     |
| DSP .....                           | Digital Signal Processor. A type of integrated circuit that processes and manipulates digital information after it has been converted from an analog source.                                                                                                                                                                     |
| EPROM .....                         | Erasable Programmable Read-Only Memory. A form of PROM that can be erasable using ultraviolet light, so that it can be reprogrammed.                                                                                                                                                                                             |
| Fabless semiconductor company ..... | A class of semiconductor company that designs, tests, markets and sells semiconductors, but subcontracts wafer manufacturing to silicon wafer manufacturers.                                                                                                                                                                     |
| Flash memory .....                  | A type of non-volatile memory, similar to an electrically EPROM in that it is erasable and reprogrammable. The difference is that it can be erased and reprogrammed in the electronic system into which the flash memory chip has been incorporated.                                                                             |
| Integrated circuit ....             | A combination of two or more transistors on a base material, usually silicon. All semiconductor chips, including memory chips and logic chips, are just very complicated integrated circuits with thousands of transistors.                                                                                                      |
| Logic device .....                  | A device that contains digital integrated circuits that process, rather than store, information.                                                                                                                                                                                                                                 |
| Mask .....                          | A piece of glass on which an integrated circuit's circuitry design is laid out. Integrated circuits may require up to 20 different layers of design, each with its own mask. In the integrated circuit production process, a light shines through the mask leaving an image of the design on the wafer. Also known as a reticle. |
| Memory .....                        | A group of integrated circuits that a computer uses to store data and programs, such as ROM, RAM, DRAM and SRAM.                                                                                                                                                                                                                 |

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Micron .....             | 1/25,000 of an inch. Circuitry on an integrated circuit typically follows lines that are less than one micron wide.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| MOS .....                | A device which consists of three layers (metal, oxide and semiconductors) and operates as a transistor.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Nonvolatile memory ..... | Memory products which retain their data content without the need for constant power supply.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Reticle .....            | See “Mask” herein.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| RISC .....               | Reduced Instruction Set Computing. A type of processor architecture that processes programs more quickly than conventional micro processors because it uses a smaller, faster, less complex set of instructions.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| Scanner .....            | A machine used in the photolithography process in making wafers. A scanner, like a conventional stepper, aligns a small portion of the wafer with the mask upon which the circuitry design is laid out and exposes that portion of the wafer to a laser beam, transferring the circuit design on to the wafer. The machine then steps to the next area, repeating the process until the entire wafer has been completed. Exposing only a small area of a wafer at a time allows the laser to focus more intensely, which improves the resolution of the circuitry design. A scanner also combines this stepper technology with a photoscanning method that permits the exposure of a larger segment of the wafer than a stepper. |
| Semiconductor .....      | A material with electrical conducting properties in between those of metals and insulators. (Metals always conduct and insulators never conduct, but semiconductors sometimes conduct.) Essentially, semiconductors transmit electricity only under certain circumstances, such as when given a positive or negative electric charge. Therefore, a semiconductor’s ability to conduct can be turned on or off by manipulating those charges and this allows the semiconductor material to act as an electric switch. The most common semiconductor material is silicon, used as the base of most semiconductor chips today because it is relatively inexpensive and easy to create.                                              |
| SRAM .....               | Static Random Access Memory. A type of volatile memory product that is used in electronic systems to store data and program instructions. Unlike the more common DRAM, it does not need to be refreshed.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Stepper .....            | A machine used in the photolithography process in making wafers. A stepper aligns a small portion of the wafer with the mask upon which the circuitry design is laid out and then exposes that portion of the wafer to a laser beam, transferring the circuit design on to the wafer. The machine then “steps” to the next area, repeating the process until the entire wafer has been completed. Exposing only a small area of a wafer at a time allows the laser to focus more intensely, which improves the resolution of the circuitry design.                                                                                                                                                                               |
| Transistor .....         | An individual circuit that can amplify or switch electric current. This is the building block of all integrated circuits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Volatile memory .....    | Memory products which lose their data content when the power supply is switched off.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Wafer .....              | A thin, round, flat piece of silicon that is the base of most integrated circuits.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

## PART I

### Item 1. Identity of Directors, Senior Management and Advisors

Not applicable.

### Item 2. Offer Statistics and Expected Timetable

Not applicable.

### Item 3. Key Information

#### Selected Financial Data

The selected income statement data and cash flow data for the years ended December 31, 2000, 2001 and 2002, and the selected balance sheet data as of December 31, 2001 and 2002, 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 consolidated financial statements, including the notes to these consolidated financial statements. These financial statements have been audited by T N Soong & Co., previously a member firm of Andersen Worldwide, SC, and from April 22, 2002, an associate member firm of Deloitte Touche Tohmatsu. On June 1, 2003, TN Soong & Co. and Deloitte & Touche Taiwan combined to establish a new Deloitte & Touche. The selected income statement data and cash flow data for the years ended December 31, 1998 and 1999 and the selected balance sheet data as of December 31, 1998, 1999 and 2000, set forth below, are derived from our audited consolidated financial statements not included herein. The consolidated financial statements have been prepared and presented in accordance with the Republic of China (ROC) GAAP, which differ in some material respects from US GAAP. Please see note 27 to our consolidated financial statements for a description of the principal differences between ROC GAAP and US GAAP for the periods covered by these financial statements.

|                                                                                           | Year ended and as of December 31, |          |           |           |           |         |
|-------------------------------------------------------------------------------------------|-----------------------------------|----------|-----------|-----------|-----------|---------|
|                                                                                           | 1998                              | 1999     | 2000      | 2001      | 2002      | 2002    |
|                                                                                           | NT\$                              | NT\$     | NT\$      | NT\$      | NT\$      | US\$    |
| (in millions, except for percentages, earnings per share and per ADS, and operating data) |                                   |          |           |           |           |         |
| <b>Income Statement Data:</b>                                                             |                                   |          |           |           |           |         |
| <b>ROC GAAP</b>                                                                           |                                   |          |           |           |           |         |
| Net sales .....                                                                           | 50,524                            | 76,305   | 166,198   | 125,885   | 162,301   | 4,677   |
| Cost of sales(1) .....                                                                    | (33,009)                          | (45,212) | (87,610)  | (92,228)  | (109,988) | (3,170) |
| Gross profit(1) .....                                                                     | 17,515                            | 31,093   | 78,588    | 33,657    | 52,313    | 1,507   |
| Operating expenses(1) .....                                                               | (5,210)                           | (8,823)  | (17,293)  | (20,879)  | (20,724)  | (597)   |
| Income from operations .....                                                              | 12,305                            | 22,270   | 61,295    | 12,778    | 31,589    | 910     |
| Non-operating income .....                                                                | 1,977                             | 1,619    | 6,120     | 6,476     | 2,419     | 70      |
| Non-operating expenses .....                                                              | (3,227)                           | (3,261)  | (3,513)   | (8,467)   | (6,786)   | (196)   |
| Income before income taxes .....                                                          | 11,055                            | 20,628   | 63,902    | 10,787    | 27,222    | 784     |
| Income tax (expense) benefit .....                                                        | 2,318                             | 2,383    | 1,167     | 3,740     | (5,637)   | (162)   |
| Net income before minority interest .....                                                 | 13,373                            | 23,011   | 65,069    | 14,527    | 21,585    | 622     |
| Minority interest in loss (income) of subsidiary .....                                    | 1,016                             | 516      | 37        | (44)      | 25        | 1       |
| Net income .....                                                                          | 14,389                            | 23,527   | 65,106    | 14,483    | 21,610    | 623     |
| Earnings per share(2) .....                                                               | 0.92                              | 1.50     | 3.58      | 0.75      | 1.14      | 0.03    |
| Earnings per ADS equivalent .....                                                         | 4.59                              | 7.49     | 17.92     | 3.75      | 5.70      | 0.16    |
| Average shares outstanding(2) .....                                                       | 15,663                            | 15,713   | 18,163    | 18,623    | 18,581    | 18,581  |
| <b>US GAAP</b>                                                                            |                                   |          |           |           |           |         |
| Net sales .....                                                                           | 50,524                            | 76,305   | 166,860   | 127,242   | 162,990   | 4,697   |
| Cost of sales .....                                                                       | (41,200)                          | (52,163) | (105,359) | (107,194) | (115,374) | (3,325) |
| Operating expense .....                                                                   | (9,525)                           | (12,310) | (44,472)  | (41,712)  | (20,764)  | (598)   |

|                                                                | Year ended and as of December 31,                                                         |          |           |          |          |         |
|----------------------------------------------------------------|-------------------------------------------------------------------------------------------|----------|-----------|----------|----------|---------|
|                                                                | 1998                                                                                      | 1999     | 2000      | 2001     | 2002     | 2002    |
|                                                                | NT\$                                                                                      | NT\$     | NT\$      | NT\$     | NT\$     | US\$    |
|                                                                | (in millions, except for percentages, earnings per share and per ADS, and operating data) |          |           |          |          |         |
| Income (loss) from operations . . . . .                        | (201)                                                                                     | 11,833   | 17,029    | (21,664) | 26,852   | 774     |
| Income (loss) before income taxes . . . . .                    | (2,082)                                                                                   | 10,986   | 20,537    | (25,672) | 20,210   | 582     |
| Income tax (expense) benefit . . . . .                         | 2,316                                                                                     | 2,383    | 1,166     | 3,741    | (5,638)  | (162)   |
| Net income (loss) . . . . .                                    | 1,249                                                                                     | 13,884   | 21,740    | (21,975) | 14,534   | 419     |
| Cumulative preferred dividends . . . . .                       | —                                                                                         | —        | —         | (455)    | (455)    | (13)    |
| Income (loss) attributable to common<br>shareholders . . . . . | 1,249                                                                                     | 13,884   | 21,740    | (22,430) | 14,079   | 406     |
| Average shares outstanding(3) . . . . .                        | 15,599                                                                                    | 15,674   | 17,445    | 18,281   | 18,543   | 18,543  |
| Earnings per share(3) . . . . .                                | 0.08                                                                                      | 0.89     | 1.25      | (1.23)   | 0.76     | 0.02    |
| Earnings per ADS equivalent . . . . .                          | 0.40                                                                                      | 4.43     | 6.23      | (6.13)   | 3.79     | 0.10    |
| <b>Balance Sheet Data:</b>                                     |                                                                                           |          |           |          |          |         |
| <b>ROC GAAP</b>                                                |                                                                                           |          |           |          |          |         |
| Working capital . . . . .                                      | 15,926                                                                                    | 33,267   | 44,920    | 37,472   | 62,175   | 1,792   |
| Long-term equity investments . . . . .                         | 6,659                                                                                     | 16,165   | 10,664    | 11,599   | 10,635   | 306     |
| Properties . . . . .                                           | 118,353                                                                                   | 150,060  | 244,748   | 251,288  | 246,498  | 7,104   |
| Goodwill . . . . .                                             | —                                                                                         | —        | 11,531    | 11,438   | 10,159   | 293     |
| Total assets . . . . .                                         | 165,461                                                                                   | 235,436  | 370,886   | 366,518  | 390,542  | 11,255  |
| Long-term bank borrowing(4) . . . . .                          | 14,630                                                                                    | 22,744   | 23,339    | 22,399   | 11,051   | 318     |
| Long-term debt payable . . . . .                               | 22,632                                                                                    | 20,000   | 29,000    | 24,000   | 35,000   | 1,009   |
| Guaranty deposit-in and other liabilities . . . . .            | 6,957                                                                                     | 6,207    | 9,046     | 9,479    | 8,181    | 236     |
| Minority interest equity . . . . .                             | 9,701                                                                                     | 7,524    | 322       | 120      | 95       | 3.0     |
| Total liabilities . . . . .                                    | 59,474                                                                                    | 75,341   | 108,811   | 89,207   | 94,594   | 2,726   |
| Capital Stock . . . . .                                        | 66,472                                                                                    | 85,209   | 129,894   | 181,326  | 199,229  | 5,741   |
| Cash Dividend on common shares . . . . .                       | 0                                                                                         | 0        | 0         | 0        | 0        | 0       |
| Shareholders' equity . . . . .                                 | 96,285                                                                                    | 152,571  | 261,754   | 277,190  | 295,853  | 8,526   |
| <b>US GAAP</b>                                                 |                                                                                           |          |           |          |          |         |
| Goodwill . . . . .                                             | —                                                                                         | —        | 58,348    | 47,464   | 47,476   | 1,368   |
| Total assets . . . . .                                         | 164,784                                                                                   | 236,859  | 407,830   | 393,990  | 420,528  | 12,119  |
| Total liabilities . . . . .                                    | 70,491                                                                                    | 84,882   | 114,884   | 91,419   | 96,747   | 2,788   |
| Mandatory redeemable preferred stock . . . . .                 | —                                                                                         | —        | 13,000    | 13,000   | 13,000   | 375     |
| Shareholders' equity . . . . .                                 | 94,293                                                                                    | 151,977  | 279,946   | 289,450  | 310,623  | 8,952   |
| <b>Other Financial Data:</b>                                   |                                                                                           |          |           |          |          |         |
| <b>ROC GAAP</b>                                                |                                                                                           |          |           |          |          |         |
| Gross margin . . . . .                                         | 35%                                                                                       | 41%      | 47%       | 27%      | 32%      | 32%     |
| Operating margin . . . . .                                     | 24%                                                                                       | 29%      | 37%       | 10%      | 19%      | 19%     |
| Net margin . . . . .                                           | 28%                                                                                       | 31%      | 39%       | 12%      | 13%      | 13%     |
| Capital expenditures . . . . .                                 | 55,781                                                                                    | 51,459   | 103,762   | 70,201   | 55,236   | 1,592   |
| Depreciation and amortization . . . . .                        | 15,522                                                                                    | 25,198   | 41,446    | 55,323   | 65,001   | 1,873   |
| Cash provided by operating activities . . . . .                | 30,255                                                                                    | 40,253   | 94,786    | 75,818   | 98,507   | 2,839   |
| Cash used in investing activities . . . . .                    | (57,436)                                                                                  | (60,952) | (120,949) | (77,232) | (62,190) | (1,792) |
| Cash provided by (used in) financing activities . . . . .      | 16,855                                                                                    | 39,518   | 35,366    | 897      | (6,346)  | 183     |
| Net cash flow . . . . .                                        | (10,984)                                                                                  | 18,646   | 9,323     | (1,284)  | 30,234   | 871     |
| <b>Operating Data:</b>                                         |                                                                                           |          |           |          |          |         |
| Wafers sold(5) . . . . .                                       | 1,184                                                                                     | 1,826    | 3,408     | 2,159    | 2,675    | 2,675   |
| Average utilization rate . . . . .                             | 74%                                                                                       | 97%      | 106%      | 51%      | 73%      | 73%     |

(1) Amounts in 1999 and 2000 reflect the reclassification of NT\$1,025 million in 1999 and NT\$2,072 million in 2000 from cost of sales to research and development.

- (2) Retroactively adjusted for all subsequent stock dividends and employee stock bonuses.
- (3) Retroactively adjusted for all subsequent stock dividends.
- (4) Excludes debt securities.
- (5) In thousands.

## Exchange Rates

We publish our financial statements in New Taiwan dollars, the lawful currency of the ROC. In this annual report, “\$”, “US\$” and “U.S. dollars” mean United States dollars, and “NT\$” and “NT dollars” mean New Taiwan dollars. This annual report contains translations of certain NT dollar amounts into U.S. dollars at specified rates solely for the convenience of the reader. Unless otherwise noted, all translations from NT dollars to U.S. dollars and from U.S. dollars to NT dollars were made at the noon buying rate in The City of New York for cable transfers in NT dollars per U.S. dollar as certified for customs purposes by the Federal Reserve Bank of New York as of December 31, 2002, which was NT\$34.70 to US\$1.00 on that date. On June 12, 2003, the noon buying rate was NT\$34.70 to US\$1.00.

Fluctuations in the exchange rate between NT dollars and U.S. dollars will affect the U.S. dollar equivalent of the NT dollar price of our common shares on the Taiwan Stock Exchange and, as a result, will likely affect the market price of our American Depositary Shares (“ADSs”). These fluctuations will also affect the U.S. dollar conversion by the depositary of any cash dividends paid in NT dollars on, and the NT dollar proceeds received by the depositary from any sale of common shares represented by ADSs, in each case according to the terms of the deposit agreement.

The following table sets forth, for the fiscal years indicated, information concerning the number of NT dollars for which one U.S. dollar could be exchanged based on the noon buying rate for cable transfers in NT dollars as certified for customs purposes by the Federal Reserve Bank of New York.

|                                    | NT dollars per U.S. dollar<br>Noon buying rate |           |           |            |
|------------------------------------|------------------------------------------------|-----------|-----------|------------|
|                                    | Average(1)                                     | High      | Low       | Period-End |
| 1998 .....                         | NT\$33.54                                      | NT\$35.00 | NT\$32.05 | NT\$32.27  |
| 1999 .....                         | 32.28                                          | 33.40     | 31.39     | 31.39      |
| 2000 .....                         | 31.40                                          | 33.20     | 30.48     | 33.17      |
| 2001 .....                         | 33.82                                          | 35.13     | 32.23     | 35.00      |
| 2002 .....                         | 34.53                                          | 35.16     | 32.85     | 34.70      |
| December 2002 .....                | 34.80                                          | 34.84     | 34.70     | 34.70      |
| January 2003 .....                 | 34.57                                          | 34.76     | 34.40     | 34.61      |
| February 2003 .....                | 34.73                                          | 34.82     | 34.61     | 34.78      |
| March 2003 .....                   | 34.72                                          | 34.80     | 34.58     | 34.75      |
| April 2003 .....                   | 34.82                                          | 34.98     | 34.79     | 34.85      |
| May 2003 .....                     | 34.70                                          | 34.85     | 34.60     | 34.71      |
| June (through June 12, 2003) ..... | 34.69                                          | 34.70     | 34.68     | 34.70      |

(1) Annual averages calculated from month-end rates.

Sources: Federal Reserve Statistical Release H.10(512), 1998-2003, Board of Governors of the Federal Reserve System.

No representation is made that the NT dollar or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or NT dollars, as the case may be, at any particular rate or at all.

## Risk Factors

We wish to caution readers that the following important factors, and those important factors described in other reports submitted to, or filed with, the Securities and Exchange Commission, among other factors, could

affect our actual results and could cause our actual results to differ materially from those expressed in any forward-looking statements made by us or on our behalf:

### **Risks Relating to Our Business**

***Since we are dependent on the highly cyclical semiconductor and microelectronics industries, which have experienced significant and sometimes prolonged downturns, our revenues, earnings and margins may fluctuate significantly.***

Our semiconductor foundry business is affected by market conditions in the highly cyclical semiconductor and microelectronics industries. Most of our customers operate in these industries. Variations in order levels from our customers result in volatility in our revenues and earnings. From time to time, the semiconductor and microelectronics industries have experienced significant, and sometimes prolonged, downturns. Because our business is, and will continue to be, dependent on the requirements of semiconductor and microelectronics companies for our services, downturns in the semiconductor and microelectronics industries lead to reduced demand for our services. For example, a worldwide slowdown in demand for semiconductor devices in 1998 led to surpluses in capacity and price declines which accelerated rapidly and negatively affected our operating results in 1998. Starting in the first quarter of 2001, the semiconductor and microelectronics industries experienced significant downturns due to a number of factors including a slowdown in the global economy, oversupply in the microelectronics industry, overcapacity in the semiconductor industry and a worldwide inventory adjustment. Due to the significant downturns in the two industries most, if not all, of the integrated device manufacturers that had previously begun purchasing wafer fabrication services from foundry companies reduced purchases from foundry companies. If we cannot take appropriate actions such as reducing our costs to sufficiently offset declines in demand, our revenues and earnings will suffer during downturns. As a result of the 2001 downturn in the semiconductor and microelectronics industries, our net sales and net income for 2001 were 24.3% and 77.8%, respectively, less than the corresponding amounts in 2000. Although the semiconductor and microelectronics industries have recovered to some extent from the 2001 downturn and our net sales and net income for 2002 increased from the corresponding amounts in 2001, we cannot give any assurances that the recovery will continue and if so, for how long.

***Overcapacity in the semiconductor industry may reduce our revenues, earnings and margins.***

The prices that we can charge our customers for our services are significantly related to the overall worldwide supply of integrated circuits and semiconductor products. The overall supply of semiconductor products is based in part on the capacity of other companies, which is outside of our control. Historically, companies in the semiconductor industry have expanded aggressively during periods of increased demand such as was the case in 2000. As a result, periods of overcapacity in the semiconductor industry have frequently followed periods of increased demand. In a period of overcapacity, if we are unable to offset the adverse effects of overcapacity through, among other things, our technology and product mix, we may have to lower the prices we charge our customers for our services and/or we may have to operate at significantly less than full capacity. Such actions could reduce our margin and weaken our financial condition and results of operations. Due to the decreased annualized demand for semiconductors in 2001 and 2002, our average capacity utilization rate decreased to 51% during 2001 and 73% during 2002 as compared with 106% during 2000.

***Decreases in demand and average selling price for end-use applications of semiconductor products may adversely affect demand for our products and may result in a decrease in our revenues and earnings.***

A vast majority of our sales revenue is derived from customers who use our products in personal computers, communications devices and consumer electronics. Any significant decrease in the demand for end-use applications of our products may decrease the demand for our products and may result in a decrease in our revenues and earnings. In addition, the historical and continuing trend of declining average selling prices of end-use applications places pressure on the prices of the components that go into these end-use applications. If the

average selling prices of end-use applications continue to decrease, the pricing pressure on components produced by us may lead to a reduction of our revenue. If all these events occur at the same time, it could have an adverse effect on our revenues and earnings.

***If we are unable to compete effectively in the highly competitive foundry segment of the semiconductor industry, we may lose customers and our profit margin and earnings may decrease.***

The markets for our foundry services are highly competitive both in Taiwan and internationally. We compete with other dedicated foundry service providers, as well as integrated device manufacturers. Some of these companies may have access to more advanced technologies and greater financial and other resources than we do. As a result, these companies may be able to compete more aggressively than we could. Moreover, many integrated device manufacturers from time to time allocate a portion of their capacity to contract production of integrated circuits for others, which brings them in direct competition with us. In addition, a number of dedicated foundry service providers have been expanding and we are facing increased competition from them. Increases in competition may decrease our average selling prices, erode our profit margin and weaken our earnings.

***If we are unable to remain a technological leader in the semiconductor industry, we may become less competitive and less profitable.***

The semiconductor industry and the technologies used are constantly changing. If we do not anticipate these changes in technologies and rapidly develop new and innovative technologies, we may not be able to provide advanced foundry services on competitive terms. If we are unable to maintain the ability to provide advanced foundry services on competitive terms, some of our customers may buy products from our competitors instead of us. As a result, we expect that we will need to offer, on an ongoing basis, increasingly advanced and cost-effective foundry technologies and processes prior to these technologies and processes being offered by our competitors in order to continue to satisfy the increasing requirements of some of our customers. For example, if we are unable on a timely basis to begin offering on a competitive basis commercial production of 90-nanometer semiconductors with all copper interconnects, we may lose to competitors providing advanced technologies certain customers requiring such technologies. In addition, advances in technology typically lead to declining average selling prices for older technologies or processes. As a result, if we cannot reduce the costs associated with using older technologies, the profitability of a given product may decrease over time. If we fail to achieve advances in technology or processes or to obtain access to advanced technologies or processes developed by others, we may become less competitive and less profitable.

***If we are unable to manage our expansion and modification of our production facilities effectively, our growth prospects may be limited and our future profitability may be affected.***

We have recently been ramping up production at Fab 6 in the Tainan Science-Based Industrial Park (Tainan Science Park), our joint venture fab, Systems on Silicon in Singapore and our first twelve-inch wafer fab, Fab 12 (Phase I), in the Hsinchu Science-Based Industrial Park (Hsinchu Science Park). We have also recently completed the exterior construction of Fab 14 (Phase I), another twelve-inch fab, in the Tainan Science Park. We are currently monitoring market conditions to determine the appropriate time to move in equipment and commence production at Fab 14 (Phase I).

Since few companies have commenced production operations in the Tainan Science Park, the adequacy of the general infrastructure in the Tainan Science Park when it is fully occupied is uncertain. The failure in the electrical or water systems in the park, for example, would severely hamper the operations of our new fab. Although we have studied the potential effects of vibration from the high speed railway currently planned to pass through the Tainan Science Park and believe that the vibrations will not affect our yield rate for production in the Tainan Science Park, we can give no assurances that our yield will not be negatively affected after the high-speed railway has commenced operation.

Expansion and modification of our production facilities will increase our costs. We will need to purchase additional equipment, train personnel to operate the new equipment or hire additional personnel. We will need to increase our net sales accordingly in order to offset these higher costs. If our customers do not correspondingly increase their purchase of our products and services, our financial performance will be adversely affected.

***We may not be able to implement our planned growth or development if we are unable to accurately forecast and sufficiently meet our future capital requirements.***

Our capital requirements are difficult to plan in the highly cyclical and rapidly changing semiconductor industry. We will need capital to fund the expansion and modification of our facilities. Future acquisitions or mergers or other developments may also cause us to require additional funds. Our ability to obtain external financing in the future is subject to a variety of uncertainties, including:

- our future financial condition, results of operations and cash flows;
- general market conditions for financing activities by semiconductor companies; and
- economic, political and other conditions in Taiwan and elsewhere.

Therefore, sufficient external financing may not be available to us on a timely basis, on acceptable terms or at all. As a result, we may be forced to curtail our expansion and modification plans or delay the deployment of our services, thereby possibly becoming less competitive, which could result in a loss of customers and limit the growth of our business.

***Our business could suffer if we are unable to retain and recruit qualified personnel.***

We depend on the continued services of our executive officers and skilled technical and other personnel. Our business could suffer if we lose the services of some of these personnel and we cannot adequately replace them. We will be required to increase the number of employees due to our expansion. We seek to recruit highly qualified personnel and there is intense competition for the services of these personnel in the semiconductor industry. We may not be able to either retain our present personnel or attract additional qualified personnel as and when needed. We expect competition for personnel to increase significantly in the future as new fabless semiconductor companies as well as new semiconductor manufacturing facilities are established. We may need to increase employee compensation levels in order to retain our existing officers and employees and attract and retain the additional personnel that we expect to require.

***We may be unable to obtain in a timely manner and at a reasonable cost the equipment necessary for us to remain competitive and we may become less profitable.***

The semiconductor manufacturing business is capital intensive and requires investment in expensive equipment manufactured by a limited number of suppliers. The market for equipment used in semiconductor foundries is characterized, from time to time, by intense demand, limited supply and long delivery cycles. Our operations and expansion plans depend on our ability to obtain a significant amount of equipment from a limited number of suppliers. During times of significant demand for this type of equipment, lead times for delivery can be as long as four to ten months or more. As a result, we may be exposed to risks relating to the shortage of required or desired equipment. Shortages of equipment could result in an increase in their prices and longer delivery times. In addition, the expansion and modification of fabs by us and other semiconductor companies may put additional pressure on the supply of equipment. If we are unable to obtain equipment in a timely manner and at a reasonable cost, we may be unable to fulfill our customers' orders, which could negatively impact our financial condition and results of operations and cause our profit to decrease.

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

Our production operations require that we obtain adequate supplies of raw materials, such as silicon wafers, gases and chemicals, and photoresistors, on a timely basis. Shortages in the supply of some materials experienced

by the semiconductor industry have in the past resulted in occasional price adjustments and delivery delays. We may not, at certain times, be able to obtain adequate supplies of raw materials in a timely manner and at reasonable prices. Our revenue and earnings could decline if we are unable to obtain adequate supplies of high quality raw materials in a timely manner or if there are significant increases in the costs of raw materials that we could not pass on to our customers.

***Our production may be interrupted if we do not have access to sufficient amounts of fresh water.***

The semiconductor manufacturing process uses extensive amounts of fresh water. Due to the growth in semiconductor manufacturing capacity in Hsinchu Science Park and Tainan Science Park, the requirements for fresh water in these industrial parks has grown substantially. In 1997, the ROC government constructed a new pipeline in the Hsinchu Science Park to provide companies located there with an additional source of fresh water. In 1997, the ROC government also commenced planning the construction of a fresh water reservoir near Hsinchu Science Park that is expected to satisfy the expected fresh water demands of the Hsinchu region and the Hsinchu Science Park through the year 2021. The construction of the reservoir is expected to be completed in June 2005. Taiwan experiences droughts from time to time. In 2002, Taiwan experienced the worst drought in decades. Although the situation has improved and we have not been adversely affected as a result of previous droughts, until additional water resources are made available on a committed basis, the Hsinchu Science Park may encounter insufficient water supplies. Previous droughts have not, however, impacted the water supplies to the Tainan Science Park. In 2003, there will be a new pipeline constructed to connect reservoirs in Tainan and Kaohsiung to provide additional water supplies to the Tainan Science Park. If there is insufficient water to satisfy our requirements, we may need to reduce our semiconductor production.

***The loss of our coverage under certain Philips' cross-license arrangements may require us to incur additional expenses to acquire alternative intellectual property rights.***

We are the beneficiary of patent cross-licensing arrangements between Koninklijke Philips Electronics N.V. and other microelectronics companies. Under the TSMC-Philips Technology Cooperation Agreement ("TCA"), Philips is required to maintain a specified minimum license coverage for our benefit with respect to these cross-licensing agreements. Two of these agreements have expired but are being renegotiated by Philips presently. License rights under several other agreements may either terminate or become limited as to scope in the event that Philips' equity ownership falls below a certain percentage generally ranging from 12.5% to 25% and Philips is unable to renegotiate the licenses. In November 2000, Philips purchased from us 1,299,925,653 Preferred A shares, par value NT\$10 per share, which were redeemed at par in accordance with their terms on May 29, 2003. As of May 29, 2003, following the redemption by us of the Preferred A shares, Philips, together with its subsidiaries, owned in the aggregate a 21.72% equity interest in us. If we lose certain licensed rights under these arrangements and Philips is not able to renew the licenses, we may not be able to obtain similar licenses without significant expenses. If we are unable to receive any necessary licenses we may need to consider other alternatives including the possible design around of certain of our processes. In the event that Philips is unable to renegotiate the licenses or to provide TSMC with new licenses, then certain terms and conditions of the existing TCA may need to be renegotiated, including the amount of royalty payments to be paid to Philips.

***Any inability to obtain, preserve and defend our intellectual property rights could harm our competitive position.***

Our ability to compete successfully and to achieve future growth will depend, in part, on our ability to protect our proprietary technologies and to secure on commercially reasonable terms certain technologies that we do not own. We cannot ensure that we will be able to independently develop, or secure from any third party, all of the technologies required for upgrading our production capabilities. Our failure to successfully obtain such technologies may seriously harm our competitive position.

Our ability to compete successfully also depends on our ability to operate without infringing the intellectual property rights of others. We have no means of knowing what patent applications have been filed in the

United States or other jurisdictions until they are granted. Because of the complexity of the technologies used and the multitude of patents, copyrights and other overlapping intellectual property rights, it is often difficult for semiconductor companies to determine infringement. Therefore, the semiconductor industry is characterized by frequent litigation regarding patent, trade secret and other intellectual property rights. We have received, from time-to-time, communications from third parties asserting that our technologies, manufacturing processes, the design of the integrated circuits made by us or the use by our customers of semiconductors made by us may infringe their patents or other intellectual property rights. And, because of the nature of the industry, we may continue to receive such communications in the future. In some instances, these disputes have resulted in litigation. In the event any third party were to assert infringement claims against us or our customers, we may have to consider alternatives including, but not limited to:

- Negotiating cross-license agreements using the strength of our patent portfolio to offset any financial costs;
- seeking to acquire licenses to the allegedly infringed patents, which may not be available on commercially reasonable terms, if at all;
- discontinuing using certain process technologies, which could cause us to stop manufacturing certain semiconductors if we were unable to design around the allegedly infringed patents;
- fighting the matter in court and paying substantial monetary damages in the event we were to lose; or
- seeking to develop non-infringing technologies, which may not be feasible.

Any one or several of these developments could place substantial financial and administrative burdens on us and hinder our business. Litigation may also be necessary to enforce our patents or other intellectual property rights. If we fail to obtain certain licenses and if litigation relating to alleged patent infringement or other intellectual property matters occurs, it could prevent us from manufacturing particular products or applying particular technologies, which could reduce our opportunities to generate revenues. See “Item 8. Financial Information—Legal Proceedings” for a further discussion.

***If our major shareholders use the majority of our production capacity, we will not be able to service our other customers.***

According to our agreement with the Industrial Technology Research Institute of Taiwan, or ITRI, the Ministry of Economic Affairs of the ROC, or an entity designated by the Ministry of Economic Affairs, has an option to purchase up to 35% of our capacity. In addition, if Philips and its affiliates own at least 24.8% of our equity interest, Philips would have an option to require us to sell to Philips 30% of our production capacity. As of May 29, 2003, following the redemption by us of the Preferred A shares, Philips, together with its subsidiaries, owned in the aggregate a 21.72% equity interest in us. If the Ministry of Economic Affairs, or the entity designated by the Ministry of Economic Affairs, exercises its option to any significant degree, or if Philips and its affiliates increase their ownership in us to at least 24.8% of our equity interest and Philips then exercises its option to any significant degree, we may not be able to provide services to all of our other customers unless we are able to increase our capacity accordingly and in a timely manner. Although the Ministry of Economic Affairs has never exercised its option and Philips, during the time when its ownership in us exceeded 24.8% of our equity interest, placed orders with us without recourse to its capacity option, any significant exercise of these options could damage our relationship with our other customers when demand for our services is strong and may encourage them to purchase more products from our competitors in the future.

***We are subject to the risk of loss due to explosion and fire because the materials we use in our manufacturing processes are highly flammable.***

We use highly flammable materials such as silane and hydrogen in our manufacturing processes and are therefore subject to the risk of loss arising from explosion and fire. The risk of explosion and fire associated with

these materials cannot be completely eliminated. Semiconductor companies experience explosion and fire damage from time to time. Although we maintain comprehensive fire insurance up to policy limits, including insurance for loss of property and loss of profit resulting from business interruption, our insurance coverage may not be sufficient to cover all of our potential losses. If any of our fabs were to be damaged or cease operations as a result of an explosion and fire, it would reduce our manufacturing capacity, reduce our revenues and profits and may cause us to lose important customers.

***Any impairment charges required under US GAAP may have a material adverse effect on our net income on a US GAAP reconciled basis.***

Under currently effective US GAAP, we are required to evaluate our equipment, goodwill and other long-lived assets for impairment whenever there is an indication of impairment. If certain criteria are met, we are required to record an impairment charge. We can give no assurance that impairment charges will not be required in periods subsequent to December 31, 2002. Please see note 27.e. to our consolidated financial statements for a discussion of the criteria which, if met, may require impairment charges.

As a result of new standards under US GAAP that became effective on January 1, 2002, we are no longer permitted to amortize the remaining goodwill. Goodwill amortization expenses amounted to NT\$12,051 million under US GAAP for the year ended December 31, 2001. Starting from January 2002, all goodwill must be periodically tested for impairment. As of December 31, 2002, we had NT\$47,476 million recorded as goodwill under US GAAP and we found no impairment as of that date. We currently are not able to estimate the extent and timing of any goodwill impairment charge for future years. Any goodwill impairment charge required under US GAAP may have a material adverse effect on our net income for subsequent periods on a US GAAP reconciled basis. Please see note 28.a. to our consolidated financial statements for a discussion of the new standard under US GAAP.

The determination of an impairment charge at any given time is based significantly on our expected results of operations over a number of years subsequent to that time. As a result, an impairment charge is more likely to occur during a period when our operating results are otherwise already depressed.

***Any significant decrease in sales to one or more of our major customers may decrease our net sales and net income.***

The degree to which our sales are concentrated among a limited number of customers is a function of the foundry outsourcing activities of the respective customers in a given fiscal year. Certain of our customers deal with us on the basis as their sole foundry service provider. As we have over half of the market share of the dedicated foundry segment business, our sales concentration is often a reflection of the business activities of a cross section of the semiconductor industry that depend on foundry for wafer outsourcing. Our top ten customers have changed from time to time. In 2001 and 2002, our ten largest customers accounted for approximately 49% and 57% of our net sales, respectively. The increased sales contribution by our top ten customers in 2002 reflected the fact that the selected few customers experienced higher foundry outsourcing business activities than the rest of the customers. Although our top ten customers still accounted for 56% of our net sales in the first quarter of 2003, we believe that our customer base has become more diversified given the changing composition of the top ten customers and a relatively more balanced sales contribution by various customers. While we believe our customer base is strong and diversified, the fact that a relatively limited number of customers constitute a significant portion of our revenue may remain as a business characteristic inherent to our extensive presence in the dedicated foundry segment of the semiconductor market. Our largest customer in 2001 and 2002, NVIDIA Corporation, accounted for approximately 17% of our net sales in 2001 and 20% of our net sales in 2002. In March 2003, NVIDIA announced that it has awarded a long-term contract relating to the production of its latest graphics chips to International Business Machines Corp. NVIDIA simultaneously stated that TSMC would remain its primary foundry partner. There is no assurance that there will not be any loss or cancellation of

business from NVIDIA, or from any of our other major customers, in the future. Loss or cancellation of business from our most significant customers, should there be any, could significantly reduce our net sales and net income.

## **Risks Relating to the ROC**

***Relations between the Republic of China and the People's Republic of China could negatively affect our business and the market value of your investment.***

Our principal executive offices and our principal production facilities are located in Taiwan and a substantial majority of our net revenues are derived from our operations in Taiwan. The Republic of China has a unique international political status. The People's Republic of China does not recognize the sovereignty of the Republic of China. Although significant economic and cultural relations have been established during recent years between the Republic of China and the People's Republic of China, relations have often been strained. The government of the People's Republic of China has indicated that it may use military force to gain control over Taiwan in some circumstances, such as a declaration of independence by Taiwan, or foreign power interference in Taiwanese affairs. Past developments in relations between the Republic of China and the People's Republic of China have on occasion depressed the market prices of the securities of Taiwanese companies, including our own. Relations between the Republic of China and the People's Republic of China and other factors affecting military, political or economic conditions in Taiwan could have a material adverse effect on our results of operations, as well as the market price and the liquidity of our ADSs and common shares. Further, the Republic of China government currently restricts certain types of investments by Taiwanese companies, such as TSMC, in the People's Republic of China. Although we have received Phase I approval to establish an 8-inch fabrication plant for producing 0.25 micron semiconductors, we have not applied for Phase II approval (involving the moving of manufacturing equipment from Taiwan to mainland China). Therefore, we cannot assure you that the Republic of China government will approve our Phase II application.

***We are vulnerable to natural disasters which could severely disrupt the normal operation of our business and adversely affect our earnings.***

Taiwan is susceptible to earthquakes. On September 21, 1999, Taiwan experienced a severe earthquake that caused significant property damage and loss of life, particularly in the central part of Taiwan. Taiwan also experienced earthquakes in 2000 and 2002. The severe earthquake in September 1999 caused damage to production facilities and adversely affected the operations of many companies in the semiconductor and other industries. We experienced damages to our machinery and equipment as a result of this severe earthquake. There were also interruptions to our production schedule, primarily as a result of power outages caused by the severe earthquake. Most of our production facilities, as well as many of our suppliers and customers and upstream providers of complementary semiconductor manufacturing services, are located in Taiwan. If our customers are affected by an earthquake or other natural disasters such as typhoons, it could result in a decline in the demand for our services. If our suppliers' services are affected, our production schedule could be interrupted or delayed. Although we maintain comprehensive natural perils insurance up to policy limits, including insurance for loss of property and loss of profit resulting from business interruption, our insurance coverage may not be sufficient to cover all of our potential losses. As a result, a major earthquake or natural disaster in Taiwan could severely disrupt the normal operation of our business and have a material adverse effect on our financial condition and results of operations.

***Fluctuations in exchange rates could result in foreign exchange losses.***

Over half of our capital expenditures and manufacturing costs are denominated in currencies other than NT dollars, primarily U.S. dollars, Japanese yen and Euros. A larger portion of our sales are denominated in U.S. dollars and other currencies, than in NT dollars. Therefore, we are particularly affected by fluctuations in the exchange rate between the U.S. dollar and the NT dollar. Any significant fluctuation to our disadvantage in that

exchange rate may have an adverse effect on our financial condition. In addition, fluctuations in the exchange rate between the U.S. dollar and the NT dollar will affect the U.S. dollar value of our common shares and the market price of the ADSs and of any cash dividends paid in NT dollars on our common shares represented by ADSs.

***The recent outbreak of severe acute respiratory syndrome in Taiwan may materially and adversely affect our business and results of operations.***

Since early 2003, mainland China, Hong Kong, Singapore, Taiwan and certain other areas have been experiencing an outbreak of a new and contagious form of atypical pneumonia now known as severe acute respiratory syndrome, or SARS. According to the World Health Organization, over 8,400 cases of SARS and 790 deaths had been reported in over 30 countries as of June 12, 2003. We cannot predict at this time the effect this outbreak could have on our company. Potentially, this outbreak may disrupt our operations if any of our employees in any of our fabs is suspected to have contracted SARS, and the fab is identified as a possible source of spreading SARS infection. We may, under certain circumstances defined by the health authorities, be required to quarantine the suspected employee and employees who have worked closely with the suspected employee and disinfect any affected fab and thus temporarily suspend production at any affected fab. Any quarantine or suspension of production at one or more of our fabs may affect our operations. Furthermore, this outbreak may restrict the level of economic activity in affected areas, which may also adversely affect our business and prospects.

We have taken various prevention measures and established contingency plans to ensure the safety of our employees and of our fabs, and to reduce the adverse impact, if any, in case any of our employees contract SARS. As of June 12, 2003, our prevention measures had been working well and there had been no major impact as a result of SARS on our operations. However, we cannot assure you that the recent outbreak of SARS would not have a material adverse effect on our results of operations.

**Risks Relating to ownership of ADSs**

***Your voting rights as a holder of ADSs will be limited.***

Holders of American Depositary Receipts (ADRs) evidencing ADSs may exercise voting rights with respect to the common shares represented by these ADSs only in accordance with the provisions of our ADS deposit agreement. The deposit agreement provides that, upon receipt of notice of any meeting of holders of our common shares, the depositary bank will, as soon as practicable thereafter, mail to the holders (i) the notice of the meeting sent by us, (ii) voting instruction forms and (iii) a statement as to the manner in which instructions may be given by the holders.

ADS holders will not generally be able to exercise the voting rights attaching to the deposited securities on an individual basis. According to the ROC Company Law, the voting rights attaching to the deposited securities must be exercised as to all matters subject to a vote of shareholders collectively in the same manner, except in the case of an election of directors and supervisors. The election of directors and supervisors is by means of cumulative voting. See “Item 10. Additional Information—Voting of Deposited Securities” for a more detailed discussion of the manner in which a holder of ADSs can exercise its voting rights.

***You may not be able to participate in rights offerings and may experience dilution of your holdings.***

We may, from time to time, distribute rights to our shareholders, including rights to acquire securities. Under our ADS deposit agreement, the depository bank will not distribute rights to holders of ADSs unless the distribution and sale of rights and the securities to which these rights relate are either exempt from registration under the Securities Act of 1933 with respect to all holders of ADSs, or are registered under the provisions of the Securities Act of 1933. Although we may be eligible to take advantage of certain exemptions for rights offerings

by certain foreign companies, we can give no assurance that we can establish an exemption from registration under the Securities Act of 1933, and we are under no obligation to file a registration statement with respect to any such rights or underlying securities or to endeavor to have such a registration statement declared effective. In addition, if the depositary bank is unable to obtain the requisite approval from the Central Bank of China for the conversion of the subscription payments into NT dollars or if the depositary determines that it is unlikely to obtain this approval, we may decide with the depositary bank not to make the rights available to holders of ADSs. See “Item 10. Additional Information—Foreign Investment in the ROC” and “Item 10. Additional Information—Exchange Controls in the ROC”. Accordingly, holders of ADSs may be unable to participate in our rights offerings and may experience dilution of their holdings as a result.

If the depositary bank is unable to sell rights that are not exercised or not distributed or if the sale is not lawful or reasonably practicable, it will allow the rights to lapse, in which case you will receive no value for these rights.

***The value of your investment may be reduced by possible future sales of common shares or ADSs by us or our shareholders.***

One or more of our existing shareholders may dispose of significant numbers of common shares or ADSs. One of our two largest shareholders, Philips, sold an aggregate of 24,000,000 ADSs in October 1997. The other largest shareholder, the Development Fund, has also sold significant amounts of common shares and ADSs in the past including 12,094,000 ADSs in November 1998, 12,094,000 ADSs in July 1999, 4,000,000 ADSs in April 2000, 8,680,400 ADSs in June 2000, 14,000,000 ADSs in June 2001, 20,000,000 ADSs in November 2001 and 30,207,200 ADSs in February 2002. The Stabilization Fund also sold 26,800,000 ADSs in February 2002.

In addition, we have in place a conversion sale program that allows some of our shareholders to sell their common shares in ADS form to a specified financial intermediary during a 30-day period not more than once every three months. In the third quarter of 1999, our shareholders sold an aggregate of 5,486,000 ADSs in the program. In the first quarter of 2000, our shareholders sold an aggregate of 6,560,000 ADSs in the program. In the second quarter of 2001, our shareholders sold an aggregate of 11,682,000 ADSs in the program. In the fourth quarter of 2002, our shareholders sold an aggregate of 18,348,000 ADS in the program. We cannot predict the effect, if any, that future sales of ADSs or common shares, or the availability of ADSs or common shares for future sale, will have on the market price of ADSs or common shares prevailing from time to time. Sales of substantial amounts of ADSs or common shares in the public market, or the perception that such sales may occur, could depress the prevailing market price of our ADSs or common shares and could reduce the premium, if any, that the price per ADS on the New York Stock Exchange represents over the corresponding aggregate price of the underlying five common shares on the Taiwan Stock Exchange.

On June 3, 2003, at the request of the Development Fund, our board of directors passed a resolution authorizing TSMC to take all appropriate action in connection with a potential sale in ADS form of up to 450,000,000 of our common shares by the Development Fund and certain other shareholders. 450,000,000 common shares would represent 90,000,000 ADSs. The exact form and timing of the transaction, if any, has not yet been decided and further approvals are required to be received from the ROC government by both us and the Development Fund prior to any such sale.

***The market value of your investment may fluctuate due to the volatility of, and government intervention in, the ROC securities market.***

The Taiwan Stock Exchange has experienced substantial fluctuations in the prices and volumes of sales of listed securities and there are currently limits on the range of daily price movements on the Taiwan Stock Exchange. On March 13, 2000, the Taiwan Stock Exchange Index experienced a 617 point drop, which represented the single largest decrease in the history of the Taiwan Stock Exchange Index. From January 1, 2000 to December 31, 2000, the Taiwan Stock Exchange Index dropped from 8,448.8 to 4,739.0, or 43.9%. On June 12, 2003, the Taiwan Stock Exchange Index closed at 4,878.4.

In response to past declines and volatility in the securities markets in Taiwan, and in line with similar activities by other countries in Asia, the government of the Republic of China formed the Stabilization Fund, which has purchased and may from time to time purchase shares of Taiwan companies to support these markets. In addition, other funds associated with the ROC government have in the past purchased, and may from time to time purchase, shares of Taiwan companies on the Taiwan Stock Exchange or other markets. In the future, market activity by government entities, or the perception that such activity is taking place, may take place or has ceased, may cause fluctuations in the market prices of our ADSs and common shares.

#### **Item 4. Information on the Company**

##### **Industry Background**

Semiconductors are critical components in an increasingly wide variety of applications. The semiconductor industry's growth has generally been driven by its ability to create advanced and innovative technology that can be used in many areas of the world economy. Advanced semiconductors provide opportunities for semiconductor companies because they generally provide more application possibilities and are expected to command higher prices than less-advanced technologies at any given time. We believe that integrated device manufacturers and foundries that develop the leading-edge technologies early on will have a competitive edge. However, the new technologies entail significant costs to develop and produce. Advanced semiconductors are increasingly challenging to design, require increasingly sophisticated engineering and manufacturing expertise and can be produced only in fabs with the most advanced technologies and equipment. According to IC Insights, the cost of the most advanced fab has grown from approximately US\$1.0 billion in 1995 to approximately US\$2.4 billion in 2002. Due to these and other challenges the semiconductor industry has grown more specialized over the past decade, which has led to the emergence of so called fabless design companies that do not maintain any internal manufacturing capacity and of independent dedicated foundries that focus on fabrication services. Prior to the mid-1990s, integrated device manufacturers dominated the semiconductor industry, which performed all steps in the semiconductor manufacturing process from design, mask making, wafer fabrication, assembly and final testing. Today, independent dedicated foundries provide fabrication services to fabless design companies, system companies and integrated device manufacturers. Utilizing foundry services allows these companies to reduce manufacturing costs, efficiently allocate capital, research and development and management resources, and to more readily gain access to manufacturing process technologies and production capacity they do not possess. The high costs associated with the development of new technologies may result in the future in a higher proportion of advanced semiconductors being produced by dedicated foundries. We believe, therefore, that the dedicated foundry segment of the semiconductor industry will grow at a somewhat higher rate than the semiconductor industry as a whole, which we believe may grow at an annual average rate of approximately 8% to 10% over the next ten years.

##### **Overview of the Company**

We are the world's largest dedicated semiconductor foundry. As a foundry, we manufacture semiconductors using our advanced production processes for our customers based on their own or third parties' proprietary integrated circuit designs. We offer a comprehensive range of leading edge wafer fabrication processes, including processes to manufacture CMOS logic, mixed-signal, radio frequency and embedded memory and BiCMOS mixed-signal and other semiconductors. IC Insights estimates that our revenue market share among dedicated foundries worldwide was 53% in 2001 and 56% in 2002. We also offer design, mask making, probing, testing and assembly services.

We believe that we are the technology leader among the dedicated foundries in terms of net sales of advanced semiconductors with a resolution of 0.18 micron and below, and that we are among the technology leaders in the semiconductor industry generally. Please see "—Manufacturing Capacity and Technology" for a further discussion of our technology. We also believe that we are a leader in manufacturing process management

capabilities among dedicated foundries. We believe our leading position in advanced technology and manufacturing process management capabilities has contributed to our increasing revenue market share among dedicated foundries.

We believe that our large capacity, particularly for advanced semiconductors, is a major competitive advantage. Please see “—Manufacturing Capacity and Technology” and “—Capacity Expansion and Technology Upgrade Plan” for a further discussion of our capacity.

We count among our customers many of the world’s leading semiconductor companies, ranging from fabless integrated circuit design houses such as Altera Corporation, Broadcom Corporation, NVIDIA Corporation and VIA Technology, Inc., to integrated device manufacturing companies such as Analog Devices, Inc., Motorola Inc. and Philips, and systems companies. Fabless integrated circuit design houses and integrated device manufacturers accounted for approximately 66% and 33%, respectively, of our net sales in 2001, and 71% and 28%, respectively, of our net sales in 2002.

## **Our History and Structure**

We were founded in 1987 as a joint venture among the ROC government, Philips and other private investors and were incorporated in the ROC 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.

***Vanguard International Semiconductor Corporation.*** In 1994, we, the ROC Ministry of Economic Affairs and other investors established Vanguard, then an integrated DRAM manufacturer. Vanguard commenced volume commercial production in 1995 and listed its shares on the GreTai Securities Market (formerly known as ROC Over-the-Counter Securities Exchange) in March 1999. As of December 31, 2002, we held a 25.28% interest in Vanguard. In January 2003, we acquired an additional 230,882,230 newly issued shares of Vanguard. As a result, we owned 28.11% of Vanguard as of March 31, 2003. We have a contractual option to utilize a monthly capacity of Vanguard of 25,000 wafers. Vanguard has indicated that it intends to make available to us an additional monthly capacity of 15,200 wafers by December 31, 2003. Please see “Item 7. Major Shareholders and Related Party Transaction—Related Party Transactions—Vanguard International Semiconductor Corporation” for a detailed discussion about the contract terms we entered into with Vanguard.

***WaferTech in the United States.*** In 1996, we entered into a joint venture called WaferTech with US-based Altera Corporation, Analog Devices Inc. and Integrated Silicon Solution, Inc. to construct and operate a US\$1.2 billion foundry in the United States. Initial trial production at WaferTech commenced in July 1998 and commercial production commenced in October 1998. In December 1998, we increased our percentage ownership of WaferTech from 57% to 68% by purchasing part of the interest of Analog Devices Inc. and Integrated Silicon Solution, Inc. As of April 30, 2000, our percentage interest had decreased to approximately 67% as a result of the exercise of options by certain employees of WaferTech to purchase interests in WaferTech. By the end of the first quarter of 2001, we had increased our percentage ownership of WaferTech from 67% to approximately 99% by purchasing all of the remaining interest of Altera Corporation, Analog Devices Inc. and Integrated Silicon Solution, Inc. As of March 31, 2003, we owned an approximately 100% equity interest in WaferTech, and the monthly capacity at WaferTech was 30,000 wafers.

***Systems on Silicon in Singapore.*** In March 1999, we entered into an agreement with Philips and EDB Investment Pte. Ltd. to found a joint venture, Systems on Silicon, to build a fab in Singapore. Systems on Silicon owns 78,000 square meters of land. As of March 31, 2003, we owned 32% of Systems on Silicon, Philips owned 48% and EDB Investment Pte. Ltd. owned 20%. The fab commenced production in December 2000. After the ramping up of the production capability at Systems on Silicon to its full capacity, we, together with Philips, have the right to purchase up to 100% of its annual capacity. We and Philips are required to purchase, in the aggregate, at least 70% of Systems on Silicon’s full capacity but TSMC alone is not required to purchase more than 28% of

the annual installed capacity. Please see “Item 7. Major Shareholders and Related Party Transaction—Related Party Transactions—Systems on Silicon Manufacturing Company Pte. Ltd.” for a detailed discussion about the contract terms we entered into with Systems on Silicon.

***TSMC-Acer.*** To rapidly increase our capacity in response to strong demand for our services in 1999, in August 1999, we acquired 32% of the outstanding equity securities of Acer Semiconductor Manufacturing Inc., a specialized DRAM manufacturer in Taiwan. Upon our acquisition of this 32% interest, the name of this company was changed to TSMC-Acer Semiconductor Manufacturing Corporation. The other principal shareholders of TSMC-Acer as of December 31, 1999 were Acer Inc. and certain of its affiliates, which held an aggregate equity interest of approximately 30%, and China Development Industrial Bank, which held 8%. TSMC-Acer is located in the Hsinchu Science Park and has one eight-inch fab. On June 30, 2000, we acquired by merger the remainder of TSMC-Acer that we did not already own. As a result of the merger with TSMC-Acer, each holder of TSMC-Acer shares was issued one of our common shares for every 3.90625 TSMC-Acer shares held. We issued 433,515,164 common shares upon the completion of the merger with TSMC-Acer. The merger was accounted for as a purchase. Accordingly, the results of operations for TSMC-Acer have been included in our consolidated financial statements from the date of merger.

***Worldwide Semiconductor.*** To rapidly increase our capacity in response to strong demand for our services in early 2000, in June 2000, we acquired Worldwide Semiconductor, the third-largest dedicated foundry in Taiwan established in May 1996. As result of the merger with Worldwide Semiconductor, each holder of Worldwide Semiconductor shares was issued one of our common shares for every two Worldwide Semiconductor shares held. We issued an aggregate of 1,150,000,000 common shares to Worldwide Semiconductor shareholders upon the completion of the merger on June 30, 2000. The aggregate 1,583,515,164 common shares issued to the shareholders of TSMC-Acer and Worldwide Semiconductor represented more than 10% of our then outstanding common shares. The merger was accounted for as a pooling-of-interest. Accordingly, our consolidated financial statements have been restated to include the results of operation of Worldwide Semiconductor for all periods presented.

***Operations in Mainland China.*** In the fourth quarter of 2001, we established a representative office in Shanghai and began conducting preliminary studies with respect to business opportunities in mainland China in compliance with applicable ROC rules and regulations. In April 2002, the ROC government announced a partial lifting of the ban on investment by Taiwan semiconductor manufacturing companies in eight-inch wafer fabs in mainland China. The ROC government indicated that ROC-based semiconductor manufacturers, in the aggregate, may relocate to mainland China a total of three eight-inch wafer fabs that use 0.25 micron and larger technology during the period from 2002 to 2005. In addition, an ROC-based semiconductor manufacturer may only apply to establish such an eight-inch wafer fab in mainland China after such manufacturer has commenced volume production for at least six consecutive months in at least one twelve-inch wafer fab in Taiwan. After the partial lifting of the ban on investment in mainland China, we entered into a memorandum of understanding with the Songjiang Municipal Government with respect to the establishment of a wholly-owned subsidiary in mainland China, TSMC Shanghai, for the purpose of building an eight-inch wafer fab in the Songjiang Science Park near Shanghai, subject to approval from the ROC government and market demand. On September 9, 2002, we submitted an application to the Investment Committee of the Ministry of Economic Affairs of the ROC for approval to expend US\$898 million over the next four years to establish TSMC Shanghai and to construct the eight-inch wafer fab. On February 27, 2003, we received preliminary, “Phase I”, approval for this project, but the Investment Committee of Taiwan’s Ministry of Economic Affairs has not yet approved the full amount of the investment. On June 8, 2003, we entered into investment agreements with the Songjiang Municipal Government with respect to constructing the eight-inch wafer fab using 0.25 micron and 0.35 micron process technologies. We still require further approval (“Phase II”) from the ROC Ministry of Economic Affairs prior to relocating equipment from Taiwan to mainland China as part of our investment in this project. Subject to further approval from the ROC government and market demand, we currently expect to commence small volume production by the end of 2004 in the eight-inch wafer fab in the Songjiang Science Park.

The following table sets forth, as of March 31, 2003, our ownership interest in, and country of incorporation of, our manufacturing subsidiary.

| <u>Name of the Subsidiary</u> | <u>State or Jurisdiction of Incorporation</u> | <u>Our Ownership Interest</u> |
|-------------------------------|-----------------------------------------------|-------------------------------|
| WaferTech, LLC                | Delaware, USA                                 | 99.996%                       |

Our principal executive office is currently located at No. 8, Li-Hsin Road 6, Science-Based Industrial Park, Hsinchu, Taiwan, Republic of China. Our telephone number at that office is (886-3) 563-6688. Our web site is [www.tsmc.com](http://www.tsmc.com). Information contained on our web site does not constitute part of this annual report.

## **Our Facilities**

After the combining of operations at two of our eight-inch fabs in 2001 and the decommissioning of one of our six-inch wafer fabs (Fab 1) in March 2002, we currently operate one six-inch wafer fab, six eight-inch wafer fabs and one twelve-inch wafer fab. Our corporate headquarters and six of our fabs are located in Hsinchu Science Park, one fab is in Tainan Science Park and one fab is in the United States. Our corporate headquarters and our six fabs in Hsinchu occupy approximately 275,078 square meters of land. We lease all of this land from the Science-Based Industrial Park Administration in Hsinchu under agreements that will be up for renewal between March 2008 and April 2019. Other than certain equipment under leases located at testing areas and our Fab 7 facility, we own all of the buildings and equipment for our fabs. We have recently completed the exterior construction of another twelve-inch fab, Fab 14 (Phase I), in Tainan Science Park. We are currently monitoring market conditions to determine the appropriate time to move in equipment and commence production at Fab 14 (Phase I). We have arrangements to lease from the Tainan Science Park Development Office 395,000 square meters of land for our fabs in the Tainan Science Park. WaferTech owns 1,052,181 square meters of land in the State of Washington in the United States, where the WaferTech fab and related offices are located.

We are currently planning in the future to expand our twelve-inch fabrication capacity through the recently begun construction of Fab 12 (Phase II) in Hsinchu Science Park and Fab 14 (Phase II) in Tainan Science Park. We do not, however, have any firm plans for the timing of completion of construction of, or commencement of production at, these fabs. We will evaluate our plans in this regard on an ongoing basis in light of prevailing market conditions.

## **Manufacturing Capacity and Technology**

We manufacture semiconductors on silicon wafers based on proprietary designs provided by our customers or third party designers. 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 sales of advanced semiconductors with a resolution of 0.18 micron and below, and are one of the leaders in the semiconductor industry. For example, we announced the semiconductor industry's first fully functional SRAM chip using 90-nanometer CMOS process technology in March 2002, one year ahead of the International Technology Roadmap for Semiconductors, or ITRS. In April 2002, we unveiled NEXSYS™—the foundry segment's next-generation technology for system-on-chip semiconductor design and manufacturing. In December 2002, we demonstrated the semiconductor industry's first 25-nanometer transistor. This newly designed fin-shaped field-effect transistor (FinFET) is the first 25-nanometer CMOS transistor to break through critical power barriers, meeting ITRS targets for high-performance operation at this advanced node. We commenced significant commercial production using 0.13 micron process technology in 2002 and expect to commence commercial production using 90-nanometer in 2003.

The following table lists our fabs and those of our affiliates, together with the year of commencement of commercial production, technology and capacity during the last five years:

| Fab(1)                | Year of commencement | Current most advanced technology for volume production(2) | Monthly capacity(3) |         |         |         |         |
|-----------------------|----------------------|-----------------------------------------------------------|---------------------|---------|---------|---------|---------|
|                       |                      |                                                           | 1998                | 1999    | 2000    | 2001    | 2002    |
| 1(4) .....            | 1987                 | —                                                         | 12,022              | 11,910  | 11,011  | 11,378  | —       |
| 2 .....               | 1990                 | 0.45                                                      | 44,382              | 44,382  | 43,539  | 45,225  | 43,540  |
| 3(5) .....            | 1995                 | 0.18                                                      | 74,000              | 72,000  | 83,700  | 82,700  | 71,000  |
| 5 .....               | 1997                 | 0.15                                                      | 13,000              | 28,000  | 39,500  | 40,000  | 34,920  |
| 6 .....               | 2000                 | 0.13                                                      | —                   | —       | 32,000  | 41,000  | 48,700  |
| 7(6) .....            | 1995                 | 0.35                                                      | —                   | 10,000  | 44,000  | 46,500  | 22,500  |
| 8(7) .....            | 1998                 | 0.15                                                      | 4,000               | 17,000  | 48,000  | 54,700  | 52,600  |
| 12 (Phase I) .....    | 2001                 | 0.13                                                      | —                   | —       | —       | 3,375   | 11,475  |
| WaferTech .....       | 1998                 | 0.15                                                      | 8,000               | 20,300  | 28,000  | 28,000  | 30,000  |
| Vanguard(8) .....     | 1994                 | 0.25                                                      | —                   | 9,000   | 22,000  | 23,000  | 28,000  |
| Systems on Silicon(9) | 2000                 | 0.18                                                      | —                   | —       | 400     | 5,166   | 8,000   |
| Total .....           |                      |                                                           | 155,404             | 212,592 | 352,150 | 381,044 | 350,735 |

- (1) Fab 2 produces six-inch wafers. Fabs 3, 5, 6, 7, 8, WaferTech, Vanguard and Systems on Silicon produce eight-inch wafers. Fab 12 (Phase I) produces twelve-inch wafers. Fabs 2, 3, 5, 7, 8, 12 (Phase I) and Vanguard are located in Hsinchu Science Park. Fab 6 is located in the Tainan Science Park. WaferTech is located in the United States and Systems on Silicon is located in Singapore.
- (2) In microns, as of year-end.
- (3) Estimated capacity in eight-inch equivalent wafers as of year-end for the total technology range available for production. Actual capacity during each year will be lower as new production capacity is phased in during the course of the year.
- (4) We decommissioned Fab 1, a six-inch fab located at ITRI, on March 31, 2002, because of our decision not to renew our land lease agreement with ITRI since it was an outdated fab.
- (5) Fab 4, which commenced operation in 1999 with initial technology of 0.5 micron, was consolidated into Fab 3 during the fourth quarter of 2001.
- (6) Represents that portion of the total capacity from TSMC-Acer that we utilized for foundry production prior to the completion of our merger with TSMC-Acer on June 30, 2000 and the total capacity from TSMC-Acer subsequent to the completion of the merger.
- (7) Represents the total capacity from Worldwide Semiconductor since 1998, reflecting the restated operating data as a result of pooling-of-interest accounting for the merger with Worldwide Semiconductor on June 30, 2000.
- (8) Represents that portion of the total capacity from Vanguard that we had the option to utilize as of December 31, 2000 and December 31, 2001. As of December 31, 2002, the 28,000 monthly capacity represents the 25,000 monthly capacity that we had the contractual option to utilize plus the 3,000 additional capacity that Vanguard made available to us.
- (9) Represents that portion of the total capacity that we had the option to utilize as of December 31, 2000, December 31, 2001 and December 31, 2002. This fab commenced production in September 2000.

As of December 31, 2002, our monthly capacity was 350,735 wafers, compared to 381,044 wafers at the end of 2001. This decrease was primarily due to the upgrading of a portion of our 0.35 and 0.25 micron capacity into 0.18 and 0.15 micron advanced technologies.

**Capacity Utilization Rates.** One of the key factors influencing our profit margins is our capacity utilization. Because a high percentage of our cost of sales is of a fixed nature, operations at or near capacity can have a significant positive effect on output and profitability. In 1998 and 1999, the average capacity utilization rates were 74% and 97%, respectively. The average utilization rates in 2000 and 2001 were 106% and 51%,

respectively. The utilization rates for 2000 do not take into account the utilization rates for TSMC-Acer prior to the completion of our merger with TSMC-Acer on June 30, 2000, and the utilization rates prior to 2000 do not take into account the utilization rate for Worldwide Semiconductor and TSMC-Acer. The average utilization rate for each quarter of 2002 was 67%, 85%, 79% and 61%, respectively and 73% for the entire year. Other factors affecting utilization rates are the percentage yield of commercially useful wafers during the fabrication process, the complexity of the wafer produced and the actual product mix.

We determine the capacity of a fab based on the capacity ratings given by manufacturers of the equipment used in the fab, adjusted for, among other factors, actual output during uninterrupted trial runs, expected down time due to setup for production runs and maintenance, and expected product mix. Except for regularly scheduled maintenance shutdown, all of our fabs currently operate 24 hours per day, seven days per week. Employees work shifts of 12 hours each day on a two days on, two days off basis, except during periods of annual maintenance.

**Mini-Environments.** Our fabs are organized into bays grouped by function. The general production environment consists of class 1000 or class 100 “clean rooms”. A class 100 clean room means a room containing less than 100 particles of contaminants per cubic foot. Within the clean rooms, we use the “mini-environment” approach pioneered by us in which the manufacturing steps are performed in a class 1 (in the case of Fab 3, class 0.1) clean mini-environment. We believe that the mini-environment approach has several advantages. The use of mini-environments results in reductions of building structure costs, mechanical and electrical system requirements and operating costs, allows flexibility in equipment layout and set-up and reconfiguration and facilitates the ramping-up process during capacity expansion.

### Capacity Expansion and Technology Upgrade Plans

We intend to maintain our strategy of expanding manufacturing capacity and improving manufacturing process technology to meet both the fabrication and the technological needs of our customers. Based upon preliminary estimates, we expect our monthly capacity to be approximately 375,540 wafers at the end of 2003. The change in our expected capacity in 2003 is primarily due to increased capacity as a result of continued ramping up of Fab 12 (Phase I) and capacity increases at Fab 6, partially offset by decreased capacity as a result of reconfiguring Fab 7. Our expected capacity by year-end 2003 includes a monthly capacity of approximately 33,300 wafers at Systems on Silicon and Vanguard.

The following table sets forth the range of our circuitry resolution capability and manufacturing capacity, broken down by fabs, as of year-end 2002 and planned resolution capability and capacity during 2003:

| Fab(1)                      | 2002                                              |                     | 2003                                              |                     |
|-----------------------------|---------------------------------------------------|---------------------|---------------------------------------------------|---------------------|
|                             | Most advanced technology for volume production(2) | Monthly capacity(3) | Most advanced technology for volume production(2) | Monthly capacity(3) |
| 2 .....                     | 0.45                                              | 43,540              | 0.45                                              | 41,915              |
| 3(4) .....                  | 0.18                                              | 71,000              | 0.18                                              | 67,500              |
| 5 .....                     | 0.15                                              | 34,920              | 0.15                                              | 36,600              |
| 6 .....                     | 0.13                                              | 48,700              | 0.13                                              | 62,000              |
| 7 .....                     | 0.35                                              | 22,500              | 0.35                                              | 14,500              |
| 8 .....                     | 0.15                                              | 52,600              | 0.15                                              | 58,000              |
| 12 (Phase I) .....          | 0.13                                              | 11,475              | 0.09                                              | 31,725              |
| WaferTech .....             | 0.15                                              | 30,000              | 0.15                                              | 30,000              |
| Vanguard(5) .....           | 0.25                                              | 28,000              | 0.25                                              | 25,000              |
| Systems on Silicon(6) ..... | 0.18                                              | 8,000               | 0.18                                              | 8,300               |
| Total .....                 |                                                   | 350,735             |                                                   | 375,540             |

- (1) As noted previously, Fab 1 was decommissioned on March 31, 2002. Fab 2 produces six-inch wafers. Fabs 3, 5, 6, 7, 8, WaferTech, Vanguard and Systems on Silicon produce eight-inch wafers. Fab 12 (Phase I) produces twelve-inch wafers.

- (2) In microns, as of year-end.
- (3) Estimated capacity range in eight-inch equivalent wafers as of year-end for the total technology range available for production. Actual capacity during each year will be lower as new production capacity is phased in during the course of the year.
- (4) Fab 4 was consolidated into Fab 3 during the fourth quarter of 2001.
- (5) As of December 31, 2002, represents the 25,000 monthly capacity that we had the contractual option to utilize plus the 3,000 additional capacity that Vanguard made available to us. On December 31, 2003, 25,000 monthly capacity represents only the monthly capacity that we have the contractual option to utilize. Vanguard has indicated that it intends to make available to us an additional 15,200 monthly capacity by December 31, 2003. If the additional 15,200 monthly capacity were included in our total expected capacity on December 31, 2003, then the total would be a monthly capacity of 390,740.
- (6) Represents the portion of the total expected capacity that we have the option to utilize.

We believe that in 2002, our aggregate capacity represented approximately 5% of the worldwide capacity for the production of integrated circuits.

Our capital expenditures in 2000 and 2001 were NT\$103,762 million and NT\$70,201 million, respectively. Our capital expenditures in 2002 were NT\$55,236 million (US\$1,592 million). We currently expect our capital expenditures to be between approximately NT\$34,700 million (US\$1,000 million) and approximately NT\$52,050 million (US\$1,500 million) in 2003. During 2003 we anticipate capital expenditures will focus primarily on the following:

- ramping up Fab 12 (Phase I);
- capacity increase at Fab 6;
- upgrading the technology at Fab 3 and Fab 8; and
- R&D projects.

Our unconsolidated, affiliated companies spent NT\$7,941 million (US\$229 million) for capital expenditures in 2002 and are expected to spend between approximately NT\$3,500 million (US\$101 million) and approximately NT\$4,500 million (US\$130 million) for capital expenditures during 2003.

These investment plans are still preliminary and are subject to change based upon market conditions.

***Commitments by Customers.*** Several of our customers have entered into arrangements with us to ensure that they have access to specified capacity at our fabs. These arrangements are primarily in the form of deposit agreements. In a deposit agreement, the customer makes in advance a cash deposit for an option on a specified capacity at our fabs. Option deposits are generally credited to wafer purchase prices as shipments are made. As of March 31, 2003, our customers had on deposit an aggregate of approximately US\$40 million to reserve future capacity, which was reserved for capacity during the years 2003 through 2004.

## Markets and Customers

The primary customers of our foundry services are fabless design houses, integrated device manufacturers and systems companies. The following table presents the breakdown of net sales (including revenues associated with application-specific integrated circuits, ASIC, and mask making services) by types of customers during the last three years:

| Customer Type                                      | Year ended December 31, |            |             |            |             |            |
|----------------------------------------------------|-------------------------|------------|-------------|------------|-------------|------------|
|                                                    | 2000                    |            | 2001        |            | 2002        |            |
|                                                    | Net Sales               | Percentage | Net Sales   | Percentage | Net Sales   | Percentage |
| (in millions, except percentages)                  |                         |            |             |            |             |            |
| Fabless integrated circuit design houses . . . . . | NT\$105,203             | 63.3%      | NT\$ 83,260 | 66.2%      | NT\$114,991 | 70.9%      |
| Integrated device manufacturers . . . . .          | 60,259                  | 36.3       | 42,071      | 33.4       | 45,866      | 28.2       |
| Systems Companies . . . . .                        | 736                     | 0.4        | 554         | 0.4        | 1,444       | 0.9        |
| Total . . . . .                                    | NT\$166,198             | 100.0%     | NT\$125,885 | 100.0%     | NT\$162,301 | 100.0%     |

We categorize our net sales based on the country in which the customer is headquartered, which may be different from the net sales for the countries to which we actually sell or ship our products. Under this methodology, the following table presents a geographic breakdown of our net sales during the last three years:

| Region                  | Year ended December 31, |            |             |            |             |            |
|-------------------------|-------------------------|------------|-------------|------------|-------------|------------|
|                         | 2000                    |            | 2001        |            | 2002        |            |
|                         | Net Sales               | Percentage | Net Sales   | Percentage | Net Sales   | Percentage |
| North America . . . . . | NT\$112,183             | 67.5%      | NT\$ 84,846 | 67.4%      | 125,523     | 77.3%      |
| Asia . . . . .          | 41,716                  | 25.1       | 33,548      | 26.6       | 30,448      | 18.8       |
| Europe . . . . .        | 12,299                  | 7.4        | 7,491       | 6.0        | 6,330       | 3.9        |
| Total . . . . .         | NT\$166,198             | 100.0%     | NT\$125,885 | 100.0%     | NT\$162,301 | 100.0%     |

A significant portion of our net sales are attributable to a relatively small number of our customers. Most of our customers operate in cyclical businesses and order levels have varied in the past, and may vary in the future. Our top ten customers have changed from time to time. In 2001 and 2002, our ten largest customers accounted for approximately 49% and 57% of our net sales, respectively. The increased sales contribution by our top ten customers in 2002 reflected the fact that the selected few customers experienced higher foundry outsourcing business activities than the rest of the customers. Although our top ten customers still accounted for 56% of our net sales in the first quarter of 2003, we believe that our customer base has become more diversified given the changing composition of the top ten customers and a relatively more balanced sales contribution by various customers. While we believe our customer base is strong and diversified, the fact that a relatively limited number of customers constitute a significant portion of our revenue may remain as a business characteristic inherent to our extensive presence in the foundry segment of the semiconductor market. Our largest customer in 2001 and 2002, NVIDIA Corporation, accounted for approximately 17% of our net sales in 2001 and 20% of our net sales in 2002. In March 2003, NVIDIA announced that it has awarded a long-term contract relating to the production of its latest graphics chips to International Business Machines Corp. NVIDIA simultaneously stated that TSMC would remain its primary foundry partner. See “Item 3. Key Information—Risk Factors—Risks Relating to Our Business—Any significant decrease in sales to one or more of our major customers may decrease our net sales and net income”.

Over the years, we have attempted to strategically manage our exposure to the memory semiconductor market by limiting the proportion of memory semiconductor manufacturing services to a designated percentage of total sales revenue. This policy has successfully shielded us from significant adverse effects resulting from the previous precipitous price drops in the memory semiconductor market.

We have four marketing and customer support offices. The office in Hsinchu serves Asian (excluding Japanese) customers. Wholly-owned subsidiaries in the United States, Japan and The Netherlands serve North American, Japanese and European customers, respectively. Foundry service sales are technologically intensive and involve frequent and intensive contacts with customers. We believe that the most effective means of marketing our foundry services is by developing direct relationships with our customers. We do not use agents or distributors. Our customer engineers work closely with the sales force by providing detailed technical advice and specifications to customers.

### **The Semiconductor Fabrication Process**

The semiconductor fabrication process can be categorized into a series of general stages. The following are the main stages involved in semiconductor production:

**Circuit Design:** The layout of the circuit components and interconnections is generally produced at computer-aided design terminals. A complex circuit may be designed in as many as thirty layers of patterns or more.

**Mask Making:** Each layer of the pattern of the circuit is duplicated on a photographic negative, known as a mask, by an electron beam generator. A mask is also referred to as a reticle.

**Wafer Fabrication:** This is the process by which raw silicon wafers are modified to form junctions, transistors or interconnects. In this process, the raw wafers are oxidized to form silicon dioxide, which is used as an insulator between the conductors and as an insulating layer for a controlling gate. Through the introduction of various impurities, the characteristics of conduction in the silicon are eventually changed to form a junction or transistor. During the wafer fabrication process, conductor, semiconductor or resistor materials are applied to the wafer in multiple layers in different patterns specified in the masks.

**Wafer Probing:** After a visual inspection, individual semiconductors, called “dies”, on a wafer are tested, or “probed”, electrically. Dies that fail this test are “marked” to be discarded.

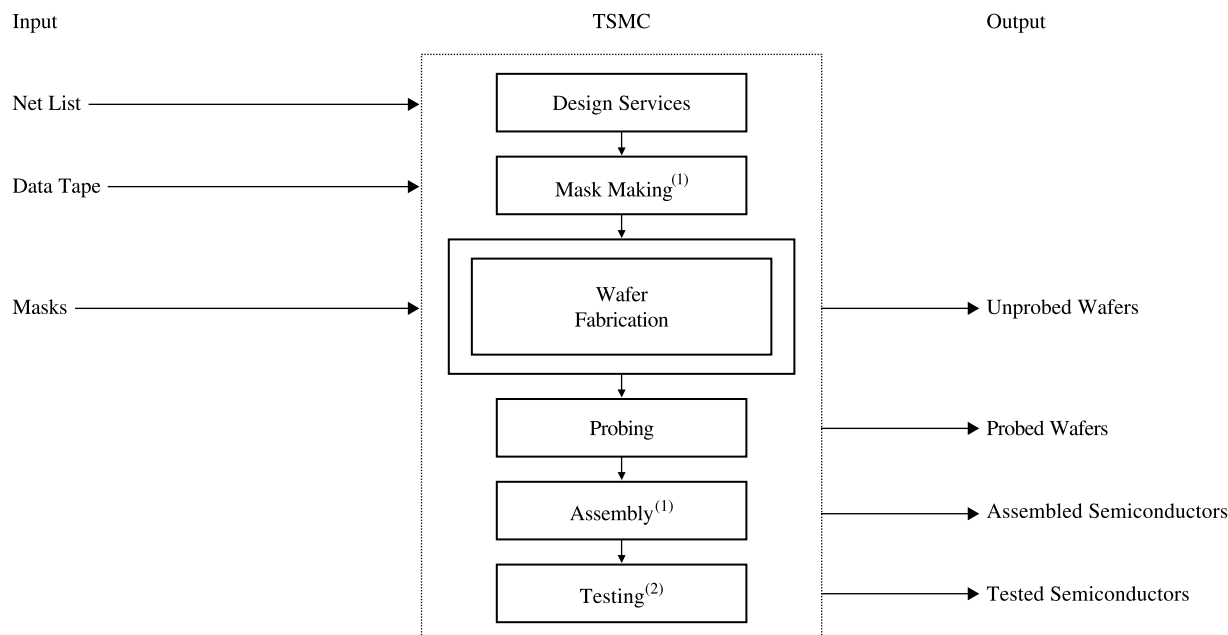
**Assembly:** Each wafer is cut into individual dies and defective dies are discarded. Good dies are connected to a conductive lead frame or organic substrate-based package and the bonded semiconductors, if lead frame based, are then encapsulated using a plastic molding compound or a ceramic casing.

**Testing:** Packaged semiconductors are fully tested by the use of specialized testing equipment.

### **Our Foundry Services**

**Range of Services.** We are primarily engaged in wafer fabrication for foundry customers. We also offer design, mask making, wafer probing and testing services and, on a subcontracted basis, assembly services. Because of our ability to provide a full array of services in addition to wafer fabrication, we are able to accommodate customers with a variety of input and output needs. Almost all of our customers choose to have us make the masks to be used during the fabrication process, as this decreases the risk of damage to the masks that can result from having to transport them. A growing number of customers in recent years have also begun to use our design services. 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.

The following diagram illustrates the services we provide to our customers:



(1) Subcontracted out to third parties.

(2) Portions are subcontracted out to third parties.

**Fabrication Processes.** We manufacture semiconductors using the complementary metal oxide silicon, CMOS and BiCMOS processes. The CMOS process is currently the dominant semiconductor manufacturing process. In the past, a competing manufacturing process called the “bipolar” process was also prevalent. Bipolar devices typically operate at higher speeds than CMOS devices, but CMOS devices consume less power and permit higher density circuit design. While the bipolar process was once widely used, it is now used primarily for high speed semiconductors and analog semiconductors. The BiCMOS process combines the high speed of the bipolar circuitry and the low power consumption and high density of the CMOS circuitry. We use the CMOS process to manufacture logic semiconductors, memory semiconductors including SRAM, DRAM, flash memory, mixed-signal semiconductors, which combine analog and digital circuitry in a single semiconductor, and embedded memory semiconductors, which combine logic and memory in a single semiconductor. The BiCMOS process is used to make high-end mixed-signal and other types of semiconductors.

**Types of Semiconductors Manufactured by Us.** Different types of semiconductors with different specific functions are manufactured using the CMOS and BiCMOS processes by changing the number of 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 over a hundred different products in various stages of fabrication at a full service foundry like ours. We believe that the keys to maintaining high production quality and utilization rates are our effective management and control of the manufacturing process technology that come from our extensive experience as the longest existing dedicated foundry and our dedication to quality control and process improvements.

The following is a general description of the types of semiconductors that we manufacture:

**Logic Semiconductors:** Logic semiconductors process digital data to control the operation of electronic systems. The largest segment of the logic market, standard logic devices, includes microprocessors, microcontrollers, DSPs, graphic chips and chip sets.

**Memory Semiconductors:** Memory semiconductors, which are used in electronic systems to store data and program instructions, are generally classified as either volatile memory (which lose their data content when

power supplies are switched off) or nonvolatile memory (which retain their data content without the need for a constant power supply). Examples of volatile memory include SRAM and DRAM and examples of nonvolatile memory include electrically EPROM and flash memory. We currently offer CMOS process for the manufacture of SRAM and embedded 1T RAM in resolutions down to 0.13 micron in both high speed and low power designs, and for the manufacture of flash memory and embedded flash in resolutions down to 0.18 micron.

**Mixed-Signal Semiconductors:** Analog/digital semiconductors combine analog and digital devices on a single semiconductor to process both analog signals and digital data. We make mixed-signal semiconductors using both the CMOS and BiCMOS processes. We offer 0.13 micron CMOS process and 0.35 micron BiCMOS and silicon germanium process for manufacturing mixed-signal semiconductors. The primary uses of mixed-signal semiconductors are in hard disk drives, wireless communications equipment and network communications equipment, with those made with the BiCMOS process occupying the higher end of the mixed-signal market.

The table below presents a breakdown of our net sales during the last three years by each semiconductor type:

| Semiconductor Type    | Year ended December 31,           |            |             |            |           |            |
|-----------------------|-----------------------------------|------------|-------------|------------|-----------|------------|
|                       | 2000                              |            | 2001        |            | 2002      |            |
|                       | Net Sales                         | Percentage | Net Sales   | Percentage | Net Sales | Percentage |
|                       | (in millions, except percentages) |            |             |            |           |            |
| CMOS                  |                                   |            |             |            |           |            |
| Logic .....           | NT\$120,285                       | 72.4%      | NT\$ 96,334 | 76.5%      | 129,630   | 79.9%      |
| Memory .....          | 24,288                            | 14.6       | 14,821      | 11.8       | 4,593     | 2.8        |
| Mixed-Signal(1) ..... | 17,559                            | 10.6       | 12,953      | 10.3       | 26,244    | 16.2       |
| BiCMOS(2) .....       | 395                               | 0.2        | 658         | 0.5        | 325       | 0.2        |
| Others .....          | 3,671                             | 2.2        | 1,119       | 0.9        | 1,509     | 0.9        |
| Total .....           | NT\$166,198                       | 100.0%     | NT\$125,885 | 100.0%     | 162,301   | 100.0%     |

(1) Mixed-signal semiconductors made with the CMOS process.

(2) Mixed-signal and other semiconductors made with the BiCMOS process.

**Design Services.** We offer design services that range from providing our customers with access to the fundamental technology files that facilitate a customer's own design to direct design services in which we design a semiconductor based on a customer's requirements. Technology files are necessary for checking the customer's semiconductor design against the design rules to be used to manufacture a semiconductor using a given process technology.

As part of the necessary building blocks for our customers' semiconductor designs, we offer libraries of compatible designs for portions of semiconductors, such as standard cells, inputs/outputs and selected memory blocks, in addition to technology files. We have a dedicated team of engineers who work with our research and development department to develop, or acquire from third parties, selected key libraries early on in the development of new process technologies so that our customers can quickly design sophisticated semiconductors that utilize the new process technologies. We also have entered into, and will continue to enter into, arrangements with other providers of libraries so as to allow our customers access to a broad library portfolio for their designs.

Certain design services that we offer are also more important for semiconductors of a resolution of 0.13 micron or below because at these resolutions the interconnects significantly impact a semiconductor's performance. We are also able to provide reference design flows generated from our research and development for use in our customers' semiconductor designs. For these design services we frequently work together with the major vendors of electronic design automation software products.

We also provide direct design services, or chip implementation services, to our customers. Since our launch of design services in April 1991, we have successfully completed more than 1,000 netlist sign-off, or design

service projects, in various market applications. Our direct design services focus on more advanced semiconductors, such as those with a resolution of 0.18 micron and below.

Our chip implementation services can combine placement and routing services, library and intellectual property merge services, physical verification and porting services in order to specifically address any customer's need. We believe that our strengths in design services help our customers to quickly finish a design. In addition, we have been collaborating with industry leaders in electronic design automation, library and intellectual property services to create a worldwide network of expertise, resources and services that are available to implement and produce a customer's innovative designs.

***Multiproject Wafers Program.*** To help our customers reduce costs, we offer a dedicated multiproject wafer processing service that allows us to provide multiple customers with wafers produced with the same mask. This program eliminates costly and time-consuming repetitive mask and wafer runs, resulting in accelerated time-to-market for our customers. In the fourth quarter of 2000, we extended this program to all customers and library and IP partners using our 0.13 micron process technology. This extension offers a routinely scheduled multiproject wafer run to customers on a shared-cost basis for prototyping and verification. Multiproject wafers accelerate time-to-market for device designers and library and IP developers by reducing mask development and wafer cutting costs by up to a factor of ten.

We developed our multiproject wafer program in response to the current system-on-chip development methodologies, which often require the independent development, prototyping and validation of several cores before they can be integrated onto a single device. A complex system-on-chip may require RISC, DSP, Ethernet and physical interface cores, each of which has to be verified individually before integration. By sharing resources with our customers, the system-on-chip supplier can enjoy reduced prototyping costs and greater confidence that the design will be successful.

## **Customer Service**

We believe that our focus on customer service has been an important factor in attracting leading semiconductor companies as customers. The key elements of our customer service are:

- our firmly established customer-oriented culture, which emphasizes close interaction with our customers on many levels, from senior management, marketing staff and customer engineers in the marketing and customer service offices to product and line engineers in the fabs and the research and development staff. Some of this interaction is achieved through direct data links to customers to enhance communication and facilitate real time engineering data and order information flow;
- responsiveness to customer's requirements in terms of lead time and product cycle;
- flexibility in technical capability, order size requirements and design changes;
- delivery accuracy in terms of time and quantity; and
- our "virtual fab", which is a customer service program intended to integrate and formalize the customer service approach that we have pursued since our inception. The goal of the virtual fab program is to make our manufacturing services as transparent and easy to deal with for our customers as their own in-house fabs, without the additional expense and drain on management resources. The virtual fab also provides our customers with the benefits of an in-house fab, including:
  - confidentiality of proprietary customer information and data;
  - quality of service and products;
  - assurance of on-time delivery of products;
  - flexibility in scheduling and in capacity;

- cost effectiveness;
- real-time on-line information exchange with the customer during manufacturing, including on-line mask data review, so that the entire process is transparent to the customer; and
- logistical support for the processes of handling, assembly and final testing, which are subcontracted out to third parties before the products are shipped to the customer.

In a move to further enhance our virtual fab program, we launched on July 20, 1999, TSMC-Online™, our dedicated customer portal for design, engineering and logistics collaboration with customers. In addition to information on work-in-progress and shipping reports, TSMC-Online™ provides a 24 hours a day, seven days a week, one-stop online services for our customers who wish to review and create design document sets, analyze engineering data, download technical files, or place orders.

We believe that, owing to our extensive experience in planning and managing foundry production runs, we offer the advantage of a short lead time and product cycle to customers who need finished products within a short time frame.

We offer to our customers manufacturing processes for a wide array of semiconductors, including CMOS logic, mixed-signal, radio frequency, embedded memory and BiCMOS mixed-signal and other semiconductors. This has allowed us to pursue business from a wide range of customers, both in terms of manufacturing needs and end use. We also handle small orders as well as large ones and can accommodate design changes late into the pre-production stage. Such flexibility is possible because of our technical capability and dedication to customer service as well as our ability to plan and manage effectively many production runs.

We also provide our customers with the ability to share the ever increasing silicon verification costs through our multi-project wafer processing service. This service allows customers to share costs by combining multiple designs on a single mask set.

We believe that our customers also value our ability to deliver ordered wafers on time in consistent quality and in the desired quantities. We have received various awards and testimonials from our customers attesting to the quality of our customer service and the important role we play in the businesses of our customers.

### **Manufacturing Quality and Reliability**

We believe that our quality and reliability policy and practice has ensured a high standard of manufacturing quality and reliability. We have been informed by our customers that wafers produced by us consistently met or exceeded in quality and reliability requirement in field.

Our policy is to implement quality and reliability measures of all stages in wafer manufacturing, starting from the early development phase. Quality starts from material meeting specifications, in-line process controls and testing at various stages in the manufacturing flow. Final electrical testing, visual and mechanical inspection are performed before shipment to customers. Quality assurance measures in production extends in both process and product reliability monitors, on top of failure analysis and tracking to serve a proper early detection in production. Wafer level tests are enhanced for cost-effective services.

Fab 12, a 300mm wafer fab, set a new foundry record for certification in risk, environment and safety management, by achieving the AAA Damage Prevention and Fire Safety Certificate, the ISO14001 certificate and the OHSAS18001 certificate. The AAA certification system is the risk assessment certification system developed by ACE Insurance for its global insurance customers and is considered one of the most trustworthy risk certification systems worldwide. Our Fab 12 was the only twelve-inch semiconductor fab in the world to have achieved the AAA certificate as of February 8, 2002 and we understood it was still true as of March 31, 2003. Additionally, Fab 12 obtained ISO 14001 and OHSAS 18001 certifications in June 2002. All our other fabs

were certified to the ISO 9001, QS-9000 and ISO 14001 standards. The ISO 9001 quality standards were provided by the International Organization for Standardization since 1987 and TSMC achieved the initial certification in 1993. The International Organization for Standardization is a worldwide federation of national standards body from more than 140 countries. ISO 9001 addresses quality management and quality assurance standards for products and manufacturing processes. ISO 14001 addresses environment management and how a company minimizes harmful effects on the environment caused by its activities. The QS-9000 quality standard is a more stringent standard provided by the Auto Industry Action Group since 1994. The QS-9000 standard consolidated the ISO 9000 standards with the quality requirements of Ford, Chrysler and General Motors. The ISO 14001 standard is part of a comprehensive series of standards for environmental management published by the International Organization for Standardization after the success of the ISO 9000 series of quality standards. The ISO 14001 standards cover environmental management principles, systems and supporting techniques. OHSAS 18001 is the standards for occupational health and safety management system.

Further demonstrating our leadership in quality management in the IC foundry segment of the semiconductor industry, we set a new record as the first semiconductor manufacturer worldwide to receive the ISO/TS (Technical Specification) 16949:2002 certificate in September 2002. The ISO/TS 16949:2002 certification system executes its approval and publication jointly by the International Automotive Task Force (IATF) and the International Organization for Standardization (ISO). This technical specification has a common automotive industry requirements of ISO 9001:2000, AVSQ (Italian), EAQF (French), QS-9000 (U.S.) and VDA6.1 (German) automotive catalogs. This document, coupled with customer-specific requirements, defines a quality system in the automotive supply chain. The ISO/TS 16949:2002 certification system requires the quality management policies and objectives into the operation flows of the company. This certification stresses the supervision and measurement of both process and performance to ensure a concrete fulfillment of customers' needs and the pursuit of sustainable operation. Our certification was achieved just five months after ISO/TS (Technical Specification) 16949:2002 standard was established.

## **Backlog**

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, we engage in discussions with customers commencing in advance of the placement of purchase orders regarding customers' expected manufacturing requirements. Certain of our customers have options on capacity at our fabs for the next few years. See “—Capacity Expansion and Technology Upgrade Plans—Commitments by Customers” for a discussion of the options on capacity held by some of our customers.

## **Research and Development**

The semiconductor industry is characterized by rapid changes in technology, frequently resulting in the obsolescence of recently introduced products. We believe that, in order to stay technologically ahead of our foundry competitors and 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\$7,204 million, NT\$10,649 million and NT\$11,725 million (US\$338 million) in 2000, 2001 and 2002, respectively, on research and development, which represented 4.3%, 8.5% and 7.2%, respectively, of our net sales for these periods. We plan to continue to invest significant amounts on research and development in 2003 with the goal of maintaining a leading position in the development of advanced process technologies. Our research and development efforts have recently allowed us to provide our customers access to certain advanced process technology, such as 0.13 micron process technology for volume production and 90-nanometer technology for early engineering prototypes, prior to the implementation of those advanced process technologies by most integrated device manufacturers and our competitors.

Our research and development 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 most advanced and new generation manufacturing technologies. The research and development activities undertaken in each fab focus on upgrading the manufacturing process technologies. The research and development team also seeks to develop versatile process technologies that can be applied to the manufacture of different types of products. The primary target of our research and development efforts in the next few years is expected to be the qualification of 90-nanometer process technology for use with twelve-inch wafers, the further development of process technology for embedded memory and other functions for semiconductors that combine various logic, input/output and embedded memory functions on a single 90-nanometer semiconductor, and the development of 65-nanometer process technology, including the development of super low-k value dielectric material for use on 65-nanometer semiconductors.

We use internally developed process technologies and process technologies licensed from our customers and third parties. In continuing to advance our process technologies, we intend to rely primarily on our internal engineering capability and know-how and our research and development efforts, including collaboration with our customers and equipment vendors.

Please see “Item 3. Key Information—Risk Factors—Risks Relating to Our Business—The loss of our coverage under certain Philips’ cross-license arrangements may require us to incur additional expenses to acquire alternative intellectual property” and “Item 7. Major Shareholders and Related Party Transactions—Related Party Transactions—Koninklijke Philips Electronics N.V. and its Affiliates” for a detailed discussion about agreements entered into with Philips.

We also have created in-house inventions and know-how. We were issued 523, 598 and 462 United States patents in 2000, 2001 and 2002, respectively, and among these patents, 400, 490 and 361 are semiconductor-related patents issued in 2000, 2001 and 2002, respectively.

## **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 technology. Advances in process technology cannot be brought about without commensurate advances in equipment technology. The principal pieces of equipment used by us to manufacture semiconductors are scanners, steppers, cleaners and track equipment, inspection equipment, etchers, furnaces, wet stations, strippers, implanters, sputterers, CVD equipment, testers and probers. Other than certain equipment under leases located at testing areas and our Fab 7 facility, we own all of the equipment used at our fabs.

In implementing our capacity expansion 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. We have entered into supply agreements with equipment manufacturers covering some of our required equipment.

## **Raw Materials**

Our manufacturing processes use many raw materials, primarily silicon wafers, chemicals, gases and various types of precious and other metals. Raw materials costs constituted 11.1% of our net sales in 2001 and 14.9% of our net sales in 2002. The three largest components of raw material costs—wafers, gas and chemicals—accounted for 40.1%, 12.7% and 16.0%, respectively, of our raw material costs in 2001 and 29.0%, 11.5% and 21.5%, respectively, of our raw material costs in 2002. Most of our raw materials generally are available from several suppliers. 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 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 monthly or quarterly and quantity allocations are adjusted for subsequent periods based on the evaluation. Although we believe that supplies of raw materials used by us currently are adequate, shortages could occur in various critical materials due to interruption of supply or increased industry demand.

The most important raw material used in our production is silicon wafers, which is the basic raw material from which integrated circuits are made. The principal suppliers for our wafers are Shin-Etsu Handotai and Sumitomo Mitsubishi Silicon Corporation of Japan, Wacker Siltronic of Germany, Taisil Electronic Material of Taiwan and MEMC Electronic Materials of the United States. Together they supplied approximately 80% and 81% of our total wafer needs in 2001 and 2002, respectively. We have in the past obtained, and believe we will continue to be able to obtain, a sufficient supply of six-inch, eight-inch and twelve-inch wafers. After a moderate increase of wafer prices in 2000, the price of wafers decreased slightly during 2001 and 2002.

In order to secure a reliable and flexible supply of high quality wafers, we entered into long-term master agreements with our major wafer suppliers to acquire wafers on a purchase order basis in 2000.

For a discussion of our fabrication plants, see “—Manufacturing Capacity and Technology”.

## **Competition**

We compete internationally and domestically with dedicated foundry service providers, as well as with integrated semiconductor companies that engage a portion of their manufacturing capacity to foundry operations. We seek to compete primarily on the basis of process technology, quality and service, rather than price. The level of competition differs according to the process technology involved. In more mature technologies, the competition tends to be more intense. Some companies compete with us in limited geographic regions or application end-markets. In recent years, substantial investments have been made to establish new dedicated foundry companies in China and elsewhere.

Our competitors and potential competitors include companies that may have substantially greater financial and other resources than us. However, we believe that we currently enjoy competitive advantages in such areas as technology, manufacturing quality, customer service and capacity. We aim to maintain or enhance these competitive advantages in order to stay ahead of the competition. However, we cannot assure you that we will be able to maintain or enhance these competitive advantages in the future.

## **Environmental Regulation**

The semiconductor production process generates gaseous chemical wastes, liquid waste, waste water and other industrial wastes in various stages of the manufacturing process. We have installed various types of pollution control equipment for the treatment of gaseous chemical waste and liquid waste and equipment for the recycling of treated water in our fabs. Our operations at our fabs are subject to regulation and periodic monitoring by the ROC Environmental Protection Administration or US Environmental Protection Agency, and local environmental protection authorities, including the Science-Based Industrial Park Administration or the Washington State Department of Ecology.

We believe that we have adopted pollution control measures for the effective maintenance of environmental protection standards consistent with the practice of the semiconductor industry in Taiwan and US. We conduct an annual environmental audit to ensure that we are in compliance in all material respects with, and we believe that we are in compliance in all material respects with, applicable environmental laws and regulations. Furthermore, we, in many cases, have implemented waste reduction steps ahead of regulatory requirements. In 2002, we received the “Annual Environmental Protection Award for Enterprises” from the ROC EPA, the “National Award for Outstanding Achievements in Operation and Maintenance for Pollution Control Facilities” from the

Industry Development Bureau, the “Energy Conservation Award” from the Ministry of Economic Affairs and the “Water Conservation Outstanding Performance Award” from the Water Resources Agency. In 2001, we received the “Energy Conservation Excellence Award” from the Ministry of Economic Affairs and the “National Award for Outstanding Achievements in Operation and Maintenance Pollution Control Facilities” from the Industry Development Bureau. We also received the “Industrial Excellence Award” from the Ministry of Economic Affairs in 2000. We received ISO14001 certification in August 1996 and continue to implement improvement programs in connection with this certification. In January 2000, we received OHSAS18001 certification for our occupational health safety management system. All our manufacturing sites were ISO14001 and OHSAS18001 certified in 2002.

## **Electricity and Water**

We use substantial amounts of electricity supplied by Taiwan Power Company in our manufacturing process. Businesses in the Hsinchu Science Park and Tainan Science Park, such as us, enjoy preferential electricity supply.

The semiconductor manufacturing process uses extensive amounts of fresh water. Due to the growth of the semiconductor manufacturers in the Hsinchu Science Park and Tainan Science Park, there has been concern as to the future availability of sufficient fresh water. In 1997, the ROC government finished construction of a pipeline to provide the Hsinchu Science Park with an additional source of fresh water, which is currently sufficient for our fabs in the Hsinchu Science Park. In 1997, the ROC government also commenced planning the construction of a fresh water reservoir near Hsinchu Science Park that is expected to satisfy the expected fresh water demands of the Hsinchu region and the Hsinchu Science Park through the year 2021. The construction of the reservoir is expected to be completed in June 2005. Taiwan experiences droughts from time to time. In 2002, Taiwan experienced the worst drought in decades. Although the situation has improved and we have not been adversely affected as a result of previous droughts, until additional water resources are made available on a committed basis, the Hsinchu Science Park may encounter insufficient water supplies. Previous droughts have not, however, impacted the water supplies to the Tainan Science Park. In 2003, there will be a new pipeline constructed to connect reservoirs in Tainan and Kaohsiung to provide additional water supplies to the Tainan Science Park. We have also taken steps to reduce fresh water consumption for our fabs in Hsinchu and Tainan Science Parks. This primarily involves the installation of water recycling systems at our fabs, which allow us to recycle between 45% to 85% of the water used during the fabrication process, depending on the fabs.

## **Risk Management**

We have a separate risk management department that develops comprehensive plans for the prevention of, and the response to, emergencies and disasters. The department focuses on loss prevention, emergency response, crisis management and business recovery. Our risk management department played an important role in minimizing the effect of the 1999 earthquakes on our business. We 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, typhoon, earthquake and some other risks generally up to the respective policy limits for their replacement values and lost profits due to business interruption. We received a total of approximately NT\$3,711 million (US\$107 million) in insurance compensation in respect of the earthquake that occurred on September 21, 1999. We have insurance policies covering losses in respect of the construction and erection of Fab 12 and Fab 14. Equipment and inventories in transit are also insured.

## **Item 5. Operating and Financial Reviews and Prospects**

### **Overview**

We manufacture a variety of semiconductors based on designs provided by our customers. We also provide various design services. Our business model is now commonly called a “dedicated semiconductor foundry”. The

foundry segment of the semiconductor industry as a whole experienced rapid growth over the last 16 years since our inception. As the leader of the foundry segment of the semiconductor industry, we also have seen our net sales and net income increase from NT\$39,400 million and NT\$19,436 million in 1996 to NT\$162,301 million and NT\$21,610 million in 2002, respectively, despite two major industry downturns over that same period. From the middle of 1996 until the middle of 1998, worldwide semiconductor production capacity grew faster than worldwide demand for semiconductor products. Principally as a result of the increasing disparity between the growth rate of demand and the growth rate of supply, margins were squeezed and our net income declined from NT\$19,436 million in 1996 to NT\$17,974 million in 1997 and to NT\$14,389 million in 1998. This occurred despite increases in our net sales from NT\$39,400 million in 1996 to NT\$43,927 million in 1997 and to NT\$50,524 million in 1998. Starting in late 1998, there was an increase in demand that led to increases in both our net sales and net income for 1999 and 2000. In 2001, the semiconductor industry experienced a significant downturn due to a slowdown in the global economy, overcapacity in the semiconductor industry and a worldwide semiconductor inventory adjustment that led to decreases in our net sales and net income from NT\$166,198 million and NT\$65,106 million in 2000 to NT\$125,885 million and NT\$14,483 million in 2001. In 2002, the semiconductor industry reported little revenue growth as growth in volume was significantly offset by an erosion in average selling prices. Our net sales and net income increased from NT\$125,885 million and NT\$14,483 million in 2001 to NT\$162,301 million and NT\$21,610 million in 2002.

The principal source of our revenue is wafer fabrication, which accounted for approximately 89% of our net sales in 2002. The rest of our net sales is derived from design, mask making, probing, testing and assembly services.

***Production Capacity and Capacity Utilization.*** We have expanded our aggregate capacity from approximately 83,000 wafers per month as of year-end 1996 to approximately 350,735 wafers per month as of year-end 2002. As a result of the upgrading of a portion of our 0.35 and 0.25 micron capacity into 0.18 and 0.15 micron advanced technologies, our aggregate capacity decreased from approximately 381,044 wafers per month as of year-end 2001 to 350,735 wafers per month as of year-end 2002. Our annual sales volume grew from 816,000 wafers in 1996 to approximately 2,675,000 wafers in 2002. The average utilization rate for each quarter in 2001 was 70%, 44%, 41% and 50%, respectively and 51% for the entire year. Due to increased demand and our slightly reduced capacity, our average utilization rate for each quarter of 2002 was 67%, 85%, 79% and 61%, respectively and 73% for the entire year.

***Technology Migration.*** Since our establishment, we have regularly developed and made available to our customers manufacturing capabilities for wafers with increasingly higher circuit resolutions. Wafers designed with higher circuit resolutions can either yield a greater number of dies per wafer or allow these dies to be able to integrate more functionality and run faster in application. As a consequence, higher circuit resolution wafers generally sell for a higher price than those with lower resolutions. In addition, we began in November 2001 offering our customers production of twelve-inch wafers which can produce a greater number of dies than eight-inch wafers. Advanced technology wafers have accounted for an increasingly larger portion of our sales since their introduction as the demand for advanced technology wafers has increased. Because of their higher selling price, advanced technology wafers account for a larger pro rata portion of our sales revenue as compared to their pro rata share of unit sales volume. The higher selling prices of semiconductors with higher circuit resolutions usually offset the higher production costs associated with these semiconductors once an appropriate economy of scale is reached. Although mainly dictated by supply and demand, prices for wafers of a given level of technology typically decline over the technology's life cycle. Therefore, we must continue to offer additional services and to develop and successfully implement increasingly sophisticated technological capabilities to maintain our competitive strength.

The table below presents a percentage breakdown of wafers sales by circuit resolution during the last three years:

| Resolution            | Year ended December 31,                    |                                            |                                            |
|-----------------------|--------------------------------------------|--------------------------------------------|--------------------------------------------|
|                       | 2000                                       | 2001                                       | 2002                                       |
|                       | Percentage of total wafer sales revenue(1) | Percentage of total wafer sales revenue(1) | Percentage of total wafer sales revenue(1) |
| 0.13 micron . . . . . | —                                          | 0%                                         | 4%                                         |
| 0.15 micron . . . . . | 0%                                         | 10                                         | 26                                         |
| 0.18 micron . . . . . | 8                                          | 22                                         | 22                                         |
| 0.25 micron . . . . . | 34                                         | 33                                         | 25                                         |
| 0.35 micron . . . . . | 36                                         | 21                                         | 13                                         |
| >0.5 micron . . . . . | 22                                         | 14                                         | 10                                         |
| Total . . . . .       | 100%                                       | 100%                                       | 100%                                       |

(1) Percentages represent revenues of wafer sales by technology as a percentage of total revenues of wafer sales, which exclude revenues not associated with wafer sales, such as revenues from testing and masks.

**Pricing.** We usually establish pricing levels for a specific period with our customers, subject to adjustment during the course of that period to take into account market developments and other factors. We believe that our large capacity, flexible manufacturing capabilities, focus on customer service and ability to deliver high yields in a predictable and timely manner have contributed to our ability to obtain premium pricing for our wafer production in recent years. Our historical pricing policy is to pass through a portion of cost savings realized as our production processes migrate to more advanced technologies and our manufacturing operations achieve higher yields and greater economies of scale.

## Results of Operations

The following table sets forth, for the periods indicated, some financial data from our consolidated statements of income, expressed in each case as a percentage of net sales:

|                                                      | Year ended December 31, |        |        |
|------------------------------------------------------|-------------------------|--------|--------|
|                                                      | 2000                    | 2001   | 2002   |
| Net sales . . . . .                                  | 100.0%                  | 100.0% | 100.0% |
| Cost of sales(1) . . . . .                           | (52.7)                  | (73.3) | (67.8) |
| Gross profit(1) . . . . .                            | 47.3                    | 26.7   | 32.2   |
| Operating expenses                                   |                         |        |        |
| General and administrative . . . . .                 | (4.5)                   | (6.3)  | (4.3)  |
| Marketing . . . . .                                  | (1.6)                   | (1.8)  | (1.2)  |
| Research and development(1) . . . . .                | (4.3)                   | (8.5)  | (7.2)  |
| Total operating expenses . . . . .                   | (10.4)                  | (16.6) | (12.7) |
| Income from operations . . . . .                     | 36.9                    | 10.1   | 19.5   |
| Non-operating income . . . . .                       | 3.7                     | 5.1    | 1.5    |
| Non-operating expenses . . . . .                     | (2.1)                   | (6.7)  | (4.2)  |
| Income before income tax . . . . .                   | 38.5                    | 8.5    | 16.8   |
| Income tax (expense) benefit . . . . .               | 0.7                     | 3.0    | (3.5)  |
| Net income before minority interest income . . . . . | 39.2                    | 11.5   | 13.3   |
| Minority interest income . . . . .                   | 0.0                     | (0.0)  | 0.0    |
| Net income . . . . .                                 | 39.2%                   | 11.5%  | 13.3%  |

(1) Amounts in 2000 reflect reclassification of NT\$2,072 million from cost of sales to research and development.

We completed mergers with Worldwide Semiconductor and TSMC-Acer on June 30, 2000. The merger with Worldwide Semiconductor was accounted for as a pooling-of-interests transaction and thus the historical financial statements of Worldwide Semiconductor have been combined with our historical financial statements, and are restated, for all relevant periods. The merger with TSMC-Acer was accounted for as a purchase transaction and thus we recorded on our books an amount of goodwill that is equal to the excess of our purchase price for TSMC-Acer over the fair market value of the identifiable net assets of TSMC-Acer. Under regulations of the ROC Ministry of Economic Affairs, we are required to eliminate the goodwill amount associated with our year 2000 purchase of the remaining 68% of TSMC-Acer and reduce our capital surplus by a corresponding amount. Under US GAAP, however, this goodwill was required to be amortized on a straight-line basis over five years. Starting from January 1, 2002, we are no longer allowed to amortize the goodwill under US GAAP, but rather we must continue carrying the goodwill on our books subject to reduction based upon periodic testing for impairment. For a further description of this change in accounting policies, please see “—Recent Accounting Pronouncements”.

### **Critical Accounting Policies**

Below we have summarized our accounting policies that we believe are both important to the portrayal of our financial results and involve the need to make estimates about the effect of matters that are inherently uncertain.

***Revenue recognition.*** The four criteria that we use to recognize revenue are the existence of evidence of sales, actual shipment, fixed or determinable selling price and reasonable assurance of collectibility. We sell our products directly to customers and generally recognize revenue at the time of shipment. In the same period that the related revenue is recorded, we also record estimated allowances for pricing discounts and sales returns that customers may subsequently request. These estimates are based on historical experience and our management’s judgment. If the estimates are not correct, revenue may be either understated or overstated.

An increase in the allowances for pricing discounts and sales returns would decrease our recorded revenue, operating income and our current assets.

The allowance we set aside for pricing discounts and sales returns was NT\$2,458 million in 2000, NT\$2,582 million in 2001 and NT\$2,373 million in 2002. The allowances set aside for pricing discounts and sales returns as of December 31, 2000, 2001 and 2002 represented 1.5%, 2.0% and 1.4%, respectively, of our revenue as of those dates. If we were to change our estimate on allowance for pricing discounts and sales returns either upward or downward 10%, our operating income would have been affected by NT\$237 million for 2002.

***Allowances for doubtful accounts.*** We periodically record a provision for doubtful accounts based on our evaluation of the collectibility of our accounts receivable. We categorize doubtful accounts and make provisions for a percentage of each category. We determine these percentages by examining our historical collection experience and current trends in the credit quality of our customers as well as our internal credit policies. If the financial condition of our customers, or economic conditions generally, were to deteriorate, additional allowances may be required in the future and such additional allowances would reduce our net income.

An increase in our allowance for doubtful accounts would decrease our income from operations and our current assets.

The allowance we set aside for doubtful receivables was NT\$947 million in 2000, NT\$1,101 million in 2001 and NT\$933 million in 2002. The allowances as of December 31, 2000, 2001 and 2002 represented 3.1%, 5.5% and 4.8%, respectively, of our gross accounts receivable as of those dates. If we were to change our estimate on allowance for doubtful receivables either upward or downward 10%, our income from operations would be affected by NT\$93 million for 2002.

***Inventory valuation.*** Inventories are stated at the lower of cost or market value. Market value represents the net realizable value for finished goods and work-in-progress goods, and replacement costs for raw materials, supplies and spare parts. Net realizable value for finished goods and work-in-progress goods is primarily based on the latest invoice prices. If the market value of a product drops below its carrying cost, we must write off the difference between the carrying cost and the market value.

As of December 31, 2000, 2001 and 2002, we recorded inventory valuation allowances in the aggregate amount of NT\$568 million, NT\$1,192 million and NT\$1,736 million, respectively. Our inventory valuation allowances were primarily for estimated scraps and defects. There would have been no material impact on the amount of valuation allowances we recognized had the prevailing market prices for our products been 10% higher or lower as of December 31, 2002.

***Valuation allowance for deferred tax assets.*** When we have net operating loss carryforwards, investment tax credits or temporary differences in the amount of tax recorded for tax purposes and accounting purposes, we may be able to reduce the amount of tax that we would otherwise be required to pay in future periods. We recognize all existing future tax benefits arising from these tax attributes as deferred tax assets and then, based on our internal estimations of our future profits, establish a valuation allowance equal to the extent, if any, that it is more likely than not that deferred tax assets will not be realized. The valuation allowance, which was 33.1% and 49.6% under ROC GAAP and 31.0% and 53.2% under U.S. GAAP of gross deferred tax assets as of December 31, 2001 and 2002, respectively, reduces our deferred tax assets. We record a benefit or expense under the income tax benefit or expense line of our income statement when there is a net change in our total deferred tax assets and liabilities in a period. Because the calculation of income tax benefit is dependent on our internal estimation of our future profitability, it is inherently subjective.

As of December 31, 2000, 2001 and 2002, the ending balance for valuation allowances under ROC GAAP were NT\$7,830 million, NT\$9,219 million and NT\$12,974 million, respectively.

Our valuation allowances are impacted by a number of factors, including, but not limited to, expected future revenue growth and profitability, tax holidays, and the amount of tax credits that can be utilized within the statutory period. In calculating our valuation allowance for deferred tax assets as of December 31, 2002 we have made certain assumptions with respect to the outlook of the semiconductor industry as well as our future profitability in the next five years.

As of December 31, 2002, the ending balance for our valuation allowances was NT\$12,974 million under ROC GAAP. If our current estimate of future profit had been higher, we would have decreased our valuation allowances accordingly. In contrast, if our current estimate of future profit had been lower, we would have increased our valuation allowances. However, due to the complexity in calculating our valuation allowances, we are unable to provide with reasonable accuracy the amount of changes to our valuation allowances that would have resulted based upon specific percentage changes to one or more individual factors such as our expected future revenue or profits.

In addition, because the recording of deferred tax assets and income tax benefit is based on, among other factors, our assumptions of levels of future profitability, if we subsequently determine that it is unlikely that we will achieve those profit levels, or otherwise believe that we will not incur sufficient tax liabilities to fully utilize the deferred tax assets, we will reduce our deferred tax assets and incur a charge to income at that time. Because our expectation for future profitability is generally less during periods of reduced income, we will be more likely to provide significant valuation allowances in respect of income tax assets during those periods of already reduced income.

***Valuation of long-lived and intangible assets and goodwill.*** Under U.S. GAAP, we assess the impairment of identifiable intangibles, long-lived assets and goodwill whenever events or changes in

circumstances indicate that the carrying value may not be recoverable. Factors we consider important which could trigger an impairment review include the following:

- significant under performance relative to expected historical or projected future operating results;
- significant changes in the manner of our use of the acquired assets or the strategy for our overall business;
- significant negative industry or economic trends;
- significant decline in our stock price for a sustained period; and
- significant decline in our market capitalization relative to net book value.

When we determine that the carrying value of intangibles, long-lived assets and goodwill may not be recoverable based upon the existence of one or more of the above indicators of impairment, we measure any impairment based on a projected future cash flow method for long-lived assets or a projected discounted cash flow method for goodwill and indefinite-lived intangible assets using a discount rate determined by our management to be commensurate with the risk inherent in our current business model. Net intangible assets, long-lived assets, and goodwill amounted to NT\$256,657.1 million (US\$7,396.5 million) under ROC GAAP and NT\$285,969.0 million (US\$8,241.2 million) under US GAAP as of December 31, 2002. Our projection for future cash flow is generally less 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 January 2002, Statement of Financial Accounting Standards (“SFAS”) No. 142, “Goodwill and Other Intangible Assets” became effective and as a result, we have ceased to amortize approximately NT\$47,476 million (US\$1,368.2 million) of goodwill under U.S. GAAP. For U.S. GAAP purposes, we had recorded approximately NT\$12,051.2 million (US\$344.3 million) of amortization on these amounts during 2001 and would have recorded approximately NT\$12,076.5 million (US\$348 million) of amortization during 2002. In lieu of amortization, we were required to perform an initial impairment review of our goodwill in 2002 and we are required to perform an annual impairment review thereafter.

In conjunction with the implementation of SFAS No. 142 on January 1, 2002, we completed the initial goodwill impairment test in accordance with the provisions of this standard and found no impairment. We performed our annual goodwill impairment test during the fourth quarter of 2002 and also found no impairment.

Application of the goodwill impairment test requires judgment, including the identification of reporting units, assigning assets and liabilities to reporting units, assigning goodwill to reporting units, and determining the fair value of each reporting unit. Significant judgments required to estimate the fair value of reporting units include estimating future cash flows, determining appropriate discount rates and other assumptions. Changes in these estimates and assumptions could materially affect the determination of fair value for each reporting unit.

***Accounting for investments in private and publicly-traded securities.*** We hold equity interests in companies, some of which are publicly traded and have highly volatile share prices. We record an investment impairment charge when we believe an investment has experienced an other-than-temporary decline in value. We monitor our investments for impairment by considering current factors including economic environment, market conditions and the operational performance and other specific factors relating to the business underlying the investment. Future adverse changes in these factors could result in losses, thereby possibly requiring an impairment charge in the future.

#### **Year Ended December 31, 2002 Compared to Year Ended December 31, 2001**

***Net Sales.*** Our net sales increased 28.9% from NT\$125,885 million in 2001 to NT\$162,301 million (US\$4,677 million) in 2002. This increase was primarily due to an increase in customer demand which resulted

in a 23.9% increase in wafer sales volume, from 2,159 thousand in 2001 to 2,675 thousand in 2002, more favorable foreign exchange rates, offset in part by a 1.0% decrease in the average selling price of our wafers in U.S. dollar terms. The decrease in the average selling price of our wafers in U.S. dollar terms in 2002 was primarily the result of a decline in pure pricing partially offset by a more favorable product mix.

**Cost of Sales and Gross Profit.** Our cost of sales increased 19.3% from NT\$92,228 million in 2001 to NT\$109,988 million (US\$3,170 million) in 2002. The increase resulted from higher sales activity and an increase in depreciation and amortization expenses related to cost of sales from NT\$48,791 million in 2001 to NT\$57,866 million (US\$1,667.6 million) in 2002 and an increase in some material and labor costs required for the manufacture of advanced semiconductors. Our depreciation and amortization expenses increased in 2002 primarily because of the increased depreciation associated with ramping up Fab 12 (Phase I), and the capacity increases at Fab 6 and Fab 8.

Our gross margin increased from 27% in 2001 to 32% in 2002. The increase in our gross margin was mainly the result of the increase in our utilization rate from 51% in 2001 to 73% in 2002.

**Operating Expenses.** Despite the 28.9% increase in net sales, our total operating expenses decreased 0.7% from NT\$20,879 million in 2001 to NT\$20,724 million (US\$597 million) in 2002. This decrease was primarily due to a decrease in general and administrative expenses and a decrease in marketing expenses, partially offset by an increase in research and development expenses. General and administrative expenses decreased 11.7% from NT\$7,940 million in 2001 to NT\$7,007 million (US\$202 million) in 2002. This decrease was primarily due to less expenditures in 2002 related to fab opening expenses. Marketing expenses decreased 13.0% from NT\$2,290 million in 2001 to NT\$1,992 million (US\$57 million) in 2002. This decrease resulted primarily from the reversal of bad debt accrual due to our estimate for provision being based on accounts receivable balance as of December 31, 2002.

Research and development expenses increased 10.1% from NT\$10,649 million in 2001 to NT\$11,725 million (US\$338 million) in 2002. The increase in research and development expenses was the result of our increased expenditures related to the yield improvements of our 0.13 micron technology and the development of 90-nanometer production technology, as part of our increased focus on being a leader in developing advanced process technology. We anticipate that our annual research and development expenditures will remain at a similar absolute level in 2003 as in 2002.

**Income from Operations.** Income from operations increased 147.2% from NT\$12,778 million in 2001 to NT\$31,589 million (US\$910 million) in 2002. This was primarily due to the increases in our sales and capacity utilization. Our operating margin increased from 10% in 2001 to 19% in 2002.

**Non-Operating Income and Expenses.** Non-operating income decreased 62.6% from NT\$6,476 million in 2001 to NT\$2,419 million (US\$70 million) in 2002. This decrease principally resulted from a NT\$774 million decrease in royalty income largely as a result of the decrease in royalty income from National Semiconductor (see note 23.h. to our consolidated financial statements), a NT\$1,655 million decrease in the net gain on sales of short-term and long-term investments, a NT\$861 million decrease in one-time insurance compensation received in 2001, and a NT\$392 million decrease in interest income, partially offset by a NT\$222 million increase in gain on sales of property, plant and equipment and a NT\$107 million increase in technical service income. Non-operating expenses decreased 19.8% from NT\$8,467 million in 2001 to NT\$6,786 million (US\$196 million) in 2002. This decrease principally resulted from a NT\$1,982 million decrease in investment loss recognized by equity method, a NT\$527 million decrease in interest expenses and a NT\$575 million decrease in foreign exchange loss, offset in part by a NT\$967 million increase in loss on long-term investments and a NT\$420 million increase in premium expenses associated with foreign exchange hedging.

**Income Tax Benefit (Expense).** In 2001 we had an income tax benefit of NT\$3,741 million while in 2002 we had an income tax expense of NT\$5,637 million (US\$162 million). The change was primarily due to a

decrease in tax credits as a result of reduced purchases of equipment, an increase in income tax expense at the statutory rate due to an increase in our pre-tax income, and increased valuation allowance in respect of our deferred tax assets. We anticipate that the tax expense for 2003 will decrease from the 2002 level due to a decrease in valuation allowance as a result of the recent tax law changes. In February 2003, the ROC tax authority removed certain restrictions on utilizing tax credits. As a result, we currently expect that we will not need to provide additional valuation allowances for tax credits generated in 2003.

**Net Income.** Net income increased 49.2% from NT\$14,483 million in 2001 to NT\$21,610 million (US\$623 million) in 2002. This was due principally to the increased demand from customers. Our net margin increased from 12% for 2001 to 13% for 2002.

#### **Year Ended December 31, 2001 Compared to Year Ended December 31, 2000**

**Net Sales.** Our net sales decreased 24.3% from NT\$166,198 million in 2000 to NT\$125,885 million in 2001. This decrease was primarily due to a 36.7% decrease in wafer sales volume, from 3,408 thousand in 2000 to 2,159 thousand in 2001, partially offset by a 10.3% increase in the average selling price of our wafers. The decrease in wafer sales volume is due primarily to the significant downturn in the semiconductor industry. The increase in the average selling price of our wafers in 2001 was primarily the result of a more favorable product mix, partially offset by a decline in pure pricing.

**Cost of Sales and Gross Profit.** Our cost of sales increased 5.3% from NT\$87,610 million in 2000 to NT\$92,228 million in 2001. This increase resulted from a 33.4% increase in depreciation and amortization expenses related to cost of sales from NT\$36,566 million in 2000 to NT\$48,791 million in 2001 and an increase in some material and labor costs required for the manufacture of advanced semiconductors, partially offset by a decrease in our general requirements for materials, labor and other components as a result of our 36.7% decrease in wafers sold. Our depreciation and amortization expenses increased in 2001 primarily because of the increased depreciation associated with ramping up Fab 6, the capacity increase at Fab 8 and the additional capacity acquired in our merger with TSMC-Acer.

Our gross margin decreased from 47% in 2000 to 27% in 2001. The decrease in our gross margin was principally the result of the decreased sales volumes, as the average utilization rate of our fabs fell from 106% in 2000 to 51% in 2001.

**Operating Expenses.** Our total operating expenses increased 20.7% from NT\$17,293 million in 2000 to NT\$20,879 million in 2001. General and administrative expenses increased 7.2% from NT\$7,408 million in 2000 to NT\$7,940 million in 2001. This increase resulted primarily from preparations in connection with the expected production of twelve-inch wafers. Marketing expenses decreased 14.6% from NT\$2,682 million in 2000 to NT\$2,290 million in 2001. This decrease resulted primarily from reductions in bad debt expenses and DRAM selling commissions paid to Vanguard in 2001.

Research and development expenses increased 47.8% from NT\$7,204 million in 2000 to NT\$10,649 million in 2001. Research and development expenses increased significantly as a result of our increased expenditures related to the development of our 0.13 micron and 90-nanometer and twelve-inch wafer production technology, along with copper interconnect technology, as part of our increased focus on being a leader in developing advanced process technology.

**Income from Operations.** Income from operations decreased 79.2% from NT\$61,295 million in 2000 to NT\$12,778 million in 2001. This was due principally to the global decline in demand in the semiconductor industry. Our operating margin decreased from 37% in 2000 to 10% in 2001.

**Non-Operating Income and Expenses.** Non-operating income increased 5.8% from NT\$6,120 million in 2000 to NT\$6,476 million in 2001. This increase principally resulted from a NT\$777 million increase in royalty

income and a NT\$558 million increase in the net gain on sales of short-term investments, partially offset by a NT\$763 million decrease in insurance compensation and the elimination of a NT\$828 million foreign exchange gain recorded in 2000. Non-operating expenses increased 141% from NT\$3,513 million in 2000 to NT\$8,467 million in 2001. This increase principally resulted from a NT\$3,772 million increase in net loss of investee companies and a NT\$696 million foreign exchange loss recorded in 2001.

***Income Tax Expense (Benefit).*** Income tax benefit increased 220% from NT\$1,168 million in 2000 to NT\$3,741 million in 2001. This increase primarily resulted from a significant decrease in income tax payable at the statutory rate due to a reduction in income before income tax and a significant increase in available investment tax credits due to the substantial capital expenditures made in the second half of 2000 and in 2001 that were eligible for investment tax credits in 2001.

***Net Income.*** Net income decreased 77.8% from NT\$65,106 million in 2000 to NT\$14,483 million in 2001. This was due principally to the global decline in demand in the semiconductor industry. Our net margin decreased from 39% for 2000 to 12% for 2001.

## **Liquidity and Capital Resources**

We had cash, cash equivalents and short-term investments of NT\$67,960 million (US\$1,958 million) as of December 31, 2002. On May 29, 2003, we used NT\$13,000 million to redeem our Preferred A shares in accordance with the terms. Net cash inflow in 2002 was NT\$30,234 million (US\$871 million) as compared to net cash outflow of NT\$1,284 million in 2001. The increase in net cash inflow of NT\$31,518 million (US\$908 million) in 2002 as compared with 2001 resulted primarily from a NT\$22,689 million increase in cash provided by operating activities and a NT\$15,042 million decrease in cash used in investing activities, partially offset by a NT\$7,243 million increase in cash used in financing activities. Net cash outflow in 2001 was NT\$1,284 million (US\$37 million) as compared to net cash inflow of NT\$9,323 million in 2000. The NT\$10,607 million (US\$303 million) decrease in net cash inflow in 2001 as compared with 2000 resulted primarily from a NT\$34,469 million decrease in cash provided by financing activities and a NT\$18,969 million decrease in cash provided by operating activities, partially offset by a NT\$43,717 million decrease in cash used in investing activities.

In 2002, our net cash provided by operating activities amounted to NT\$98,507 million (US\$2,839 million), which included non-cash depreciation and amortization expenses of NT\$65,001 million (US\$1,873 million) as compared to non-cash depreciation and amortization expenses of NT\$55,323 million in 2001. Depreciation and amortization expenses were higher in 2002 than in 2001 primarily due to increased depreciation associated with ramping up Fab 12 (Phase I) and the capacity increases at Fab 6 and Fab 8. In 2001, our net cash provided by operating activities amounted to NT\$75,818 million, which included non-cash depreciation and amortization expenses of NT\$55,323 million. Depreciation and amortization expenses were significantly higher in 2001 than in 2000 primarily due to increased depreciation and amortization at Fab 6 and Fab 8, as a result of capacity increases, and at Fab 7 after our merger with TSMC-Acer. Depreciation and amortization expenses will continue to increase in 2003 due to the continued ramping up at Fab 12 (Phase I) and the capacity increase at Fab 6.

Net cash used in investing activities in 2002 amounted to NT\$62,190 million (US\$1,792 million). The most significant component of this was the acquisition of equipment amounting to NT\$55,236 million (US\$1,592 million) primarily in connection with the capacity increases at Fab 6 and Fab 8 and the ramping up at Fab 12 (Phase I). Net cash used in investing activities in 2001 amounted to NT\$77,232 million. The most significant component of this was the acquisition of equipment amounting to NT\$70,201 million primarily in connection with the opening of Fab 12, the ramping up at Fab 6 and capacity increase at Fab 8.

Net cash used in financing activities in 2002 amounted to NT\$6,346 million (US\$183 million). This amount primarily reflects net payments made on short-term bank loans of NT\$5,539 million (US\$160 million) and on long-term bank borrowings of NT\$4,397 million (US\$127 million), a decrease in guarantee deposits and other

liabilities of NT\$5,818 million (US\$168 million), partially offset by the net proceeds from the issuance of long-term bonds of NT\$10,000 million (US\$288 million). Net cash provided by financing activities in 2001 amounted to NT\$897 million (US\$26 million). This amount primarily reflects net proceeds from short-term bank loans of NT\$2,435 million (US\$70 million), partially offset by net payments made on long-term bank borrowings of NT\$940 million (US\$27 million) and NT\$584 million (US\$17 million) for bonuses to directors and supervisors.

As of December 31, 2002, we had aggregate short-term bank loans of NT\$730 million (US\$21 million), current portion of long-term bonds and long-term bank loans of NT\$10,951 million (US\$316 million) and aggregate long-term debt of NT\$46,051 million (US\$1,327 million). NT\$730 million (US\$21 million) of the short-term bank loans and NT\$18,002 million (US\$518 million) of the long-term debt and current portion of long-term debt were denominated in U.S. dollars. To protect against reductions in value and the volatility of future cash flows caused by changes in foreign exchange rates, we utilize derivative financial instruments, mainly currency forward contracts, to hedge our currency exposure. See “Item 11. Quantitative and Qualitative Disclosure About Market Risk” for a discussion of the hedging instruments we use. All of the short-term and long-term bank loans had floating interest rates based on the London interbank offer rate, or LIBOR. NT\$39,000 million of the long-term bonds (including current portion) had fixed interest rates ranging from 2.60% to 7.71% (See notes 12, 13 and 14 to our consolidated financial statements). As of December 31, 2002, we had an aggregate of NT\$20,648 million (US\$595 million) in unused short-term credit lines and NT\$4,233 million (US\$122 million) in unused long-term credit lines.

Our loan agreements, credit facilities and guaranty agreements for the obligations of our consolidated subsidiaries contain covenants which, if violated, could result in our obligations under these agreements becoming due prior to the originally scheduled maturity dates. These covenants include financial covenants that require us to maintain at least:

- a current assets to current liabilities ratio of 1:1;
- an earnings before interest, taxes, depreciation and amortization to gross interest expense ratio of 4:1; and
- a total net worth to total indebtedness ratio of 1:1; and
- unencumbered assets with a minimum value equal to not less than the then outstanding balance of amounts payable.

As of March 31, 2003, we were in compliance with our financial covenants. Other covenants could be triggered by a material adverse change in our business or management personnel that would impair our ability to perform our obligations under the agreements.

As of December 31, 2002, our customers had on deposit an aggregate of approximately US\$40 million to reserve future capacity, which was reserved for capacity during the years 2003 through 2004.

The following table sets forth the maturity of our long-term bank loans and short-term bank loans outstanding as of December 31, 2002:

|                                  | <u>Long-term loans</u> | <u>Short-term loans</u> |
|----------------------------------|------------------------|-------------------------|
|                                  | (in millions)          |                         |
| During 2003 .....                | NT\$ 6,951             | NT\$730                 |
| During 2004 .....                | —                      | —                       |
| During 2005 .....                | 11,051                 | —                       |
| During 2006 .....                | —                      | —                       |
| During 2007 and thereafter ..... | —                      | —                       |

The following table sets forth information on our material contractual obligated payments for the periods indicated as of December 31, 2002:

| <u>Contractual Obligations</u>                | <u>Payments Due by Period</u> |                             |                  |                  |                              |
|-----------------------------------------------|-------------------------------|-----------------------------|------------------|------------------|------------------------------|
|                                               | <u>Total</u>                  | <u>Less than<br/>1 Year</u> | <u>1-3 Years</u> | <u>4-5 Years</u> | <u>More than<br/>5 Years</u> |
|                                               |                               | (in millions NT\$)          |                  |                  |                              |
| Long-Term Debt(1) .....                       | 57,002                        | 10,951                      | 26,551           | 7,000            | 12,500                       |
| Preferred Shares(2) .....                     | 13,639                        | 13,455                      | 184              | —                | —                            |
| Capital Lease Obligations .....               | —                             | —                           | —                | —                | —                            |
| Operating Leases .....                        | 401                           | 401                         | —                | —                | —                            |
| Property Leases .....                         | 3,774                         | 341                         | 683              | 677              | 2,073                        |
| Other Payments(3) .....                       | 5,439                         | 1,157                       | 2,683            | 973              | 626                          |
| Equipment or other Purchase Obligations ..... | 34,995                        | 34,995                      | —                | —                | —                            |
| Total Contractual Cash Obligations .....      | 115,250                       | 61,300                      | 30,101           | 8,650            | 15,199                       |

(1) Excludes interest payments.

(2) Includes 3.5% annual cash dividend.

(3) Includes royalty and license payments, but excludes payments that vary based upon our net sales of certain products and our sales volume of certain other products.

We do not generally provide letters of credit to, or guarantees for, or engage in any repurchase financing transactions with, any entity other than our consolidated subsidiaries.

We require significant amounts of capital to build, expand, upgrade and maintain our production facilities and equipment. We made capital expenditures of NT\$103,762 million, NT\$70,201 million and NT\$55,236 million (US\$1,592 million) in 2000, 2001 and 2002, respectively. We currently expect that our plans for ramping up production at Fab 12 (Phase I), capacity increase at Fab 6 and upgrading the technology at Fab 3 and Fab 8 and R&D projects will require capital expenditures of between approximately NT\$34,700 million (US\$1,000 million) and approximately NT\$52,050 million (US\$1,500 million) for 2003.

In November 2000, we issued 1.3 billion Preferred A shares at the par value of NT\$10 per share for total proceeds of NT\$13 billion. Philips purchased 99.99% of the Preferred A shares. The Preferred A shares paid a cumulative annual cash dividend at a rate of 3.5% per annum. We redeemed all of our Preferred A shares on May 29, 2003 at par value.

Vanguard conducted a capital call of NT\$4,200 million (US\$121 million) from its shareholders in January 2003, of which our subscribed share was approximately NT\$1,616 million (US\$47 million).

We expect to fund our expansion projects and other cash requirements primarily with internally generated funds. In the future, we may consider debt and equity financing, depending on market conditions, our financial performance and other relevant factors. In particular, an extended industry downturn could adversely affect our profitability and internal generation of cash, and thereby increase our reliance on external sources of funds. We believe that we will have sufficient resources available to meet our planned capital requirements.

## **Research and Development, Patents and Licenses**

The semiconductor industry is characterized by rapid changes in technology. We believe that, in order to stay technologically ahead of our foundry competitors and 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 of the semiconductor industry but in the semiconductor industry in general. We spent NT\$7,204 million, NT\$10,649 million and NT\$11,725 million (US\$338 million) in 2000, 2001 and 2002, respectively, on research and development, which represented 4.3%, 8.5% and 7.2%, respectively, of our net sales for these periods. We

plan to continue to invest significant amounts on research and development in 2003 with the goal of maintaining a leading position in the development of advanced process technologies. See “Item 4. Information on the Company—Research and Development” for more details relating to our research and development policies and our intellectual property licenses and patents.

## **Inflation**

Our most significant export market is North America and we do not believe that inflation in the ROC or North America has recently had a material impact on our results of operations.

## **Taxation**

We enjoy preferential tax treatment in certain respects under the Hsinchu and Tainan Science Park regulations. We are entitled to a four-year tax holiday for income generated from construction and capacity expansions of production facilities. The exemption period may begin at any time within four years following the completion of the construction or expansion. The aggregate tax benefits of such exemption in 2000, 2001 and 2002 were NT\$7,770 million, NT\$1,089 million and NT\$2,527 million, respectively. We commenced the exemption period for Fab 6 in 2001 and part of Fab 8 in 2002, and expect to commence the exemption period for Fab 12 (Phase I) in 2003. See note 17 to our consolidated financial statements.

Pursuant to the ROC Statute for Upgrading Industries, we are entitled to credit 5% to 20% of investments, depending on the type and origin of the assets, in most of our production and production-related equipment against tax payable in any year within five years of the acquisition date of the assets. The Statute for Upgrading Industries also grants us the right to credit up to 20% of our investments in emerging, important and strategic industries (as defined in that statute) against tax payable within five years after the expiration of the first three years of investment, during which period we are required to hold such investments.

According to the tax credit rules promulgated under the Statute for Upgrading Industries, we are entitled to a tax credit of 20% for the purchase of equipment manufactured in Taiwan and 10% for the purchase of equipment manufactured outside of Taiwan. Because the ROC became a member of the World Trade Organization on January 1, 2002, the Ministry of Economic Affairs amended the tax credit rules in April 2002 to adopt a 13% rate of tax credit to be applied to the purchase of equipment regardless of where it was manufactured.

## **US GAAP Reconciliation**

Our consolidated financial statements are prepared in accordance with ROC GAAP, which differs in certain material respects from US GAAP. The following table sets forth a comparison of our net income (loss) and shareholders' equity in accordance with ROC GAAP and US GAAP for the periods indicated:

|                                          | Year ended and as of December 31, |              |              |       |
|------------------------------------------|-----------------------------------|--------------|--------------|-------|
|                                          | 2000<br>NT\$                      | 2001<br>NT\$ | 2002<br>NT\$ | US\$  |
|                                          | (in millions)                     |              |              |       |
| Net income (loss) in Accordance with:    |                                   |              |              |       |
| ROC GAAP .....                           | 65,106                            | 14,483       | 21,610       | 623   |
| US GAAP .....                            | 21,740                            | (21,975)     | 14,534       | 419   |
| Shareholders' equity in Accordance with: |                                   |              |              |       |
| ROC GAAP .....                           | 261,754                           | 277,190      | 295,853      | 8,526 |
| US GAAP .....                            | 279,946                           | 289,450      | 310,623      | 8,952 |

Notes 27 and 28 to the consolidated financial statements provide a description of the principal differences between ROC GAAP and US GAAP as they relate to us, and a reconciliation to US GAAP of certain items, including net income and shareholders' equity. Differences between ROC GAAP and US GAAP that have a

material effect on our net income as reported under ROC GAAP include compensation expense pertaining to stock bonuses to employees, directors and supervisors, impairment charges for long-lived assets, and amortization of goodwill.

We paid employee bonuses in respect of 2000 and 2001 in the form of common shares and expect to pay all or a portion of employee bonuses in future periods in the form of common shares. On June 3, 2003, our shareholders approved the distribution of an aggregate bonus to our employees of NT\$1,539,012,990 in respect of 2002 profits in the form of common shares in 2003. The number of common shares distributed as part of employee bonuses is obtained by dividing the total nominal NT dollar amount of the bonus to be paid in the form of common shares by the par value of the common shares, or NT\$10 per share, rather than their market value, which has generally been substantially higher than par value. Under ROC GAAP, the distribution of employee bonus shares is treated as an allocation from retained earnings, and we are not required to, and do not, charge the value of the employee bonus shares against income. Under US GAAP, however, we are required to charge the market value of the employee bonus shares to employee compensation expense in the period to which they relate, correspondingly reducing our net income and income per share calculated in accordance with US GAAP. However, since the amount and the form of the payment of the compensation is subject to shareholder approval and only determinable at the annual shareholders' meeting, which is generally held after the issuance of our financial statements, under US GAAP the compensation expense is initially accrued at the nominal NT dollar amount of the aggregate bonus in the period to which it relates as if it were to be paid entirely in cash. For US GAAP purposes, the difference between the amount initially accrued and the market value of the common shares and cash issued as payment of all or any part of the bonus is recorded as employee compensation expense in the period in which shareholder approval is obtained, which normally occurs during the second fiscal quarter of the subsequent year. See note 27.c. to the consolidated financial statements. Net income and income per share amounts calculated in accordance with ROC GAAP and US GAAP differ accordingly. In addition, because the adjustment for market price for the purpose of US GAAP reconciliation is made in the second quarter of each fiscal year and the entire amount of the adjustment is charged to the results for such quarter, the adjustment has a disproportionate impact on the results for the second quarter under US GAAP.

For purposes of US GAAP, we are required to periodically evaluate the recoverability of the carrying amount of our long-lived assets in accordance with Statement of Financial Accounting Standard No. 144 ("SFAS No. 144") "Accounting for the Impairment or Disposal of Long-lived Assets" which we were required to apply on January 1, 2002 and which supersedes Statement of Financial Accounting Standard No. 121 "Accounting for the Impairment of Long-Lived Assets and for the Long-Lived Assets to be Disposed Of". Whenever events or changes in circumstances indicate that the carrying amounts of those assets may not be recoverable, we are required to compare undiscounted net cash flows estimated to be generated by those assets to the carrying value of those assets. To the extent that cash flows are less than the carrying value of the assets, we are required to record impairment losses for the difference between the carrying value and the fair value of the assets. Under ROC GAAP, we are not required to record impairment losses of assets. Please see notes 27.e. and 28.a. to the consolidated financial statements for a more detailed discussion of the impairment of long-lived assets and SFAS No. 144. The adoption of SFAS No. 144 did not have a material impact on our US GAAP financial information.

Under ROC GAAP, goodwill is amortized over ten years. Under US GAAP, prior to January 1, 2002, goodwill was amortized over five or ten years. Effective January 1, 2002, the Company adopted U.S. SFAS No. 142, "Goodwill and Other Intangible Assets." In accordance with U.S. SFAS No. 142, goodwill and indefinite-lived intangible assets are no longer amortized, and instead are assessed for impairment on at least an annual basis. In addition, in connection with the Company's acquisition of TSMC-Acer, the goodwill from the 1999 acquisition of the initial 32% interest in TSMC-Acer was recognized for ROC GAAP purposes since the goodwill was from an acquisition paid in cash. However, goodwill from the 2000 acquisition of the remaining 68% interest in TSMC-Acer was not recognized under ROC GAAP. Rather it was netted against capital surplus since the goodwill was from a business combination in the form of a share exchange. Under US GAAP, all goodwill from the TSMC-Acer acquisitions was recognized.

## Recent Accounting Pronouncements

In June 2001, the U.S. Financial Accounting Standards Board issued SFAS No. 141, "Accounting for business combinations", and SFAS No. 142, "Goodwill and other intangible assets". These standards, which we adopted on January 1, 2002, affect accounting for business combinations consummated after June 30, 2001 and may affect existing goodwill and our other intangible assets. The standards require, among other things, companies to review for possible impairment of goodwill existing at the date of adoption and perform subsequent impairment tests on an annual basis. Additionally, existing goodwill and intangible assets must be reassessed and classified consistently in accordance with the criteria. Under the new standards for US GAAP, we no longer amortize goodwill, but intangible assets continue to be amortized over their estimated useful lives, which, if supportable, may be a period that exceeds the current maximum period of 40 years. Intangible assets with indeterminable useful lives are not amortized but are assessed for impairment in accordance with SFAS No. 121.

As a result of this change in US GAAP, we no longer incur goodwill amortization expenses for US GAAP purposes, which amounted to NT\$1,260 million (US\$36.0 million) under ROC GAAP and NT\$10,791 million (US\$308 million) of additional goodwill amortization under US GAAP for 2001. As of December 31, 2002, TSMC had a total amount of NT\$47,476 million (US\$1,368 million) recorded as goodwill under US GAAP. In conjunction with our implementation of SFAS No. 142 on January 1, 2002, we completed a goodwill impairment test in accordance with the provisions of this standard and found no impairment. We performed our annual goodwill impairment test during the fourth quarter of 2002 and also found no impairment. We currently are not able to estimate the extent and timing of any goodwill impairment charge for future years. Any goodwill impairment charge under US GAAP may have a material adverse effect on our net income for subsequent periods on a US GAAP reconciled basis.

Please see note 28.a. to the consolidated financial statements for a discussion of other announced changes in US GAAP that we do not expect to have a material effect on our consolidated financial statements.

## Auditors

T N Soong & Co. was previously a member firm of Andersen Worldwide, SC. On April 7, 2002, T N Soong & Co. served notice to terminate its relationship with Andersen Worldwide, SC. From April 22, 2002, T N Soong & Co. is an associate member firm of Deloitte Touche Tohmatsu. On June 1, 2003, T N Soong & Co. and Deloitte & Touche Taiwan combined to establish a new Deloitte & Touche.

The following table summarizes the fees that we paid or accrued for services provided by T N Soong & Co. and its affiliated firms, Andersen Worldwide, SC and Deloitte Touche Tohmatsu for the fiscal years ended December 31, 2001 and 2002:

|                          | <u>2001</u>           | <u>2002</u>       |
|--------------------------|-----------------------|-------------------|
|                          | <u>(In thousands)</u> |                   |
| Audit Fees .....         | NT\$ 35,514           | NT\$34,424        |
| Audit Related Fees ..... | 666                   | 430               |
| Tax Fees .....           | 14,241                | 10,214            |
| All Other Fees .....     | 69,963                | 54,693            |
| Total .....              | <u>NT\$120,384</u>    | <u>NT\$99,761</u> |

*Audit Fees.* This category includes the audit of our annual financial statements, review of quarterly financial statements and services that are normally provided by the independent auditors in connection with statutory and regulatory filings or engagements for those fiscal years. This category also includes advice on audit and accounting matters that arose during, or as a result of, the audit or the review of quarterly financial statements and statutory audits required by non-U.S. jurisdictions, including statutory audits required by the Tax Bureau of the ROC, Customs Bureau of the ROC, and Securities and Futures Commission ("SFC") of the ROC.

*Audit-Related Fees.* This category consists of assurance and related services by T N Soong & Co. and its affiliated firms that are reasonably related to the performance of the audit or review of our financial statements and are not reported above under “Audit Fees.” The services for the fees disclosed under this category include royalty audits and review of certain regulatory filings with the SFC.

*Tax Fees.* This category consists of professional services rendered by T N Soong & Co. and its affiliated firms for tax compliance and tax advice. The services for the fees disclosed under this category include tax return preparation and technical tax advice.

*All Other Fees.* This category consists primarily of fees for financial and other information system design and implementation and consultation relating to employee stock option plan.

## **Item 6. Directors, Senior Management and Employees**

### **Directors, Supervisors and Executive Officers**

#### **MANAGEMENT**

Members of our board of directors are elected by our shareholders. Our board of directors is composed of nine directors. 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.

We also have three supervisors. In accordance with the ROC Company Law, supervisors are elected by our shareholders and cannot concurrently serve as our directors, executive officers or other staff members. The term of office for supervisors is three years. The supervisors’ duties and powers include, but are not limited to, investigation of our financial condition, inspection of corporate records, verification of statements by the board of directors, giving reports at shareholders’ meetings, representation of us in negotiations with our directors and giving notification, when appropriate, to the board of directors to cease acting in contravention of applicable law or regulations or in contravention of our articles of incorporation or beyond our scope of business.

Pursuant to the ROC Company Law, a person may serve as our director or supervisor in his personal capacity or as the representative of another legal entity. A director or supervisor 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 or supervisor may serve the remainder of the term of office of the replaced director or supervisor. Of our nine directors, two are representatives of Philips and one is a representative of the Development Fund. Of our three supervisors, one is a representative of Philips and one is a representative of the Development Fund.

The following table sets forth the name of each director, supervisor 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 3, 2003. The business address for each of our directors, supervisors and executive officers is No. 8, Li-Hsin Road 6, Science-Based Industrial Park, Hsinchu, Taiwan, Republic of China.

| <u>Name</u>                | <u>Position with our company</u>            | <u>Term Expires</u> | <u>Years with our company</u> |
|----------------------------|---------------------------------------------|---------------------|-------------------------------|
| Morris Chang . . . . .     | Chairman and Chief Executive Officer        | 2006                | 16                            |
| A.P.M. van der Poel . . .  | Director (Representative of Philips)        | 2003                | 6                             |
| J.C. Lobbezoo . . . . .    | Director (Representative of Philips)        | 2006                | 9                             |
| Jaap van Oost(1) . . . . . | Director (Representative of Philips)        | 2006                | 1                             |
| F.C. Tseng . . . . .       | Director and Deputy Chief Executive Officer | 2006                | 16                            |
| Stan Shih . . . . .        | Director                                    | 2006                | 2                             |

| <u>Name</u>                 | <u>Position with our company</u>                                             | <u>Term Expires</u> | <u>Years with our company</u> |
|-----------------------------|------------------------------------------------------------------------------|---------------------|-------------------------------|
| Chintay Shih . . . . .      | Director (Representative of the Development Fund)                            | 2006                | 6                             |
| Lester Carl Thurow . . . .  | Director                                                                     | 2006                | 2                             |
| Sir Peter Leahy Bonfield    | Director                                                                     | 2006                | 2                             |
| Rick Tsai . . . . .         | Director and President and Chief Operating Officer                           | 2006                | 13                            |
| Robbert Brakel . . . . .    | Supervisor (Representative of Philips)                                       | 2006                | 3                             |
| George C. Shiu(2) . . . . . | Supervisor (Representative of the Development Fund)                          | —                   | 3                             |
| Susan Chang(2) . . . . .    | Supervisor (Representative of the Development Fund)                          | 2006                | 1                             |
| Michael E. Porter . . . . . | Supervisor                                                                   | 2006                | 2                             |
| Quincy Lin . . . . .        | Senior Vice President of Corporate Development and Chief Information Officer | —                   | 13                            |
| Harvey Chang . . . . .      | Senior Vice President, Chief Financial Officer and Spokesperson              | —                   | 5                             |
| Shang-Yi Chiang . . . . .   | Senior Vice President of Research and Development                            | —                   | 6                             |
| Kenneth Kin . . . . .       | Senior Vice President of Worldwide Marketing and Sales                       | —                   | 2                             |
| J. B. Chen . . . . .        | Vice President of Material Management and Risk Management                    | —                   | 16                            |
| Ping Yang . . . . .         | Vice President of Research and Development                                   | —                   | 5                             |
| C.C. Wei . . . . .          | Vice President of Operations I                                               | —                   | 5                             |
| S.H. Lee . . . . .          | Vice President of Corporate Human Resources                                  | —                   | 4                             |
| Mark Liu . . . . .          | Vice President of Operations II                                              | —                   | 9                             |
| Genda Hu . . . . .          | Vice President of Corporate Marketing                                        | —                   | 3                             |
| Chung-Shih Hsu . . . . .    | Vice President of Business Operations                                        | —                   | 2                             |
| Chenming Hu . . . . .       | Chief Technology Officer                                                     | —                   | 2                             |
| M.C. Tzeng . . . . .        | Vice President of Operations, Deputy of Operations I                         | —                   | 16                            |
| Richard Thurston . . . . .  | Vice President and General Counsel                                           | —                   | 2                             |
| Chiam Wu . . . . .          | Vice President of Worldwide Customer Service                                 | —                   | 2                             |

(1) Effective November 1, 2002, Mr. van Oost replaced Mr. P.J. Zeven.

(2) Effective April 1, 2003, Ms. Susan Chang replaced Mr. George C. Shiu.

**Morris Chang** has been the Chairman of our board of directors since our establishment. From 1985 to 1994, he was President and then Chairman of the board of directors of ITRI. Prior to that, Mr. Chang was President and Chief Operating Officer of General Instrument Corporation; Corporate Group and Senior Vice-President for Texas Instruments. He holds a bachelor's degree and a master's degree in mechanical engineering from the Massachusetts Institute of Technology and a Ph.D. in electrical engineering from Stanford University and has been active in the semiconductor industry for over 48 years.

**A. P. M. van der Poel** was a director until June 3, 2003. He is also Executive Vice President of Philips and a member of the Group Management Committee of Philips. Mr. van der Poel holds a degree in telecommunications engineering from Eindhoven Technical University.

**J.C. Lobbezoo** is a director. He is also the Executive Vice President and Chief Financial Officer of Philips Semiconductors and the Chairman of the board of directors of Systems on Silicon. He took up this appointment in 1994 after four years as Chief Financial Officer with Philips Domestic Appliances. He joined Philips in 1970 and has worked in finance and control positions in Nigeria, South Africa and Scandinavia as well as The Netherlands. A Dutch national, Mr. Lobbezoo has a master degree in Business Economics from Erasmus University, Rotterdam, The Netherlands. He is a member of the Dutch Institute of Chartered Accountants (NIVRA). Furthermore he represents Philips as a member of the board of FEI Company, Portland, USA.

**Jaap C. van Oost** is a director and replaced Mr. P.J. Zeven on November 1, 2002. Mr. van Oost is the President and Chief Executive Officer of Philips Taiwan. Prior to that, he served as Chief Executive Officer of

Philips Poland since 1994. He graduated from Eindhoven Polytechnic in business administration and has a degree in economics from Erasmus University. He has a wide experience in the global electronics industry for over 35 years.

**F.C. Tseng** is a director. He has been Deputy Chief Executive Officer since August 2001. He formerly served as the President of Vanguard from 1996 to 1998 and our President from May 1998 to August 2001. Prior to his presidency at Vanguard, Mr. Tseng served as our Senior Vice President of operations. Mr. Tseng holds a Ph.D. in electrical engineering from National Cheng-Kung University and has been active in the semiconductor industry for over 32 years.

**Stan Shih** is an independent director. He also has served as the Chairman and Chief Executive Officer of the Acer Group since 1976. Mr. Shih holds a bachelor's degree, a master's degree and a Honorary EE Ph.D degree in electrical engineering from National Chiao Tung University.

**Chintay Shih** is a director. He is also the President of ITRI and a director of each of Vanguard and the Industrial Technology Investment Corporation. Mr. Shih holds a Ph.D. in electrical engineering from Princeton University.

**Lester Carl Thurow** is an independent director. Mr. Thurow is Jerome and Dorothy Lemelson Professor of Management and Economics at the Massachusetts Institute of Technology's Sloan School of Management. He is also a director of Analog Devices, Inc. and E\*TRADE Group, Inc. Professor Thurow served as dean of the Sloan School of Management from 1987 to 1993. Professor Thurow holds a Ph.D. in economics from Harvard University and an M.A. in philosophy, politics and economics from Oxford University where he was a Rhodes Scholar.

**Sir Peter Leahy Bonfield** is an independent director. Sir Peter Bonfield was the Chief Executive Officer of British Telecommunications from January 2, 1996 to January 31, 2002. He currently is a senior non-executive director of AstraZeneca Group Plc. and director of L. M. Ericsson and Mentor Graphics Corporation Inc. He is also the Vice President of the British Quality Foundation and member of the Citigroup International Advisory Board. He holds a bachelors degree in engineering from Loughborough University of Technology.

**Rick Tsai** is a director. He has been President and Chief Operating Officer since August 2001. He was Executive Vice President of Worldwide Marketing and Sales from September 2000 to August 2001. Prior to that, he served as our Executive Vice President of Operations. He also served as the President of Vanguard from 1999 to 2000. He joined us in 1989 as Deputy Director of our Fab 2 operations. He holds a Ph.D. in material science from Cornell University and has been active in the semiconductor industry for over 21 years.

**Robbert Brakel** is a supervisor. He is the Vice President of Finance at Philips Electronics and Chief Financial Officer of Philips Semiconductors in Asia, based in Taipei. He has served previously as Financial Controller of Philips' Mainstream TV business in Singapore and the Domestic Appliances business in The Netherlands. Mr. Brakel holds a doctoral degree in business economics and organization from the Free University of Amsterdam and is a chartered controller.

**George C. Shiu** was a supervisor until April 1, 2003. He has also been Deputy Executive Secretary of the Development Fund since 1999. Prior to that, he was an Executive Vice President of Overseas Chinese Commercial Bank. Mr. Shiu holds a master's degree from Johns Hopkins University.

**Susan Chang** is a supervisor and replaced Mr. George C. Shiu on April 1, 2003. Ms. Chang is the Administrative Vice-Minister of the Ministry of Finance, R.O.C. Prior to that, Ms. Chang served as Director General of Department of National Treasury, Ministry of Finance, R.O.C. Ms. Chang holds a master's degree of Economics, National Taiwan University.

**Michael E. Porter** is an independent supervisor. Mr. Porter is Bishop William Lawrence University Professor at Harvard Business School. Professor Porter is a leading expert on competitiveness strategy and has served as an advisor to both international companies and sovereign states. Professor Porter holds a Ph.D. in business economics from Harvard University, an MBA from Harvard Business School and a bachelors degree in mechanical engineering from Princeton University.

**Quincy Lin** has been Senior Vice President of Corporate Development since May 1997 and Chief Information Officer since August 2001. He joined us in 1989 as Director of Strategic Planning and Development after having worked for Bell Laboratories of AT&T. He was Senior Director of Corporate Services at our company from 1992 to 1994 and Vice President of Corporate Marketing and Sales from 1994 to 1997. He holds a Ph.D. in business administration from the University of Kentucky and has been active in the semiconductor industry for over 20 years.

**Harvey Chang** has been Senior Vice President and Chief Financial Officer since January 1998 and Spokesperson since January 2002. Prior to that, he was Chairman of China Securities Investment Trust Corporation and President of China Development Corp. He holds a master's degree in business administration from the Wharton School, University of Pennsylvania and has been active in the finance and semiconductor industries for over 24 years in total.

**Shang-Yi Chiang** has been Senior Vice President of Research and Development since November 2000. He joined us as Vice President of Research and Development in July, 1997. Prior to that, he worked at Hewlett Packard. Dr. Chiang holds a Ph.D. in electrical engineering from Stanford University and has been active in the semiconductor industry for over 26 years.

**Kenneth Kin** joined us as Senior Vice President of Worldwide Marketing and Sales in August 2001. Prior to that, he was the Vice President of IBM Corporation since 1996. He holds a Ph.D. in nuclear engineering and applied physics from Columbia University.

**J.B. Chen** joined us in 1987 and has been Vice President of Material Management and Risk Management since August 2001. He holds a master's degree in physics from National Tsing Hua University and has been active in the semiconductor industry for over 21 years.

**Ping Yang** has been Vice President of Research and Development since August 2001. Prior to that, Dr. Yang was assigned to our U.S. subsidiary, TSMC North America, in 2000. He joined us in 1997 as Vice President and has been through various functions of Corporate Marketing and Design Services. He holds a Ph.D. in electrical engineering from University of Illinois, Champaign-Urbana.

**C.C. Wei** has been Vice President for Operations I since January 2002. Prior to that, he was Vice President of South Sites Operations from April 2000 and Vice President of North Sites Operations from February 1998 to April 2000. Prior to that, he was Senior Vice President at Chartered Semiconductor Manufacturing Ltd. in Singapore starting in 1993. He holds a Ph.D. in electrical engineering from Yale University.

**S.H. Lee** has been Vice President of Corporate Human Resources since August 1998. Prior to that, he was Regional Vice President of Network Systems of Lucent Technologies, Asia Pacific. Mr. Lee holds a master's degree in management from Stanford University.

**Mark Liu** has been Vice President of Operations II since January 2002. Prior to that, he was the Vice President of our Fab 8 and Fab 12 sites operation from July 2000 and Vice President of South Sites Operations from 1999 to July 2000. He joined us in 1993 and has held the positions as Director of our Fab 3 operation and Senior Director of South Sites Operations. He holds a Ph.D. in electrical engineering and computer science from the University of California, Berkeley, and has been active in the semiconductor industry for over 16 years.

**Genda Hu** has been Vice President of Corporate Marketing since May 2001. Mr. Hu joined us as Vice President of Research and Development in May 2000. Prior to that, he was General Director of the Electronic Research and Service Organization for ITRI since July 1996. He holds a Ph.D. in electrical engineering from Princeton University and has been active in the semiconductor industry for over 16 years.

**Chung Shih Hsu** has been Vice President of Business Operations since November 2000. Prior to that, he served as Vice President for Vanguard Semiconductor since 1997. He holds a Ph.D. in physics from Columbia University and has been active in the semiconductor industry for over 21 years.

**Chenming Hu** joined us as Chief Technology Officer since August 2001. He has also been the co-founder and co-chairman of Board of Celestry Design Technologies, Inc. since 1995. He was Chancellor's Professor Chair at the College of Engineering, University of California, Berkeley. He holds a Ph.D. in electrical engineering and computer science from University of California, Berkeley.

**M.C. Tzeng** has been Vice President of Operations I since January 2002. Prior to that, he was the Senior Director of our Fab 2 operations since 1997. He joined us in 1987 and has held various positions in manufacturing functions. He holds a master degree in applied chemistry from Chung Yuan University.

**Richard Thurston** became Vice President and General Counsel in January 2002. Prior to that, he was a partner with Kelt Capital Partners, LP, in Addison, Texas. Mr. Thurston also was the Asia Pacific regional counsel for Texas Instruments for 12 years. Mr. Thurston holds a Ph.D. in East Asian Studies from the University of Virginia and a J.D. from Rutgers School of Law.

**Chiam Wu** joined us as Vice President of Worldwide Customer Service in May 2002. Prior to that, she was Group Vice President of Applied Material and Vice Chairperson of Applied Materials Taiwan. She was with Applied Material from 1987 to 2002. Ms. Wu received a B.S. degree in material science and engineering from National Tsing Hua University in 1978, and a M.S. degree in material science and engineering from Oregon State University in 1980.

Except for the sibling relationship between Genda Hu, Vice President of Corporate Marketing, and Chenming Hu, Chief Technology Officer, there is no family relationship between any of our directors, supervisors or executive officers and any other director, supervisor or executive officer.

## Share Ownership

The following table sets forth certain information as of March 31, 2003 with respect to our common shares owned by our directors, supervisors and executive officers.

| <u>Names of Shareholders</u>              | <u>Number of Common Shares Owned</u> | <u>Percentage of Total Outstanding Common Shares</u> |
|-------------------------------------------|--------------------------------------|------------------------------------------------------|
| Morris Chang, Chairman and CEO .....      | 91,669,112                           | 0.49%                                                |
| A.P.M. van der Poel, Director(1) .....    | 4,044,558,462                        | 21.72%                                               |
| J.C. Lobbezoo, Director(1) .....          | 4,044,558,462                        | 21.72%                                               |
| Jaap van Oost, Director(1) .....          | 4,044,558,462                        | 21.72%                                               |
| Chintay Shih, Director(2) .....           | 1,793,522,406                        | 9.63%                                                |
| Stan Shih, Director(3) .....              | 12,738,029                           | 0.07%                                                |
| F.C. Tseng, Director and Deputy CEO ..... | 30,356,889                           | 0.16%                                                |
| Sir Peter Leahy Bonfield .....            | —                                    | —                                                    |
| Lester Carl Thurow .....                  | —                                    | —                                                    |
| Robbert Brakel, Supervisor(1) .....       | 4,044,558,462                        | 21.72%                                               |
| George C. Shiu, Supervisor(2) .....       | 1,793,522,406                        | 9.63%                                                |
| Michael E. Porter, Supervisor(4) .....    | 12,761,869                           | 0.07%                                                |

| <u>Names of Shareholders</u>                                   | <u>Number of Common Shares Owned</u> | <u>Percentage of Total Outstanding Common Shares</u> |
|----------------------------------------------------------------|--------------------------------------|------------------------------------------------------|
| Rick Tsai, President & COO .....                               | 19,491,738                           | 0.10%                                                |
| Quincy Lin, Senior Vice President & CIO .....                  | 19,995,152                           | 0.11%                                                |
| Harvey Chang, Senior Vice President & CFO & Spokesperson ..... | 6,394,499                            | 0.03%                                                |
| Shang-Yi Chiang, Senior Vice President .....                   | 8,674,015                            | 0.05%                                                |
| Kenneth Kin, Senior Vice President .....                       | 1,458,172                            | 0.01%                                                |
| J.B. Chen, Vice President .....                                | 5,394,520                            | 0.03%                                                |
| Ping Yang, Vice President .....                                | 5,069,556                            | 0.03%                                                |
| C.C. Wei, Vice President .....                                 | 3,574,322                            | 0.02%                                                |
| S.H. Lee, Vice President .....                                 | 4,294,842                            | 0.02%                                                |
| Mark Liu, Vice President .....                                 | 7,899,370                            | 0.04%                                                |
| Genda Hu, Vice President .....                                 | 839,508                              | 0.00%                                                |
| Chung-Shih Hsu, Vice President .....                           | 760,782                              | 0.00%                                                |
| Chenming Hu, CTO .....                                         | 958,635                              | 0.01%                                                |
| M.C. Tzeng, Vice President .....                               | 3,504,556                            | 0.02%                                                |
| Richard Thurston, Vice President .....                         | 250,000                              | 0.00%                                                |
| Chiam Wu, Vice President .....                                 | 309,646                              | 0.00%                                                |

- (1) Represents shares held by Koninklijke Philips Electronics N.V. and Philips Electronics Industries (Taiwan) Ltd.
- (2) Represents shares held by the Development Fund of the Executive Yuan.
- (3) Represents shares held by Chi Cherng Investment Co., Ltd., one of our subsidiaries. Mr. Stan Shih was elected as independent director on June 3, 2003.
- (4) Represents shares held by Hsin Ruey Investment Co., Ltd., one of our subsidiaries. Mr. Michael E. Porter was elected as independent supervisor on June 3, 2003.

### Compensation

The aggregate compensation paid and benefits in kind granted to our directors, supervisors and executive officers in 2002, which included a cash bonus to the director and supervisors, was NT\$ 356.7 million. According to our articles of incorporation, 0.3 percent of our annual net earnings (after deducting the legal reserve provision and providing for any losses incurred in prior years) is distributed as bonuses to our directors and supervisors and at least one percent of our annual net earnings is distributed as a bonus to employees, including executive officers. Bonuses to directors and supervisors are 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 responsibility, contribution and performance. See note 27.c. to our consolidated financial statements.

The following table sets forth remuneration paid to our individual directors and supervisors in 2002.

| <u>Name</u>               | <u>Position with our company in 2002</u> | <u>Transportation Allowance(1)</u> | <u>Bonus</u>   | <u>Total Compensation</u> |
|---------------------------|------------------------------------------|------------------------------------|----------------|---------------------------|
| Mr. Morris Chang .....    | Director and Chairman                    | NT\$120,000                        | NT\$13,384,802 | NT\$13,504,802            |
| Mr. F.C. Tseng .....      | Director and Deputy CEO                  | 120,000                            | 13,384,798     | 13,504,798                |
| Mr. A.P.M. van der Poel . | Director (Representative of Philips)     | 120,000                            | 13,384,798(2)  | 13,504,798(3)             |
| Mr. J.C. Lobbezoo .....   | Director (Representative of Philips)     | 120,000                            | 13,384,798(2)  | 13,504,798(3)             |
| Mr. P.J. Zeven .....      | Director (Representative of Philips)     | —                                  | —              | (4)                       |
| Mr. Jaap van Oost .....   | Director (Representative of Philips)     | 120,000                            | 13,384,798(2)  | 13,504,798(3)(4)          |

| <u>Name</u>                     | <u>Position with our company in 2002</u>                     | <u>Transportation Allowance(1)</u> | <u>Bonus</u>  | <u>Total Compensation</u> |
|---------------------------------|--------------------------------------------------------------|------------------------------------|---------------|---------------------------|
| Mr. Chintay Shih . . . . .      | Director (Representative of the Development Fund)            | 120,000                            | 13,384,798(2) | 13,504,798(5)             |
| Mr. Stan Shih . . . . .         | Director (Representative of Chi Cherng Investment Co. Ltd.)  | 120,000                            | 13,384,798(2) | 13,504,798(6)             |
| Mr. Lester Carl Thurow . . .    | Director                                                     | 67,742                             | —             | 67,742                    |
| Sir Peter Leahy Bonfield . . .  | Director                                                     | 67,742                             | —             | 67,742                    |
| Mr. Robbert Brakel . . . . .    | Supervisor (Representative of Philips)                       | 120,000                            | 13,384,798(2) | 13,504,798(3)             |
| Mr. George C. Shiu . . . . .    | Supervisor (Representative of the Development Fund)          | 120,000                            | 13,384,798(2) | 13,504,798(5)             |
| Mr. Paul Chien . . . . .        | Supervisor (Representative of Hsin Ruey Investment Co. Ltd.) | 52,258                             | 13,384,798(2) | 13,437,056(8)(9)          |
| Mr. Michael E. Porter . . . . . | Supervisor (Representative of Hsin Ruey Investment Co. Ltd.) | 67,742                             | —             | 67,742(8)(9)              |

- (1) Transportation allowance was paid to individual directors and supervisors except Philips' representative directors and supervisor.
- (2) In accordance with the ROC Company Law, bonuses to directors and supervisors were paid to the juridical person shareholders instead of their representative directors and supervisors.
- (3) Philips was paid NT\$54,019,192 in the aggregate for the services of its representative directors and supervisor.
- (4) Effective November 1, 2002 Jaap Van Oost replaced P. J. Zeven.
- (5) The Development Fund was paid NT\$26,769,596 in the aggregate for the services of its representative director and supervisor.
- (6) The Chi Cherng Investment Co. Ltd., a subsidiary of us, was paid NT\$13,384,798 in the aggregate for the services of its representative director.
- (7) During 2002, advance payments of US\$80,219 were paid to Sir Peter Leahy Bonfield, Lester Carl Thurow and Michael E. Porter, respectively, representing the board compensation on a pro rata basis, which will be deducted from 2002 Directors & Supervisors Compensation to be distributed in July 2003.
- (8) The Hsin Ruey Investment Co. Ltd., a subsidiary of us, was paid NT\$13,384,798 in the aggregate for the services of its representative supervisor.
- (9) Effective May 8, 2002, Michael E. Porter replaced Paul Chien as supervisor.

## **Board Practices**

### ***General***

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

### **Audit Committee**

Our board of directors established an audit committee on August 6, 2002 to assist in the review and monitoring of our financial and accounting matters. Pursuant to the audit committee charter, the audit committee is appointed by the board of directors and consists of three to five members, including a minimum of two independent, non-executive directors and one or more independent supervisors. 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. The audit committee has a chairman who is selected from among the members of the audit committee. Currently, the audit committee consists of three members comprised of two directors and one supervisor. The current members of the audit committee are Sir Peter Bonfield, Professor Lester Thurow, and Mr. Robbert Brakel. The audit committee meets at least four times a year. The

chairman of the audit committee, when necessary, can call additional meetings. The audit committee will invite members of management, the internal audit department, the supervisors, the independent auditors, or others to attend meetings and provide pertinent information, as necessary. The audit committee has an audit committee charter that it will review at least annually and recommend any proposed changes to the board of directors for approval.

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 our internal auditors, our outside independent auditors, as well as any of our employees. It recommends to the board of directors the appointment and termination of our outside independent auditors, including the approval of all fees to be paid to the outside independent auditors. The audit committee has also the authority to engage special legal, accounting, or other consultants it deems necessary in the process of performing its duties.

The audit committee held its first meeting on November 5, 2002. At that meeting, the audit committee adopted a standing audit committee meeting agenda. The audit committee plans to convene future meetings in accordance with the standing meeting agenda. Ad hoc issues and motions will be proposed and discussed as needed.

## Employees

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

| <u>Function</u>                     | <u>As of December 31,</u> |             |             |
|-------------------------------------|---------------------------|-------------|-------------|
|                                     | <u>2000</u>               | <u>2001</u> | <u>2002</u> |
| Managers .....                      | 1,328                     | 1,370       | 1,542       |
| Professionals .....                 | 5,174                     | 4,797       | 5,271       |
| Assistant Engineers/Clericals ..... | 1,405                     | 1,238       | 1,173       |
| Technicians .....                   | 7,973                     | 7,096       | 7,790       |
| Total .....                         | 15,880                    | 14,501      | 15,776      |

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

| <u>Location of Facility and Office</u> | <u>As of December 31,</u> |             |             |
|----------------------------------------|---------------------------|-------------|-------------|
|                                        | <u>2000</u>               | <u>2001</u> | <u>2002</u> |
| Hsinchu Science Park, Taiwan .....     | 12,380                    | 11,563      | 12,011      |
| Tainan Science Park, Taiwan .....      | 2,042                     | 1,914       | 2,725       |
| United States .....                    | 1,414                     | 980         | 995         |
| Europe .....                           | 23                        | 23          | 25          |
| Japan .....                            | 21                        | 21          | 20          |
| Total .....                            | 15,880                    | 14,501      | 15,776      |

Our success depends to a significant extent upon, among other factors, our ability to attract, retain and motivate qualified personnel. We continued to recruit diverse and experienced talents in 2002 to collectively drive the company to future success. Also aiding in this success was our commitment to create a good working environment, offer personal challenges and support career development. As of December 31, 2002, the total employee population was 15,776. Among this population 6,813 were of managerial and professional level with an educational makeup of 5% Ph.Ds, 51% masters, 29% bachelor, 13% college and 2% other. Continuous learning is the cornerstone of our employee development strategy. In 2002, one key initiative was individual development plans for each employee, customized and tailored to their individual development needs. Employee

development is further supported and enforced by a comprehensive and integrated network of resources including on-the-job training, coaching, mentoring, job rotation, on-site courses, e-learning and external learning opportunities.

Pursuant to our articles of incorporation, our employees participate in our profits by way of a bonus. Employees are entitled to not less than 1% of our net income after the deduction for prior years' losses and contributions to legal reserves. Our practice in the past has been to determine the amount of the bonus based on our operating results and industry practice in the ROC. In July 2002 we distributed an aggregate bonus to our employees of NT\$1,070,783,880, or 8.0% of our 2001 distributable net income, in the form of common shares. On June 3, 2003, our shareholders approved the distribution of an aggregate bonus to our employees of NT\$1,539,012,990, or 7.9% of our 2002 distributable net income, in the form of common shares in 2003. The number of common shares issued as profit sharing is calculated by valuing the common shares at their par value, or NT\$10, rather than their market value.

In June 2002, we adopted an employee stock option plan that authorizes the grant of options exercisable for up to 100 million common shares (approximately 0.5% of total outstanding common shares). These options will vest between two and four years after the date of grant, with 50% of option granted being exercisable two years after the grant, 75% exercisable three years after the grant and 100% exercisable four years after the grant. Any options granted will expire ten years after the date of grant. In 2002, we granted 19,994,700 options to our employees. On March 7, 2003, we granted 6,489,514 options to our employees, of which, 2,716,329 options were granted to certain of our officers (as listed below) as a result of their voluntary selection to exchange part of their profit sharing for stock options. On June 6, 2003, we granted another 23,090,550 options to our employees. The remaining balance of 50,425,236 options under the employee stock option plan will expire on June 25, 2003, and we currently do not expect to make any additional grant before then.

The table below sets forth the name of our officers to whom options were granted on March 7, 2003 and the number of our common shares issuable upon exercise of these options. The stock options granted to our officers all have an exercise price of NT\$41.6 and all expire on March 6, 2013 if not previously exercised.

| <u>Name</u>            | <u>Common Shares</u> |
|------------------------|----------------------|
| Morris Chang .....     | 615,000              |
| Rick Tsai .....        | 615,000              |
| Mark Liu .....         | 615,000              |
| Harvey Chang .....     | 301,572              |
| Kenneth Kin .....      | 298,476              |
| C.C. Wei .....         | 206,019              |
| Richard Thurston ..... | 65,262               |

Our employees are not covered by any collective bargaining agreements. We consider our relationship with our employees to be good.

## Item 7. Major Shareholders and Related Party Transactions

### Major Shareholders

The following table sets forth certain information as of March 31, 2003 with respect to our common shares owned by (1) each person who, according to our records, beneficially owned five percent or more of our common shares and by (2) all directors, supervisors and executive officers as a group.

| <u>Names of Shareholders</u>                     | <u>Number of Common Shares Owned</u> | <u>Percentage of Total Outstanding Common Shares</u> |
|--------------------------------------------------|--------------------------------------|------------------------------------------------------|
| Philips(1) .....                                 | 4,044,558,462                        | 21.72%                                               |
| Development Fund(2) .....                        | 1,793,522,406                        | 9.63%                                                |
| Capital Research and Management Company(3) ..... | 941,003,520                          | 5.05%                                                |

- (1) Includes 2,554,450,279 common shares held by Koninklijke Philips Electronics N.V. and 1,490,108,183 common shares held by Philips Electronics Industries (Taiwan) Ltd.
- (2) Excludes any common shares that may be owned by other funds controlled by the ROC government.
- (3) Pursuant to the Schedule 13G of Capital Research and Management Corporation (“CRMC”) filed with the Securities and Exchange Commission on February 10, 2003, CRMC is an investment adviser registered under the Investment Advisers Act of 1940. CRMC’s beneficial ownership of 941,003,520 common shares includes 1,700,000 ADS representing 8,500,000 common shares.

Of our nine directors, two are representatives of Philips and one is a representative of the Development Fund. Philips and the Development Fund could each be deemed under the U.S. securities laws to be a controlling shareholder of us.

In November 2001, the Development Fund sold 20,000,000 ADSs, representing 100,000,000 common shares and in February 2002, the Development Fund sold an additional 30,207,200 ADSs, representing 151,036,000 common shares, which further decreased the Development Fund’s ownership of our common shares to 9.63%. In November 2000, Philips purchased from us 1,299,925,653 Preferred A shares, par value NT\$10 per share, which pay a cumulative annual cash dividend at the rate of 3.5% per annum. As a result, as of November 2000, Philips’ ownership percentage of our outstanding equity securities, including the Preferred A shares, increased from 22.47% to 30.23%. On May 29, 2003, we redeemed all of our Preferred A shares and Philips’ ownership percentage of our outstanding equity securities thereby decreased to 21.72%.

As of March 31, 2003, a total of 18,622,886,745 common shares were outstanding. With certain limited exceptions, holders of common shares that are not ROC persons are required to hold their common shares through a brokerage account in the ROC. As of March 31, 2003, 1,845,097,072 common shares were registered in the name of a nominee of Citibank, N.A., the depositary under our ADS deposit agreement. Citibank, N.A., has advised us that, as of March 31, 2003, 369,019,413 ADSs, representing 1,845,097,072 common shares, were held of record by Cede & Co. and 240 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. For a description of the voting rights of our shareholders see “Item 10. Additional Information—Description of Common Shares—Voting Rights”.

We are not aware of any arrangement that may at a subsequent date result in a change of control of us.

## **Related Party Transactions**

### ***Industrial Technology Research Institute***

ITRI is a government-sponsored organization in the ROC engaging in applied research to accelerate industrial technology development and promote industrial growth. ITRI has, and will continue to have, contractual relationships with us. Our principal relationships include the following:

- We entered into a technical cooperation agreement with ITRI pursuant to which ITRI granted us the license to use its technology to manufacture silicon MOS wafers and agreed to provide certain associated assets and relevant technical assistance and information to us, in exchange for a license from us for improvements and refinements thereof. The agreement provides that the ROC Ministry of Economic Affairs, or the entity designated by the ROC Ministry of Economic Affairs, has an option to purchase up to 35% of our capacity as agreed in the agreement on favorable terms and conditions. The term of this agreement is for five years beginning January 1, 1987 and is automatically renewed for successive periods of five years unless otherwise terminated by either party with one year prior notice. The agreement was automatically renewed in 1992 and 1997 and on January 1, 2002.
- We entered into a lease agreement with ITRI in which we leased from ITRI the land of our Fab 1 in Hsinchu. The term of the agreement was for five years beginning April 1, 1997, renewable for successive periods of five years upon notice and agreement between both parties. We decommissioned our Fab 1, a six-inch fab located at ITRI, on March 31, 2002, because of our decision not to renew the lease agreement with ITRI. Our total rental expenses paid to ITRI for the years 2001 and 2002 were NT\$162 million and NT\$40 million (US\$1.2 million), respectively.
- From time to time, we provide foundry services to ITRI. In 2001 and 2002, we had total sales to ITRI of NT\$115 million and NT\$94 million (US\$2.7 million), respectively, representing less than 1% of our net sales in each year.

### ***Koninklijke Phillips Electronics N.V. and its Affiliates***

As of March 31, 2003, Philips, together with its subsidiaries, owned 26.83% of our outstanding equity securities, including the Preferred A shares. Subsequent to the redemption of the Preferred A shares on May 29, 2003, Philips holds a 21.72% equity interest in us. Two of our nine directors and one of our three supervisors are representatives of Philips. Philips is engaged in the business of world-wide manufacturing and processing of integrated circuits and other semiconductor devices. Philips and its affiliates currently have, and will continue to have in the future, contractual and other business relationships with us. Our principal relationships include the following:

- On December 31, 1986, we entered into a technology cooperation agreement with Philips pursuant to which Philips had provided us with certain process and technical information for the production of unencapsulated MOS integrated circuits in wafer form. Under this agreement, Philips is also required to maintain a specified minimum license coverage for our benefit with respect to certain patent cross-licensing arrangements between Philips and other semiconductor companies. Under this technology cooperation agreement, we are obligated to pay to Philips a royalty equal to a fixed percentage of the net sales of the products covered by the agreement during the term of the agreement and for three years thereafter. On May 12, 1997, we and Philips agreed to extend and modify the technology cooperation agreement for ten years from July 9, 1997. Beginning on July 9, 1997, the royalty that we are obligated to pay Philips was reduced and, starting from July 9, 2002, we may deduct from such royalty payment certain license fees and defense costs that we have paid to certain third parties, provided that the royalty payment to Philips in any year is no less than certain percentage of net sales covered by the agreement.
- On October 28, 1992, we entered into a letter agreement with Philips under which Philips has an option on up to 30% of the capacity as agreed in the agreement on most favored terms and conditions for similar orders, as long as Philips' and its affiliates' shareholding in us remains at 24.8% or higher. From

time to time, we provide foundry services to Philips and its affiliates. In 2001 and 2002, we had total sales to Philips and its affiliates of NT\$2,389 million and NT\$2,909 million (US\$83.8 million), representing each 2% of our total net sales.

- In March 1999, we entered into an agreement with Philips, and EDB Investment Pte. Ltd. to found a joint venture to build the Systems on Silicon fab in Singapore. We own 32% of the joint venture, Philips owns 48% and the EDB Investment owns 20%. After the ramping up of the production capability at Systems on Silicon, we, together with Philips, have the right to purchase up to 100% of its annual capacity. We and Philips are required, in the aggregate, to purchase up to 70% of Systems on Silicon's full capacity, but TSMC alone is not required to purchase more than 28% of the annual installed capacity. See "Item 4. Information on the Company—Our History and Structure—Systems on Silicon in Singapore" for a discussion of our agreement with Philips and EDB Investment to build our Systems on Silicon fab and "—Systems on Silicon Manufacturing Company Pte. Ltd." for a detailed discussion of the contract terms we entered into with Systems on Silicon.
- In November 2000, Philips purchased from us 1,299,925,653 Preferred A shares, at the par value of NT\$10 per share, which paid a cumulative annual cash dividend at the rate of 3.5% per annum. The Preferred A shares were redeemed on May 29, 2003.
- In November 2002, we entered into an Amended and Restated Joint Technology Cooperation Agreement with Philips, Motorola and ST Microelectronics to jointly develop 90-nanometer to 65-nanometer advanced CMOS Logic and e-DRAM technologies. We also agreed to align 0.12 micron CMOS Logic technology to enhance our foundry business opportunities. We will contribute process technologies and share a portion of the costs associated with this joint development project.

#### ***Vanguard International Semiconductor Corporation***

In 1994, we, the ROC Ministry of Economic Affairs and other investors established Vanguard, then an integrated DRAM manufacturer. Vanguard commenced volume commercial production in 1995 and listed its shares on the GreTai Securities Market in March 1999. In January 2003, we acquired an additional 230,882,230 newly issued shares of Vanguard. As of March 31, 2003, we owned 28.11% of Vanguard.

On February 14, 2000, we entered into a five-year manufacturing agreement with Vanguard in which Vanguard has agreed to manufacture for us integrated circuit devices and wafers required by our customers. During the term of this agreement, Vanguard is obligated to manufacture wafers for us at a fixed amount of reserved capacity. In consideration of the reserved capacity, we paid Vanguard certain amounts in security payments which Vanguard is obligated to return to us based on the amounts of wafers we order. We pay Vanguard at a discount of the actual selling price. We also agreed to grant Vanguard a royalty-free, non-exclusive and non-transferable right to use any of our logic process technologies necessary for the sole purpose of manufacturing the wafers we order, and transfer technical know-how and information in connection with the manufacturing process. In 2002, we had total purchases of NT\$3,469 million (US\$100.0 million) from Vanguard, representing 3.2% of our total cost of sales.

#### ***Systems on Silicon Manufacturing Company Pte. Ltd.***

Systems on Silicon is a joint venture in Singapore that we established with Philips and EDB Investment Pte. Ltd. for the purpose of producing integrated circuits by means of advanced submicron manufacturing processes pursuant to the product design specifications provided primarily by us and by Philips and its affiliates. Systems on Silicon's business is limited to manufacturing wafers for us, our subsidiaries, Philips and Philips' subsidiaries. As of March 31, 2003 we owned 32% of Systems on Silicon.

We entered into a technology cooperation agreement with Systems on Silicon on May 12, 1999 in which Systems on Silicon agreed to base a major part of its production activities on processes compatible to those in use in our MOS integrated circuits wafer volume production fabs, for the purpose of maximizing efficiency and cost

savings in its foundry services to us. In return, we have agreed to provide Systems on Silicon with access to and benefit of the technical knowledge and experience relating to the processes in use in our MOS integrated circuits wafer volume production fabs and to assist Systems on Silicon by rendering technical services in connection with its production activities. In addition, we have agreed to grant licenses of any pertinent intellectual property rights owned or controlled by us to Systems on Silicon for the purpose of MOS integrated circuit production. Systems on Silicon 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 Systems on Silicon. In 2002, we had total purchases of NT\$2,751 million (US\$79.3 million) from Systems on Silicon, representing 2.5% of our total cost of sales.

## **Item 8. Financial Information**

### **Consolidated Financial Statements and Other Financial Information**

Please see “Item 18. Financial Statements”. Other than as disclosed elsewhere in this annual report, no significant change has occurred since the date of the annual financial statements.

### **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, manufacturing processes, the design of the integrated circuits made by us or the use by our customers of semiconductors made by us may infringe upon patents or intellectual property rights of others. In some instances, these disputes have resulted in litigation and settlement or damage payments by us. Because we neither design the integrated circuits nor control the end use thereof, we believe that we should not be ultimately liable to third parties for monetary damages, in most cases, on claims based on infringement of patents relating to designs of integrated circuits or the design of end-use products. Irrespective of the validity of these claims, we could incur significant costs in the defense thereof or could suffer adverse effects on our operations. In addition, from time to time we initiate legal proceedings to protect our intellectual property rights. We are not currently involved in any material litigation.

### **Dividends and Dividend Policy**

The following table sets forth the stock dividends per share paid during each of the years indicated in respect of common shares outstanding on the record date applicable to the payment of those dividends. In recent years, we have not paid any cash dividends.

|            | <u>Stock dividends<br/>per 100 shares</u> | <u>Total shares issued<br/>as stock dividends</u> | <u>Outstanding common<br/>shares at year end</u> |
|------------|-------------------------------------------|---------------------------------------------------|--------------------------------------------------|
| 1998 ..... | 45.0                                      | 1,836,585,000                                     | 6,047,175,967                                    |
| 1999 ..... | 23.0                                      | 1,390,850,473                                     | 7,670,881,717                                    |
| 2000 ..... | 28.0                                      | 2,147,846,881                                     | 11,689,364,587                                   |
| 2001 ..... | 40.0                                      | 4,675,745,835                                     | 16,832,553,051                                   |
| 2002 ..... | 10.0                                      | 1,683,255,306                                     | 18,622,886,745                                   |

Our dividend policy is set forth in our articles of incorporation. Except as otherwise specified in the articles of incorporation, we shall not pay dividends when there is no profit for a particular fiscal Year. Our profits may be distributed by way of cash dividend, stock dividend, or a combination of cash and stock. Since we are in a capital-intensive industry, our profit distribution generally has been made by way of stock dividend. The ratio for cash dividend shall not exceed 50% of the total distribution. Our shareholders have approved the declaration of a stock dividend of eight (8) common shares per 100 common shares, or NT\$14,898,309,400 in the aggregate based upon the par value of NT\$10 per common share, in respect of net income earned in the year ended December 31, 2002. Payment of the stock dividend is subject to the receipt of the approval from the ROC Securities and Futures Commission.

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. Payment of dividends in respect of the prior year is made following approval by our shareholders at the annual general meeting of shareholders.

Except in limited circumstances, under the ROC Company Law, we are not permitted to distribute dividends or make other distributions to shareholders in respect of any year in which we have no current or retained earnings (excluding reserves). The ROC Company Law also requires that 10% of annual net income (less prior years' losses and outstanding taxes) be set aside as legal reserves until the accumulated legal reserves equal our paid-in capital. Our articles of incorporation require that at least one percent of annual net earnings (after deducting the legal reserve provision and providing for losses incurred in prior years) be distributed as a bonus to employees and that 0.3 percent of our annual net earnings (after deducting the legal reserve provision and providing for any losses incurred in prior years) be distributed as a bonus to directors and supervisors.

Holders of ADRs evidencing ADSs are 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 in NT dollars and, after deduction of any applicable ROC taxes and except as otherwise provided in the deposit agreement, will be converted by the depositary into U.S. dollars and 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.

For information relating to ROC withholding taxes payable on cash and stock dividends, see "Item 10. Additional Information—Taxation—ROC Taxation—Dividends".

## Item 9. The Offer and Listing

The principal trading market for our common shares is the Taiwan Stock Exchange. The common shares have been listed on the Taiwan Stock Exchange under the symbol “2330” since September 5, 1994, and the ADSs have been listed on the New York Stock Exchange under the symbol “TSM” since October 8, 1997. The outstanding ADSs are identified by the CUSIP number 874039100. The table below sets forth, for the periods indicated, the high and low closing prices and the average daily volume of trading activity on the Taiwan Stock Exchange for the common shares and the high and low closing prices and the average daily volume of trading activity on the New York Stock Exchange for the common shares represented by ADSs.

|                                   | Taiwan Stock Exchange             |        |                                                       | New York Stock Exchange(1) |       |                                                     |
|-----------------------------------|-----------------------------------|--------|-------------------------------------------------------|----------------------------|-------|-----------------------------------------------------|
|                                   | Closing price per common share(2) |        | Average daily Trading volume (in thousands of shares) | Closing price per ADS(2)   |       | Average daily Trading volume (in thousands of ADSs) |
|                                   | High                              | Low    |                                                       | High                       | Low   |                                                     |
|                                   | (NT\$)                            | (NT\$) |                                                       | (US\$)                     |       |                                                     |
| 1998 .....                        | 48.07                             | 23.72  | 94,910                                                | 8.46                       | 4.12  | 1,302                                               |
| 1999 .....                        | 86.75                             | 28.05  | 78,907                                                | 22.83                      | 5.88  | 1,998                                               |
| 2000 .....                        | 111.10                            | 48.70  | 47,856                                                | 34.81                      | 10.80 | 2,758                                               |
| 2001 .....                        | 80.91                             | 40.09  | 46,244                                                | 17.35                      | 8.05  | 4,675                                               |
| First Quarter .....               | 68.51                             | 52.27  | 50,923                                                | 16.40                      | 11.44 | 2,780                                               |
| Second Quarter .....              | 64.29                             | 51.30  | 36,315                                                | 16.10                      | 10.77 | 4,731                                               |
| Third Quarter .....               | 64.09                             | 42.27  | 37,341                                                | 15.50                      | 8.07  | 5,623                                               |
| Fourth Quarter .....              | 80.91                             | 40.09  | 60,179                                                | 17.35                      | 8.05  | 5,581                                               |
| 2002 .....                        | 88.64                             | 35.60  | 50,443                                                | 18.86                      | 5.35  | 5,971                                               |
| First Quarter .....               | 88.64                             | 72.73  | 49,280                                                | 18.86                      | 14.55 | 5,870                                               |
| Second Quarter .....              | 87.27                             | 65.45  | 39,572                                                | 18.73                      | 12.36 | 5,536                                               |
| Third Quarter .....               | 71.50                             | 41.10  | 49,963                                                | 13.69                      | 6.35  | 5,870                                               |
| Fourth Quarter .....              | 53.50                             | 35.60  | 62,445                                                | 9.44                       | 5.35  | 6,601                                               |
| December .....                    | 53.50                             | 42.60  | 39,777                                                | 9.44                       | 6.99  | 4,725                                               |
| 2003 .....                        |                                   |        |                                                       |                            |       |                                                     |
| First Quarter .....               | 50.50                             | 40.20  | 48,896                                                | 8.56                       | 6.40  | 5,244                                               |
| January .....                     | 50.50                             | 42.50  | 45,993                                                | 8.56                       | 6.70  | 5,648                                               |
| February .....                    | 45.30                             | 40.20  | 48,572                                                | 7.47                       | 6.40  | 4,288                                               |
| March .....                       | 48.60                             | 41.40  | 51,770                                                | 8.49                       | 6.77  | 5,704                                               |
| April .....                       | 48.30                             | 42.20  | 57,038                                                | 8.60                       | 6.90  | 6,490                                               |
| May .....                         | 53.50                             | 46.70  | 49,780                                                | 10.14                      | 8.23  | 7,185                                               |
| June (through June 12, 2003) .... | 59.00                             | 56.00  | 67,903                                                | 10.64                      | 9.54  | 9,501                                               |

- (1) Trading in ADSs commenced on October 8, 1997 on the New York Stock Exchange. Each ADS represents the right to receive five common shares.
- (2) As adjusted for a 45% stock dividend in June 1998, a 23% stock dividend in June 1999, a 28% stock dividend in July 2000, a 40% stock dividend in July 2001 and a 10% stock dividend in July 2002.

As of March 31, 2003, TSMC Partners, Ltd., our wholly-owned subsidiary, owned 761,861 ADSs representing 0.02% of our outstanding common shares. In addition, as of March 31, 2003, TSMC North America, our wholly-owned subsidiary, Chi Cherng Investment Co., Ltd and Hsin Ruey Investment Co., Ltd, two of our indirect wholly-owned subsidiaries, owned 12,692,258, 12,738,029 and 12,761,869 of our common shares, respectively, representing, in each case, approximately 0.07% of our outstanding common shares.

## **Item 10. Additional Information**

### **Description of Common Shares**

Set forth below is a description of our common shares, including summaries of the material provisions of our articles of incorporation, the ROC Company Law, the ROC Securities and Exchange Law and the regulations promulgated thereunder.

#### ***General***

Our authorized share capital is NT\$246,000,000,000, divided into 24,600,000,000 common shares among which 18,622,886,745 common shares and 1,300,000,000 Preferred A shares were issued and outstanding and in registered form as of December 31, 2002. On May 29, 2003 we redeemed the 1,300,000,000 Preferred A shares. Under our articles of incorporation, as amended on June 3, 2003, we are no longer authorized to issue any preferred shares.

The ROC Company Law, the ROC Statute for Establishment and Administration of Science-Based Industrial Parks and the ROC Securities and Exchange Law provide that any change in the issued share capital of a public company, such as us, requires the approval of its board of directors, an amendment to its articles of incorporation (if such change also involves a change in the authorized share capital) and the approval of, or the registration with, the ROC Securities and Futures Commission and the Ministry of Economic Affairs or the Science-Based Industrial Park Administration (as applicable).

There are no provisions under either ROC law or the deposit agreement under which holders of ADSs would be required to forfeit the common shares represented by ADSs.

We are organized under the laws of the ROC.

#### ***Dividends and Distributions***

An ROC company is generally not permitted to distribute dividends or to make any other distributions to shareholders in respect of any year for which it did not have either earnings or retained earnings (excluding reserves). In addition, before distributing a dividend to shareholders following the end of a fiscal year, the company must recover any past losses, pay all outstanding taxes and set aside in a legal reserve, until such time as its legal reserve equals its paid-in capital, 10% of its net income for that fiscal year (less any past losses). Our articles of incorporation require that at least one percent of the net distributable income for that fiscal year be distributed as a bonus to employees and that 0.3 percent of the net distributable income for that fiscal year be distributed as a bonus to directors and supervisors. It has been our practice in each of the last three years to pay all of employee bonuses in the form of stock. The number of common shares issued as a bonus is obtained by dividing the cash value of the bonus by the par value of the common shares, *i.e.*, NT\$10 per share. Because the market value of our common shares has generally been well in excess of par value, the actual cash value of a stock bonus has also been in excess of the amount the employee would have received if the bonus had been paid exclusively in cash. Subject to compliance with these requirements, a company may pay dividends or make other distributions from its accumulated earnings or reserves as permitted by the ROC Company Law as set forth below.

At the annual general meeting of our shareholders, the board of directors submits to the shareholders for their approval of our financial statements for the preceding fiscal year and any proposal for the distribution of a dividend or the making of any other distribution to shareholders from our earnings or retained earnings (subject to compliance with the requirements described above) at the end of the preceding fiscal year. All common shares outstanding and fully paid as of the relevant record date are entitled to share equally in any dividend or other distribution so approved. Dividends may be distributed in cash, in the form of common shares or a combination thereof, as determined by the shareholders at the meeting.

In addition to permitting dividends to be paid out of earnings or retained earnings, the ROC Company Law permits us to make distributions to our shareholders of additional common shares by capitalizing reserves (including the legal reserve and some other reserves). However, the capitalized portion payable out of our legal reserve is limited to 50% of the total accumulated legal reserve and this capitalization can only be effected when the accumulated legal reserve exceeds 50% of our paid-in capital.

For information as to ROC taxes on dividends and distributions, see “—Taxation—ROC Taxation”.

### ***Preemptive Rights and Issues of Additional Common Shares***

Under the ROC Company Law, when a public company such as us issues new shares of common stock for cash, 10% to 15% of the issue must be offered to its employees. The remaining new shares must be offered to existing shareholders in a preemptive rights offering, subject to a requirement under the ROC Securities and Exchange Law that at least 10% of these issuances must be offered to the public. This percentage can be increased by a resolution passed at a shareholders’ meeting, thereby limiting or waiving the preemptive rights of existing shareholders. The preemptive rights provisions do not apply to (i) offerings by shareholders of outstanding shares; and (ii) offerings of new shares through a private placement approved at a shareholders’ meeting.

Authorized but unissued shares of any class may be issued at such times and, subject to the above-mentioned provisions of the ROC Company Law and the ROC Securities and Exchange Law, upon such terms as the board of directors may determine. The shares with respect to which preemptive rights have been waived may be freely offered, subject to compliance with applicable ROC law.

### ***Meetings of Shareholders***

General meetings of our shareholders may be ordinary or extraordinary. Ordinary meetings of shareholders are generally held in Hsinchu, Taiwan, within six months after the end of each fiscal year. Extraordinary meetings of shareholders may be convened by resolution of the board of directors whenever it deems necessary, or under certain circumstances, by shareholders or the supervisors. For a publicly held company such as us, notice in writing of general meetings, stating the place, time and purpose thereof, must be sent to each shareholder at least thirty days (in the case of ordinary meetings) and fifteen days (in the case of extraordinary meetings) prior to the date set for each meeting.

### ***Voting Rights***

A holder of common shares has one vote for each common share. Except as otherwise provided by law, a resolution may be adopted by the holders of a simple majority of the total issued and outstanding common shares represented at a shareholders’ meeting at which a majority of the holders of the total issued and outstanding common shares are present. The election of directors and supervisors at a shareholders’ meeting is by cumulative voting, except as otherwise prescribed by the articles of incorporation. Ballots for the election of directors are cast separately from those for the election of supervisors. Both are nominated by our board of directors or shareholders on or prior to the shareholders meeting at which ballots for these elections are cast.

The ROC Company Law also provides that in order to approve certain major corporate actions, including any amendment to the articles of incorporation (which is required for, among other actions, any increase in authorized share capital), the dissolution or amalgamation of a company or the transfer of the whole or an important part of its business or its properties or the taking over of the whole of the business or properties of any other company which would have a significant impact on the acquiring company’s operations, and the distribution of any stock dividend, a meeting of the shareholders must be convened with a quorum of holders of at least two-thirds of all issued and outstanding shares of common stock at which the holders of at least a majority of the common stock represented at the meeting vote in favor thereof. However, in the case of a publicly

held company such as us, such a resolution may be adopted by the holders of at least two-thirds of the shares of common stock represented at a meeting of shareholders at which holders of at least a majority of the issued and outstanding shares of common stock are present.

A shareholder may be represented at a general meeting by proxy. A valid proxy must be delivered to us at least five days prior to the commencement of the general meeting.

Holders of ADSs will not have the right to exercise voting rights with respect to the common shares represented thereby, except as described in “—Voting of Deposited Securities”.

### ***Other Rights of Shareholders***

Under the ROC Company Law, dissenting shareholders are entitled to appraisal rights in the event of amalgamation, spin-off or certain other major corporate actions. A dissenting shareholder may request us to redeem all of the shares owned by that shareholder at a fair price to be determined by mutual agreement or a court order if agreement cannot be reached. A shareholder may exercise these appraisal rights by serving written notice on us prior to the related shareholders’ meeting and/or by raising an objection at the shareholders’ meeting. In addition to appraisal rights, any shareholder has the right to sue for the annulment of any resolution adopted at a shareholders’ meeting where the procedures were legally defective within thirty days after the date of such shareholders’ meeting. One or more shareholders who have held more than three percent of the issued and outstanding shares for over a year may require a supervisor to bring a derivative action against a director for that director’s liability to us as a result of that director’s unlawful actions or failure to act. In addition, one or more shareholders who have held more than three percent of our issued and outstanding shares for over a year may require the board of directors to convene an extraordinary shareholders’ meeting by sending a written request to the board of directors.

### ***Register of Shareholders and Record Dates***

Our share registrar, China Trust Commercial Bank, maintains the register of our shareholders at its office in Taipei, Taiwan, and enters transfers of the common shares in the register upon presentation of, among other documents, the certificates in respect of the common shares transferred. Under the ROC Company Law, the transfer of common shares in registered form is effected by endorsement of the transferor’s and transferee’s seals on the share certificates and delivery of the related share certificates. In order to assert shareholders’ rights against us, however, the transferee must have his name and address registered on the register of shareholders. Shareholders are required to file their respective specimen signatures or seals with us. The settlement of trading in the common shares is normally carried out on the book-entry system maintained by the Taiwan Securities Central Depository Co., Ltd.

The ROC Company Law permits us to set a record date and close the register of shareholders for a specified period in order for us to determine the shareholders or pledgees that are entitled to certain rights pertaining to common shares by giving advance public notice. Under the ROC Company Law, our register of shareholders should be closed for a period of sixty days, thirty days and five days immediately before each ordinary meeting of shareholders, extraordinary meeting of shareholders and record date, respectively.

### ***Annual Financial Statements***

Under the ROC Company Law, ten days before the ordinary meeting of shareholders, our annual financial statements must be available at our principal office in Hsinchu for inspection by the shareholders.

### ***Acquisition of Common Shares by Us***

With minor exceptions, we may not acquire our common shares under the ROC Company Law. However, under the Securities and Exchange Law, we may, by a board resolution adopted by majority consent at a meeting

with two-thirds of our directors present, purchase our common shares on the Taiwan Stock Exchange or by a tender offer, in accordance with the procedures prescribed by the ROC SFC, for the following purposes: (i) to transfer shares to our employees; (ii) to satisfy our obligations to provide our common shares upon exercise or conversion of any warrants, convertible bonds or convertible preferred shares; and (iii) if necessary, to maintain our credit and our shareholders' equity (such as for the purpose of supporting the trading price of our common shares during market dislocations), provided that the common shares so purchased shall be cancelled thereafter.

We are not allowed to purchase more than ten percent of our total issued and outstanding common shares. In addition, we may not spend more than the aggregate amount of our retained earnings, premium from issuing stock and the realized portion of the capital reserve to purchase our common shares.

We may not pledge or hypothecate any purchased common shares. In addition, we may not exercise any shareholders' rights attached to such common shares. In the event that we purchase our common shares on the Taiwan Stock Exchange, our affiliates, directors, supervisors, managers and their respective spouses, minor children and nominees are prohibited from selling any of our common shares during the period in which we purchase our common shares.

In addition, effective from November 2001 under the revised ROC Company Law, our subsidiaries may not acquire our shares. This restriction does not, however, affect any of our shares acquired by our subsidiaries prior to November 14, 2001.

### ***Liquidation Rights***

In the event of our liquidation, the assets remaining after payment of all debts, liquidation expenses, taxes and distributions to holders of preferred shares, if any, will be distributed pro rata to our shareholders in accordance with the ROC Company Law.

### ***Transaction Restrictions***

The ROC Securities and Exchange Law (i) requires each director, supervisor, manager or shareholder holding more than ten percent of the shares of a public company to report the amount of that person's shareholding to that company and (ii) limits the number of shares that can be sold or transferred on the Taiwan Stock Exchange or on the GreTai Securities Market by that person per day.

### **Material Contracts**

We are not currently, and have not been in the last two years, party to any material contract, other than contracts entered into in the ordinary course of our business. Please see "Item 7. Major Shareholders and Related Party Transactions—Related Party Transactions" for a summary of contracts with certain of our related parties.

### **Foreign Investment in the ROC**

Historically, foreign investment in the ROC securities markets has been restricted. Since 1983, the ROC government has periodically enacted legislation and adopted regulations to permit foreign investment in the ROC securities market. Currently, non-ROC persons may invest in ROC securities through the following vehicles.

***Qualified Foreign Institutional Investment.*** On December 28, 1990, the Executive Yuan approved guidelines drafted by the ROC Securities and Futures Commission which, since January 1, 1991, allow direct investment in ROC securities listed on the Taiwan Stock Exchange or other ROC securities approved by the ROC Securities and Futures Commission by certain eligible foreign institutional investors. Under the guidelines as currently in effect, eligible foreign institutional investors include:

- (1) banks which hold securities assets of at least US\$100 million;

- (2) insurance companies which hold securities assets of at least US\$100 million;
- (3) fund management companies which manage assets of at least US\$100 million;
- (4) offshore fund management companies which are more than 50% owned by an ROC securities investment trust enterprise provided that the funds to be invested do not come from (1) the ROC, (2) self-own fund of such offshore fund management companies or (3) the People's Republic of China;
- (5) general securities firms which have a net worth of at least US\$50 million;
- (6) offshore securities firms which are more than 50% owned by an ROC securities firm, or other offshore securities firms which are wholly-owned by such offshore securities firms;
- (7) offshore securities firms which are wholly-owned by an ROC securities firm, or other offshore securities firms which are more than 51% owned by such offshore securities firms;
- (8) foreign government-owned investment institutions provided that the funds completely come from the government;
- (9) pension funds;
- (10) mutual funds, unit trusts or investment trusts which have assets of at least US\$100 million;
- (11) trust companies which hold securities assets in trust of at least US\$100 million;
- (12) academic or charitable institutions that, according to their articles of incorporation, may invest their funds, provided those investments are managed by a third-party manager; and
- (13) other institutional investors which hold securities assets of at least US\$100 million.

Eligible foreign institutional investors who wish to qualify as qualified foreign institutional investors need to apply for and receive an investment permit from the ROC Securities and Futures Commission. Any application for investment exceeding US\$50 million must also be approved by the Central Bank of China. Application with the ROC Securities and Futures Commission requires the submission of, among other documents, proof of eligibility, proof of appointment of a local agent and custodian, and a copy of the custodial contract. Foreign institutional investors who receive a permit may currently invest up to US\$3 billion (with certain limited exceptions, the maximum amount of US\$3 billion may be exceeded) and are required to remit the full amount into the ROC within two years after receiving the investment permit.

Except for certain specified industries, such as telecommunications, investments in ROC-listed companies by qualified foreign institutional investors are not subject to individual or aggregate foreign ownership limits. Custodians for qualified foreign institutional investors are also required to submit to the Central Bank of China and the ROC Securities and Futures Commission a monthly report of trading activities and status of assets under custody and other matters. Capital remitted to the ROC under these guidelines may be remitted out of the ROC at any time after the date this capital is remitted to the ROC. Capital remitted out of the ROC may be returned to the ROC within two years of the outward remittance without the ROC Securities and Futures Commission's approval. Capital gains and income on investments may be remitted out of the ROC at any time.

***Other Foreign Investment.*** In addition to qualified foreign institutional investors, under existing ROC laws and regulations relating to foreign investment, individual and institutional foreign investors which meet certain qualifications set by the ROC Securities and Futures Commission may invest in the shares of Taiwan Stock Exchange-listed companies or companies whose shares are traded on the GreTai Securities Market up to a limit of US\$50 million (in the case of institutional investors) and US\$5 million (in the case of individual investors) after obtaining permission from the Taiwan Stock Exchange. These investors, known as general foreign investors, are also subject to the foreign ownership limitations on certain specified industries as described above.

Foreign investors (other than qualified foreign institutional investors, general foreign investors or investors investing in overseas convertible bonds and depositary receipts) who wish to make direct investments in the shares of ROC companies are required to submit a foreign investment approval application to the Investment Commission of the ROC Ministry of Economic Affairs or other government authority. The Investment Commission or such other government authority reviews each foreign investment approval application and approves or disapproves each application after consultation with other governmental agencies (such as the Central Bank of China and the ROC Securities and Futures Commission).

Under current law, any non-ROC person possessing a foreign investment approval may repatriate annual net profits, interest and cash dividends attributable to the approved investment. Stock dividends attributable to this investment, investment capital and capital gains attributable to this investment may be repatriated by the non-ROC person possessing a foreign investment approval after approvals of the Investment Commission or other government authorities have been obtained.

In addition to the general restriction against direct investment by non-ROC persons in securities of ROC companies, non-ROC persons (except in certain limited cases) are currently prohibited from investing in certain industries in the ROC pursuant to a “negative list”, as amended by the Executive Yuan. The prohibition on foreign investment in the prohibited industries specified in the negative list is absolute in the absence of specific exemption from the application of the negative list. Pursuant to the negative list, certain other industries are restricted so that non-ROC persons (except in limited cases) may invest in these industries only up to a specified level and with the specific approval of the relevant competent authority that is responsible for enforcing the relevant legislation that the negative list is intended to implement.

***Depository Receipts.*** In April 1992, the ROC Securities and Futures Commission enacted regulations permitting ROC companies with securities listed on the Taiwan Stock Exchange, with the prior approval of the ROC Securities and Futures Commission, to sponsor the issuance and sale to foreign investors of depositary receipts. Depositary receipts represent deposited shares of ROC companies. In December 1994, the Ministry of Finance allowed companies whose shares are traded on the ROC Over-the-Counter Securities Exchange or listed on the Taiwan Stock Exchange, upon approval of the ROC Securities and Futures Commission, to sponsor the issuance and sale of depositary receipts. The approval will be granted (1) if the underlying shares are newly issued shares, for a fixed number of depositary receipts or (2) if the underlying shares are not newly issued shares, for a maximum number of depositary receipts and, with limited exceptions (as described below), may not be increased without additional approvals by the ROC Securities and Futures Commission.

A holder of depositary receipts may, from three months (in the case that the underlying shares are new shares) or immediately (in the case that the underlying shares are not newly issued shares) after the initial issue date for the deposit receipts, request the foreign depositary bank issuing the depositary receipts to cause the underlying securities to be sold in the ROC and to distribute the proceeds of the sale to the depositary receipt holder or to withdraw from the depositary receipt facility shares represented by depositary receipts and transfer the shares to the depositary receipt holder (other than citizens of the People’s Republic of China and entities organized under the laws of the People’s Republic of China); provided that settlement for trading of shares represented by the depositary receipts through the book-entry system maintained by the Taiwan Securities Central Depository Co., Ltd. is permitted. As discussed above, because the ROC Securities and Futures Commission approval is for a fixed or maximum number of depositary receipts, we or the foreign depositary bank may not increase the number of depositary receipts by depositing shares in a depositary receipt facility or issuing additional depositary receipts against these deposits without specific ROC Securities and Futures Commission approval, except in limited circumstances. These circumstances include issuances of additional depositary receipts in connection with:

- (1) dividends on or free distributions of shares;
- (2) the exercise by holders of existing depositary receipts of their pre-emptive rights in connection with capital increases for cash; or

- (3) if permitted under the deposit agreement and custody agreement, the purchase directly or through a depositary by overseas Chinese and foreign nationals of the underlying shares on the Taiwan Stock Exchange or the GreTai Securities Market (as applicable) or delivery of the underlying shares for deposit in the depositary receipt facility.

However, the total number of deposited shares outstanding after an issuance under the circumstances described in clause (3) above may not exceed the number of deposited shares previously approved by the ROC Securities and Futures Commission plus any depositary receipts created under the circumstances described in clauses (1) and (2) above. Issuances of additional depositary receipts under the circumstances described in clause (3) above will be permitted to the extent that previously issued depositary receipts have been canceled and, for so long as may be required by applicable law, the shares withdrawn from the depositary receipt facility upon cancellation of such depositary receipts have been sold.

Under current ROC law, a non-ROC holder of ADSs who withdraws the underlying shares must appoint an eligible local agent to:

- (1) open a securities trading account with a local securities brokerage firm after having obtained consent from the Taiwan Stock Exchange or the GreTai Securities Market;
- (2) remit funds; and
- (3) exercise rights on securities and perform other matters as may be designated by the holder.

In addition, a withdrawing non-ROC holder must appoint a local bank to act as custodian for handling confirmation and settlement of trades, safekeeping of securities and cash proceeds and reporting of information. Under existing ROC laws and regulations, without this account, holders of ADSs that withdraw and hold the common shares represented by the ADSs would not be able to hold or transfer the common shares, whether on the Taiwan Stock Exchange or otherwise.

Holders of ADSs withdrawing common shares represented by ADSs who are non-ROC persons are required under current ROC law and regulations to appoint an agent in the ROC for filing tax returns and making tax payments. This agent, a “tax guarantor”, must meet certain qualifications set by the ROC Ministry of Finance and, upon appointment, becomes a guarantor of the withdrawing holder’s ROC tax payment obligations. In addition, under current ROC law, repatriation of profits by a non-ROC withdrawing holder is subject to the submission of evidence of the appointment of a tax guarantor to, and approval thereof by, the tax authority or submission of tax clearance certificates so long as the capital gains from securities transactions are exempt from ROC income tax. As required by the Central Bank of China, if repatriation by a holder is based on a tax clearance certificate, the aggregate amount of the cash dividends or interest on bank deposits converted into foreign currencies to be repatriated by the holder shall not exceed the amount of:

- (1) the net payment indicated on the withholding tax voucher issued by the tax authority;
- (2) the net investment gains as indicated on the holder’s certificate of tax payment; or
- (3) the aggregate transfer price as indicated on the income tax return for transfer of tax-deferred dividend shares, whichever is applicable.

Under existing laws and regulations relating to foreign exchange control, a depositary may, without obtaining further approvals from the Central Bank of China or any other governmental authority or agency of the ROC, convert NT dollars into other currencies, including US dollars, in respect of the following: proceeds of the sale of shares represented by depositary receipts, proceeds of the sale of shares received as stock dividends and deposited into the depositary receipt facility and any cash dividends or cash distributions received. In addition, a depositary, also without any of these approvals, may convert inward remittances of payments into NT dollars for purchases of underlying shares for deposit into the depositary receipt facility against the creation of additional depositary receipts. A depositary may also be required to obtain foreign exchange approval from the Central

Bank of China on a payment-by-payment basis for conversion from NT dollars into other currencies relating to the sale of subscription rights for new shares. Proceeds from the sale of any underlying shares by holders of depositary receipts withdrawn from the depositary receipt facility may be converted into other currencies without obtaining Central Bank of China approval. Proceeds from the sale of the underlying shares withdrawn from the depositary receipt facility may be used for reinvestment in the Taiwan Stock Exchange or the GreTai Securities Market, subject to limitations and restrictions applicable to qualified foreign institutional investors or general foreign investors (as described above).

### ***Direct Share Offerings***

The ROC government has promulgated regulations to permit ROC companies listed on the Taiwan Stock Exchange or GreTai Securities Market to issue shares directly (not through depositary receipt facility) overseas.

**Overseas Corporate Bonds.** Since 1989, the ROC Securities and Futures Commission has approved a series of overseas bonds issued by ROC companies listed on the Taiwan Stock Exchange in offerings outside the ROC. Under current ROC law, these overseas corporate bonds can be:

- (1) converted by bondholders, other than citizens of the People's Republic of China and entities organized under the laws of the People's Republic of China, into shares of ROC companies; or
- (2) subject to ROC Securities and Futures Commission approval, may be converted into depositary receipts issued by the same ROC company or by the issuing company of the exchange shares, in the case of exchangeable bonds.

The relevant regulations also permit public issuing companies to issue corporate debt in offerings outside the ROC. Proceeds from the sale of the shares converted from overseas convertible bonds may be used for reinvestment in securities listed on the Taiwan Stock Exchange or traded on the GreTai Securities Exchange, subject to limitations and restrictions applicable to qualified foreign institutional investors or general foreign investors (as applicable).

### **Exchange Controls in the ROC**

The Foreign Exchange Control Statute and regulations provide that all foreign exchange transactions must be executed by banks designated to handle such business by the Ministry of Finance or by the Central Bank of China. 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, and all foreign currency needed for the importation of merchandise and services may be purchased freely from the designated foreign exchange banks.

Trade aside, ROC companies and resident individuals may, without foreign exchange approval, remit outside the ROC foreign currency of up to US\$50 million (or its equivalent) and US\$5 million (or its equivalent), respectively, in each calendar year. In addition, ROC companies and resident individuals may, without foreign exchange approval, remit into the ROC foreign currency of up to US\$50 million (or its equivalent) and US\$5 million (or its equivalent), respectively, in each calendar year. Furthermore, any remittance of foreign currency into the ROC by a ROC company or resident individual in a year will be offset by the amount remitted out of ROC by such company or individual (as applicable) within its annual quota and will not use up its annual inward remittance quota to the extent of such offset. The above limits apply to remittances involving a conversion of NT dollars to a foreign currency and vice versa. A requirement is also imposed on all enterprises to register medium- and long-term foreign debt with the Central Bank of China.

In addition, foreign persons may, subject to certain requirements, but without foreign exchange approval of the Central Bank of China, remit outside and into the ROC foreign currencies of up to US\$100,000 (or its equivalent) for each remittance. The above limit applies to remittances involving a conversion of NT dollars to a

foreign currency and vice versa. The above limit does not, however, apply to the conversion of NT dollars into other currencies, including US dollars, in respect of the proceeds of sale of any underlying shares withdrawn from a depositary receipt facility.

### **Voting of Deposited Securities**

Holders may direct the exercise of voting rights with respect to the common shares represented by the ADSs only in accordance with the provisions of the deposit agreement as described below and applicable ROC law. See “Item 3. Key Information—Risk Factors—Risks Relating to Ownership of ADSs—Your voting rights as a holder of ADSs will be limited”.

Except as described below, the holders will not be able to exercise the voting rights attaching to the common shares represented by the ADSs on an individual basis. According to the ROC Company Law, a shareholder’s voting rights attached to shareholdings in an ROC company must, as to all matters subject to a vote of shareholders (other than the election of directors and supervisors), be exercised as to all shares held by such shareholder in the same manner. Accordingly, the voting rights attaching to the common shares represented by ADSs must be exercised as to all matters subject to a vote of shareholders by the depositary bank or its nominee, who represents all holders of ADSs, collectively in the same manner, except in the case of an election of directors and supervisors. Directors and supervisors are elected by cumulative voting.

In the deposit agreement, the holders will appoint the depositary bank as their representative to exercise the voting rights with respect to the common shares represented by the ADSs.

We will provide the depositary bank with copies (including English translations) of notices of meetings of our shareholders and the agenda of these meetings, including an indication of the number of directors or supervisors to be elected if an election of directors or supervisors is to be held at the meeting. The depositary bank has agreed to request and we will, therefore, also provide a list of the candidates who have expressed their intention to run for an election of directors or supervisors. The depositary bank will mail these materials, together with a voting instruction form to holders as soon as practicable after the depositary bank receives the materials from us. In order to validly exercise its voting rights, the holder of ADSs must complete, sign and return to the depositary bank the voting instruction form by a date specified by the depositary bank. Additional or different candidates may be nominated at the meeting of the shareholders than those proposed in the list provided by us and after the depositary bank has mailed the voting instruction form to the holders. If such change were to occur, the depositary bank may calculate the votes according to procedures not inconsistent with the provisions of the deposit agreement, but shall not exercise any discretion regarding the holders’ voting rights.

Subject to the provisions described in the second succeeding paragraph, which will apply to the election of directors and supervisors, if persons together holding at least 51% of the ADSs outstanding at the relevant record date instruct the depositary bank to vote in the same manner in respect of one or more resolutions to be proposed at the meeting (other than the election of directors or supervisors), the depositary bank will notify the instructions to the chairman of our board of directors or a person he may designate. The depositary bank will appoint the chairman or his designated person to serve as the voting representative of the depositary bank or its nominee and the holders. The voting representative will attend such meeting and vote all the common shares represented by ADSs to be voted in the manner so instructed by such holders in relation to such resolution or resolutions.

If, for any reason, the depositary bank has not by the date specified by it received instructions from persons together holding at least 51% of all the ADSs outstanding at the relevant record date to vote in the same manner in respect of any resolution specified in the agenda for the meeting (other than the election of directors or supervisors), then the holders will be deemed to have instructed the depositary bank or its nominee to authorize and appoint the voting representative as the representative of the depositary bank and the holders to attend such meeting and vote all the common shares represented by all ADSs as the voting representative deems appropriate with respect to such resolution or resolutions, which may not be in your interests; provided, however, that the

depository bank or its nominee will not give any such authorization and appointment unless it has received an opinion of ROC counsel addressed to the depository bank and in form and substance satisfactory to the depository bank, at its sole expense, to the effect that, under ROC law (i) the deposit agreement is valid, binding and enforceable against us and the holders and (ii) the depository bank will not be deemed to be authorized to exercise any discretion when voting in accordance with the deposit agreement and will not be subject to any potential liability for losses arising from such voting. We and the depository bank will take such actions, including amendment of the provisions of the deposit agreement relating to voting of common shares, as we deem appropriate to endeavor to provide for the exercise of voting rights attached to the common shares at shareholders' meetings in a manner consistent with applicable ROC law.

The depository bank will notify the voting representative of the instructions for the election of directors and supervisors received from holders and appoint the voting representative as the representative of the depository bank and the owners to attend such meeting and vote the common shares represented by ADSs as to which the depository bank has received instructions from holders for the election of directors and supervisors, subject to any restrictions imposed by ROC law and our articles of incorporation. Holders who by the date specified by the depository bank have not delivered instructions to the depository bank will be deemed to have instructed the depository bank to authorize and appoint the voting representative as the representative of the depository bank or its nominee and the holders to attend such meeting and vote all the common shares represented by ADSs as to which the depository bank has not received instructions from the holders for the election of directors and supervisors as the voting representative deems appropriate, which may not be in your best interests. Candidates standing for election as representatives of a shareholder may be replaced by such shareholder prior to the meeting of the shareholders, and the votes cast by the holders for such candidates shall be counted as votes for their replacements.

By accepting and continuing to hold ADSs or any interest therein, the holders will be deemed to have agreed to the voting provisions set forth in the deposit agreement, as such provisions may be amended from time to time to comply with applicable ROC law.

There can be no assurance that the holders will receive notice of shareholders' meetings sufficiently prior to the date established by the depository bank for receipt of instructions to enable you to give voting instructions before the cutoff date.

## **Taxation**

### **ROC Taxation**

The following is a general summary of the principal ROC tax consequences of the ownership and disposition of ADSs representing common shares to a non-resident individual or entity. It applies only to a holder that is:

- an individual who is not an ROC citizen, who owns ADSs and who is not physically present in the ROC for 183 days or more during any calendar year; or
- a corporation or a non-corporate body that is organized under the laws of a jurisdiction other than the ROC for profit-making purposes and has no fixed place of business or other permanent establishment in the ROC.

Holders of ADSs are urged to consult their own tax advisors as to the particular ROC tax consequences of owning the ADSs which may affect them.

**Dividends.** Dividends declared by us out of our retained earnings and distributed to the holders are subject to ROC withholding tax, currently at the rate of 20%, on the amount of the distribution in the case of cash dividends or on the par value of the common shares in the case of stock dividends. However, a 10% ROC

retained earnings tax paid by us on our undistributed after-tax earnings, if any, would provide a credit of up to 10% of the gross amount of any dividends declared out of those earnings that would reduce the 20% ROC tax imposed on those distributions.

Dividends paid by us out of our capital reserves are not subject to ROC withholding tax. However, due to the fact that a tax ruling confirming the foregoing was removed from the government tax publication, a question arises as to whether dividends paid out of capital reserve are free from ROC withholding tax. The ROC tax authority is currently studying the issue.

**Capital Gains.** Under ROC law, capital gains on transactions in the common shares are currently exempt from income tax. In addition, transfers of ADSs by non-resident holders are not regarded as a sale of an ROC security and, as a result, any gains on such transactions are not subject to ROC income tax.

**Subscription Rights.** Distributions of statutory subscription rights for common shares in compliance with ROC law are not subject to any ROC tax. Proceeds derived from sales of statutory subscription rights evidenced by securities are exempted from income tax but are subject to securities transaction tax at the rate of 0.3% of the gross amount received. Proceeds derived from sales of statutory subscription rights that are not evidenced by securities are subject to capital gains tax at the rate of:

- 35% of the gains realized if you are a natural person; or
- 25% of the gains realized if you are an entity that is not a natural person.

Subject to compliance with ROC law, we, at our sole discretion, can determine whether statutory subscription rights shall be evidenced by issuance of securities.

**Securities Transaction Tax.** A securities transaction tax, at the rate of 0.3% of the sales proceeds, will be withheld upon a sale of common shares in the ROC. Transfers of ADSs are not subject to ROC securities transaction tax. Withdrawal of common shares from the deposit facility is not subject to ROC securities transaction tax.

**Estate and Gift Tax.** ROC estate tax is payable on any property within the ROC of a deceased who is an individual, and ROC gift tax is payable on any property within the ROC donated by any such person. Estate tax is currently payable at rates ranging from 2% of the first NT\$600,000 to 50% of amounts over NT\$100,000,000. Gift tax is payable at rates ranging from 4% of the first NT\$600,000 to 50% of amounts over NT\$45,000,000. Under ROC estate and gift tax laws, common shares issued by ROC companies are deemed located in the ROC regardless of the location of the holder. It is unclear whether a holder of ADSs will be considered to hold common shares for this purpose.

**Tax Treaty.** The ROC does not have a double taxation treaty with the United States. On the other hand, the ROC has double taxation treaties with Indonesia, Singapore, South Africa, Australia, Vietnam, New Zealand, Malaysia, Macedonia, Swaziland, Gambia, The Netherlands and the United Kingdom, which may limit the rate of ROC withholding tax on dividends paid with respect to common shares in ROC companies. It is unclear whether the holders will be considered to hold common shares for the purposes of these treaties. Accordingly, if the holders may otherwise be entitled to the benefits of the relevant income tax treaty, the holders should consult their tax advisors concerning their eligibility for the benefits with respect to the ADSs.

## **United States Federal Income Taxation**

This section discusses the material United States federal income tax consequences of owning and disposing common shares or our ADSs. It applies to you only if you hold your common shares or ADSs as capital assets for tax purposes. This section does not apply to you if you are a member of a special class of holders subject to special rules, including:

- dealers in securities;

- traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;
- tax-exempt organizations;
- life insurance companies;
- persons liable for alternative minimum tax;
- persons that actually or constructively own 10% or more of our voting stock;
- persons that hold common shares or ADSs as part of a straddle or a hedging or conversion transaction; or
- persons whose functional currency is not the U.S. dollar.

This section is based on the Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations, published rulings and court decisions, all as currently in effect. These laws are subject to change, possibly on a retroactive basis. In addition, this section is based in part upon the representations of the depository and the assumption that each obligation in the deposit agreement and any related agreement will be performed in accordance with its terms. In general, for United States federal income tax purposes, if you hold ADRs evidencing ADSs, you will be treated as the owner of the common shares represented by those ADSs. Exchanges of shares for ADSs, and ADSs for common shares, generally will not be subject to United States federal income tax.

You are a U.S. holder if you are a beneficial owner of common shares or ADSs and you are:

- a citizen or resident of the United States;
- a domestic corporation;
- an estate whose income is subject to United States federal income tax regardless of its source; or
- a trust if a United States court can exercise primary supervision over the trust's administration and one or more United States persons are authorized to control all substantial decisions of the trust.

This discussion addresses only United States federal income taxation of U.S. holders.

**We urge you to consult your own tax advisor regarding the United States federal, state and local tax consequences of owning and disposing common shares or ADSs in your particular circumstances.**

### ***Taxation of Dividends***

Subject to the passive foreign investment company rules discussed below, if you are a U.S. holder, the gross amount of any dividend we pay in respect of your common shares or ADSs out of our current or accumulated earnings and profits (as determined for United States federal income tax purposes) including the amount of any ROC tax withheld reduced by any credit against such withholding tax on account of the 10% retained earnings tax imposed on us, is subject to United States federal taxation. If you are a noncorporate U.S. holder, dividends paid to you in taxable years beginning after December 31, 2002 and before January 1, 2009 that constitute qualified dividend income will be taxable to you at a maximum tax rate of 15% provided that you hold the common shares or ADSs for more than 60 days during the 120-day period beginning 60 days before the ex-dividend date and meet other holding period requirements. Dividends we pay with respect to the common shares or ADSs will be qualified dividend income provided that, in the year that you receive the dividend, the common shares or ADSs are readily tradable on an established securities market in the United States. The dividend is taxable to you when you, in the case of common shares, or the Depository, in the case of ADSs, receives the dividend. The dividend will not be eligible for the dividends-received deduction generally allowed to United States corporations in respect of dividends received from other United States corporations. The amount of the

dividend distribution that you must include in your income as a U.S. holder will be the U.S. dollar value of the NT Dollar payments made, determined at the spot NT/U.S. dollar rate on the date the dividend distribution is includible in your income, regardless of whether the payment is in fact converted into U.S. dollars. Generally, any gain or loss resulting from currency exchange fluctuations during the period from the date you include the dividend payment in income to the date you convert the payment into U.S. dollars will be treated as ordinary income or loss and will not be eligible for the special tax rate applicable to qualified dividend income. The gain or loss generally will be income or loss from sources within the United States for foreign tax credit limitation purposes. Distributions in excess of current and accumulated earnings and profits, as determined for United States federal income tax purposes, will be treated as a non-taxable return of capital to the extent of your basis in the common shares or ADSs and thereafter as capital gain.

Subject to generally applicable limitations and restrictions, the ROC taxes withheld from dividend distributions and paid over to the ROC (reduced by any credit against such withholding tax on account of the 10% retained earnings tax) will be eligible for credit against your U.S. federal income tax liabilities. Special rules apply in determining the foreign tax credit limitation with respect to dividends that are subject to the maximum 15% tax rate. Dividends paid will generally constitute “passive income” or, in the case of some U.S. financial services providers, “financial services income,” which is treated separately from other types of income for purposes of computing the foreign tax credit allowable to you.

*Pro rata* distributions of common shares by us to holders of common shares or ADSs will generally not be subject to U.S. federal income tax. Accordingly, such distributions will generally not give rise to U.S. federal income against which the ROC tax imposed on such distributions may be credited. Any such ROC tax will generally only be creditable against a U.S. holder’s U.S. federal income tax liability with respect to “general limitation income” and not “passive income” or “financial services income,” subject to generally applicable conditions and limitations.

In the event that the ex-dividend date on the New York Stock Exchange or other securities exchange or market for a dividend or distribution that gives rise to ROC withholding tax is after the record date for such dividend or distribution (during which period such ADSs may trade with “due bills”), a purchaser of ADSs during the period from the record date to the ex-dividend date likely would not be entitled to a foreign tax credit for ROC taxes paid in respect of such ADSs even if (i) the purchaser receives the equivalent of such dividend or distribution on the relevant distribution date, and (ii) an amount equivalent to the applicable ROC withholding tax is withheld therefrom or otherwise charged to the account of such purchaser.

### ***Taxation of Capital Gains***

Subject to the passive foreign investment company rules discussed below, if you are a U.S. holder and you sell or otherwise dispose of your common shares or ADSs, you will recognize capital gain or loss for United States federal income tax purposes equal to the difference between the U.S. dollar value of the amount that you realize and your tax basis, determined in U.S. dollars, in your common shares or ADSs. Capital gain of a noncorporate U.S. holder that is recognized on or after May 6, 2003 and before January 1, 2009 is generally taxed a maximum rate of 15% where the property is held more than one year. The gain or loss will generally be income or loss from sources within the United States for foreign tax credit limitation purposes.

### ***Passive Foreign Investment Company Rules***

We believe that common shares and ADSs should not be treated as stock of a passive foreign investment company, or PFIC, for United States federal income tax purposes, but this conclusion is a factual determination that is made annually and thus may be subject to change.

In general, if you are a U.S. holder, we will be a PFIC with respect to you if for any taxable year in which you held our common shares or ADSs:

- at least 75% of our gross income for the taxable year is passive income; or

- at least 50% of the value, determined on the basis of a quarterly average, of our assets is attributable to assets that produce or are held for the production of passive income.

Passive income generally includes dividends, interest, royalties, rents (other than certain rents and royalties derived in the active conduct of a trade or business), annuities and gains from assets that produce passive income. If a foreign corporation owns directly or indirectly at least 25% by value of the stock of another corporation, the foreign corporation is treated for purposes of the PFIC tests as owning its proportionate share of the assets of the other corporation, and as receiving directly its proportionate share of the other corporation's income.

If we are treated as a PFIC, and you are a U.S. holder that does not make a mark-to-market election, as described below, you will be subject to special rules with respect to:

- any gain you realize on the sale or other disposition of your common shares or ADSs; and
- any excess distribution that we make to you (generally, any distributions to you during a single taxable year that are greater than 125% of the average annual distributions received by you in respect of the common shares or ADSs during the three preceding taxable years or, if shorter, your holding period for the common shares or ADSs).

Under these rules:

- the gain or excess distribution will be allocated ratably over your holding period for the common shares or ADSs,
- the amount allocated to the taxable year in which you realized the gain or excess distribution will be taxed as ordinary income,
- the amount allocated to each prior year, with certain exceptions, will be taxed at the highest tax rate in effect for that year, and
- the interest charge generally applicable to underpayments of tax will be imposed in respect of the tax attributable to each such year.

Special rules apply for calculating the amount of the foreign tax credit with respect to excess distributions by a PFIC.

If you own common shares or ADSs in a PFIC that are treated as marketable stock, you may make a mark-to-market election. If you make this election, you will not be subject to the PFIC rules described above. Instead, in general, you will include as ordinary income each year the excess, if any, of the fair market value of your common shares or ADSs at the end of the taxable year over your adjusted basis in your common shares or ADSs. These amounts of ordinary income will not be eligible for the favorable tax rates applicable to qualified dividend income or long-term capital gains. You will also be allowed to take an ordinary loss in respect of the excess, if any, of the adjusted basis of your common shares or ADSs over their fair market value at the end of the taxable year (but only to the extent of the net amount of previously included income as a result of the mark-to-market election). Your basis in the common shares or ADSs will be adjusted to reflect any such income or loss amounts. Your gain, if any, recognized upon the sale of your common shares or ADSs will be taxed as ordinary income.

In addition, notwithstanding any election you make with regard to the common shares or ADSs, dividends that you receive from us will not constitute qualified dividend income to you if we are a PFIC either in the taxable year of the distribution or the preceding taxable year. Dividends that you receive that do not constitute qualified dividend income are not eligible for taxation at the 15% maximum rate applicable to qualified dividend income. Instead, you must include the gross amount of any such dividend paid by us out of our accumulated earnings and profits (as determined for United States federal income tax purposes) in your gross income, and it will be subject to tax at rates applicable to ordinary income as well as the special rules provided with respect to excess distributions, if applicable, as described above.

If you own common shares or ADSs during any year that we are a PFIC, you must file Internal Revenue Service Form 8621.

## Documents on Display

We are subject to the information requirements of the Securities Exchange Act of 1934, as amended. In accordance with these requirements, we file reports and other information with the Securities and Exchange Commission. These materials, including this annual report and the exhibits thereto, may be inspected and copied at the Commission's Public Reference Room at 450 Fifth Street, N.W., Washington, D.C. 20549. The public may obtain information on the operation of the Commission's Public Reference Room by calling the Commission in the United States at 1-800-SEC-0330. The Commission also maintains a web site at <http://www.sec.gov> that contains reports, proxy statements and other information regarding registrants that file electronically with the Commission. In addition, material filed by us can be inspected at the offices of the New York Stock Exchange at 20 Broad Street, New York, New York 10005.

## Item 11. Quantitative and Qualitative Disclosures about Market Risk

Our exposure to financial market risks derives primarily from changes in interest rates and foreign exchange rates. To mitigate these risks, we utilize derivative financial instruments, the application of which, pursuant to our internal guidelines, is for hedging purposes and not for speculative purposes.

**Interest Rate Risks:** Our exposure to interest rate risks relates primarily to our long-term debts, which are normally assumed to finance our capital expenditures.

The table below presents annual principal amounts due and related weighted average implied forward interest rates by year of maturity for our debt obligations outstanding as of December 31, 2002.

|                             | <u>2003</u>                       | <u>2004</u> | <u>2005</u> | <u>2006</u> | <u>2007<br/>and thereafter</u> |
|-----------------------------|-----------------------------------|-------------|-------------|-------------|--------------------------------|
|                             | (in millions, except percentages) |             |             |             |                                |
| Long-term debt              |                                   |             |             |             |                                |
| US\$-denominated debt       |                                   |             |             |             |                                |
| Variable rate .....         | US\$ 200                          | —           | US\$ 318    | —           | —                              |
| Average interest rate ..... | 1.85%                             | —           | 2.38%       | —           | —                              |
| NT\$-denominated debt       |                                   |             |             |             |                                |
| Fixed rate .....            | NT\$4,000                         | NT\$5,000   | NT\$10,500  | —           | NT\$19,500                     |
| Average interest rate ..... | 7.71%                             | 5.95%       | 5.25%       | —           | 3.39%                          |
| Interest rate swaps         |                                   |             |             |             |                                |
| Variable rate .....         | US\$ 9                            | US\$ 3      |             |             |                                |
| Average interest rate ..... | 5.95%                             | 5.95%       |             |             |                                |
| Fixed rate .....            | NT\$5,000                         | —           | —           | —           | —                              |
| Average interest rate ..... | 7.23%                             | —           | —           | —           | —                              |

**Foreign Currency Risk:** Substantial portions of our revenues and expenses are denominated in currencies other than the NT dollar. As of December 31, 2002, more than 60% of our accounts payable and payables for purchases of capital goods were denominated in currencies other than the NT dollar, primarily in U.S. dollars, Japanese yen and Euros. More than 80% of our accounts receivable and receivables from related parties were denominated in non-NT dollars, mainly in U.S. dollars. To protect against reductions in value and the volatility of future cash flows caused by changes in foreign exchange rates, we utilize derivative financial instruments, mainly currency forward contracts, to hedge our currency exposure. These hedging transactions help to reduce, but do not eliminate, the impact of foreign currency exchange rate movements. Our policy is to account for these contracts on a mark-to-market rate basis and the premiums or discounts are amortized on a straight-line basis over the life of the contract. Please see note 24 of our consolidated financial statements for information on the net assets, liabilities and purchase commitments that have been hedged by these derivative transactions.

The table below presents our outstanding financial derivative transactions as of December 31, 2002. These contracts all have a maturity date of not more than 12 months.

| <u>Foreign Currency Forward Exchange Contracts</u>     |      | (in thousands) |
|--------------------------------------------------------|------|----------------|
| Hedging assets/liabilities                             |      |                |
| (Sell US\$/buy NT\$)                                   |      |                |
| Contract amount                                        | US\$ | 715,000        |
| Average contractual exchange rate (against NT dollars) |      | 34.81          |
| (Buy EUR/sell NT\$)                                    |      |                |
| Contract amount                                        | EUR  | 89,000         |
| Average contractual exchange rate (against NT dollars) |      | 36.34          |
| (Buy JPY/sell NT\$)                                    |      |                |
| Contract amount                                        | JPY  | 4,274,850      |
| Average contractual exchange rate (against NT dollars) |      | 0.2925         |

### Currency Options

| <u>Type</u> | <u>Option</u>      | <u>Contract Amount</u><br>(in thousands) | <u>Range of<br/>Exchange Rate</u> | <u>Fair Value</u><br>(in thousands) | <u>Maturity</u> |
|-------------|--------------------|------------------------------------------|-----------------------------------|-------------------------------------|-----------------|
| Sell        | US\$ Call/NT\$ Put | US\$230,000                              | 32.78-33.22<br>(US\$/NT\$)        | (US\$11,650)                        | Jan-Feb 2003    |
| Sell        | US\$ Call/JPY Put  | US\$ 10,000                              | 119.2<br>(US\$/JPY)               | (US\$ 105)                          | Jan-Feb 2003    |
| Sell        | US\$ Call/Euro Put | EUR 10,000                               | 1.017<br>(US\$/EUR)               | (US\$ 46)                           | Jan-Feb 2003    |

**Other Market Risk.** In addition to our interests in Systems on Silicon and Vanguard, we have made investments in debt and equity securities issued by a significant number of private companies related to semiconductor and other technology industries along with a number of investment funds. As of December 31, 2002, the aggregate carrying value of these investments on our balance sheet was NT\$3,818 million (US\$110 million). As of December 31, 2002, approximately NT\$3,148 million (US\$91 million) of this amount in venture capital investments was made through InveStar Semiconductor Development Fund, Inc. and InveStar Semiconductor Development Fund (II), Inc., our two 97% owned subsidiaries and Emerging Alliance Fund L.L.P., our 99.5% owned subsidiary. The carrying value of these investments in private companies and in the investment funds are subject to fluctuation based on many factors such as prevailing market conditions. Moreover, because these are investments in unlisted securities, the fair market value may be significantly different from our carrying value. Upon any subsequent sale of our investments, we may not be able to realize our carrying value as of December 31, 2002 or any subsequent date. As of December 31, 2002, we also had NT\$170 million (US\$4.9 million) in short-term investments in listed stocks, which had a market value of NT\$2,456 million (US\$70.8 million) as of that date.

See “Item 3. Key Information—Exchange Rates” for a summary of the movement between the NT dollar and the U.S. dollar during recent years.

### Item 12. Description of Securities Other than Equity Securities

Not applicable.

### Item 13. Defaults, Dividend Arrearages and Delinquencies

None.

**Item 14. Material Modifications to the Rights of Security Holders and Use of Proceeds**

None.

**Item 15. Controls and Procedures**

On April 23, 2003, within the 90-day period prior to the filing of this report, an evaluation was carried out under the supervision and with the participation of the Company's management, including our Chief Executive Officer and Chief Financial Officer, of the effectiveness of the design and operation of our disclosure controls and procedures (as defined in Rule 13a-14(c) under the Securities Exchange Act of 1934). Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective. No significant changes were made in our internal controls or in other factors that could significantly affect these controls subsequent to the date of their evaluation.

**Item 16. (Reserved)****Item 17. Financial Statements**

The Company has elected to provide the financial statements and related information specified in Item 18 in lieu of Item 17.

**Item 18. Financial Statements****INDEX TO CONSOLIDATED FINANCIAL STATEMENTS**

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## Item 19. Exhibits

(a) See Item 18 for a list of the financial statements filed as part of this annual report.

(b) Exhibits to this Annual Report:

2b.1 The Company hereby agrees to furnish to the Securities and Exchange Commission, upon request, copies of instruments defining the rights of holders of long-term debt of the Company and its subsidiaries.

3.1 Articles of Incorporation of Taiwan Semiconductor Manufacturing Company Limited, as amended and restated on June 3, 2003.

\*3.2 Rules for Election of Directors and Supervisors, as amended and restated on May 7, 2002.

\*3.3 Rules and Procedures of Shareholders' Meetings, as amended and restated on May 7, 2002.

\*\*4.1 Land Lease with Tainan Science Park Administration relating to the fabs located in Tainan Science Park (effective August 1, 1997 to July 31, 2017) (in Chinese with English summary)

\*\*4.2 Land Lease with Tainan Science Park Administration relating to the fabs located in Tainan Science Park (effective May 1, 1998 to April 30, 2018) (in Chinese with English summary)

\*\*4.3 Land Lease with Tainan Science Park Administration relating to the fabs located in Tainan Science Park (effective November 1, 1999 to October 31, 2019) (in Chinese with English summary)

\*\*4.4 Land Lease with Hsinchu Science Park Administration relating to Fab 7 (effective December 4, 1989 to December 3, 2009) (in Chinese with English summary)

\*4.5 Land Lease with Hsinchu Science Park Administration relating to the Fab 7 (effective July 1, 1995 to June 30, 2015) (in Chinese with English summary)

\*4.6 Land Lease with Hsinchu Science Park Administration relating to Fab. 8. (effective March 15, 1997 to March 14, 2017) (in Chinese with English summary)

\*\*4.7 Land Lease with Hsinchu Science Park Administration relating to Fab 12 (Phase I), (effective December 1, 1999 to November 30, 2019) (in Chinese with English summary)

†4.8 Technology Cooperation Agreement between Taiwan Semiconductor Manufacturing Company Ltd. and Philips Electronics N.V. as amended and restated on May 12, 1997.

4.9a Taiwan Semiconductor Manufacturing Company Limited 2002 Employee Stock Option Plan, as revised by the board of directors on March 4, 2003.

4.9b TSMC North America 2002 Employee Stock Option Plan, as revised on June 5, 2003.

4.9c WaferTech, LLC 2002 Employee Stock Option Plan, as revised on June 5, 2003.

\*\*\*†4.10 Shareholders Agreement, dated as of March 15, 1999, by and among EDB Investments Pte. Ltd., Koninklijke Philips Electronics N.V. and Taiwan Semiconductor Manufacturing Company Ltd.

8.1 List of the subsidiaries of TSMC

99.1 Consent of Deloitte & Touche

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\* Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 2001, filed by TSMC on May 9, 2002.

\*\* Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 1999, filed by TSMC on June 29, 2000.

\*\*\* Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 1998, filed by TSMC on April 30, 1999.

† Contains portions for which confidential treatment has been granted.

## SIGNATURES

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the registrant certifies that it meets all the requirements for filing on Form 20-F and has duly caused this annual report to be signed on its behalf by the undersigned.

Date: June 23, 2003

TAIWAN SEMICONDUCTOR MANUFACTURING  
COMPANY LIMITED

By: \_\_\_\_\_ /s/ HARVEY H. W. CHANG

Name: Harvey H.W. Chang

Title: Senior Vice President and Chief Financial Officer

## CERTIFICATIONS

I, Morris Chang, certify that:

1. I have reviewed this annual report on Form 20-F of Taiwan Semiconductor Manufacturing Company Limited;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and have:
  - a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
  - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
  - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: June 23, 2003

/s/ MORRIS CHANG

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Chairman and Chief Executive Officer

I, Harvey H.W. Chang, certify that:

1. I have reviewed this annual report on Form 20-F of Taiwan Semiconductor Manufacturing Company Limited;
2. Based on my knowledge, this annual report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this annual report;
3. Based on my knowledge, the financial statements, and other financial information included in this annual report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this annual report;
4. The registrant's other certifying officers and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-14 and 15d-14) for the registrant and have:
  - a) designed such disclosure controls and procedures to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this annual report is being prepared;
  - b) evaluated the effectiveness of the registrant's disclosure controls and procedures as of a date within 90 days prior to the filing date of this annual report (the "Evaluation Date"); and
  - c) presented in this annual report our conclusions about the effectiveness of the disclosure controls and procedures based on our evaluation as of the Evaluation Date;
5. The registrant's other certifying officers and I have disclosed, based on our most recent evaluation, to the registrant's auditors and the audit committee of registrant's board of directors (or persons performing the equivalent function):
  - a) all significant deficiencies in the design or operation of internal controls which could adversely affect the registrant's ability to record, process, summarize and report financial data and have identified for the registrant's auditors any material weaknesses in internal controls; and
  - b) any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal controls; and
6. The registrant's other certifying officers and I have indicated in this annual report whether or not there were significant changes in internal controls or in other factors that could significantly affect internal controls subsequent to the date of our most recent evaluation, including any corrective actions with regard to significant deficiencies and material weaknesses.

Date: June 23, 2003

/s/ HARVEY H.W. CHANG  
\_\_\_\_\_  
Senior Vice President and Chief Financial Officer

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新竹科學工業園區展業一路二號六樓  
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Hsinchu, Taiwan  
Tel : +886 3 578-0899  
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勤業

### **Independent Auditors' Report**

To the Shareholders of  
Taiwan Semiconductor Manufacturing Company Limited

We have audited the accompanying consolidated balance sheets of Taiwan Semiconductor Manufacturing Company Limited (a Republic of China corporation) and subsidiaries (the "Company") as of December 31, 2001 and 2002, and the related consolidated statements of income, changes in shareholders' equity and cash flows for the years ended December 31, 2000, 2001 and 2002, all expressed in New Taiwan dollars. These financial statements are the responsibility of the Company's management. Our responsibility is to express an opinion on these financial statements based on our audits.

We conducted our audits in accordance with auditing standards generally accepted in the Republic of China and the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements. An audit also includes assessing the accounting principles used and significant estimates made by management, as well as evaluating the overall financial statement presentation. We believe that our audits provide a reasonable basis for our opinion.

In our opinion, the consolidated financial statements referred to above present fairly, in all material respects, the financial position of Taiwan Semiconductor Manufacturing Company Limited and subsidiaries as of December 31, 2001 and 2002, and the results of their operations and their cash flows for the years ended December 31, 2000, 2001 and 2002, in conformity with accounting principles generally accepted in the Republic of China.

As disclosed in Note 3 to the financial statements, the Company adopted Republic of China Statement of Financial Accounting Standards No. 30, "Accounting for Treasury Stock," on January 1, 2002.

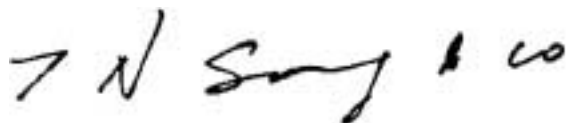
**Deloitte  
Touche  
Tohmatsu**

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勤業

Accounting principles generally accepted in the Republic of China vary in certain significant respects from accounting principles generally accepted in the United States of America. The application of the latter would have affected the determination of net income for each of the three years in the period ended December 31, 2002 and the determination of shareholders' equity and financial position at December 31, 2001 and 2002 to the extent summarized in Note 27.



T N Soong & Co  
(An Associate Member Firm of Deloitte Touche Tohmatsu  
Effective April 22, 2002)  
(Formerly a Member Firm of Andersen Worldwide, SC)  
Taipei, Taiwan  
The Republic of China

February 27, 2003 (May 29, 2003 as to Note 26c)

**Deloitte  
Touche  
Tohmatsu**

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED BALANCE SHEETS**

**(In Millions of New Taiwan and U.S. Dollars, Except Shares)**

|                                                          |               | December 31 |           |                  |
|----------------------------------------------------------|---------------|-------------|-----------|------------------|
|                                                          | Notes         | 2001        | 2002      | 2002             |
|                                                          |               | NT\$        | NT\$      | US\$<br>(Note 4) |
| ASSETS                                                   |               |             |           |                  |
| CURRENT ASSETS                                           |               |             |           |                  |
| Cash and cash equivalents . . . . .                      | 2, 5          | 37,556.3    | 67,790.2  | 1,953.6          |
| Short-term investments . . . . .                         | 2, 6          | 1,398.1     | 170.0     | 4.9              |
| Receivables—net . . . . .                                | 2, 7          | 16,452.2    | 16,285.4  | 469.3            |
| Receivable from related parties . . . . .                | 21            | 494.7       | 439.7     | 12.7             |
| Inventories—net . . . . .                                | 2, 8          | 9,828.3     | 11,201.5  | 322.8            |
| Deferred income tax assets—net . . . . .                 | 2, 17         | 2,350.1     | 3,401.7   | 98.0             |
| Prepaid expenses and other current assets . . . . .      | 21, 24        | 2,721.4     | 3,248.7   | 93.6             |
| Total Current Assets . . . . .                           |               | 70,801.1    | 102,537.2 | 2,954.9          |
| LONG-TERM INVESTMENTS . . . . .                          | 2, 9, 19      | 11,599.2    | 10,635.5  | 306.5            |
| PROPERTY, PLANT AND EQUIPMENT—NET . . . . .              | 2, 10, 13, 21 | 251,287.6   | 246,498.3 | 7,103.7          |
| GOODWILL . . . . .                                       | 2             | 11,437.6    | 10,158.8  | 292.8            |
| OTHER ASSETS                                             |               |             |           |                  |
| Deferred charges—net . . . . .                           | 2, 11         | 3,769.8     | 9,873.8   | 284.6            |
| Deferred income tax assets—net . . . . .                 | 2, 17         | 16,245.8    | 9,773.2   | 281.6            |
| Refundable deposits . . . . .                            | 23            | 784.1       | 557.3     | 16.1             |
| Idle assets—net . . . . .                                | 2             | —           | 386.3     | 11.1             |
| Assets leased to others . . . . .                        | 2             | 555.1       | 87.3      | 2.5              |
| Miscellaneous . . . . .                                  |               | 37.4        | 34.7      | 1.0              |
| Total Other Assets . . . . .                             |               | 21,392.2    | 20,712.6  | 596.9            |
| TOTAL ASSETS . . . . .                                   |               | 366,517.7   | 390,542.4 | 11,254.8         |
| LIABILITIES AND SHAREHOLDERS' EQUITY                     |               |             |           |                  |
| CURRENT LIABILITIES                                      |               |             |           |                  |
| Short-term bank loans . . . . .                          | 12            | 6,269.2     | 729.8     | 21.0             |
| Payable to related parties . . . . .                     | 21            | 1,048.3     | 1,776.2   | 51.2             |
| Accounts payable . . . . .                               |               | 1,397.9     | 5,138.6   | 148.1            |
| Payable to contractors and equipment suppliers . . . . . |               | 12,867.2    | 14,132.1  | 407.3            |
| Accrued expenses and other current liabilities . . . . . | 24            | 6,746.4     | 6,477.2   | 186.7            |
| Current portion of long-term liabilities . . . . .       | 13, 14, 15    | 5,000.0     | 12,107.9  | 348.9            |
| Total Current Liabilities . . . . .                      |               | 33,329.0    | 40,361.8  | 1,163.2          |

(Forward)

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED BALANCE SHEETS—(Continued)**  
**(In Millions of New Taiwan and U.S. Dollars, Except Shares)**

|                                                |          | December 31 |             |                  |
|------------------------------------------------|----------|-------------|-------------|------------------|
|                                                | Notes    | 2001        | 2002        | 2002             |
|                                                |          | NT\$        | NT\$        | US\$<br>(Note 4) |
| LIABILITIES AND SHAREHOLDERS' EQUITY           |          |             |             |                  |
| LONG-TERM LIABILITIES                          |          |             |             |                  |
| Long-term bank loans                           | 13       | \$ 22,399.3 | \$ 11,051.5 | \$ 318.5         |
| Long-term bonds payable                        | 14       | 24,000.0    | 35,000.0    | 1,008.6          |
| Other long-term payable                        | 15       | —           | 4,281.6     | 123.4            |
| Accrued pension cost                           | 2, 16    | 1,856.6     | 2,211.6     | 63.7             |
| Guarantee deposits                             | 23       | 7,212.7     | 1,395.1     | 40.2             |
| Deferred gain on sales and leaseback           | 2        | 268.2       | 114.9       | 3.3              |
| Others                                         |          | 141.5       | 177.2       | 5.1              |
| Total Long-term Liabilities                    |          | 55,878.3    | 54,231.9    | 1,562.8          |
| COMMITMENTS AND CONTINGENCIES 23               |          |             |             |                  |
| MINORITY INTEREST IN SUBSIDIARIES              | 2        | 120.2       | 95.5        | 2.8              |
| SHAREHOLDERS' EQUITY 2, 18                     |          |             |             |                  |
| Capital stock—\$10 par value                   |          |             |             |                  |
| Authorized: 24,600,000 thousand shares         |          |             |             |                  |
| Issued:                                        |          |             |             |                  |
| Preferred—1,300,000 thousand shares            |          | 13,000.0    | 13,000.0    | 374.6            |
| Common—16,832,554 thousand and 18,622,887      |          |             |             |                  |
| thousand shares in 2001 and 2002, respectively |          | 168,325.6   | 186,228.9   | 5,366.8          |
| Capital surplus                                | 2, 3, 19 | 57,128.4    | 57,004.8    | 1,642.8          |
| Retained earnings                              |          | 37,507.5    | 40,792.3    | 1,175.6          |
| Unrealized loss on long-term investments       | 2        | —           | (194.3)     | (5.6)            |
| Cumulative translation adjustments             | 2        | 1,228.7     | 945.0       | 27.2             |
| Treasury stock—42,001 thousand shares          | 2, 3, 19 | —           | (1,923.5)   | (55.4)           |
| Total Shareholders' Equity                     |          | 277,190.2   | 295,853.2   | 8,526.0          |
| TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY     |          | 366,517.7   | 390,542.4   | 11,254.8         |

The accompanying notes are an integral part of the consolidated financial statements.

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF INCOME**

**(In Millions of New Taiwan and U.S. Dollars, Except Shares and Earnings Per Share)**

|                                                                                   | Notes        | Year Ended December 31 |           |           |                  |
|-----------------------------------------------------------------------------------|--------------|------------------------|-----------|-----------|------------------|
|                                                                                   |              | 2000                   | 2001      | 2002      |                  |
|                                                                                   |              | NT\$                   | NT\$      | NT\$      | US\$<br>(Note 4) |
| NET SALES .....                                                                   | 2, 7, 21, 25 | 166,197.6              | 125,884.9 | 162,301.2 | 4,677.3          |
| COST OF SALES .....                                                               | 21           | 87,609.6               | 92,228.1  | 109,988.1 | 3,169.7          |
| GROSS PROFIT .....                                                                |              | 78,588.0               | 33,656.8  | 52,313.1  | 1,507.6          |
| OPERATING EXPENSES                                                                |              |                        |           |           |                  |
| Research and development .....                                                    | 21           | 7,203.6                | 10,649.0  | 11,725.0  | 337.9            |
| General and administrative .....                                                  | 21           | 7,408.1                | 7,939.9   | 7,007.3   | 201.9            |
| Marketing .....                                                                   | 2, 7         | 2,681.6                | 2,290.1   | 1,991.8   | 57.4             |
| Total Operating Expenses .....                                                    |              | 17,293.3               | 20,879.0  | 20,724.1  | 597.2            |
| INCOME FROM OPERATIONS .....                                                      |              | 61,294.7               | 12,777.8  | 31,589.0  | 910.4            |
| NON-OPERATING INCOME                                                              |              |                        |           |           |                  |
| Interest .....                                                                    |              | 1,679.7                | 1,486.7   | 1,094.7   | 31.6             |
| Royalty income .....                                                              | 21           | 524.2                  | 1,301.6   | 527.1     | 15.2             |
| Gain on sales of property, plant, and equipment ....                              | 2            | 62.9                   | 52.4      | 274.0     | 7.9              |
| Technical service income .....                                                    | 21, 23       | 138.5                  | 55.1      | 162.1     | 4.6              |
| Gain on sales of short-term investments—net .....                                 | 2            | 1,060.9                | 1,619.1   | 69.6      | 2.0              |
| Insurance compensation—net .....                                                  | 2            | 1,623.8                | 860.8     | —         | —                |
| Premium income from option contracts—net .....                                    | 2, 24        | 8.2                    | 234.7     | —         | —                |
| Gain on sales of long-term investments—net .....                                  | 2            | 15.1                   | 105.4     | —         | —                |
| Reversal of allowance for losses on short-term<br>investment—net .....            | 2            | 0.7                    | —         | —         | —                |
| Foreign exchange gain—net .....                                                   | 2, 24        | 828.0                  | —         | —         | —                |
| Other .....                                                                       |              | 177.8                  | 759.8     | 291.9     | 8.4              |
| Total Non-Operating Income .....                                                  |              | 6,119.8                | 6,475.6   | 2,419.4   | 69.7             |
| NON-OPERATING EXPENSES                                                            |              |                        |           |           |                  |
| Interest .....                                                                    | 10, 24       | 2,717.0                | 3,144.1   | 2,616.7   | 75.4             |
| Investment loss recognized by equity<br>method—net .....                          | 2, 9         | 187.2                  | 3,959.0   | 1,976.8   | 57.0             |
| Loss on long-term investments—net .....                                           | 2            | —                      | —         | 966.5     | 27.8             |
| Loss on sales of and provision for loss on property,<br>plant and equipment ..... | 2            | 114.7                  | 235.6     | 466.4     | 13.4             |
| Premium expenses from option contracts—net ....                                   | 2, 24        | —                      | —         | 419.5     | 12.1             |
| Foreign exchange loss—net .....                                                   | 2, 24        | —                      | 695.6     | 120.6     | 3.5              |
| Casualty loss—net .....                                                           | 2            | —                      | —         | 119.5     | 3.5              |
| Amortization of bond issuance costs .....                                         | 2            | 32.7                   | 12.5      | 18.5      | 0.5              |

(Forward)

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF INCOME—(Continued)**

**(In Millions of New Taiwan and U.S. Dollars, Except Shares and Earnings Per Share)**

|                                                                   | Notes | Year Ended December 31 |                |                |                  |
|-------------------------------------------------------------------|-------|------------------------|----------------|----------------|------------------|
|                                                                   |       | 2000                   | 2001           | 2002           |                  |
|                                                                   |       | NT\$                   | NT\$           | NT\$           | US\$<br>(Note 4) |
| Other .....                                                       |       | \$ 461.4               | \$ 420.1       | \$ 81.8        | \$ 2.4           |
| Total Non-Operating Expenses .....                                |       | 3,513.0                | 8,466.9        | 6,786.3        | 195.6            |
| INCOME BEFORE INCOME TAX AND<br>MINORITY INTEREST .....           |       | 63,901.5               | 10,786.5       | 27,222.1       | 784.5            |
| INCOME TAX BENEFIT (EXPENSE) ..                                   | 2, 17 | 1,167.9                | 3,740.7        | (5,636.6)      | (162.4)          |
| INCOME BEFORE MINORITY<br>INTEREST .....                          |       | 65,069.4               | 14,527.2       | 21,585.5       | 622.1            |
| MINORITY INTEREST IN LOSS<br>(INCOME) OF SUBSIDIARIES .....       | 2     | 36.8                   | (44.0)         | 24.8           | 0.7              |
| NET INCOME .....                                                  |       | 65,106.2               | 14,483.2       | 21,610.3       | 622.8            |
| BASIC AND DILUTED EARNINGS<br>PER SHARE .....                     | 2, 20 |                        |                |                |                  |
| Before income tax and minority<br>interest .....                  |       | 3.52                   | 0.55           | 1.44           | 0.04             |
| Net income .....                                                  |       | 3.58                   | 0.75           | 1.14           | 0.03             |
| BASIC AND DILUTED EARNINGS<br>PER EQUIVALENT ADS .....            | 2     | 17.92                  | 3.75           | 5.70           | 0.16             |
| BASIC AND DILUTED WEIGHTED<br>AVERAGE SHARES<br>OUTSTANDING ..... | 2, 20 | 18,163,433,000         | 18,622,887,000 | 18,580,700,000 |                  |

The accompanying notes are an integral part of the consolidated financial statements.

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY**

**(In Millions of New Taiwan Dollars Except Shares and Par Value)**

|                                                                                | Capital Stock (NT\$10 Par Value) |                 |          |                |             |                       |                    | Unrealized<br>Gain (Loss) on<br>Long-term<br>Investments | Cumulative<br>Translation<br>Adjustments | Treasury<br>Stock | Total<br>Shareholders'<br>Equity |                      |
|--------------------------------------------------------------------------------|----------------------------------|-----------------|----------|----------------|-------------|-----------------------|--------------------|----------------------------------------------------------|------------------------------------------|-------------------|----------------------------------|----------------------|
|                                                                                | Authorized<br>Shares             | Preferred Stock |          | Common Stock   |             | Subscribed<br>Capital | Capital<br>Surplus |                                                          |                                          |                   |                                  | Retained<br>Earnings |
|                                                                                |                                  | Shares          | Amount   | Shares         | Amount      |                       |                    |                                                          |                                          |                   |                                  |                      |
|                                                                                |                                  |                 | NT\$     |                | NT\$        | NT\$                  | NT\$               | NT\$                                                     | NT\$                                     | NT\$              | NT\$                             |                      |
| BALANCE, JANUARY 1, 2000 .....                                                 | 9,100,000,000                    | —               | \$ —     | 8,520,881,717  | \$ 85,208.8 | \$ 13,118.0           | \$23,951.4         | \$31,382.4                                               | \$—                                      | \$(1,090.1)       | \$—                              | \$152,570.5          |
| Increase in authorized shares .....                                            | 8,700,000,000                    | —               | —        | —              | —           | —                     | —                  | —                                                        | —                                        | —                 | —                                | —                    |
| Appropriations of prior year's earnings                                        |                                  |                 |          |                |             |                       |                    |                                                          |                                          |                   |                                  |                      |
| Stock dividends—25.55% .....                                                   | —                                | —               | —        | 1,959,910,279  | 19,599.1    | —                     | —                  | (19,599.1)                                               | —                                        | —                 | —                                | —                    |
| Bonus to employees—stock .....                                                 | —                                | —               | —        | 172,120,825    | 1,721.2     | —                     | —                  | (1,721.2)                                                | —                                        | —                 | —                                | —                    |
| Remuneration to directors and supervisors .....                                | —                                | —               | —        | —              | —           | —                     | —                  | (215.2)                                                  | —                                        | —                 | —                                | (215.2)              |
| Capital transferred from capital surplus—2.45% ....                            | —                                | —               | —        | 187,936,602    | 1,879.4     | —                     | (1,879.4)          | —                                                        | —                                        | —                 | —                                | —                    |
| Issuance of shares on January 28, 2000 .....                                   | —                                | —               | —        | 300,000,000    | 3,000.0     | (13,118.0)            | 12,000.0           | —                                                        | —                                        | —                 | —                                | 1,882.0              |
| Issuance of shares on June 8, 2000 .....                                       | —                                | —               | —        | 115,000,000    | 1,150.0     | —                     | 23,172.6           | —                                                        | —                                        | —                 | —                                | 24,322.6             |
| Issuance of shares for the acquisition of TSMC on<br>June 30, 2000 .....       | —                                | —               | —        | 433,515,164    | 4,335.2     | —                     | 52,225.0           | —                                                        | —                                        | —                 | —                                | 56,560.2             |
| Elimination TSMC goodwill against capital<br>surplus .....                     | —                                | —               | —        | —              | —           | —                     | (52,212.7)         | —                                                        | —                                        | —                 | —                                | (52,212.7)           |
| Issuance of preferred stock on November 29,<br>2000 .....                      | —                                | 1,300,000,000   | 13,000.0 | —              | —           | —                     | —                  | —                                                        | —                                        | —                 | —                                | 13,000.0             |
| Net income in 2000 .....                                                       | —                                | —               | —        | —              | —           | —                     | —                  | 65,106.2                                                 | —                                        | —                 | —                                | 65,106.2             |
| Gain on sale of properties .....                                               | —                                | —               | —        | —              | —           | —                     | 58.2               | (58.2)                                                   | —                                        | —                 | —                                | —                    |
| Gain on sale of properties from investees .....                                | —                                | —               | —        | —              | —           | —                     | 5.5                | (5.5)                                                    | —                                        | —                 | —                                | —                    |
| Adjustments arising from changes in shareholder's<br>equity of investees ..... | —                                | —               | —        | —              | —           | —                     | (231.6)            | 231.6                                                    | —                                        | —                 | —                                | —                    |
| Unrealized loss on long-term investments .....                                 | —                                | —               | —        | —              | —           | —                     | —                  | —                                                        | (71.6)                                   | —                 | —                                | (71.6)               |
| Translation adjustments .....                                                  | —                                | —               | —        | —              | —           | —                     | —                  | —                                                        | —                                        | 811.7             | —                                | 811.7                |
| BALANCE, DECEMBER 31, 2000 .....                                               | 17,800,000,000                   | 1,300,000,000   | 13,000.0 | 11,689,364,587 | 116,893.7   | —                     | 57,089.0           | 75,121.0                                                 | (71.6)                                   | (278.4)           | —                                | 261,753.7            |
| Increase in authorized shares .....                                            | 6,800,000,000                    | —               | —        | —              | —           | —                     | —                  | —                                                        | —                                        | —                 | —                                | —                    |
| Appropriations of prior year's earnings                                        |                                  |                 |          |                |             |                       |                    |                                                          |                                          |                   |                                  |                      |
| Bonus to employees—stock .....                                                 | —                                | —               | —        | 467,442,629    | 4,674.4     | —                     | —                  | (4,674.4)                                                | —                                        | —                 | —                                | —                    |
| Cash dividends—preferred shares .....                                          | —                                | —               | —        | —              | —           | —                     | —                  | (41.1)                                                   | —                                        | —                 | —                                | (41.1)               |
| Stock dividends—40% .....                                                      | —                                | —               | —        | 4,675,745,835  | 46,757.5    | —                     | —                  | (46,757.5)                                               | —                                        | —                 | —                                | —                    |
| Remuneration to directors and supervisors .....                                | —                                | —               | —        | —              | —           | —                     | —                  | (584.3)                                                  | —                                        | —                 | —                                | (584.3)              |
| Net income in 2001 .....                                                       | —                                | —               | —        | —              | —           | —                     | —                  | 14,483.2                                                 | —                                        | —                 | —                                | 14,483.2             |
| Gain on sales of properties .....                                              | —                                | —               | —        | —              | —           | —                     | 39.3               | (39.3)                                                   | —                                        | —                 | —                                | —                    |
| Gain on sales of properties from investees .....                               | —                                | —               | —        | —              | —           | —                     | 0.1                | (0.1)                                                    | —                                        | —                 | —                                | —                    |
| Reversal of unrealized losses on long term<br>investments .....                | —                                | —               | —        | —              | —           | —                     | —                  | —                                                        | 71.6                                     | —                 | —                                | 71.6                 |
| Translation adjustments .....                                                  | —                                | —               | —        | —              | —           | —                     | —                  | —                                                        | —                                        | 1,507.1           | —                                | 1,507.1              |
| BALANCE, DECEMBER 31, 2001 .....                                               | 24,600,000,000                   | 1,300,000,000   | 13,000.0 | 16,832,553,051 | 168,325.6   | —                     | 57,128.4           | 37,507.5                                                 | —                                        | 1,228.7           | —                                | 277,190.2            |
| Appropriations of prior year's earnings                                        |                                  |                 |          |                |             |                       |                    |                                                          |                                          |                   |                                  |                      |
| Bonus to employees—stock .....                                                 | —                                | —               | —        | 107,078,388    | 1,070.8     | —                     | —                  | (1,070.8)                                                | —                                        | —                 | —                                | —                    |
| Cash dividends—preferred shares .....                                          | —                                | —               | —        | —              | —           | —                     | —                  | (455.0)                                                  | —                                        | —                 | —                                | (455.0)              |
| Stock dividends—10% .....                                                      | —                                | —               | —        | 1,683,255,306  | 16,832.5    | —                     | —                  | (16,832.5)                                               | —                                        | —                 | —                                | —                    |
| Remuneration to directors and supervisors .....                                | —                                | —               | —        | —              | —           | —                     | —                  | (133.8)                                                  | —                                        | —                 | —                                | (133.8)              |
| Net income in 2002 .....                                                       | —                                | —               | —        | —              | —           | —                     | —                  | 21,610.3                                                 | —                                        | —                 | —                                | 21,610.3             |

(Forward)

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CHANGES IN SHAREHOLDERS' EQUITY—(Continued)**

**(In Millions of New Taiwan Dollars Except Shares and Par Value)**

|                                                                                                                                          | Capital Stock (NT\$10 Par Value) |                 |          |                |           |      | Subscribed<br>Capital | Capital<br>Surplus | Retained<br>Earnings | Unrealized<br>Gain (loss) on<br>Long-term<br>Investments | Cumulative<br>Translation<br>Adjustments | Treasury<br>Stock | Total<br>Shareholders'<br>Equity |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|-----------------|----------|----------------|-----------|------|-----------------------|--------------------|----------------------|----------------------------------------------------------|------------------------------------------|-------------------|----------------------------------|
|                                                                                                                                          | Authorized<br>Shares             | Preferred Stock |          | Common Stock   |           |      |                       |                    |                      |                                                          |                                          |                   |                                  |
|                                                                                                                                          |                                  | Shares          | Amount   | Shares         | Amount    |      |                       |                    |                      |                                                          |                                          |                   |                                  |
|                                                                                                                                          |                                  |                 |          |                |           | NT\$ |                       |                    |                      |                                                          |                                          |                   |                                  |
| Transfer of the capital surplus from<br>gain on sales of property, plant and<br>equipment to retained earnings . . . .                   |                                  | —               | \$ —     | —              | \$ —      | —    | \$—                   | \$(166.5)          | \$166.5              | \$ —                                                     | \$ —                                     | \$ —              | \$ —                             |
| Transfer of the capital surplus from<br>gain on sales of property, plant and<br>equipment of investees to retained<br>earnings . . . . . | —                                | —               | —        | —              | —         | —    |                       | (0.1)              | 0.1                  | —                                                        | —                                        | —                 | —                                |
| Unrealized loss on long-term<br>investments . . . . .                                                                                    | —                                | —               | —        | —              | —         | —    |                       | —                  | —                    | (194.3)                                                  | —                                        | —                 | (194.3)                          |
| Translation adjustments . . . . .                                                                                                        | —                                | —               | —        | —              | —         | —    |                       | —                  | —                    | —                                                        | (283.7)                                  | —                 | (283.7)                          |
| Reclassification of parent company<br>stock held by subsidiaries from<br>long-term investments to treasury<br>stock . . . . .            | —                                | —               | —        | —              | —         | —    |                       | —                  | —                    | —                                                        | —                                        | (1,923.5)         | (1,923.5)                        |
| Capital surplus from gain on sale of<br>treasury stock . . . . .                                                                         | —                                | —               | —        | —              | —         | —    |                       | 43.0               | —                    | —                                                        | —                                        | —                 | 43.0                             |
| BALANCE, DECEMBER 31,<br>2002 . . . . .                                                                                                  | 24,600,000,000                   | 1,300,000,000   | 13,000.0 | 18,622,886,745 | 186,228.9 | —    | 57,004.8              | 40,792.3           | (194.3)              | 945.0                                                    | (1,923.5)                                | 295,853.2         |                                  |
| BALANCE, DECEMBER 31, 2002<br>(in millions of US\$) . . . . .                                                                            |                                  |                 | 374.6    |                | 5,366.8   | —    | 1,642.8               | 1,175.6            | (5.6)                | 27.2                                                     | (55.4)                                   | 8,526.0           |                                  |

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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 Millions of New Taiwan and U.S. Dollars)**

|                                                                                           | Year Ended December 31 |                   |                   |                    |
|-------------------------------------------------------------------------------------------|------------------------|-------------------|-------------------|--------------------|
|                                                                                           | 2000                   | 2001              | 2002              |                    |
|                                                                                           | NT\$                   | NT\$              | NT\$              | U.S.\$<br>(Note 4) |
| <b>CASH FLOWS FROM OPERATING ACTIVITIES</b>                                               |                        |                   |                   |                    |
| Net income . . . . .                                                                      | 65,106.2               | 14,483.2          | 21,610.3          | 622.8              |
| Adjustments to reconcile net income to net cash provided<br>by operating activities:      |                        |                   |                   |                    |
| Depreciation and amortization . . . . .                                                   | 41,446.1               | 55,323.0          | 65,000.8          | 1,873.2            |
| Deferred income taxes . . . . .                                                           | (956.1)                | (3,788.1)         | 5,421.0           | 156.2              |
| Investment loss recognized by equity method—net . . .                                     | 187.2                  | 3,959.0           | 1,976.8           | 57.0               |
| Loss (gain) on sales of long-term investments—net . . .                                   | (15.1)                 | (105.4)           | 170.8             | 4.9                |
| Permanent loss on long-term investments . . . . .                                         | —                      | —                 | 795.7             | 22.9               |
| Loss on sales of and provision for loss on property,<br>plant and equipment—net . . . . . | 51.8                   | 183.2             | 192.4             | 5.5                |
| Reversal of provision for losses on short-term<br>investments—net . . . . .               | —                      | (13.2)            | —                 | —                  |
| Pension cost accrued . . . . .                                                            | 370.3                  | 345.3             | 355.7             | 10.3               |
| Allowance for doubtful receivables . . . . .                                              | 524.5                  | 153.8             | (167.5)           | (4.8)              |
| Allowance for sales returns and others . . . . .                                          | 1,679.3                | 123.3             | (209.1)           | (6.0)              |
| Minority interest in income (loss) of subsidiaries . . . .                                | (36.8)                 | 44.0              | (24.8)            | (0.7)              |
| Changes in operating assets and liabilities:                                              |                        |                   |                   |                    |
| Decrease (increase) in:                                                                   |                        |                   |                   |                    |
| Forward exchange contract receivable . . . . .                                            | (113.7)                | 49.5              | (199.6)           | (5.7)              |
| Receivables . . . . .                                                                     | (15,428.2)             | 10,326.2          | 543.4             | 15.7               |
| Receivable from related parties . . . . .                                                 | (737.1)                | 454.0             | 55.0              | 1.6                |
| Inventories—net . . . . .                                                                 | (4,033.8)              | 2,957.4           | (1,373.1)         | (39.6)             |
| Prepaid expenses and other current assets . . .                                           | 352.0                  | 202.3             | (330.8)           | (9.5)              |
| Increase (decrease) in:                                                                   |                        |                   |                   |                    |
| Payable to related parties . . . . .                                                      | 2,334.2                | (1,558.0)         | 727.9             | 20.9               |
| Accounts payables . . . . .                                                               | 3,170.7                | (7,109.9)         | 3,740.7           | 107.8              |
| Forward exchange contract payables . . . . .                                              | (987.6)                | 218.1             | (379.6)           | (10.9)             |
| Accrued expenses and other current<br>liabilities . . . . .                               | 1,872.3                | (430.0)           | 601.1             | 17.3               |
| Net Cash Provided by Operating Activities . . . . .                                       | <u>94,786.2</u>        | <u>75,817.7</u>   | <u>98,507.1</u>   | <u>2,838.9</u>     |
| <b>CASH FLOWS FROM INVESTING ACTIVITIES</b>                                               |                        |                   |                   |                    |
| Decrease (increase) in short-term investments—net . . . . .                               | \$ (524.1)             | \$ 117.1          | \$ 1,184.5        | \$ 34.1            |
| Acquisitions of:                                                                          |                        |                   |                   |                    |
| Long-term investments . . . . .                                                           | (2,956.8)              | (5,120.6)         | (3,192.4)         | (92.0)             |
| Property, plant and equipment . . . . .                                                   | (103,761.9)            | (70,201.2)        | (55,235.5)        | (1,591.8)          |
| Proceeds from sales of:                                                                   |                        |                   |                   |                    |
| Long-term investments . . . . .                                                           | 49.4                   | 559.1             | 53.1              | 1.5                |
| Property, plant and equipment . . . . .                                                   | 364.9                  | 301.4             | 495.9             | 14.3               |
| Decrease in pledged time deposits . . . . .                                               | 3,161.7                | —                 | —                 | —                  |
| Increase in deferred charges . . . . .                                                    | (1,793.2)              | (1,805.2)         | (5,724.6)         | (165.0)            |
| Decrease (increase) in refundable deposits . . . . .                                      | (915.6)                | 195.0             | 226.8             | 6.6                |
| Decrease (increase) in other assets-miscellaneous . . . . .                               | 77.4                   | (9.1)             | 2.7               | 0.1                |
| Decrease in minority interest in subsidiaries . . . . .                                   | (7,165.7)              | (249.2)           | —                 | —                  |
| Increase in goodwill . . . . .                                                            | (8,221.2)              | (1,019.2)         | —                 | —                  |
| Cash of TSMC and WSMC as of July 1, 2000 . . . . .                                        | 736.6                  | —                 | —                 | —                  |
| Net Cash Used in Investing Activities . . . . .                                           | <u>(120,948.5)</u>     | <u>(77,231.9)</u> | <u>(62,189.5)</u> | <u>(1,792.2)</u>   |
| (Forward)                                                                                 |                        |                   |                   |                    |

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**CONSOLIDATED STATEMENTS OF CASH FLOWS—(Continued)**

**(In Millions of New Taiwan and U.S. Dollars)**

|                                                                                                                              | Year Ended December 31 |                        |                        |                       |
|------------------------------------------------------------------------------------------------------------------------------|------------------------|------------------------|------------------------|-----------------------|
|                                                                                                                              | 2000                   | 2001                   | 2002                   |                       |
|                                                                                                                              | NT\$                   | NT\$                   | NT\$                   | U.S.\$<br>(Note 4)    |
| <b>CASH FLOWS FROM FINANCING ACTIVITIES</b>                                                                                  |                        |                        |                        |                       |
| Proceeds from short-term bank loans .....                                                                                    | —                      | 2,435.4                | —                      | —                     |
| Issuance of:                                                                                                                 |                        |                        |                        |                       |
| Long-term bonds .....                                                                                                        | 9,000.0                | —                      | 10,000.0               | 288.2                 |
| Capital stock .....                                                                                                          | 39,204.5               | —                      | —                      | —                     |
| Payments on:                                                                                                                 |                        |                        |                        |                       |
| Short-term bank loans .....                                                                                                  | (8,592.8)              | —                      | (5,539.4)              | (159.6)               |
| Commercial paper .....                                                                                                       | (4,241.0)              | —                      | —                      | —                     |
| Long-term bank loans .....                                                                                                   | (2,648.9)              | (940.1)                | (4,397.3)              | (126.7)               |
| Increase (decrease) in guarantee deposits and other liabilities ...                                                          | 2,977.9                | 75.0                   | (5,817.6)              | (167.7)               |
| Issuance costs of financing .....                                                                                            | (118.3)                | (47.7)                 | (3.0)                  | (0.1)                 |
| Cash dividends paid on preferred shares .....                                                                                | —                      | (41.1)                 | (455.0)                | (13.1)                |
| Remuneration to directors and supervisors .....                                                                              | (215.1)                | (584.3)                | (133.8)                | (3.9)                 |
| Net Cash Provided by (Used in) Financing Activities .....                                                                    | <u>35,366.3</u>        | <u>897.2</u>           | <u>(6,346.1)</u>       | <u>(182.9)</u>        |
| <b>EFFECTS OF EXCHANGE RATE CHANGES ON CASH<br/>AND CASH EQUIVALENTS .....</b>                                               | <u>118.5</u>           | <u>(766.9)</u>         | <u>262.4</u>           | <u>7.5</u>            |
| <b>NET INCREASE (DECREASE) IN CASH AND CASH<br/>EQUIVALENTS .....</b>                                                        | <u>9,322.5</u>         | <u>(1,283.9)</u>       | <u>30,233.9</u>        | <u>871.3</u>          |
| <b>CASH AND CASH EQUIVALENTS, BEGINNING OF<br/>YEAR .....</b>                                                                | <u>29,517.7</u>        | <u>38,840.2</u>        | <u>37,556.3</u>        | <u>1,082.3</u>        |
| <b>CASH AND CASH EQUIVALENTS, END OF YEAR .....</b>                                                                          | <u><u>38,840.2</u></u> | <u><u>37,556.3</u></u> | <u><u>67,790.2</u></u> | <u><u>1,953.6</u></u> |
| <b>SUPPLEMENTAL INFORMATION</b>                                                                                              |                        |                        |                        |                       |
| Interest paid (excluding the amounts capitalized) .....                                                                      | \$ 4,036.2             | \$ 3,468.1             | \$ 2,301.8             | \$ 66.3               |
| Income tax paid .....                                                                                                        | 96.5                   | 20.8                   | 165.1                  | 4.8                   |
| Noncash investing and financing activities:                                                                                  |                        |                        |                        |                       |
| Effect of exchange rate changes on cash and cash<br>equivalents .....                                                        | 1,009.3                | 1,258.4                | (142.4)                | (4.1)                 |
| Current portion of long-term liabilities .....                                                                               | 51.1                   | 5,000.0                | 12,107.9               | 348.9                 |
| Reclassification of parent company stock held by<br>subsidiaries from short/long-term investments to treasury<br>stock ..... | —                      | —                      | 1,923.5                | 55.4                  |

The accompanying notes are an integral part of the consolidated financial statements.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS

## 1. GENERAL

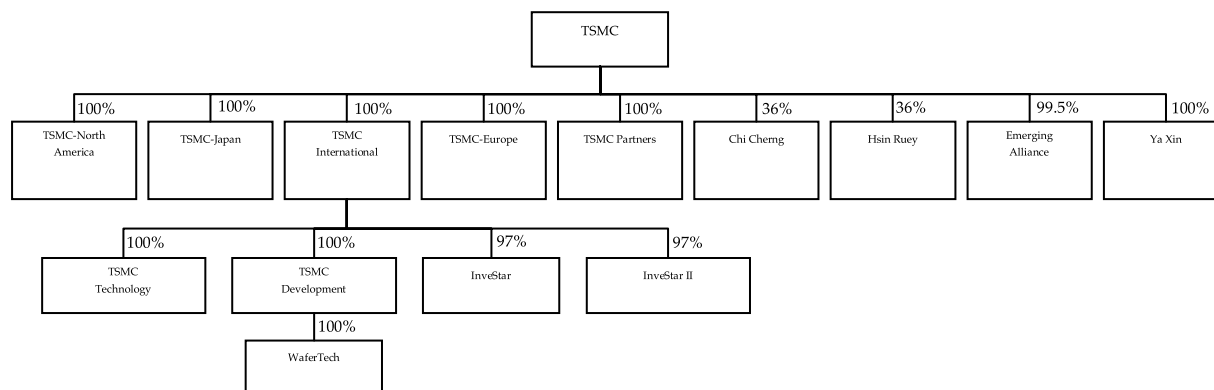
Taiwan Semiconductor Manufacturing Company Ltd. (TSMC), a Republic of China corporation, was incorporated as a venture among the government of the ROC, acting through the Development Fund of the Executive Yuan; Philips Electronics N.V. and certain of its affiliates (Philips); and certain other private investors. In September 1994, its shares were listed on the Taiwan Stock Exchange (TSE). On October 8, 1997, TSMC listed its shares of stock on the New York Stock Exchange in the form of American Depositary Shares.

TSMC is engaged mainly in the manufacturing, selling, packaging, testing and designing of integrated circuits and other semiconductor devices, and the manufacturing of masks.

In August 1999, TSMC invested in 32% of TSMC-Acer Semiconductor Manufacturing Corporation (TASMC). In June 2000, TSMC acquired the remaining 68% of TASMC and merged with Worldwide Semiconductor Manufacturing Corporation (WSMC) with TSMC as the surviving company. TASMC and WSMC were subsequently dissolved. TSMC issued 1,583,515 thousand common shares to the former shareholders of TASMC and WSMC. The additional shares issued were based on an exchange ratio of three point nine TASMC shares and two WSMC shares for every share of TSMC.

TSMC has six direct wholly-owned subsidiaries, namely, TSMC North America (TSMC-North America), Taiwan Semiconductor Manufacturing Company Europe B.V (TSMC-Europe), TSMC Japan K. K. (TSMC-Japan), TSMC International Investment Ltd. (TSMC International), TSMC Partners Ltd. (TSMC Partners), Ya Xin Technology, Inc. (Ya Xin), a 99.5% owned subsidiary, Emerging Alliance Fund, LP (Emerging Alliance) and two 36% owned affiliates—Chi Cherng Investment Co., Ltd. (Chi Cherng, which is 36% owned by TSMC and 64% owned by Hsin Ruey Investment Co., Ltd.) and Hsin Ruey Investment Co., Ltd. (Hsin Ruey, which is 36% owned by TSMC and 64% owned by Chi Cherng). TSMC International has two wholly-owned subsidiaries—TSMC Development, Inc. (TSMC Development), TSMC Technology, Inc. (TSMC Technology), and two 97%-owned subsidiaries—InveStar Semiconductor Development Fund, Inc. (InveStar) and InveStar Semiconductor Development Fund, Inc. (II) LDC (InveStar II). TSMC Development has an approximately 100% owned subsidiary, WaferTech, LLC (WaferTech), acquired by TSMC Development with additional share ownership purchases of 29%, 2% and 0.144% in December 2000, January 2001 and 2002, respectively.

The following diagram presents information regarding the relationship and ownership percentages among TSMC and its subsidiaries as of December 31, 2002:



TSMC-North America is engaged in the sales and marketing of integrated circuits and semiconductor devices. TSMC-Europe, TSMC-Japan, TSMC Development and TSMC Technology are engaged mainly in marketing and engineering support activities. TSMC Partners, Chi Cherng and Hsin Ruey are engaged in investments. Ya Xin is engaged in the design of integrated circuits. TSMC International is engaged in providing

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

investments in companies involved in design, manufacture, and other related business in the semiconductor industries. Emerging Alliance, InveStar and InveStar II are engaged in investing in new start-up companies in the fields of high-technology. WaferTech is engaged in the manufacturing, selling, testing and designing of integrated circuits and other semiconductor devices.

**2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES***Consolidation*

TSMC consolidates the accounts of all majority (directly and indirectly) owned subsidiaries. The consolidated financial statements include, as of and for the years ended December 31, 2001 and 2002, the accounts of TSMC, TSMC-North America, TSMC-Europe, TSMC-Japan, TSMC Partners, Emerging Alliance, Chi Cherng, Hsin Ruey, Ya Xin (a newly established entity in 2002 and dissolved after the merger with Global UniChip Corporation in January 2003) and TSMC International and its subsidiaries, InveStar, InveStar II, TSMC Development (including WaferTech) and TSMC Technology. TSMC and the foregoing subsidiaries are hereinafter referred to collectively as the “Company”. All significant intercompany balances and transactions have been eliminated in these consolidated financial statements.

TSMC’s investees, Hsin Ruey, Chi Hsin Investment Co., Ltd. (Chi Hsin) and Kung Cherng Investment, Co., Ltd. (Kung Cherng) were merged on October 30, 2002, with Hsin Ruey as the surviving company. In addition, TSMC’s investees, Chi Cherng, Cherng Huei Investment, Co., Ltd. (Cherng Huei) and Po Cherng Investment Co., Ltd. (Po Cherng) were merged on October 30, 2002 with Chi Cherng as the surviving company. The mergers were accounted for as a pooling of interest. Chi Hsin, Kung Cherng, Cherng Huei and Po Cherng were consolidated entities as of and for the year ended December 31, 2001.

Minority interests in Emerging Alliance (0.5%), InveStar (3%), InveStar II (3%) and WaferTech (0.006% in 2002 and 0.15% in 2001) are presented separately in the consolidated financial statements.

*Cash and cash equivalents*

Government bonds acquired with maturities less than three months from the date of purchase are classified as cash equivalents.

*Short-term investments*

Short-term investments are carried at the lower of cost or market value. The costs of investments sold are determined by the specific identification method.

*Allowances for doubtful receivables*

Allowances for doubtful receivables are provided based on a review of the collectibility of accounts receivables.

*Revenue recognition*

The four criteria that we use to recognize revenue are the existence of evidence of a contractual arrangement, delivery or performance has occurred, the selling price is fixed or determinable and collectibility is reasonably assured. Allowance for sales returns and others is estimated based on historical experience and any known factors that would affect the allowance. Such provisions are deducted from sales in the year the products are sold and the estimated related costs are deducted from cost of sales.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

*Inventories*

Inventories are stated at the lower of cost or market value. Inventories are recorded at standard cost and adjusted to approximate weighted-average cost at the end of each period. Market value represents net realizable value for finished goods and work in process, and replacement value for raw materials, supplies and spare parts.

*Long-term investments*

Investments in shares of stock of companies wherein the Company exercises significant influence on the operating and financial policy decisions are accounted for using the equity method. The Company's proportionate share in the net income or net loss of investee companies are recognized as components of the "Investment income/loss recognized by equity method - net" account. The Company adopted Republic of China ("ROC") Statement of Financial Accounting Standards ("SFAS") No. 30, "Accounting for Treasury Stock", on January 1, 2002. SFAS No. 30 requires a parent company to record its capital stock held by its subsidiary as treasury stock. The recorded value of treasury stock is based on the carrying values of the parents' capital stock recorded in the subsidiaries' accounts as of January 1, 2002.

When the Company subscribes to additional investee shares at a percentage different from its existing equity interest, the resulting carrying amount of the investment in equity investee differs from the amount of Company's proportionate share in the investee's net equity. The Company records such difference as an adjustment to "capital surplus" as well as the "long-term investments" accounts. In the event an investee has an accumulated deficit, it will record an offset to its capital surplus, excluding the reserve for asset revaluation, through retained earnings. The Company will also record a corresponding entry equivalent to its proportionate share of the investee capital surplus, excluding the reserve for asset revaluation, that was generated subsequent to any acquisition of equity interest in the investee.

Other stock investments are accounted for using the cost method. Cash dividends are recognized as income in the year received but are accounted for as reduction in the carrying values of the long-term investments if the dividends are received in the same year that the related investments are acquired. Stock dividends are recognized neither as investment income nor increase of long-term investment but recorded only as an increase in the number of shares held. An allowance is recognized for any decline in the market value of investments using quoted market prices with the corresponding amount debited to shareholders' equity. A reversal of the allowance will result from a subsequent recovery of the market value. The carrying values of investments with no quoted market price are reduced to reflect an other than temporary decline in their values with the related impairment loss charged to income.

Investments in foreign mutual funds are stated at the lower of cost or net asset value (NAV). An allowance is recognized when the cost of the funds are lower than their net asset values, with the corresponding amount debited to shareholders' equity. A reversal of the allowance will result from a subsequent recovery of the net asset value.

Investment in convertible notes and stock purchase warrants are carried at cost.

The costs of investments sold are determined using the weighted-average method.

If an investee company has an unrealized loss on a long-term investment evaluated using the lower-of-cost-or-market method, the Company recognizes a corresponding unrealized loss in proportion to its equity interest and records the amount as a component of its own shareholders' equity.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Gain or loss on transactions with investee companies wherein the Company owned at least 20% of the outstanding common stock but less than a controlling interest are deferred in proportion to the ownership percentage until realized through a transaction with a third party. The entire amounts of the gains or losses on sales to majority-owned subsidiaries are deferred until such gains or losses are realized through the subsequent sale of the related products to third parties. Gains or losses from sales by investee companies to the Company are deferred in proportion to the ownership percentage until realized through transactions with third parties.

*Property, plant and equipment, assets leased to others and idle assets*

Property, plant and equipment and assets leased to others are stated at cost less accumulated depreciation. Idle assets are stated at the lower of book value or net realized value. Significant additions, renewals, betterments and interest expense incurred during the construction period are capitalized. Maintenance and repairs are expensed in the period incurred. Property, plant and equipment covered by agreements qualifying as capital leases are carried at the lower of the present value of future minimum rent payments, or the market value of the property at the inception date of the lease. The lessee's periodic rental payment includes the purchase price of the leased property and the interest expense.

Depreciation is computed using the straight-line method over the estimated service lives, which range as follows: Land improvements—20 years; buildings—10 to 20 years; machinery and equipment—5 years; and office equipment—3 to 7 years.

Upon sale or disposal of property, plant and equipment, the related cost and accumulated depreciation are removed from the accounts, and any gain or loss is credited or charged to income in the period of disposal.

*Goodwill*

Goodwill represents the excess of the consideration paid for acquisitions over the fair market value of identifiable net assets acquired and the difference between the investment cost and the Company's proportionate share in the net assets of acquired investee companies. Goodwill is amortized using the straight-line method over the estimated life of 10 years.

*Deferred charges*

Deferred charges consist of software and system design costs, technology know-how, bond issuance costs and financing costs, and technology license fees. The amounts are amortized as follows: Software and system design costs—3 years, technology know-how—5 years; bond issuance costs and financing costs—the term of the bonds or the related line of credit; technology license fees—the shorter of the estimated life of the technology or the term of the technology transfer contract.

*Pension costs*

Net periodic pension costs are recorded on the basis of actuarial calculations. Unrecognized net transition obligation and unrecognized net gain/loss are amortized over 25 years.

*Deferred gain on sales and leaseback*

The gain on the sale of property that is simultaneously leased back is deferred by the Company. This deferred gain on sales and leaseback transactions is amortized as follows: (a) operating leases—adjustment of

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

rental expenses over the term of the leases and (b) capital leases—adjustment of depreciation expenses over the estimated useful life of the property or the term of the lease; whichever is shorter.

*Casualty loss*

Casualty losses are recorded when incurred and any insurance recoveries are recorded when probable up to the amount of the loss. Recoveries in excess of the amount of the loss are recorded when realized.

*Income tax*

The Company uses an inter-period tax allocation method for income tax. Deferred income tax assets and liabilities are recognized for the tax effects of temporary differences, unused tax credits, and operating loss carry forwards. Valuation allowances are provided to the extent, if any, that it is more likely than not that deferred income tax assets will not be realized. A deferred tax asset or liability is, according to the classification of its related asset or liability, classified as current or non-current. However, if a deferred tax asset or liability does not relate to an asset or liability in the financial statements, then it is classified as current or non-current based on the expected length of time before it is realized.

Any tax credit arising from the purchase of machinery, equipment and technology, research and development expenditures, personnel training, investments in important technology-based enterprise are recognized using the current method.

Adjustments of prior years' tax liabilities are added to or deducted from the current year's tax provision.

As of January 1, 1998, income taxes on unappropriated earnings (excluding the foreign consolidated entities) of 10% are expensed in the year of shareholder approval which is usually the year subsequent to the year incurred.

*Concentration of credit risk*

Financial instruments that potentially subject the Company to significant concentrations of credit risk consist principally of cash and cash equivalents, receivables, investments and deposits. The Company limits its exposure to credit loss by depositing its cash and cash equivalents with high credit quality financial institution. The Company's sales are primarily denominated in currencies other than NT Dollars, primarily US Dollars. Only one customer's revenue represented 17% and 20% of the consolidated revenue for the year ended December 31, 2001 and 2002, respectively. The Company routinely assesses the financial strength of substantially all customers. The financial condition of the counter-party to investments and deposits is assessed by management.

*Derivative financial instruments*

The Company enters into foreign currency forward contracts to manage currency exposures in cash flow and in foreign currency-denominated assets and liabilities. The differences in the New Taiwan dollar amounts translated using the spot rate and the amounts translated using the contracted forward rates on the contract date are amortized over the terms of the forward contracts using the straight-line method. At the balance sheet dates, the receivables or payables arising from forward contracts are restated using the prevailing spot rate at the balance sheet date and the resulting differences are recognized in charged to income. Also, the receivables and payables related to the forward contract are netted with the resulting amount presented as either an asset or a liability.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The Company enters into interest rate swap transactions to manage exposures from changes in interest rates on existing liabilities. These transactions are accounted for on an accrual basis, in which the cash settlement receivable or payable is recorded as an adjustment to interest income or expense.

The notional amount of foreign currency option contracts entered into for hedging purposes are not recognized as an asset or liability on the contract dates. The premiums paid or received for the call or put options are amortized to income on a straight-line basis over the term of the related contract.

*Shipping and handling expense*

The Company expenses all shipping and handling costs primarily as marketing expenses for moving the product to the customers' designated location. Shipping and handling expenses incurred in the years ended December 31, 2000, 2001 and 2002 were NT\$53.0 million, NT\$49.3 million, and NT\$43.4 million (US\$1.3million), respectively.

*Foreign-currency transactions*

Foreign-currency transactions are recorded in New Taiwan dollars at the current rate of exchange in effect when the transaction occurs. Gains or losses derived from foreign currency transactions or monetary assets and liabilities denominated in a foreign currency are recognized in current operations. At year-end, foreign-currency assets and liabilities are revalued at the prevailing exchange rate with the resulting gain or loss recognized in current operations.

*Translation of foreign-currency financial statements*

ROC Statement of Financial Accounting Standards No. 14, "Accounting for Foreign-Currency Transactions," applies to foreign subsidiaries that use the local foreign currency as its functional currency. The financial statements of foreign subsidiaries are translated into New Taiwan dollars at the following exchange rates: assets and liabilities—current rate on balance sheet date; shareholders' equity—historical rate; income and expenses—weighted average rate during the year. The resulting translation adjustment is recorded as a separate component of shareholders' equity.

*Earnings per share*

Earnings per share is calculated by dividing net income by the average number of shares outstanding in each period, adjusted retroactively for stock dividends and stock bonuses issued subsequently. Earnings per equivalent American Depositary Share (ADS) is calculated by multiplying earnings per share by five (one ADS represents five common shares).

*Mergers and acquisitions*

The acquisition of 68% of TSMC on June 30, 2000 was accounted for as a purchase under the ROC Statement of Financial Accounting Standards No. 25 "Business Combination—Purchase Method". The operations of TSMC were included in the accompanying financial statements from the acquisition date. Prior to the acquisition date, TSMC was accounted for under the equity method as 32% equity interest was held. The merger with WSMC on June 30, 2000 was, however, accounted for as pooling of interests under ROC GAAP, with the results of operations of WSMC retroactively restated in the consolidated statements of income for all periods presented.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Unaudited pro forma net sales, net income and earnings per share of TSMC for 2000 are based on the assumption that the acquisition of TSMC was completed as of January 1, 2000 as follows:

|                                                                            | <u>2000</u>          |
|----------------------------------------------------------------------------|----------------------|
|                                                                            | <u>NT\$</u>          |
|                                                                            | <u>(Unaudited)</u>   |
|                                                                            | <u>(in millions)</u> |
| Net sales .....                                                            | 170,132.4            |
| Net income .....                                                           | 66,339.8             |
| Earnings per share:                                                        |                      |
| Based on weighted-average number of shares outstanding—18,508,763 thousand |                      |
| shares .....                                                               | 3.58                 |

**3. NEW ACCOUNTING PRONOUNCEMENTS**

In accordance with the Statement of Financial Accounting Standards No. 30, “Accounting for Treasury Stock”, and other relevant regulations from ROC Securities and Futures Commission (SFC), the Company is required to reclassify its common stock held by subsidiaries from short/long-term investments to treasury stock. The reclassification is based on the carrying value of NT\$2,115.7 million as recorded by the subsidiaries as of January 1, 2002. The adoption of SFAS No. 30 resulted in the decrease of long-term investments and the increase of treasury stock by NT\$1,923.5 million as of December 31, 2002, and an increase in net income for the year ended December 31, 2002 by NT\$25.9 million (US\$0.7 million).

**4. U.S. DOLLAR AMOUNTS**

The Company maintains its accounts and expresses 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 noon buying rate in The City of New York for cable transfers in New Taiwan dollars as certified for customs purposes by the Federal Reserve Bank of New York as of December 31, 2002, which was NT\$34.70 to US\$1.00. 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.

**5. CASH AND CASH EQUIVALENTS**

|                                                             | <u>December 31</u>   |                 |
|-------------------------------------------------------------|----------------------|-----------------|
|                                                             | <u>2001</u>          | <u>2002</u>     |
|                                                             | <u>NT\$</u>          | <u>NT\$</u>     |
|                                                             | <u>(In Millions)</u> |                 |
| Cash and bank deposits .....                                | 35,830.6             | 65,051.3        |
| Government bonds acquired under repurchase agreements ..... | 1,725.7              | 2,738.9         |
|                                                             | <u>37,556.3</u>      | <u>67,790.2</u> |

**6. SHORT-TERM INVESTMENTS**

|                                    | <u>December 31</u>   |                |
|------------------------------------|----------------------|----------------|
|                                    | <u>2001</u>          | <u>2002</u>    |
|                                    | <u>NT\$</u>          | <u>NT\$</u>    |
|                                    | <u>(In Millions)</u> |                |
| Listed stocks—carrying value ..... | 1,398.1              | 170.0          |
| Market value .....                 | <u>6,917.1</u>       | <u>2,455.6</u> |

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The market values of listed stocks as of December 31, 2001 and 2002 were based on the average closing price for the month of December 2001 and 2002, respectively.

**7. RECEIVABLES—NET**

|                                                   | <b>December 31</b>   |                  |
|---------------------------------------------------|----------------------|------------------|
|                                                   | <b>2001</b>          | <b>2002</b>      |
|                                                   | <b>NT\$</b>          | <b>NT\$</b>      |
|                                                   | <b>(In Millions)</b> |                  |
| Notes receivable .....                            | 176.6                | 60.2             |
| Accounts receivable .....                         | 19,957.7             | 19,530.7         |
|                                                   | 20,134.3             | 19,590.9         |
| Less—allowance for doubtful receivables .....     | (1,100.5)            | (933.0)          |
| Less—allowance for sales returns and others ..... | (2,581.6)            | (2,372.5)        |
|                                                   | <u>(3,682.1)</u>     | <u>(3,305.5)</u> |
|                                                   | <u>16,452.2</u>      | <u>16,285.4</u>  |

The changes in the allowances are summarized as follows:

|                                                     | <b>2000</b>          | <b>2001</b>      | <b>2002</b>      |
|-----------------------------------------------------|----------------------|------------------|------------------|
|                                                     | <b>NT\$</b>          | <b>NT\$</b>      | <b>NT\$</b>      |
|                                                     | <b>(In Millions)</b> |                  |                  |
| Allowance for doubtful receivables                  |                      |                  |                  |
| Balance, beginning of year .....                    | 422.2                | 946.7            | 1,100.5          |
| Additions—charged to marketing expense .....        | 532.6                | 165.3            | 228.1            |
| Deductions .....                                    | (8.1)                | (11.5)           | (395.6)          |
| Balance, end of year .....                          | <u>946.7</u>         | <u>1,100.5</u>   | <u>933.0</u>     |
| Allowance for sales returns and others              |                      |                  |                  |
| Balance, beginning of the year .....                | 706.9                | 2,458.3          | 2,581.6          |
| Additions—charged to sales returns and others ..... | 3,418.5              | 2,130.1          | 3,756.9          |
| Deductions .....                                    | <u>(1,667.1)</u>     | <u>(2,006.8)</u> | <u>(3,966.0)</u> |
| Balance, end of the year .....                      | <u>2,458.3</u>       | <u>2,581.6</u>   | <u>2,372.5</u>   |

**8. INVENTORIES—NET**

|                                | <b>December 31</b>   |                  |
|--------------------------------|----------------------|------------------|
|                                | <b>2001</b>          | <b>2002</b>      |
|                                | <b>NT\$</b>          | <b>NT\$</b>      |
|                                | <b>(In Millions)</b> |                  |
| Finished goods .....           | 1,790.3              | 3,837.3          |
| Work in process .....          | 7,374.8              | 7,611.3          |
| Raw materials .....            | 744.7                | 518.2            |
| Supplies and spare parts ..... | 1,110.3              | 971.0            |
|                                | 11,020.1             | 12,937.8         |
| Less—inventory reserve .....   | <u>(1,191.8)</u>     | <u>(1,736.3)</u> |
|                                | <u>9,828.3</u>       | <u>11,201.5</u>  |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The changes in inventory reserve are summarized as follows:

|                                        | 2000          | 2001           | 2002           |
|----------------------------------------|---------------|----------------|----------------|
|                                        | NT\$          | NT\$           | NT\$           |
|                                        | (In Millions) |                |                |
| Balance at beginning of year . . . . . | 1,328.7       | 567.6          | 1,191.8        |
| Additions . . . . .                    | 1,321.6       | 3,942.1        | 3,585.4        |
| Write-offs . . . . .                   | (2,082.7)     | (3,317.9)      | (3,040.9)      |
| Balance at end of year . . . . .       | <u>567.6</u>  | <u>1,191.8</u> | <u>1,736.3</u> |

## 9. LONG-TERM INVESTMENTS

| December 31                                                        |                |                 |                |                 |
|--------------------------------------------------------------------|----------------|-----------------|----------------|-----------------|
|                                                                    | 2001           |                 | 2002           |                 |
|                                                                    | Carrying Value | % of Owner-Ship | Carrying Value | % of Owner-Ship |
|                                                                    | NT\$           |                 | NT\$           |                 |
|                                                                    | (In Millions)  |                 |                |                 |
| Equity method:                                                     |                |                 |                |                 |
| Publicly traded stock                                              |                |                 |                |                 |
| Vanguard International Semiconductor Corporation (VIS) . . . . .   | 3,377.5        | 25              | 2,415.3        | 25              |
| Non-publicly traded stock                                          |                |                 |                |                 |
| Systems on Silicon Manufacturing Company Pte Ltd. (SSMC) . . . . . | 2,908.0        | 32              | 3,136.1        | 32              |
|                                                                    | <u>6,285.5</u> |                 | <u>5,551.4</u> |                 |
| Prepayment for subscribed stocks VIS . . . . .                     | —              | —               | 849.4          | —               |
|                                                                    | <u>—</u>       |                 | <u>849.4</u>   |                 |
| Cost method:                                                       |                |                 |                |                 |
| Common stock                                                       |                |                 |                |                 |
| Publicly traded stock                                              |                |                 |                |                 |
| Amkor Technology, Inc. . . . .                                     | 280.7          | —               | 280.7          | —               |
| Monolithic System Technology, Inc. . . . .                         | —              | —               | 104.3          | 2               |
| Taiwan Mask Corp. . . . .                                          | 32.1           | 2               | 32.1           | 2               |
| Non-publicly traded stock                                          |                |                 |                |                 |
| United Gas Co., Ltd. . . . .                                       | 193.6          | 11              | 193.6          | 11              |
| Global Testing Corp. (GTC) . . . . .                               | 180.0          | 10              | 179.9          | 10              |
| Shin-Etsu Handotai Co., Ltd. . . . .                               | 105.0          | 7               | 105.0          | 7               |
| Global Investment Holding . . . . .                                | 107.3          | 6               | 100.0          | 6               |
| Hong Tung Venture Capital . . . . .                                | 150.0          | 10              | 83.9           | 10              |
| EoNEX Technologies, Inc. . . . .                                   | —              | —               | 70.3           | 6               |
| Procoat Technology, Inc. . . . .                                   | —              | —               | 67.5           | 12              |
| Conwise Technology Corp. Ltd. . . . .                              | —              | —               | 67.0           | 14              |
| Goyatek Technology, Inc. . . . .                                   | —              | —               | 62.1           | 8               |

(Forward)

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

|                                                   | December 31    |                 |                |                 |
|---------------------------------------------------|----------------|-----------------|----------------|-----------------|
|                                                   | 2001           |                 | 2002           |                 |
|                                                   | Carrying Value | % of Owner-Ship | Carrying Value | % of Owner-Ship |
|                                                   | NT\$           | (In Millions)   | NT\$           |                 |
| Programmable Microelectronics (Taiwan) Corp. .... | 59.3           | 4               | 59.3           | 4               |
| W.K. Technology, Fund IV .....                    | 50.0           | 2               | 50.0           | 2               |
| RichTek Technology Corp. ....                     | 45.0           | 10              | 47.0           | 9               |
| Advanced Power Electronics Corp. ....             | 46.7           | 6               | 46.7           | 6               |
| Auden Technology MFG. Co., Ltd. ....              | —              | —               | 38.8           | 4               |
| EON Technology, Inc. ....                         | —              | —               | 33.7           | 9               |
| TrendChip Technologies Corp. ....                 | —              | —               | 30.0           | 5               |
| ChipStrate Technology, Inc. ....                  | 69.7           | 9               | 10.5           | 9               |
| GeoVision, Inc. ....                              | —              | —               | 4.6            | 2               |
| Divio, Inc. ....                                  | 0.1            | —               | 0.1            | —               |
| EmpowerTel Networks, Inc. ....                    | 12.0           | 1               | —              | —               |
| 3DFX Interactive .....                            | 10.4           | —               | —              | —               |
| Ubicom, Inc. ....                                 | 6.0            | 2               | —              | —               |
| Capella Microsystems .....                        | 4.7            | 2               | —              | —               |
| Equator Technologies, Inc. ....                   | 3.2            | —               | —              | —               |
|                                                   | <u>1,355.8</u> |                 | <u>1,667.1</u> |                 |
| <i>Preferred stock</i>                            |                |                 |                |                 |
| Non-publicly traded stock                         |                |                 |                |                 |
| Sonics, Inc. ....                                 | 231.4          | 7               | 229.8          | 10              |
| Tropian, Inc. ....                                | 151.7          | 5               | 150.6          | 5               |
| Reflectivity, Inc. ....                           | 70.0           | 6               | 146.3          | 15              |
| Monolithic Power Systems, Inc. ....               | 123.0          | 18              | 137.1          | 16              |
| Atheros Communications, Inc. ....                 | 125.8          | 2               | 124.9          | 3               |
| Memsic, Inc. ....                                 | 107.1          | 20              | 106.3          | 23              |
| Pixim, Inc. ....                                  | 87.5           | 3               | 87.8           | 3               |
| Quicksilver Technology, Inc. ....                 | 122.5          | 29              | 82.1           | 4               |
| FormFactor, Inc. ....                             | 70.0           | 1               | 69.5           | 1               |
| Kilopass Technology, Inc. ....                    | —              | —               | 69.5           | 18              |
| NetLogic Microsystems .....                       | 64.7           | 1               | 65.0           | 1               |
| NanoAmp Solutions, Inc. ....                      | 64.8           | 3               | 64.4           | 4               |
| Newport Opticom, Inc. ....                        | 77.1           | 15              | 63.3           | 15              |
| Integrated Memory Logic, Inc. ....                | 63.3           | 10              | 62.9           | 12              |
| Match Lab, Inc. ....                              | 61.3           | 10              | 60.8           | 11              |
| IP Unity .....                                    | —              | —               | 56.9           | 2               |
| Ikanos Communication .....                        | 52.5           | 3               | 52.7           | 2               |
| Ralink Technologies, Inc. ....                    | 52.5           | 7               | 52.1           | 6               |
| SiRF Technology Holdings, Inc. ....               | 51.3           | 1               | 50.9           | 1               |
| LightSpeed Semiconductor Corp. ....               | 107.3          | 1               | 46.5           | 3               |
| Advanced Analogic Technology, Inc. ....           | 44.1           | 2               | 43.8           | 2               |
| OEpic, Inc. ....                                  | 87.5           | 6               | 43.1           | 7               |
| Litchfield Communications .....                   | 35.0           | 6               | 35.1           | 6               |

(Forward)

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

|                                                    | December 31     |                 |                 |                 |
|----------------------------------------------------|-----------------|-----------------|-----------------|-----------------|
|                                                    | 2001            |                 | 2002            |                 |
|                                                    | Carrying Value  | % of Owner-Ship | Carrying Value  | % of Owner-Ship |
|                                                    | NT\$            | (In Millions)   | NT\$            |                 |
| Quake Technology .....                             | 35.0            | 1               | 35.1            | 1               |
| Spreadtrum .....                                   | —               | —               | 35.1            | —               |
| Accelerant Networks .....                          | —               | —               | 35.1            | 1               |
| HiNT Corp. ....                                    | 35.0            | 5               | 34.8            | 5               |
| Silicon Data, Inc. ....                            | 8.9             | 2               | 34.8            | 7               |
| XHP Microsystem .....                              | —               | —               | 26.4            | 6               |
| Angstrom Systems, Inc. ....                        | 26.2            | 7               | 26.1            | 7               |
| Equator Technologies, Inc. ....                    | 99.4            | 2               | 24.7            | 2               |
| Capella Microsystems, Inc. ....                    | 80.4            | 8               | 23.7            | 12              |
| Sensory, Inc. ....                                 | 43.7            | 4               | 21.7            | 5               |
| Iridigm Display .....                              | —               | —               | 17.6            | 2               |
| Mosaic Systems .....                               | —               | —               | 17.6            | 6               |
| Zenesis Technologies .....                         | —               | —               | 17.6            | 4               |
| Divio, Inc. ....                                   | 17.5            | 4               | 17.4            | 4               |
| Incentia Design Systems, Inc. ....                 | 17.5            | 2               | 17.4            | 2               |
| Oridus, Inc. (CreOsyst, Inc.) ....                 | 52.5            | 8               | 15.6            | 8               |
| Signia Technologies, Inc. ....                     | 78.7            | 20              | 15.6            | 12              |
| LeadTONE Wireless, Inc. ....                       | —               | —               | 8.3             | 6               |
| eBest!, Inc. ....                                  | —               | —               | 3.4             | 1               |
| EmpowerTel Networks, Inc. ....                     | 179.5           | 7               | —               | —               |
| RapidStream, Inc. ....                             | 73.8            | 6               | —               | —               |
| Y-Media Corp. ....                                 | 52.5            | 2               | —               | —               |
| Rise Technology Company .....                      | 52.5            | 2               | —               | —               |
| Ubicom, Inc. ....                                  | 47.6            | 2               | —               | —               |
| OmegaBand, Inc. (Seagull Semiconductor, Inc.) .... | 43.7            | 6               | —               | —               |
| PicoTurbo, Inc. ....                               | 43.7            | 7               | —               | —               |
| Procoat Technology, Inc. ....                      | 30.0            | 10              | —               | —               |
|                                                    | <u>2,868.5</u>  |                 | <u>2,329.4</u>  |                 |
| <i>Convertible notes</i>                           |                 |                 |                 |                 |
| eBest!, Inc. ....                                  | —               | —               | 0.8             | —               |
| Rise Technology Co. ....                           | 10.5            | —               | —               | —               |
| PicoTurbo, Inc. ....                               | 10.3            | —               | —               | —               |
| OmegaBand, Inc. (Seagull Semiconductor, Inc.) .... | 6.8             | —               | —               | —               |
|                                                    | <u>27.6</u>     |                 | <u>0.8</u>      |                 |
| <i>Funds</i>                                       |                 |                 |                 |                 |
| Horizon Ventures .....                             | 125.7           | —               | 195.4           | —               |
| Crimson Asia Capital .....                         | 27.1            | —               | 42.0            | —               |
| BIAM Global Opportunity Fund .....                 | 909.0           | —               | —               | —               |
|                                                    | <u>1,061.8</u>  |                 | <u>237.4</u>    |                 |
| <i>Warrant</i>                                     |                 |                 |                 |                 |
| OEpic, Inc. ....                                   | —               | —               | —               | —               |
|                                                    | <u>11,599.2</u> |                 | <u>10,635.5</u> |                 |

# TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The carrying values of investments accounted for using the equity method and the related investment gains and losses for the years ended December 31, 2000, 2001 and 2002 were based on audited financial statements of the investees in the same year. The investment gains or losses of the investee companies consist of the following:

|                                                 | Year Ended December 31 |                       |                  |
|-------------------------------------------------|------------------------|-----------------------|------------------|
|                                                 | 2000                   | 2001                  | 2002             |
|                                                 | NT\$                   | NT\$<br>(In Millions) | NT\$             |
| VIS .....                                       | 597.8                  | (2,236.9)             | (821.8)          |
| SSMC .....                                      | (473.7)                | (1,722.1)             | (1,155.0)        |
| TASMC (through June 29, 2000, see Note 2) ..... | (311.3)                | —                     | —                |
|                                                 | <u>(187.2)</u>         | <u>(3,959.0)</u>      | <u>(1,976.8)</u> |

The market values and net asset values of the Company's long-term investments are as follows:

|                                                              | December 31           |         |
|--------------------------------------------------------------|-----------------------|---------|
|                                                              | 2001                  | 2002    |
|                                                              | NT\$<br>(In Millions) | NT\$    |
| Market value of publicly traded stocks .....                 | 7,056.9               | 4,792.1 |
| Equity in the net assets of non-publicly traded stocks ..... | 8,286.5               | 7,720.5 |
| Net asset value of funds .....                               | 1,202.5               | 237.4   |

On January 8, 2003, the Company's investee company, VIS, issued 600,000 thousand shares of common stock at a price of NT\$7 per share. The Company prepaid NT\$849,360 thousand at the end of 2002 for the share subscription and paid an additional NT\$766,815 thousand in January 2003. In this equity offering, the Company purchased a total of 230,882 thousand shares of VIS. As a result, its ownership in VIS increased from 25% to 28%.

### 10. PROPERTY, PLANT AND EQUIPMENT—NET

|                                  | December 31           |                  |
|----------------------------------|-----------------------|------------------|
|                                  | 2001                  | 2002             |
|                                  | NT\$<br>(In Millions) | NT\$             |
| Cost                             |                       |                  |
| Land and land improvements ..... | 877.4                 | 874.9            |
| Buildings .....                  | 60,523.5              | 76,428.9         |
| Machinery and equipment .....    | 280,023.7             | 343,951.6        |
| Office equipment .....           | 6,062.5               | 6,996.0          |
|                                  | <u>347,487.1</u>      | <u>428,251.4</u> |
| Construction in progress .....   | 59,749.5              | 28,348.1         |
|                                  | <u>407,236.6</u>      | <u>456,599.5</u> |
| Accumulated depreciation         |                       |                  |
| Land and improvements .....      | 108.8                 | 127.4            |
| Buildings .....                  | 16,604.1              | 24,140.5         |
| Machinery and equipment .....    | 136,033.3             | 181,998.6        |
| Office equipment .....           | 3,202.8               | 3,834.7          |
|                                  | <u>155,949.0</u>      | <u>210,101.2</u> |
|                                  | <u>251,287.6</u>      | <u>246,498.3</u> |

# TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Depreciation expense on property, plant and equipment was NT\$40,135.2 million, NT\$52,762.9 million and NT\$59,747.0 million for the years ended December 31, 2000, 2001 and 2002, respectively.

Interest expense (before deducting capitalized amounts of NT\$541.1 million, NT\$507.0 million and NT\$213.7 million in 2000, 2001 and 2002, respectively) for the years ended December 31, 2000, 2001 and 2002 was NT\$3,258.1 million, NT\$3,651.1 million and NT\$2,830.4 million, respectively. The interest rates used for purpose of calculating the capitalized amount were 6.62% to 7.663% in 2000, 2.54% to 5.283% in 2001 and 2.07% to 5.283% in 2002.

Information on the status of the expansion or construction plans of TSMC's manufacturing facilities as of December 31, 2002, is as follows:

| <u>Construction/<br/>Expansion Plan</u> | <u>Estimated<br/>Complete<br/>Cost</u> | <u>Accumulated<br/>Expenditures</u> | <u>Actual Date<br/>of Starting<br/>Operations</u> |
|-----------------------------------------|----------------------------------------|-------------------------------------|---------------------------------------------------|
|                                         | NT\$                                   | NT\$                                |                                                   |
|                                         | (In Millions)                          |                                     |                                                   |
| Fab 6 .....                             | 93,932.0                               | 87,054.7                            | March 2000                                        |
| Fab 12 phase 1 .....                    | 80,318.4                               | 47,095.4                            | March 2002                                        |
| Fab 14 phase 1 .....                    | 30,411.0                               | 22,169.9                            | —                                                 |

### 11. DEFERRED CHARGES—NET

|                                               | <u>December 31</u> |                  |
|-----------------------------------------------|--------------------|------------------|
|                                               | <u>2001</u>        | <u>2002</u>      |
|                                               | NT\$               | NT\$             |
|                                               | (In Millions)      |                  |
| Cost                                          |                    |                  |
| Technology license fees .....                 | 2,228.6            | 8,908.2          |
| Software and system design costs .....        | 4,022.7            | 4,533.2          |
| Bond issuance costs and financing costs ..... | 492.7              | 214.4            |
| Technology know-how .....                     | 270.0              | 103.5            |
| Others .....                                  | 549.2              | 32.8             |
|                                               | <u>7,563.2</u>     | <u>13,792.1</u>  |
| Accumulated amortization                      |                    |                  |
| Technology license fees .....                 | (1,232.0)          | (2,388.9)        |
| Software and system design costs .....        | (1,948.8)          | (1,365.8)        |
| Bond issuance costs and financing costs ..... | (342.6)            | (87.2)           |
| Technology know-how .....                     | (166.5)            | (54.0)           |
| Others .....                                  | (103.5)            | (22.4)           |
|                                               | <u>(3,793.4)</u>   | <u>(3,918.3)</u> |
|                                               | <u>3,769.8</u>     | <u>9,873.8</u>   |

Amortization expense was NT\$1,136.8 million, NT\$1,465.9 million and NT\$4,039.5 million for the years ended December 31, 2000, 2001 and 2002, respectively.

# TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

As of December 31, 2002, the estimated aggregate amortization expense for each of the five succeeding fiscal years under the Company are as follows:

| <u>Year</u>               | <u>Amount</u>        |
|---------------------------|----------------------|
|                           | <u>NT\$</u>          |
|                           | <u>(In Millions)</u> |
| 2003 .....                | 3,386.8              |
| 2004 .....                | 2,773.1              |
| 2005 .....                | 1,276.6              |
| 2006 .....                | 683.2                |
| 2007 .....                | 657.1                |
| 2008 and thereafter ..... | 1,097.0              |
|                           | <u>9,873.8</u>       |

### 12. SHORT-TERM BANK LOANS

|                                                                                                                                          | <u>December 31</u>   |              |
|------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|
|                                                                                                                                          | <u>2001</u>          | <u>2002</u>  |
|                                                                                                                                          | <u>NT\$</u>          | <u>NT\$</u>  |
|                                                                                                                                          | <u>(In Millions)</u> |              |
| Unsecured loans in US dollars:                                                                                                           |                      |              |
| US\$21.0 million, refinanced in May 2002, repayable by May 2003, annual interest at 2.33% and 1.82% in 2001 and 2002, respectively ..... | 735.0                | 729.8        |
| US\$82.0 million, repayable by March 2002, annual interest at 2.679% .....                                                               | 2,869.9              | —            |
| US\$46.0 million, repayable by October 2002, annual interest at 2.548% .....                                                             | 1,610.0              | —            |
| US\$5.5 million, repayable by June 2002, annual interest at 3.188% .....                                                                 | 192.5                | —            |
| US\$21.6 million, repayable by October 2002, annual interest at 2.590% .....                                                             | 754.7                | —            |
| Secured loan in NT dollars:                                                                                                              |                      |              |
| NT\$107.1 million, repayable by October 2002, annual interest at 3.2% to 3.8% .....                                                      | 107.1                | —            |
|                                                                                                                                          | <u>6,269.2</u>       | <u>729.8</u> |

As of December 31, 2002, TSMC provided NT\$1,390.1 million (US\$40.0 million) guarantee for the above US\$21.0 million loan.

Unused credit lines as of December 31, 2002 aggregated approximately NT\$7,930 million and US\$366.5 million.

### 13. LONG-TERM BANK LOANS

|                                                                                                                                                                     | <u>December 31</u>   |                 |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|-----------------|
|                                                                                                                                                                     | <u>2001</u>          | <u>2002</u>     |
|                                                                                                                                                                     | <u>NT\$</u>          | <u>NT\$</u>     |
|                                                                                                                                                                     | <u>(In Millions)</u> |                 |
| Secured loan:                                                                                                                                                       |                      |                 |
| US\$440.0 million, repayable by February 2005, US\$122.0 million repaid in 2002, annual floating interest at 2.578% and 2.078% in 2001 and 2002, respectively ..... | 15,399.5             | 11,051.5        |
| Unsecured loan:                                                                                                                                                     |                      |                 |
| US\$200.0 million, repayable by December 2003, annual interest at 2.54% and 2.0375% in 2001 and 2002, respectively .....                                            | 6,999.8              | 6,950.6         |
|                                                                                                                                                                     | <u>22,399.3</u>      | <u>18,002.1</u> |

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

As of December 31, 2002, all of the loans above were guaranteed by TSMC. In addition, the property and equipment of WaferTech with carrying amount of approximately NT\$29,053.5 million (US\$836.0 million) is pledged for the secured loan. Under the unsecured loan, TSMC is required to maintain certain financial covenants which, if violated, could result in the payment of this obligation becoming due prior to the originally scheduled maturity date. These financial covenants require TSMC to, among other things, maintain minimum levels of working capital, earnings before interest, taxes, depreciation and amortization, and net worth. TSMC was in compliance with these financial covenants as of December 31, 2002.

As of December 31, 2002, future minimum principal payments under the Company's long-term bank loan arrangements are as follows:

| <u>Year</u> | <u>Amount</u><br>NT\$<br>(In Millions) |
|-------------|----------------------------------------|
| 2003 .....  | 6,950.6                                |
| 2004 .....  | —                                      |
| 2005 .....  | 11,051.5                               |
|             | <u>18,002.1</u>                        |

Unused credit lines for long-term bank loans as of December 31, 2002 aggregated approximately US\$122.0 million.

**14. BONDS**

|                                                                                                                                                               | <u>December 31</u>    |                       |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|-----------------------|
|                                                                                                                                                               | <u>2001</u>           | <u>2002</u>           |
|                                                                                                                                                               | NT\$<br>(In Millions) | NT\$<br>(In Millions) |
| Domestic unsecured bonds:                                                                                                                                     |                       |                       |
| Issued in March 1998 and payable in March 2003 in one lump sum payment, 7.71% annual interest payable semi-annually .....                                     | 4,000.0               | 4,000.0               |
| Issued in October 1999 and payable in October 2002 and 2004 in two equal payments, 5.67% and 5.95% annual interest payable annually, respectively .....       | 10,000.0              | 5,000.0               |
| Issued in December 2000 and payable in December 2005 and 2007 in two installments, 5.25% and 5.36% annual interest payable annually, respectively .....       | 15,000.0              | 15,000.0              |
| Issued in January 2002 and payable in January 2007, 2009 and 2012 in three installments, 2.6%, 2.75% and 3% annual interest payable annually, respectively .. | —                     | 15,000.0              |
|                                                                                                                                                               | <u>29,000.0</u>       | <u>39,000.0</u>       |

As of December 31, 2002, future principal payments for the Company's bonds arrangements are as follows:

| <u>Year of Repayment</u>  | <u>Amount</u><br>NT\$<br>(In Millions) |
|---------------------------|----------------------------------------|
| 2003 .....                | 4,000.0                                |
| 2004 .....                | 5,000.0                                |
| 2005 .....                | 10,500.0                               |
| 2006 .....                | —                                      |
| 2007 .....                | 7,000.0                                |
| 2008 and thereafter ..... | 12,500.0                               |
|                           | <u>39,000.0</u>                        |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

**15. OTHER LONG-TERM PAYABLES**

TSMC entered into several license arrangements for certain semiconductor patents. Future payments under the agreements as of December 31, 2002 are as follows:

| <u>Year</u>               | <u>Amount</u>  |
|---------------------------|----------------|
| 2003 .....                | 1,157.3        |
| 2004 .....                | 1,226.8        |
| 2005 .....                | 987.0          |
| 2006 .....                | 469.2          |
| 2007 .....                | 486.5          |
| 2008 and thereafter ..... | 1,112.1        |
|                           | <u>5,438.9</u> |

**16. PENSION PLAN**

TSMC has pension plans for all regular employees, that provide benefits based on length of service and average monthly salary for the six-month period prior to retirement.

TSMC contributes an amount equal to 2% of salaries paid every month to a Pension Fund (the “Fund”). The Fund is administered by a pension fund monitoring committee (the “Committee”) and is deposited in the Committee’s name in the Central Trust of China.

# TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The changes in the Fund and accrued pension cost under ROC Statement of Financial Accounting Standard No. 18 are summarized as follows:

|                                                                        | <u>2001</u><br>NT\$<br>(In Millions) | <u>2002</u><br>NT\$<br>(In Millions) |
|------------------------------------------------------------------------|--------------------------------------|--------------------------------------|
| a. Components of pension cost                                          |                                      |                                      |
| Service cost .....                                                     | 418.0                                | 442.3                                |
| Interest cost .....                                                    | 95.9                                 | 121.5                                |
| Projected return on plan assets .....                                  | (44.0)                               | (45.1)                               |
| Amortization .....                                                     | 8.3                                  | 1.7                                  |
| Net pension cost .....                                                 | <u>478.2</u>                         | <u>520.4</u>                         |
| Reconciliation of the fund status of the plan and accrued pension cost |                                      |                                      |
| Benefit obligation                                                     |                                      |                                      |
| Vested benefit obligation .....                                        | 0.7                                  | 21.3                                 |
| Nonvested benefit obligation .....                                     | <u>1,026.4</u>                       | <u>1,607.2</u>                       |
| Accumulated benefit obligation .....                                   | 1,027.1                              | 1,628.5                              |
| Additional benefits based on future salaries .....                     | <u>1,407.0</u>                       | <u>1,300.7</u>                       |
| Projected benefit obligation .....                                     | 2,434.1                              | 2,929.2                              |
| Fair value of plan assets .....                                        | <u>(835.6)</u>                       | <u>(1,014.0)</u>                     |
| Funded status .....                                                    | 1,598.5                              | 1,915.2                              |
| Unrecognized net transitional obligation .....                         | (157.7)                              | (149.4)                              |
| Unrecognized net gain .....                                            | <u>415.8</u>                         | <u>445.8</u>                         |
| Accrued pension cost .....                                             | <u>1,856.6</u>                       | <u>2,211.6</u>                       |
| c. Actuarial assumptions                                               |                                      |                                      |
| Discount rate used in determining present values .....                 | 5.0%                                 | 3.75%                                |
| Future salary increase rate .....                                      | 5.0%                                 | 3.00%                                |
| Expected rate of return on plan assets .....                           | 5.0%                                 | 3.75%                                |
| d. Contributions to pension fund .....                                 | <u>131.9</u>                         | <u>164.7</u>                         |
| e. Payments from pension fund .....                                    | <u>—</u>                             | <u>5.4</u>                           |

## 17. INCOME TAXES

- a. A reconciliation of income tax expense on income before income tax and minority interest at the statutory rate and current income tax expense on income before tax credits is shown below:

|                                                                                                      | <u>2000</u><br>NT\$ | <u>2001</u><br>NT\$<br>(In Millions) | <u>2002</u><br>NT\$ |
|------------------------------------------------------------------------------------------------------|---------------------|--------------------------------------|---------------------|
| Income tax expense based on “income before income tax and minority interest” at statutory rate ..... | (12,787.7)          | (2,699.6)                            | (6,881.3)           |
| Tax-exempt income .....                                                                              | 7,770.0             | 1,089.0                              | 2,526.5             |
| Temporary and permanent differences .....                                                            | <u>(49.5)</u>       | <u>(986.6)</u>                       | <u>(519.5)</u>      |
| Current income tax expense before income tax credits .....                                           | <u>(5,067.2)</u>    | <u>(2,597.2)</u>                     | <u>(4,874.3)</u>    |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The ROC statutory rates for 2000, 2001 and 2002 were 20%, 25% and 25%, respectively.

b. Income tax benefit (expense) consists of:

|                                                            | <u>2000</u>    | <u>2001</u>    | <u>2002</u>      |
|------------------------------------------------------------|----------------|----------------|------------------|
|                                                            | NT\$           | NT\$           | NT\$             |
|                                                            | (In Millions)  |                |                  |
| Current income tax expense before income tax credits ..... | (5,067.2)      | (2,597.2)      | (4,874.3)        |
| Additional 10% tax on the unappropriated earnings .....    | (88.0)         | (322.3)        | (179.4)          |
| Income tax credits .....                                   | 5,128.0        | 2,888.4        | 4,867.2          |
| Other income tax .....                                     | —              | (16.3)         | (29.1)           |
| Income tax expense .....                                   | (27.2)         | (47.4)         | (215.6)          |
| Net change in deferred income tax assets (liabilities)     |                |                |                  |
| Net operating loss .....                                   | 806.7          | 3,751.1        | 1,734.0          |
| Investment tax credits .....                               | 4,754.6        | 3,044.1        | 2,510.2          |
| Temporary differences .....                                | (529.9)        | (1,918.0)      | (5,910.2)        |
| Valuation allowance .....                                  | (4,026.0)      | (1,089.1)      | (3,755.0)        |
| Adjustment of prior years' taxes .....                     | 189.7          | —              | —                |
|                                                            | <u>1,167.9</u> | <u>3,740.7</u> | <u>(5,636.6)</u> |

c. Deferred income tax assets (liabilities) consist of the following:

|                              | <u>2001</u>     | <u>2002</u>    |
|------------------------------|-----------------|----------------|
|                              | NT\$            | NT\$           |
|                              | (In Millions)   |                |
| Current                      |                 |                |
| Investment tax credits ..... | 2,347.0         | 3,320.0        |
| Temporary differences .....  | 3.1             | 81.7           |
|                              | <u>2,350.1</u>  | <u>3,401.7</u> |
| Noncurrent                   |                 |                |
| Net operating loss .....     | 6,118.3         | 7,852.3        |
| Investment tax credits ..... | 21,710.4        | 23,247.6       |
| Temporary differences .....  | (2,363.8)       | (8,352.6)      |
| Valuation allowance .....    | (9,219.1)       | (12,974.1)     |
|                              | <u>16,245.8</u> | <u>9,773.2</u> |

d. Integrated income tax information:

The balances of the imputation credit account (ICA) as of December 31, 2001 and 2002 were NT\$9.4 million and NT\$6.7 million, respectively.

The actual and expected creditable ratio for 2001 and 2002 were 0.04% and 0.03%, respectively.

The imputation credit allocated to each shareholder shall be based on the balance in the ICA on the date of distribution of dividends; thus the expected creditable ratio for 2002 may be adjusted according to the difference between the expected and actual imputation credit allowed under the regulation.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

- e. As of December 31, 2001 and 2002, the unappropriated retained earnings generated to December 31, 1997 was NT\$4.8 million and NT\$0, respectively.

- f. As of December 31, 2002, TSMC's investment tax credits consisted of the following:

| <u>Regulation</u>                          | <u>Items</u>                                         | <u>Total<br/>Creditable<br/>Amounts</u><br>NT\$<br>(In Millions) | <u>Remaining<br/>Creditable<br/>Amounts</u><br>NT\$ | <u>Expire<br/>Year</u> |
|--------------------------------------------|------------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------|------------------------|
| Statute for Upgrading Industries . . . . . | Purchase of machinery and equipment                  | 4,237.0                                                          | —                                                   | 2002                   |
|                                            |                                                      | 4,767.3                                                          | 4,767.3                                             | 2003                   |
|                                            |                                                      | 8,180.9                                                          | 8,180.9                                             | 2004                   |
|                                            |                                                      | 3,110.9                                                          | 3,110.9                                             | 2005                   |
|                                            |                                                      | 5,335.6                                                          | 2,775.0                                             | 2006                   |
|                                            |                                                      | <u>25,631.7</u>                                                  | <u>18,834.1</u>                                     |                        |
| Statute for Upgrading Industries . . . . . | Research and development expenditures                | 562.2                                                            | —                                                   | 2002                   |
|                                            |                                                      | 671.5                                                            | 671.5                                               | 2003                   |
|                                            |                                                      | 1,974.3                                                          | 1,974.3                                             | 2004                   |
|                                            |                                                      | 3,111.5                                                          | 3,111.5                                             | 2005                   |
|                                            |                                                      | 1,540.0                                                          | 1,540.0                                             | 2006                   |
|                                            |                                                      | <u>7,859.5</u>                                                   | <u>7,297.3</u>                                      |                        |
| Statute for Upgrading Industries . . . . . | Personnel training                                   | 8.8                                                              | —                                                   | 2002                   |
|                                            |                                                      | 16.1                                                             | 16.1                                                | 2003                   |
|                                            |                                                      | 43.3                                                             | 43.3                                                | 2004                   |
|                                            |                                                      | 28.9                                                             | 28.9                                                | 2005                   |
|                                            |                                                      | <u>97.1</u>                                                      | <u>88.3</u>                                         |                        |
| Statute for Upgrading Industries . . . . . | Reputation setting                                   | 10.1                                                             | —                                                   | 2002                   |
|                                            |                                                      | 0.3                                                              | 0.3                                                 | 2003                   |
|                                            |                                                      | <u>10.4</u>                                                      | <u>0.3</u>                                          |                        |
| Statute for Upgrading Industries . . . . . | Investments in important technology based enterprise | 2.9                                                              | —                                                   | 2002                   |
|                                            |                                                      | 5.4                                                              | 5.4                                                 | 2003                   |
|                                            |                                                      | 201.4                                                            | 201.4                                               | 2004                   |
|                                            |                                                      | 138.9                                                            | 138.9                                               | 2005                   |
|                                            |                                                      | 1.9                                                              | 1.9                                                 | 2006                   |
|                                            |                                                      | <u>350.5</u>                                                     | <u>347.6</u>                                        |                        |

- g. The sales generated from the following expansion and construction of TSMC's manufacturing plants are exempt from income tax:

|                                                                                                   | <u>Tax-Exemption Period</u> |
|---------------------------------------------------------------------------------------------------|-----------------------------|
| Expansion of Fab 1 and Fab 2-modules A and B, Fab3 and Fab 4, and construction of Fab 5 . . . . . | 1999 to 2002                |
| Expansion of Fab 6 . . . . .                                                                      | 2001 to 2004                |
| Expansion of Fab 8- modules B . . . . .                                                           | 2002 to 2005                |

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

- h. The tax authorities have examined income tax returns of the Company through 1999. However, the Company is contesting the assessment by the tax authority for 1992, 1993, 1996 and 1997 and believes any assessment would not be significant. The Company believes the remaining unused tax credits would be sufficient to offset any additional tax expense that may arise from the assessment.

## 18. SHAREHOLDERS' EQUITY

TSMC has issued 369,019 thousand American Depositary Shares (ADS) on the New York Stock Exchange as of December 31, 2002. The number of common shares represented by the ADSs is 1,845,097 thousand shares (one ADS represents five common shares).

Capital surplus can only be used to offset a deficit under the ROC Company Law. However, the components of capital surplus generated from donations (donated capital) and the excess of the issue price over the par value of capital stock (including the stock issued for new capital, mergers, and the purchase of treasury stock) can be transferred to capital as stock dividends.

TSMC's Articles of Incorporation provide that the following shall be appropriated from annual net income if in excess of any cumulative deficit:

- a. 10% legal reserve;
- b. Special reserve in accordance with relevant laws or regulations;
- c. Remuneration to directors and supervisors and bonus to employees equal to 0.3% and at least 1% of the remainder, respectively. Individuals who receive bonus may include employees of affiliated companies as approved by the board of directors or a representative of the board of directors;
- d. Dividends to holders of preferred shares equal to a 3.5% annual rate, based on the period which the preferred shares have been outstanding;
- e. The appropriation of any remaining balance shall be approved by the shareholders.

Dividends to holders of preferred and common shares are distributed in cash, shares of common stock or a combination of cash and common stock. Distribution of profits is usually made in the form of a stock dividend. The total of cash dividends paid in any given year may not exceed 50% of total dividends distributed.

Any appropriations of net income are recorded in the financial statements in the year of shareholder approval.

The appropriation for legal reserve is made until the reserve equals the aggregate par value of TSMC's outstanding capital stock. The reserve can only be used to offset a deficit or distribute as a dividend up to half of the reserve balance when the balance has reached 50% of the aggregate par value of the outstanding capital stock of TSMC.

A special reserve equivalent to the debit balance of any account shown in the shareholder's equity section of the balance sheet (except for the recorded costs of treasury stocks held by subsidiaries), other than the deficit, shall be made from unappropriated retained earnings pursuant to existing regulations promulgated by the ROC Securities and Futures Commission. The special reserve is allowed to be appropriated when the debit balance of such accounts are reversed.

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The aforementioned legal reserve and special reserve are as follow:

|                                                                                                                | <u>Legal reserve</u> | <u>Special reserve</u> |
|----------------------------------------------------------------------------------------------------------------|----------------------|------------------------|
|                                                                                                                | NT\$                 | NT\$                   |
|                                                                                                                | (in Millions)        |                        |
| Balance, January 1, 2001 .....                                                                                 | 10,689.3             | 1,091.0                |
| Appropriations of prior year's earning .....                                                                   | 6,490.7              | —                      |
| Reversal of prior year's special reserve .....                                                                 | —                    | (741.0)                |
| Balance, December 31, 2001 .....                                                                               | 17,180.0             | 350.0                  |
| Appropriations of prior year's earnings .....                                                                  | 1,448.4              | —                      |
| Reversal of prior year's special reserve .....                                                                 | —                    | (350.0)                |
| Transfer of the capital surplus from gain on sales of property, plant and equipment to retained earnings ..... | 12.7                 | —                      |
| Balance, December 31, 2002 .....                                                                               | <u>18,641.1</u>      | <u>—</u>               |

The bonus to employees and the remuneration to directors and supervisors appropriated from the net income of 2001 was resolved by the Board of Directors in March 2002, approved by the shareholders on May 7, 2002 and recorded in 2002 operations as follows:

|                                                         | <u>Amounts</u>   | <u>Shares</u> |
|---------------------------------------------------------|------------------|---------------|
|                                                         | (Millions)       | (Thousand)    |
| Bonus to employees—in stock .....                       | \$1,070.8        | 107,078       |
| Remuneration to directors and supervisors—in cash ..... | 133.8            | —             |
|                                                         | <u>\$1,204.6</u> |               |

The shares distributed as a bonus to employees represented 0.64% of TSMC's total outstanding common shares as of December 31, 2001.

If the above distributable earnings were paid in cash and charged against income in 2001, the consolidated basic EPS for the year ended December 31, 2001 would have decreased from NT\$0.83 to NT\$0.76.

As of February 27, 2003, the appropriation of the earnings for 2002 had not been resolved by the board of directors.

The gain on sales or disposal of property, plant and equipment generated prior to 2000, less the applicable income tax, was reclassified to capital surplus as of each year-end. A gain in the amount of NT\$39.3 million, less applicable income tax, was recognized and transferred to the capital surplus at the end of 2001 prior to the amended ROC regulations. To comply with the amended ROC regulations, the aforementioned capital surplus was transferred to retained earnings upon the approval of the shareholders' meeting on May 7, 2002. The shareholders also approved the accumulated capital surplus of NT\$127.2 million generated from gains prior to 2000 be transferred to retained earnings, after appropriating the required 10% legal reserve.

Under the Integrated Income Tax System that became effective on January 1, 1998, ROC resident shareholders are allowed a tax credit for the income tax paid by TSMC on earnings generated as of January 1, 1998. An Imputation Credit Account (ICA) is maintained by TSMC for such income tax and the tax credit allocated to each shareholder.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

*Preferred Stock*

TSMC issued 1,300,000 thousand shares of unlisted Series A—preferred stock to certain investors on November 29, 2000. The following are the rights of the preferred shareholders and the related terms and conditions:

## Preferred shareholders

- a. are entitled to receive cumulative cash dividends at an annual rate of 3.5%.
- b. are not entitled to receive any common stock dividends (whether declared out of unappropriated earnings or capital surplus).
- c. have priority over the holders of common shares to the assets of the Company available for distribution to shareholders upon liquidation or dissolution, however, the preemptive rights to the assets shall not exceed the issue value of the shares.
- d. have voting rights similar to that of the holders of common shares.
- e. have no right to convert their shares into common shares. The preferred shares are to be redeemed within thirty months from their issuance. The preferred shareholders have the aforementioned rights and the Company's related obligations remain the same until the preferred shares are redeemed by the Company.

*Employee Stock Option Plans*

On June 25, 2002, the Securities and Futures Commission ("SFC") approved TSMC's Employee Stock Option Plan (the "Plan I"). The Plan I provides option rights with each unit representing one common share of stock to qualified employees of TSMC and its subsidiaries, TSMC-North America and WaferTech. The option rights are valid for 10 years and exercisable at certain percentages subsequent to the second anniversary of issuance. Under the terms of the Plan I, stock options are granted at an exercise price equal to the closing price of TSMC's common shares listed on the Taiwan Stock Exchange at the date of grant. At December 31, 2002, the maximum number of shares authorized to be granted by TSMC, TSMC—North America and WaferTech under this plan are 70,000 thousand, 16,000 thousand and 14,000 thousand option rights, respectively. The initial grant of options vest 50% two years after the grant date, 75% three years after the grant date and 100% four years after the grant date.

Options are generally exercisable when vested, and unvested options are cancelled and returned to the Plan I upon termination of service. If employment is terminated voluntarily by an option holder or by the Company, any vested options must be exercised within 3 months from the employment termination date.

Information with respect to stock option rights activities under Plan I is as follows:

|                                  | Option<br>Rights<br>Available<br>For Grant | Outstanding<br>Option Rights  |                                          |
|----------------------------------|--------------------------------------------|-------------------------------|------------------------------------------|
|                                  |                                            | Number of<br>Option<br>Rights | Weighted<br>Average<br>Exercise<br>Price |
|                                  | (In Thousand)                              | (In Thousand)                 | (NT\$)                                   |
| Option rights authorized .....   | 100,000                                    | —                             | —                                        |
| Options granted .....            | (19,726)                                   | 19,726                        | 53                                       |
| Options exercised .....          | —                                          | —                             | —                                        |
| Options cancelled .....          | 357                                        | (357)                         | 53                                       |
| Balance, December 31, 2002 ..... | <u>80,631</u>                              | <u>19,369</u>                 |                                          |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

In 1996, WaferTech adopted an Executive Incentive Plan, which was amended in 1997. Under the 1997 amendment, the Board of Directors approved the Senior Executive Incentive Plan and the Employee Incentive Plan (the “Plan II”) under which officers, key employees and non-employee directors may be granted option rights, appreciation rights and/or performance units. As WaferTech is a limited liability company and does not have units of stock, each option right granted pursuant to Plan II provided grantees rights to purchase ownership interests in WaferTech. Plan II provides 15,150 thousand option rights. While WaferTech may grant employees option rights that are exercisable at different times or within different periods, it has generally granted option rights which are exercisable on a cumulative basis in annual installments of 25% each on the first, second, third, and fourth anniversaries of the date of grant.

Information with respect to stock option rights activities under Plan II is as follows:

|                                           | Option<br>Rights<br>Available<br>For Grant<br>(In Thousand) | Outstanding<br>Option Rights                   |                             |
|-------------------------------------------|-------------------------------------------------------------|------------------------------------------------|-----------------------------|
|                                           |                                                             | Number of<br>Option<br>Rights<br>(In Thousand) | Exercise<br>Price<br>(US\$) |
| Balance, January 1, 2000 .....            | 4,154                                                       | 8,226                                          | 0.78                        |
| Additional option rights authorized ..... | 1,650                                                       | —                                              | —                           |
| Options granted .....                     | (3,203)                                                     | 3,203                                          | 1.86                        |
| Options exercised .....                   | —                                                           | (3,411)                                        | 0.74                        |
| Options cancelled .....                   | 1,181                                                       | (1,181)                                        | 1.09                        |
| Balance, December 31, 2000 .....          | \$ 3,782                                                    | \$ 6,837                                       | 1.23                        |
| Options granted .....                     | —                                                           | —                                              | —                           |
| Options exercised .....                   | —                                                           | (2,949)                                        | 1.02                        |
| Options cancelled .....                   | 826                                                         | (826)                                          | 1.27                        |
| Balance, December 31, 2001 .....          | 4,608                                                       | 3,062                                          | 1.43                        |
| Options granted .....                     | —                                                           | —                                              | —                           |
| Options exercised .....                   | —                                                           | (1,260)                                        | 1.22                        |
| Options cancelled .....                   | 216                                                         | (216)                                          | 1.93                        |
| Balance, December 31, 2002 .....          | <u>4,824</u>                                                | <u>1,586</u>                                   |                             |

The option rights granted will expire if not exercised at specified dates between May 2006 and June 2011.

In December 2000, WaferTech implemented the Stock Option Buyback Program (“Buyback”) with its employees. The Buyback program provides employees with the right to sell back all vested stock options and outstanding ownership interests granted prior to January 1, 2001 to WaferTech. The repurchase price for outstanding ownership interests is US\$6. The repurchase price for vested stock options is US\$6 less the exercise price of the option. Unvested option rights continue to vest in accordance with the vesting schedule prescribed under the Plans and can be sold back to WaferTech once vested. As of December 31, 2001 and 2002, WaferTech had repurchased 2,234 thousand and 2,476 thousand outstanding ownership interests for US\$13.4 million and US\$15.5 million, respectively.

The difference between the share repurchase price of US\$6 and the exercise price is recognized as compensation expense over the vesting period of the option rights. As of December 31, 2001 and 2002, US\$14.0 million and US\$6.0 million remained as deferred compensation in connection with the stock option buyback program, respectively. For the years ended December 31, 2000, 2001 and 2002, US\$44.2 million, US\$0 million and US\$2.0 million had been recognized as compensation expense, respectively.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

## 19. TREASURY STOCK (COMMON STOCK)

| <u>Purpose of Purchase</u>                                                                              | <u>Beginning<br/>Shares</u> | <u>Increase</u>      | <u>Decrease</u> | <u>Ending<br/>Shares</u> |
|---------------------------------------------------------------------------------------------------------|-----------------------------|----------------------|-----------------|--------------------------|
|                                                                                                         |                             | (Shares in Thousand) |                 |                          |
| <i>Year ended December 31, 2002</i>                                                                     |                             |                      |                 |                          |
| Reclassification of parent company stock held by subsidiaries from<br>short/ long-term investment ..... | 39,270                      | 3,818                | 1,087           | 42,001                   |

On January 1, 2002, TSMC reclassified its capital stock held by its subsidiaries with book value of NT\$2,115.7 million from short/long-term investments to treasury stock. As of December 31, 2002, the book value and market value of treasury stock was NT\$1,923.5 million and NT\$2,048.2 million, respectively. As disclosed in Note 3, effective from January 1, 2002, capital stock held by a subsidiary as an investment is recorded as treasury stock with the holder having the same rights as other common shareholders.

## 20. EARNINGS PER SHARE

Earnings per share (EPS) are computed as follows:

|                                                  | <u>Amounts (Numerator)</u>              |                       |                                | <u>EPS (NT Dollars)</u>                                       |                                        |
|--------------------------------------------------|-----------------------------------------|-----------------------|--------------------------------|---------------------------------------------------------------|----------------------------------------|
|                                                  | <u>Income<br/>Before<br/>Income Tax</u> | <u>Net<br/>Income</u> | <u>Share<br/>(Denominator)</u> | <u>Income Before<br/>Income Tax and<br/>Minority Interest</u> | <u>Consolidated<br/>Net<br/>Income</u> |
|                                                  | NT\$                                    | NT\$                  | (Thousand)                     |                                                               |                                        |
| <i>( In Millions)</i>                            |                                         |                       |                                |                                                               |                                        |
| <i>Year ended December 31, 2000</i>              |                                         |                       |                                |                                                               |                                        |
| Income .....                                     | \$63,901.5                              | \$65,106.2            |                                |                                                               |                                        |
| Less—preferred stock dividends .....             | <u>(41.1)</u>                           | <u>(41.1)</u>         |                                |                                                               |                                        |
| Basic and diluted earnings per share             |                                         |                       |                                |                                                               |                                        |
| Income available to common<br>shareholders ..... | <u>\$63,860.4</u>                       | <u>\$65,065.1</u>     | <u>18,163,433</u>              | <u>\$3.52</u>                                                 | <u>\$3.58</u>                          |
| <i>Year ended December 31, 2001</i>              |                                         |                       |                                |                                                               |                                        |
| Income .....                                     | \$10,786.5                              | \$14,483.2            |                                |                                                               |                                        |
| Less—preferred stock dividends .....             | <u>(455.0)</u>                          | <u>(455.0)</u>        |                                |                                                               |                                        |
| Basic and diluted earnings per share             |                                         |                       |                                |                                                               |                                        |
| Income available to common<br>shareholders ..... | <u>\$10,331.5</u>                       | <u>\$14,028.2</u>     | <u>18,622,887</u>              | <u>\$0.55</u>                                                 | <u>\$0.75</u>                          |
| <i>Year ended December 31, 2002</i>              |                                         |                       |                                |                                                               |                                        |
| Income .....                                     | \$27,222.1                              | \$21,610.3            |                                |                                                               |                                        |
| Less—preferred stock dividends .....             | <u>(455.0)</u>                          | <u>(455.0)</u>        |                                |                                                               |                                        |
| Basic and diluted earnings per share             |                                         |                       |                                |                                                               |                                        |
| Income available to common<br>shareholders ..... | <u>\$26,767.1</u>                       | <u>\$21,155.3</u>     | <u>18,580,700</u>              | <u>\$1.44</u>                                                 | <u>\$1.14</u>                          |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The potential common shares from the employee stock option plan (see Note 18) are not included in the denominator of the diluted earning-per-share computation because such shares result in a non-dilutive per-share amount by using the treasury stock method under the Statement of Financial Accounting Standards No. 24, “Earning Per Share”.

The average number of shares outstanding for EPS calculation has been adjusted retroactively for issuance of stock dividends and stock bonuses. The retroactive adjustment caused the basic EPS before income tax and minority interest and after income tax for the year ended of December 31, 2000 to decrease from NT\$5.71 and NT\$5.71 to NT\$3.52 and NT\$3.58 and for the year ended of December 31, 2001 to decrease from NT\$0.61 and NT\$0.83 to NT\$0.55 and NT\$0.75, respectively.

**21. RELATED PARTY TRANSACTIONS**

The Company engaged in business transactions with the following related parties:

- a. Industrial Technology Research Institute (ITRI), the Chairman of TSMC is one of its directors
- b. Philips Electronics N.V., (Philips), a major shareholder of TSMC
- c. Investees of TSMC  
VIS  
SSMC

The transactions with the aforementioned parties, in addition to those disclosed in other notes, are summarized as follows:

|                                                  | Year Ended December 31 |                |                |
|--------------------------------------------------|------------------------|----------------|----------------|
|                                                  | 2000                   | 2001           | 2002           |
|                                                  | NT\$                   | NT\$           | NT\$           |
| <i>(In Millions)</i>                             |                        |                |                |
| <i>For the year ended</i>                        |                        |                |                |
| Sales                                            |                        |                |                |
| Philips and its affiliates .....                 | 5,289.9                | 2,389.3        | 2,909.0        |
| ITRI .....                                       | 198.2                  | 114.5          | 94.5           |
| VIS .....                                        | 17.0                   | 1,177.1        | 92.1           |
| SSMC .....                                       | —                      | 49.0           | 7.0            |
|                                                  | <u>5,505.1</u>         | <u>3,729.9</u> | <u>3,102.6</u> |
| Purchases                                        |                        |                |                |
| VIS .....                                        | 6,572.1                | 3,802.0        | 3,469.2        |
| SSMC .....                                       | —                      | 43.0           | 2,751.3        |
|                                                  | <u>6,572.1</u>         | <u>3,845.0</u> | <u>6,220.5</u> |
| Operating expense—Rental                         |                        |                |                |
| ITRI .....                                       | <u>161.6</u>           | <u>161.6</u>   | <u>40.4</u>    |
| Manufacturing expenses—Technical service fee     |                        |                |                |
| Philips (see Note 23a) .....                     | <u>2,137.2</u>         | <u>2,418.3</u> | <u>2,849.5</u> |
| Sales of property, plant and equipment—VIS ..... | <u>87.2</u>            | <u>268.9</u>   | <u>—</u>       |

(Forward)

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

|                                                                 | Year Ended December 31 |                       |                |
|-----------------------------------------------------------------|------------------------|-----------------------|----------------|
|                                                                 | 2000                   | 2001                  | 2002           |
|                                                                 | NT\$                   | NT\$<br>(In Millions) | NT\$           |
| Non-operating income                                            |                        |                       |                |
| SSMC (technical service income mainly) (see Note 23f) . . . . . | 152.4                  | 95.3                  | 126.1          |
| VIS . . . . .                                                   | 5.6                    | 0.5                   | —              |
|                                                                 | <u>158.0</u>           | <u>95.8</u>           | <u>126.1</u>   |
| <i>At December 31</i>                                           |                        |                       |                |
| Receivables                                                     |                        |                       |                |
| Philips and its affiliates . . . . .                            | \$ 643.6               | \$ 116.5              | \$ 352.7       |
| VIS . . . . .                                                   | 159.9                  | 320.2                 | 58.3           |
| ITRI . . . . .                                                  | 56.1                   | 37.4                  | 23.0           |
| SSMC . . . . .                                                  | 89.1                   | 20.6                  | 5.7            |
|                                                                 | <u>948.7</u>           | <u>494.7</u>          | <u>439.7</u>   |
| Prepaid expenses and other current asset                        |                        |                       |                |
| —Rental—I TRI . . . . .                                         | 42.7                   | 42.7                  | —              |
| Payable                                                         |                        |                       |                |
| Philips and its affiliates . . . . .                            | 797.4                  | 499.3                 | 730.9          |
| VIS . . . . .                                                   | 1,808.9                | 548.5                 | 653.9          |
| SSMC . . . . .                                                  | —                      | 0.5                   | 391.4          |
|                                                                 | <u>2,606.3</u>         | <u>1,048.3</u>        | <u>1,776.2</u> |
| Refundable deposits—VIS (see Note 23i) . . . . .                | <u>940.4</u>           | <u>750.8</u>          | <u>514.8</u>   |

Sales to related parties are based on normal selling prices and collection terms, except for sales of property, plant and equipment and technical service fees, which were in accordance with the related contracts.

**22. SIGNIFICANT LONG-TERM LEASES**

TSMC leases land from the Science-Based Industrial Park (“SBIP”) Administration where its Fab 2 through Fab 14 manufacturing facilities reside. These agreements expire on various dates from March 2008 to December 2020 and have annual rent payments aggregating NT\$225.6 million. The agreements can be renewed upon their expiration.

TSMC-North America leases its office premises and certain equipment under non-cancelable operating agreements, which will expire in 2020. TSMC-Europe and TSMC-Japan entered into lease agreements for their office premises, which will expire in 2004. Current annual rent payments aggregate to NT\$115.3 million.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Future remaining leases payments are as follows:

| <u>Year</u>               | <u>Amount</u><br>NT\$<br>(In Millions) |
|---------------------------|----------------------------------------|
| 2003 .....                | 340.8                                  |
| 2004 .....                | 343.9                                  |
| 2005 .....                | 339.8                                  |
| 2006 .....                | 339.8                                  |
| 2007 .....                | 336.9                                  |
| 2008 and thereafter ..... | <u>2,073.2</u>                         |
|                           | <u>3,774.4</u>                         |

Rental expense for the years ended December 31, 2000, 2001 and 2002 was NT\$1,112.4 million, NT\$1,552.1 million, and NT\$1,489.9 million, respectively.

### 23. SIGNIFICANT COMMITMENTS AND CONTIGENCIES

The significant commitments and contingencies of the Company and its subsidiaries as of December 31, 2002 are as follows:

- a. Under a Technical Cooperation Agreement with Philips, as amended on May 12, 1997, TSMC shall pay technical assistance fees as a percentage of net sales, as defined in the agreement, of certain products. The agreement shall remain in force up to July 8, 2007 and thereafter be automatically renewed for successive periods of three years. Under the amended agreement, the fee is subject to deduction by the amounts TSMC pays to any third party for settling any licensing/infringement issue after the first five-year period of the amended agreement, provided that the fee after reduction will not be below a certain percentage of the net selling price.
- b. Subject to certain equity ownership and notification requirements, Philips and its affiliates can avail themselves each year of up to 30% of TSMC's production capacity.
- c. Under a technical cooperation agreement with ITRI, TSMC shall reserve and allocate up to 35% of certain of its production capacity for use by the Ministry of Economic Affairs (MOEA) or any other party designated by the MOEA.
- d. Under several foundry agreements, TSMC shall allocate a portion of its production output for sale to certain major customers from whom guarantee deposits of US\$39.8 million had been received as of December 31, 2002.
- e. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company to be named Systems on Silicon Manufacturing Company Pte Ltd. (SSMC) for the purpose of constructing an integrated circuit foundry in Singapore, and allow TSMC to invest in 32% of SSMC's capital. TSMC and Philips committed to buy at least 70% of the production capacity of SSMC of which TSMC is obligated to purchase no more than 28%. If any party defaults on the agreement and the capacity utilization of SSMC falls below a specific percentage of its total capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs. As of December 31, 2002, TSMC was in compliance with the above agreement.
- f. TSMC provides technical services to SSMC under a Technical Cooperation Agreement (the "Agreement") entered into on May 12, 1999. TSMC receives compensation for such services computed

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

at a specific percentage of net selling prices of specific products sold by SSMC. The Agreement remains in force for ten years and is automatically renewed for successive periods of five years unless pre-terminated by either party under certain conditions.

- g. Beginning in 2001, TSMC entered into several license arrangements for certain semiconductor patents. The terms of the contracts range from five to ten years with payments to be paid in the form of royalties over the term of the related contracts. TSMC has recorded the related amounts as a liability and a deferred charge to be amortized to cost of sales on a straight-line basis over the shorter of the estimated useful life of the technology or the term of the contract.
- h. Under a Technology Transfer Agreement (“TTA”) with National Semiconductor Corporation (“National”) entered into on June 27, 2000, TSMC shall receive payments for license of certain technology to National. The agreement will remain in force for ten years and will be automatically renewed for successive periods of two years thereafter unless either party gives notice for early termination under certain conditions. In January 2003, the Company and National entered into a Termination Agreement whereby the TTA was terminated for convenience. Under the termination agreement, the Company will be relieved of any further obligation to transfer any additional technology. In addition, the Company granted National an option to request additional technology transfers under the same terms and conditions as the terminated TTA through January 2008.
- i. TSMC entered into a Manufacturing Agreement with VIS. VIS agrees to reserve certain production capacity for TSMC to manufacture certain logic devices or other technologies required by TSMC’s customers at selling prices as agreed by the parties. TSMC paid NT\$1,200.0 million to VIS as security bond. VIS shall return portions of the bond without interest to TSMC upon the purchase of wafers by TSMC. The contract expires in February 2005. As of December 31, 2002, the refundable deposits to VIS amounted to NT\$514.8 million.
- j. WaferTech caused some contractors to incur additional labor and material costs outside the contracts. In 2002, WaferTech recorded a reserve of US\$3.0 million for a litigation arising from a charge by certain contractors.
- k. On March 15, 2000, TSMC-North America entered into a revolving line of credit agreement for US\$2.0 million and issued a standby letter of credit for US\$1.9 million. The letter of credit was entered into as security to the landlord on TSMC-North America’s office facilities occupied in October 2000. In the event the Company defaults under this lease agreement, the landlord will gain access to these funds equal to the amount of the defaulted rental payments. The amount required by the landlord is reduced by US\$0.2 million on each anniversary date of the lease. The outstanding letter of credit amounted to US\$1.5 million at December 31, 2002. Both agreements expire on October 9, 2003 and are renewable on an annual basis.
- l. Unused letters of credit as of December 31, 2002 were NT\$6.5million, US\$1.5 million, ¥51.0 million, Euro€ 0.5 million and S\$0.09 million.
- m. In November 2002, the Company entered into an Amended and Restated Joint Technology Cooperation Agreement with Philips, Motorola and ST Microelectronic to jointly develop 90-nanometer to 65-nanometer advanced CMOS Logic and e-DRAW technologies. The Company also agreed to align 0.12 micron CMOS Logic technology to enhance its foundry business opportunities. The Company will contribute process technologies and share a portion of the costs associated with this joint development project.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

## 24. FINANCIAL INSTRUMENTS

The Company entered into derivative financial instrument transactions in 2001 and 2002 to manage exposures related to foreign-currency denominated receivables or payables, and interest rate fluctuations. The strategy is to manage its market price risks. Certain information on these contracts is as follows:

- a. Outstanding forward exchange contracts as of December 31, 2001 and 2002:

|             | <u>Currency<br/>to Be<br/>Received</u> | <u>Amounts</u><br>(In Millions) | <u>Currency<br/>To Pay</u> | <u>Amounts</u><br>(In Millions) | <u>Maturity</u>   | <u>Fair Value</u><br>(In Millions) |
|-------------|----------------------------------------|---------------------------------|----------------------------|---------------------------------|-------------------|------------------------------------|
| <i>2001</i> |                                        |                                 |                            |                                 |                   |                                    |
| Sell .....  | US\$                                   | US\$ 17.9                       | NT\$                       | NT\$ 620.6                      | Jan. 2002         | NT\$ 618.2                         |
| Sell .....  | US\$                                   | US\$ 783.0                      | NT\$                       | NT\$ 27,013.4                   | Jan. to Mar. 2002 | NT\$ 26,985.7                      |
| <i>2002</i> |                                        |                                 |                            |                                 |                   |                                    |
| Sell .....  | NT\$                                   | US\$ 715.0                      | US\$                       | NT\$ 24,886.8                   | Jan. to Feb. 2003 | NT\$ 24,874.5                      |
| Buy .....   | EUR                                    | EUR 89.0                        | US\$                       | NT\$ 3,234.3                    | Jan. to Mar. 2003 | NT\$ 3,231.7                       |
| Buy .....   | JPY                                    | JPY 4,274.9                     | US\$                       | NT\$ 1,250.4                    | Jan. 2003         | NT\$ 1,249.2                       |

As of December 31, 2002, receivables from forward exchange contracts (included in “Other current assets” account) aggregate about NT\$ 199.6 million, and as of December 31, 2001 and 2002, payables from forward exchange contracts (included in “Other current liabilities” account) aggregate about NT\$397.1 million and NT\$17.5 million, respectively. The net exchange gains for the years ended December 31, 2000 and 2002 were NT\$266.4 million and NT\$1,522.4 million, respectively. Net exchange loss for the year ended December 31, 2001 was NT\$1,934.6 million.

The net assets and liabilities related to the above forward exchange contracts are as follows:

|                           | <u>December 31</u> |             |
|---------------------------|--------------------|-------------|
|                           | <u>2001</u>        | <u>2002</u> |
|                           | (In Millions)      |             |
| Accounts Receivable ..... | US\$519.0          | US\$ 487.9  |
| Accounts Payable .....    | US\$169.7          | JP¥ 4,287.7 |
| Time Deposits .....       | US\$707.4          | US\$ 675.0  |
| Accounts Payable .....    | JP¥ —              | EUR€ 49.0   |

- b. Interest rate swaps

The Company has entered into interest rate swap transactions to manage exposures on rising interest rates on its floating rate long-term bank loans. Interest expense on these transactions for the years ended 2000, 2001 and 2002 were NT\$113.7 million, NT\$473.4 million and NT\$261.1 million, respectively.

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

Outstanding contracts as of December 31, 2001 and 2002 were as follows:

| <u>Contract Date</u> | <u>Notional<br/>Amount</u><br>(In Millions) | <u>Contract Period</u>         | <u>Interest Rate<br/>Received</u> | <u>Interest<br/>Rate<br/>Paid</u> |
|----------------------|---------------------------------------------|--------------------------------|-----------------------------------|-----------------------------------|
| <i>2001</i>          |                                             |                                |                                   |                                   |
| April 28, 1998 ..... | NT\$2,000.0                                 | May 21, 1998 to May 21, 2003   | One month LIBOR                   | 7.25%                             |
| April 29, 1998 ..... | NT\$1,000.0                                 | May 21, 1998 to May 21, 2003   | One month LIBOR                   | 7.25%                             |
| June 26, 1998 .....  | NT\$1,000.0                                 | June 26, 1998 to June 26, 2003 | One month LIBOR                   | 7.20%                             |
| June 26, 1998 .....  | NT\$1,000.0                                 | July 6, 1998 to July 6, 2003   | One month LIBOR                   | 7.20%                             |
| July 1, 1999 .....   | US\$ 11.4                                   | July 1, 1999 to June 25, 2004  | One month LIBOR                   | 5.95%                             |
| <i>2002</i>          |                                             |                                |                                   |                                   |
| April 28, 1998 ..... | NT\$2,000.0                                 | May 21, 1998 to May 21, 2003   | One month LIBOR                   | 7.25%                             |
| April 29, 1998 ..... | NT\$1,000.0                                 | May 21, 1998 to May 21, 2003   | One month LIBOR                   | 7.25%                             |
| June 26, 1998 .....  | NT\$1,000.0                                 | June 26, 1998 to June 26, 2003 | One month LIBOR                   | 7.20%                             |
| June 26, 1998 .....  | NT\$1,000.0                                 | July 6, 1998 to July 6, 2003   | One month LIBOR                   | 7.20%                             |
| July 1, 1999 .....   | US\$ 11.4                                   | July 1, 1999 to June 28, 2004  | One month LIBOR                   | 5.95%                             |

c. Options contracts

The Company entered into foreign currency option contracts to manage exchange rate fluctuations arising from its anticipated U.S. dollar cash receipts on export sales and its European and Yen currency obligations for purchases of machinery and equipment.

Outstanding option contracts as of December 31, 2001 and 2002 were as follows:

| <u>Contract</u>           | <u>Currency</u> | <u>Contract<br/>Amounts</u><br>(In Millions) | <u>Fair<br/>Value</u><br>(In Millions) | <u>Strike Price</u>         | <u>Maturity</u> |
|---------------------------|-----------------|----------------------------------------------|----------------------------------------|-----------------------------|-----------------|
| <i>2001</i>               |                 |                                              |                                        |                             |                 |
| Put option written .....  | EUR             | EUR293.0                                     | (252.8)                                | 0.8940~0.9340<br>(EUR/US\$) | Jan.~Feb. 2002  |
| <i>2002</i>               |                 |                                              |                                        |                             |                 |
| Call option written ..... | US\$            | US\$ 230.0                                   | \$(404.9)                              | 32.78~33.22<br>(US\$/NT\$)  | Jan.~Feb. 2003  |
| Call option written ..... | US\$            | US\$ 10.0                                    | \$(3.7)                                | 119.2<br>(US\$/JP¥)         | Jan.~Feb. 2003  |
| Put option written .....  | EUR             | EUR 10.0                                     | \$(1.6)                                | 1.017<br>(US\$/EUR)         | Jan.~Feb. 2003  |

For the year ended December 31, 2000, 2001 and 2002, the Company realized premium income of NT\$116.3 million, NT\$328.2 million and NT\$228.0 million and premium expenses of NT\$108.1 million, NT\$93.5 million and NT\$647.5 million, respectively.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

- d. The estimated fair values of the Company's financial instruments are as follows.

|                                                 | December 31, 2001               |                       | December 31, 2002               |            |
|-------------------------------------------------|---------------------------------|-----------------------|---------------------------------|------------|
|                                                 | Carrying/<br>Notional<br>Amount | Fair Value            | Carrying/<br>Notional<br>Amount | Fair Value |
|                                                 | NT\$                            | NT\$<br>(In Millions) | NT\$                            | NT\$       |
| <i>Non-derivative financial instruments</i>     |                                 |                       |                                 |            |
| Short-term investments .....                    | 1,398.1                         | 6,917.1               | 170.0                           | 2,455.6    |
| Long-term investments .....                     | 11,599.2                        | 16,545.9              | 10,635.5                        | 12,750.0   |
| Bonds payable (including current portion) ..... | 29,000.0                        | 29,703.1              | 39,000.0                        | 39,762.2   |
| <i>Derivative financial instruments</i>         |                                 |                       |                                 |            |
| Forward exchange contracts (buy) .....          | —                               | —                     | 38.4                            | 26.1       |
| Forward exchange contracts (sell) .....         | (397.1)                         | (427.2)               | 143.7                           | 139.9      |
| Interest rate swaps .....                       | 27.0                            | (343.1)               | (24.0)                          | (164.3)    |
| Options .....                                   | (39.5)                          | (252.8)               | (50.3)                          | (410.1)    |

The above summary excludes cash and cash equivalents, receivable—net, receivable from related parties, refundable deposits, short-term bank loans, payable to related parties, accounts payable, payable to contractors and equipment suppliers, long-term bank loans other long-term payable and guarantee deposits that are carried at amounts which approximate fair value.

Fair values of financial instruments were determined as follows:

- a) Short-term investments—market values.
- b) Long-term investments—market value for traded companies and net equity value for non-traded companies.
- c) Long-term liabilities—based on forecasted cash flows discounted at interest rates. Bonds payable is discounted to present value. Fair values of other long-term liabilities are also their carrying values as they use floating interest rate.
- d) Derivative financial instruments—based on bank quotations.

The fair values of non-financial instruments were not included in the fair values disclosed above. Accordingly, the sum of the fair values of the financial instruments listed above does not represent the fair value of the Company and its subsidiaries as a whole.

## 25. SEGMENT INFORMATION

- a. The Company engages mainly in the manufacturing of integrated circuits and other semiconductor devices. In accordance with U.S. Statement of Financial Accounting Standard (“SFAS”) No. 131, “Disclosures about Segments of an Enterprise and Related Information,” the Company's chief operating decision maker has been identified as the Chief Executive Officer, who reviews consolidated results of manufacturing operations when making decisions about allocating resources and assessing performance of the Company. The Company believes it operates in one segment, and all financial segment information required by SFAS No. 131 can be found in the consolidated financial statements.

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

b. Geographic information

|                                              | Overseas      | Taiwan    | Adjustments<br>and<br>Elimination | Consolidated |
|----------------------------------------------|---------------|-----------|-----------------------------------|--------------|
|                                              | NT\$          | NT\$      | NT\$                              | NT\$         |
|                                              | (In Millions) |           |                                   |              |
| 2000                                         |               |           |                                   |              |
| Sales to unaffiliated customers . . . . .    | —             | 166,197.6 | —                                 | 166,197.6    |
| Transfers between geographic areas . . . . . | 14,451.2      | 30.8      | (14,482.0)                        | —            |
| Total sales . . . . .                        | 14,451.2      | 166,228.4 | (14,482.0)                        | 166,197.6    |
| Gross profit . . . . .                       | 3,970.1       | 75,996.8  | (1,379.0)                         | 78,587.9     |
| Operating expenses . . . . .                 |               |           |                                   | (17,293.2)   |
| Non-operating income . . . . .               |               |           |                                   | 6,119.8      |
| Non-operating expenses . . . . .             |               |           |                                   | (3,513.0)    |
| Income before income tax . . . . .           |               |           |                                   | 63,901.5     |
| Identifiable assets . . . . .                | 63,810.3      | 320,273.3 | (23,861.4)                        | 360,222.2    |
| Long-term investments . . . . .              | 3,001.6       | 7,662.2   |                                   | 10,663.8     |
| Total assets . . . . .                       |               |           |                                   | 370,886.0    |
| 2001                                         |               |           |                                   |              |
| Sales to unaffiliated customers . . . . .    | —             | 125,884.9 | —                                 | 125,884.9    |
| Transfers between geographic areas . . . . . | 8,152.1       | 3.1       | (8,155.2)                         | —            |
| Total sales . . . . .                        | 8,152.1       | 125,888.0 | (8,155.2)                         | 125,884.9    |
| Gross profit . . . . .                       | (1,224.8)     | 36,381.0  | (1,499.4)                         | 33,656.8     |
| Operating expense . . . . .                  |               |           |                                   | (20,879.0)   |
| Non-operating income . . . . .               |               |           |                                   | 6,475.6      |
| Non-operating expenses . . . . .             |               |           |                                   | (8,466.9)    |
| Income before income tax . . . . .           |               |           |                                   | 10,786.5     |
| Identifiable assets . . . . .                | 73,433.6      | 303,954.1 | (22,469.2)                        | 354,918.5    |
| Long-term investments . . . . .              |               |           |                                   | 11,599.2     |
| Total assets . . . . .                       |               |           |                                   | 366,517.7    |
| 2002                                         |               |           |                                   |              |
| Sale to unaffiliated customers . . . . .     | 95,774.4      | 66,526.8  | —                                 | 162,301.2    |
| Transfers between geographic areas . . . . . | 9,537.9       | 94,434.5  | (103,972.4)                       | —            |
| Total sales . . . . .                        | 105,312.3     | 160,961.3 | (103,972.4)                       | 162,301.2    |
| Gross Profit . . . . .                       | (19.9)        | 51,967.1  | 365.9                             | 52,313.1     |
| Operating expenses . . . . .                 |               |           |                                   | (20,724.1)   |
| Non-operating income . . . . .               |               |           |                                   | 2,419.4      |
| Non-operating expenses . . . . .             |               |           |                                   | (6,786.3)    |
| Income before income tax . . . . .           |               |           |                                   | 27,222.1     |
| Identifiable assets . . . . .                | 75,840.4      | 336,405.0 | (32,338.5)                        | 379,906.9    |
| Long-term investments . . . . .              |               |           |                                   | 10,635.5     |
| Total assets . . . . .                       |               |           |                                   | 390,542.4    |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

The Company entered into an exclusive distributor agreement with TSMC-North America on January 1, 2002. Under the distributor agreement, TSMC-North America purchases inventory from the Company, and in turn, sells the inventory to third-party customers. Sales to overseas unaffiliated customers for 2002 primarily represent sales under this distributor agreement. Sales by location are based on billed regions.

## c. Gross revenues:

| <u>Area</u>                                   | Year Ended December 31 |                       |                  |
|-----------------------------------------------|------------------------|-----------------------|------------------|
|                                               | 2000                   | 2001                  | 2002             |
|                                               | NT\$                   | NT\$<br>(In Millions) | NT\$             |
| ROC .....                                     | 33,268.8               | 33,268.8              | 19,668.9         |
| United States .....                           | 68,618.1               | 57,513.7              | 94,438.2         |
| North Americas(excluding United States) ..... | 13,037.9               | 6,379.9               | 701.2            |
| Asia and others .....                         | 42,907.0               | 23,874.4              | 42,020.6         |
| Europe .....                                  | 11,360.5               | 7,523.9               | 9,358.8          |
|                                               | <u>169,192.3</u>       | <u>128,560.7</u>      | <u>166,187.7</u> |

The gross revenue information is presented by billed regions.

## d. Major customers representing at least 10% of net total sales:

The Company only has one customer that accounts for at least 10% of its total sales. The sales to such customer amounted to NT\$21,789.8 million and NT\$32,769.1 million in 2001 and 2002 representing 17% and 20% of its total sales, respectively. The sales, however, to such customer amounted to only NT\$10,307.2 million in 2000 representing only 6% of total sales.

## e. Net sales by product categories:

| <u>Products</u>         | Year Ended December 31 |                       |                  |
|-------------------------|------------------------|-----------------------|------------------|
|                         | 2000                   | 2001                  | 2002             |
|                         | NT\$                   | NT\$<br>(In Millions) | NT\$             |
| Wafer fabrication ..... | 155,345.0              | 111,559.3             | 146,551.3        |
| Mask making .....       | 5,779.5                | 9,444.5               | 11,655.0         |
| Others .....            | 5,073.1                | 4,881.1               | 4,094.9          |
|                         | <u>166,197.6</u>       | <u>125,884.9</u>      | <u>162,301.2</u> |

## 26. SUBSEQUENT EVENTS

- a. On January 4, 2003, TSMC purchased 52% of the outstanding shares of Global UniChip Corporation (“Global UniChip”) for NT\$341.2 million (US\$9.8 million). The acquisition is accounted for as a purchase and the results and operations of Global UniChip will be consolidated into the results of operations of TSMC as of the acquisition date.

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

- b. TSMC filed an investment project with the ROC Investment Commission of MOEA to establish a foundry in mainland China. On February 27, 2003, the authority approved phase one of the foregoing project and permitted direct investment in establishing TSMC—Shanghai. TSMC—Shanghai has not come into existence as of February 27, 2003.
- c. On May 29, 2003, TSMC redeemed all of its Preferred A shares for \$13,000.0 million (US\$374.6 million) which were 99.9% owned by Philips. Following the redemption, Philips, together with its subsidiaries, owned 21.72% equity interest. In addition, a proposal to the Shareholders was made to amend the Articles of Incorporation so that TSMC is no longer authorized to issue any preferred shares

**27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY THE COMPANY AND GENERALLY ACCEPTED ACCOUNTING PRINCIPLES IN THE UNITED STATES**

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the Republic of China (“ROC GAAP”), which differ in the following respects from accounting principles generally accepted in the United States (“U.S. GAAP”):

a. Pension benefits

U.S. Statement of Financial Accounting Standards (“SFAS”) No. 87, “Employer’s Accounting for Pensions”, is effective no later than the beginning of the first period for which an U.S. GAAP reconciliation is required for foreign issuers. A portion of the unrecognized net transition obligation on the adoption date is to be allocated directly to equity. The Company adopted SFAS No. 87 at the beginning of 1993. Republic of China (ROC) SFAS No. 18, which is similar in many respects to SFAS No. 87, was effective in 1996 for listed companies.

b. Marketable securities

Under ROC GAAP, marketable equity securities are carried at the lower of aggregate cost or market, and debt securities are carried at cost, with only unrealized losses recognized. Under U.S. SFAS No. 115, “Accounting for Certain Investments in Debt and Equity Securities”, debt and equity securities that have readily determinable fair values are to be classified as either trading, available-for-sale or held-to-maturity securities. Debt securities that the Company has the positive intent and ability to hold to maturity are classified as held-to-maturity securities and reported at amortized cost. Debt and equity securities that are bought and traded for short-term profit are classified as trading securities and reported at fair value, with unrealized gains and losses included in earnings. Debt and equity securities not classified as either held-to-maturity or trading are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported as a separate component of shareholders’ equity. The adjustments below relate to the Company’s securities that are classified as trading and available-for-sale securities.

c. Bonuses to employees, directors and supervisors

According to ROC regulations and the Company’s Articles of Incorporation, a portion of the Company’s distributable earnings should be set aside as bonuses to employees, directors and supervisors. Bonuses to directors and supervisors are always paid in cash. However, bonuses to employees may be granted in cash or stock or both. All of these appropriations, including stock bonuses which are valued at par value of NT\$10, are charged against retained earnings under ROC GAAP after such appropriations are formally approved by the shareholders in the following year. Under U.S. GAAP, such bonuses are charged against income. Shares issued as part of these bonuses are recorded at fair market value. Since the amount and form of such bonuses are not

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

finally determinable until the shareholders' meeting in the subsequent year, the total amount of the aforementioned bonuses is initially accrued based on management's estimate regarding the amount to be paid based on the Company's Articles of Incorporation. Any difference between the initially accrued amount and the fair market value of the bonuses upon the issuance of shares is recognized in the year of approval by shareholders.

d. Capital stock issued for contributed technology

In 1998, certain employees received common shares of WSMC prior to its merger with TSMC in exchange for contributing technology related to the testing and packaging of integrated circuits. The value was determined to be NT\$270 million. Under ROC GAAP, the capital stock issued for the contributed technology is recorded as an intangible asset and amortized over the estimated life of the technology. As permitted under ROC GAAP, the Company amortizes such asset over a five-year period. Under U.S. GAAP, capital stock issued to employees in exchange for technology is recorded as deferred compensation expense in the period of issuance. If the stock has certain vesting or service provisions, the expense is amortized over the vesting or service period. Accordingly, the Company adjusted the carrying value of the technology to zero under U.S. GAAP. The market value of the related shares was recorded as deferred compensation and is amortized over three years which reflects the vesting period of the shares.

e. Impairment of long-lived assets

Under U.S. GAAP in accordance with SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets", impairment losses are recorded in current period earnings, create a new cost basis for the impaired assets, and cannot be reversed subsequently. If the sum of the expected future cash flows is less than the carrying amount of asset, an impairment loss is recognized for the difference between the carrying value and the fair value of the asset. Long-lived assets (excluding goodwill and other indefinite-lived assets effective January 1, 2002) held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. For purposes of evaluating the recoverability of long-lived assets under ROC GAAP, there is no requirement to recognize impairment of long-lived assets and the long-lived assets impaired under U.S. GAAP continue to be depreciated. Assets purchased for use in the business but not subsequently used for that purpose are generally recorded as idle assets and reclassified from fixed assets to other assets.

f. Derivative financial instruments

There are no specific accounting standards under ROC GAAP which address measurement for derivative instruments, except for foreign-currency forward contracts. Under ROC GAAP, foreign-currency forward contracts are accounted for in a manner similar to that required under U.S. SFAS No. 52. Under U.S. GAAP, accounting for derivative instruments is covered under U.S. SFAS No. 133, as amended by U.S. SFAS No. 138, which requires that all entities recognize derivative instruments as assets and liabilities in the statement of financial position at fair value. If certain conditions are met, entities may elect to designate a derivative instrument as a hedge. Under U.S. GAAP, the Company does not apply hedge accounting and derivatives have historically been, and continue to be, recorded on the balance sheet at fair value, with the changes in fair values recorded through current period earnings. The reconciling adjustments for all periods presented reflect the difference from applying hedge accounting under ROC GAAP to non-hedge accounting under U.S. GAAP for the Company's derivative instruments.

g. Treasury stock

Under U.S. GAAP, when a subsidiary holds shares of its parents' capital stock as an investment, the shares are treated as treasury stock in the consolidated balance sheet as a reduction in shareholders' equity. Under ROC

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

GAAP, for periods ending prior to January 1, 2002, shares of a parent company's stock held by its subsidiaries are accounted for as an investment on the parent company's balance sheet with realized gains and losses recorded to current earnings. As of January 1, 2002, the Company adopted ROC SFAS No. 30 (see Note 3) which is consistent with the accounting for treasury stock under U.S. GAAP. Accordingly, the Company has adjusted for the difference in accounting for the years ended as of and prior to December 31, 2001.

h. Stock-based compensation

For U.S. GAAP reporting, the Company has elected to follow Accounting Principles Board Opinion (APB Opinion) No. 25, "Accounting for Stock Issued to Employees", which measures compensation expense based on the difference, if any, between the market price of the underlying common stock and the exercise price of the stock option on the date of the grant. The Company is required under U.S. GAAP SFAS No. 123, "Accounting for Stock-based Compensation", to disclose the pro forma information regarding option grants to its employees computed as if the fair value method had been applied. Accounting for US GAAP is consistent with the Company's accounting under ROC GAAP.

i. Goodwill

Under ROC GAAP, goodwill is amortized over ten years. Goodwill was recorded for the excess of purchase price paid over the net tangible assets of 32% of TSMC in 1999. Goodwill was not recorded under ROC GAAP for the acquisition of the remaining 68% of TSMC in June 2000 as the purchase was a share exchange. Under ROC GAAP, goodwill generated from a business combination in the form of a share exchange is recorded in capital surplus. Under U.S. GAAP, purchase accounting requires the cost of the acquisition to be the fair value of the shares exchanged and to record the difference between the cost of an acquired company and the sum of the fair values of net tangible and identifiable intangible assets to be recorded as goodwill. Accordingly, the goodwill from the acquisition of the remaining 68% TSMC is adjusted for U.S. GAAP and amortized over the estimated life of five years. Effective January 1, 2002, the Company adopted U.S. SFAS No. 142, "Goodwill and Other Intangible Assets". In accordance with the guidelines of this accounting standard, goodwill and indefinite-lived intangible assets are no longer amortized, and instead, are assessed for impairment on at least an annual basis. Purchased intangible assets other than goodwill and indefinite-lived intangible assets are amortized over their estimated useful lives, and reviewed for impairment whenever events or changes in circumstances indicate the carrying amount may not be recoverable.

j. Earnings per share

Under ROC GAAP, earnings per share is calculated as described in Note 2. Under U.S. GAAP, the earnings per share is calculated by dividing net income by the average number of shares outstanding in each period, adjusted retroactively for stock dividends and stock bonuses issued subsequently. Earnings per equivalent American Depositary Share (ADS) is calculated by multiplying earnings per share by five (one ADS represents five common shares).

k. Mandatory redeemable preferred stock

Preferred stock subject to mandatory redemption at the option of the holder is included in shareholders' equity under ROC GAAP and classified outside shareholders' equity under U.S. GAAP.

l. 10% Tax On Undistributed Earnings

Prior to 2002, the Company's accounting policy with respect to the 10% tax on undistributed earnings under US GAAP was consistent with the policy used for ROC GAAP. During 2002, the American Institute of Certified

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

Public Accountants International Practices Task Force (the “Task Force”) concluded that the 10% tax on undistributed earnings should be accrued during the period the earnings arise; this accrual is reversed to the extent the shareholders approve distributions within one year of them being earned thereby avoiding the 10% tax. For the year ended December 31, 2002, the Company modified its US GAAP accounting policy to comply with the Task Force’s conclusion. Adoption of the revised policy on January 1, 2000 would not impact the Company’s operating results in 2000 or 2001 as the Company had valuation allowances previously recorded relating to tax credits sufficient to offset the effects of the additional 10% tax that would have been recorded under the revised accounting policy

## m. Equity-method investees

The Company’s proportionate share of the income (loss) from an equity investee may differ if the equity investee’s net income (loss) under ROC GAAP differs from U.S. GAAP. The differences between ROC GAAP and U.S. GAAP for the equity investees would result in adjustments to long-term investments and net income (loss).

The following reconciles net income and shareholders’ equity under ROC GAAP as reported in the consolidated financial statements to the net income and shareholders’ equity amounts determined under U.S. GAAP, giving effect to the differences listed above.

|                                                          | Year Ended December 31                           |            |           |         |
|----------------------------------------------------------|--------------------------------------------------|------------|-----------|---------|
|                                                          | 2000                                             | 2001       | 2002      |         |
|                                                          | NT\$                                             | NT\$       | NT\$      | US\$    |
|                                                          | (In Millions except share and per share amounts) |            |           |         |
| <i>Net income</i>                                        |                                                  |            |           |         |
| Net income based on ROC GAAP .....                       | 65,106.2                                         | 14,483.2   | 21,610.3  | 622.8   |
| Adjustments:                                             |                                                  |            |           |         |
| Adjustment to market value for trading securities .....  | 2,092.6                                          | 587.4      | (1,819.7) | (52.4)  |
| U.S. GAAP adjustments on equity -method investees .....  | 135.8                                            | (634.0)    | 61.7      | 1.7     |
| Loss on impairment of assets .....                       | (10,916.1)                                       | —          | —         | —       |
| Reversal of depreciation on assets impaired under        |                                                  |            |           |         |
| U.S. GAAP .....                                          | —                                                | 1,455.5    | 1,455.5   | 41.9    |
| Income tax effect of U.S. GAAP adjustments .....         | (1.7)                                            | (0.1)      | (1.4)     | —       |
| Amortization of goodwill .....                           | (5,395.5)                                        | (10,791.0) | 1,290.8   | 37.2    |
| Amortization of capital stock payment for technology     |                                                  |            |           |         |
| transfer .....                                           | 54.0                                             | 54.0       | 54.0      | 1.6     |
| Adjustment to market value for derivative financial      |                                                  |            |           |         |
| instruments .....                                        | (434.1)                                          | (518.4)    | 445.9     | 12.9    |
| Bonuses to employees, directors and supervisors          |                                                  |            |           |         |
| Current year accrual .....                               | (5,258.7)                                        | (1,201.4)  | (1,597.5) | (46.0)  |
| Fair market value adjustment of prior year accrual ..... | (23,290.1)                                       | (25,208.5) | (6,911.4) | (199.2) |
| Pension expense .....                                    | 21.3                                             | 0.7        | 8.6       | 0.2     |
| Amortization of deferred compensation expense .....      | (143.3)                                          | (107.5)    | —         | —       |
| Gain on sale of treasury stock .....                     | (230.0)                                          | (95.0)     | —         | —       |
| Minority interest effect of U.S. GAAP adjustments .....  | —                                                | —          | (62.7)    | (1.8)   |
| Net decrease in net income .....                         | (43,365.8)                                       | (36,458.3) | (7,076.2) | (203.9) |
| Net income (loss) based on U.S. GAAP .....               | 21,740.4                                         | (21,975.1) | 14,534.1  | 418.9   |
| Cumulative preferred dividends .....                     | —                                                | (455.0)    | (455.0)   | (13.1)  |

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

|                                                                                          | Year Ended December 31                           |                |                |       |
|------------------------------------------------------------------------------------------|--------------------------------------------------|----------------|----------------|-------|
|                                                                                          | 2000                                             | 2001           | 2002           |       |
|                                                                                          | NT\$                                             | NT\$           | NT\$           | US\$  |
|                                                                                          | (In Millions except share and per share amounts) |                |                |       |
| Income (loss) attributable to common<br>shareholders .....                               | 21,740.4                                         | (22,430.1)     | 14,079.1       | 405.8 |
| Basic and diluted earnings (loss) per common<br>share (Note 27j) .....                   | 1.25                                             | (1.23)         | 0.76           | 0.02  |
| Basic and diluted number of weighted average<br>shares outstanding under U.S. GAAP ..... | 17,445,090,000                                   | 18,281,322,000 | 18,543,443,000 |       |
| Basic and diluted earnings (loss) per ADS (Note<br>27j) .....                            | 6.23                                             | (6.13)         | 3.79           |       |

|                                                                   | December 31   |            |         |
|-------------------------------------------------------------------|---------------|------------|---------|
|                                                                   | 2001          | 2002       |         |
|                                                                   | NT\$          | NT\$       | US\$    |
|                                                                   | (In Millions) |            |         |
| <i>Shareholders' equity</i>                                       |               |            |         |
| Shareholders' equity based on ROC GAAP .....                      | 277,190.2     | 295,853.2  | 8,526.0 |
| Adjustments:                                                      |               |            |         |
| Adjustment to market value for trading securities .....           | 3,936.2       | 2,116.5    | 61.0    |
| U.S. GAAP adjustments on equity —method investees .....           | (1,476.5)     | (1,414.8)  | (40.8)  |
| Adjustment to market value —available-for-sale securities         |               |            |         |
| TSMC .....                                                        | 168.9         | 18.6       | 0.5     |
| Equity-method investees .....                                     | 499.3         | 7.1        | 0.2     |
| Loss on impairment of assets .....                                | (10,916.1)    | (10,916.1) | (314.6) |
| Reversal of depreciation on assets impaired under U.S. GAAP ..... | 1,455.5       | 2,911.0    | 83.9    |
| Income tax differences .....                                      | (2.6)         | (4.0)      | (0.1)   |
| Goodwill                                                          |               |            |         |
| Carrying value difference for 68%                                 |               |            |         |
| Purchase of TSMC .....                                            | 52,212.7      | 52,212.7   | 1,504.7 |
| Accumulated amortization .....                                    | (16,186.5)    | (14,895.7) | (429.3) |
| Capital stock payment for technology transfer .....               | (103.5)       | (49.5)     | (1.4)   |
| Derivative financial instruments .....                            | (962.2)       | (516.3)    | (14.9)  |
| Bonuses to employees, directors and supervisors .....             | (1,201.4)     | (1,597.5)  | (46.0)  |
| Accrued pension expense .....                                     | (48.4)        | (39.8)     | (1.1)   |
| Reclassification of treasury stock held by subsidiary .....       | (2,115.7)     | —          | —       |
| Minority interest effect of U.S. GAAP adjustments .....           | —             | (62.7)     | (1.8)   |
| Mandatory redeemable preferred stock .....                        | (13,000.0)    | (13,000.0) | (374.6) |
| Net increase in shareholders' equity .....                        | 12,259.7      | 14,769.5   | 425.7   |
| Shareholders' equity based on U.S. GAAP .....                     | 289,449.9     | 310,622.7  | 8,951.7 |

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

|                                                          | Year Ended December 31 |                  |                  |                |
|----------------------------------------------------------|------------------------|------------------|------------------|----------------|
|                                                          | 2000                   | 2001             | 2002             |                |
|                                                          | NT\$                   | NT\$             | NT\$             | U.S.\$         |
|                                                          |                        | (In Millions)    |                  |                |
| <i>Changes in shareholders' equity based on US GAAP</i>  |                        |                  |                  |                |
| Balance, beginning of year                               | 151,977.3              | 279,946.1        | 289,449.9        | 8,341.5        |
| Net income (loss) for year                               | 21,740.4               | (21,975.1)       | 14,534.1         | 418.9          |
| Adjustment to market value—available-for-sale securities |                        |                  |                  |                |
| TSMC                                                     | (71.6)                 | 128.7            | (150.3)          | (4.3)          |
| Equity investees                                         | (14.0)                 | 513.3            | (686.5)          | (19.8)         |
| Provision of unrealized loss on long-term investments    |                        |                  |                  |                |
| TSMC                                                     | (343.3)                | 71.6             | —                | —              |
| Equity investees                                         | (1,590.5)              | —                | —                | —              |
| Common shares issued as bonuses to Employees             | 25,011.3               | 29,882.9         | 7,979.0          | 229.9          |
| Purchases of treasury stocks                             | (975.4)                | (923.0)          | —                | —              |
| Proceeds from sales of treasury stock                    | 492.1                  | 188.1            | 235.2            | 6.8            |
| Translation adjustment                                   | 811.7                  | 1,507.1          | (283.7)          | (8.2)          |
| Cash dividends—preferred shares                          | —                      | (41.1)           | (455.0)          | (13.1)         |
| Amortization of deferred compensation                    | 143.3                  | 107.5            | —                | —              |
| Issuance of capital stock                                | 26,204.6               | —                | —                | —              |
| Issuance of capital stock for the acquisition of TSMC    | 56,560.2               | —                | —                | —              |
| Other                                                    | —                      | 43.8             | —                | —              |
| Balance, end of year                                     | <u>279,946.1</u>       | <u>289,449.9</u> | <u>310,622.7</u> | <u>8,951.7</u> |

A reconciliation of the significant balance sheet accounts to the amounts determined under U.S. GAAP is as follows:

|                                                          | December 31    |                |              |
|----------------------------------------------------------|----------------|----------------|--------------|
|                                                          | 2001           | 2002           |              |
|                                                          | NT\$           | NT\$           | US\$         |
|                                                          |                | (In Millions)  |              |
| <i>Short-term investments</i>                            |                |                |              |
| As reported                                              | 1,398.1        | 170.0          | 4.9          |
| U.S. GAAP adjustments                                    |                |                |              |
| Adjustment to market value—trading securities            | 3,936.2        | 2,116.5        | 61.0         |
| Treasury stock                                           | (1,206.8)      | —              | —            |
| As adjusted                                              | <u>4,127.5</u> | <u>2,286.5</u> | <u>65.9</u>  |
| <i>Long-term investments</i>                             |                |                |              |
| As reported                                              | 11,599.2       | 10,635.5       | 306.5        |
| U.S. GAAP adjustments                                    |                |                |              |
| Equity investments—Effect of U.S. GAAP adjustments       | (1,476.5)      | (1,414.8)      | (40.8)       |
| Adjustment to market value—available-for-sale securities |                |                |              |
| —TSMC                                                    | 168.9          | 18.6           | 0.5          |
| —Equity investees                                        | 499.3          | 7.1            | 0.2          |
| Treasury stock                                           | (908.9)        | —              | —            |
| As adjusted                                              | <u>9,882.0</u> | <u>9,246.4</u> | <u>266.4</u> |

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

|                                                        | December 31      |                       |                |
|--------------------------------------------------------|------------------|-----------------------|----------------|
|                                                        | 2001             | 2002                  |                |
|                                                        | NT\$             | NT\$<br>(In Millions) | US\$           |
| <i>Property, plant and equipment—net</i>               |                  |                       |                |
| As reported                                            | \$251,287.6      | \$246,498.3           | \$7,103.7      |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Impairment loss                                        | (10,916.1)       | (10,916.1)            | (314.6)        |
| Reversal of depreciation of assets impaired            |                  |                       |                |
| Under US GAAP                                          | 1,455.5          | 2,911.0               | 83.9           |
| As adjusted                                            | <u>241,827.0</u> | <u>238,493.2</u>      | <u>6,873.0</u> |
| <i>Deferred income tax</i>                             |                  |                       |                |
| As reported                                            | 18,595.9         | 13,174.9              | 379.6          |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Effect of U.S. GAAP adjustments on deferred income tax | (2.6)            | (4.0)                 | (0.1)          |
| As adjusted                                            | <u>18,593.3</u>  | <u>13,170.9</u>       | <u>379.5</u>   |
| <i>Goodwill</i>                                        |                  |                       |                |
| As reported                                            | 11,437.6         | 10,158.8              | 292.8          |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Carrying value difference for purchase of 68% TSMC     | 52,212.7         | 52,212.7              | 1,504.7        |
| Accumulated amortization                               | (16,186.5)       | (14,895.7)            | (429.3)        |
| As adjusted                                            | <u>47,463.8</u>  | <u>47,475.8</u>       | <u>1,368.2</u> |
| <i>Deferred charge—net</i>                             |                  |                       |                |
| As reported                                            | 3,769.8          | 9,873.8               | 284.6          |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Capital stock payment for technology transfer          | (103.5)          | (49.5)                | (1.4)          |
| As adjusted                                            | <u>3,666.3</u>   | <u>9,824.3</u>        | <u>283.2</u>   |
| <i>Current liabilities</i>                             |                  |                       |                |
| As reported                                            | 33,329.0         | 40,361.8              | 1,163.2        |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Derivative financial instruments                       | 962.2            | 516.3                 | 14.9           |
| Bonuses to employees, directors and supervisors        | 1,201.4          | 1,597.5               | 46.0           |
| As adjusted                                            | <u>35,492.6</u>  | <u>42,475.6</u>       | <u>1,224.1</u> |
| <i>Accrued pension cost</i>                            |                  |                       |                |
| As reported                                            | 1,856.6          | 2,211.6               | 63.7           |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Pension expenses                                       | 48.4             | 39.8                  | 1.1            |
| As adjusted                                            | <u>1,905.0</u>   | <u>2,251.4</u>        | <u>64.8</u>    |
| <i>Minority interest</i>                               |                  |                       |                |
| As reported                                            | 120.2            | 95.5                  | 2.8            |
| U.S. GAAP adjustments                                  |                  |                       |                |
| Shareholders' equity                                   | —                | 62.7                  | 1.8            |
| As adjusted                                            | <u>120.2</u>     | <u>158.2</u>          | <u>4.6</u>     |

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The following U.S. GAAP condensed balance sheets as of December 31, 2001 and 2002, and statements of operations for the years ended December 31, 2000, 2001 and 2002 have been derived from the audited financial statements and reflect the adjustments presented above.

Certain accounts have been reclassified to conform to U.S. GAAP. Royalty income and technical service income are included as sales; gain/loss on sales of and provision for loss on property, plant and equipment are included as operating expenses. Certain amounts in 2000 and 2001 have been reclassified to conform to 2002 classifications.

|                                                   | December 31      |                       |                 |
|---------------------------------------------------|------------------|-----------------------|-----------------|
|                                                   | 2001             | 2002                  |                 |
|                                                   | NT\$             | NT\$<br>(in Millions) | US\$            |
| <b>Assets</b>                                     |                  |                       |                 |
| Current assets                                    | 73,530.5         | 104,653.7             | 3,015.9         |
| Long-term investment                              | 9,882.0          | 9,246.4               | 266.4           |
| Property, plant and equipment—net                 | 241,827.0        | 238,493.2             | 6,873.0         |
| Goodwill                                          | 47,463.8         | 47,475.8              | 1,368.2         |
| Other assets                                      | 21,286.1         | 20,659.1              | 595.4           |
| <b>Total Assets</b>                               | <u>393,989.4</u> | <u>420,528.2</u>      | <u>12,118.9</u> |
| <b>Liabilities</b>                                |                  |                       |                 |
| Current liabilities                               | 35,492.6         | 42,475.6              | 1,224.1         |
| Long-term liabilities                             | 55,926.7         | 54,271.7              | 1,563.9         |
| Minority interest                                 | 120.2            | 158.2                 | 4.6             |
| Preferred shares                                  | 13,000.0         | 13,000.0              | 374.6           |
| Shareholders' equity                              | 289,449.9        | 310,622.7             | 8,951.7         |
| <b>Total Liabilities and Shareholders' equity</b> | <u>393,989.4</u> | <u>420,528.2</u>      | <u>12,118.9</u> |

|                                                   | Year Ended December 31 |                       |           |         |
|---------------------------------------------------|------------------------|-----------------------|-----------|---------|
|                                                   | 2000                   | 2001                  | 2002      |         |
|                                                   | NT\$                   | NT\$<br>(In Millions) | NT\$      | US\$    |
| Net sales                                         | 166,860.3              | 127,241.6             | 162,990.4 | 4,697.1 |
| Cost of sales                                     | 105,358.7              | 107,193.7             | 115,374.3 | 3,324.9 |
| Gross profit                                      | 61,501.6               | 20,047.9              | 47,616.1  | 1,372.2 |
| Operating expenses                                | 44,472.6               | 41,711.6              | 20,764.0  | 598.4   |
| Income (loss) from operations                     | 17,029.0               | (21,663.7)            | 26,852.1  | 773.8   |
| Non-operating income (expenses)—net               | 3,508.4                | (4,008.0)             | (6,642.1) | (191.4) |
| Income (loss) before income tax                   | 20,537.4               | (25,671.7)            | 20,210.0  | 582.4   |
| Net income (loss)                                 | 21,740.4               | (21,975.1)            | 14,534.1  | 418.9   |
| Cumulative preferred dividends                    | —                      | (455.0)               | (455.0)   | (13.1)  |
| Income (loss) attributable to common shareholders | 21,740.4               | (22,430.1)            | 14,079.1  | 405.8   |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

**28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP****a. Recent accounting pronouncements**

In July 2001, the Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards (SFAS) No. 141, "Business Combinations," and SFAS No. 142, "Goodwill and Other Intangible Assets." Beginning in the first quarter of 2002, the Company no longer amortized goodwill and other indefinite-lived intangible assets, but performs impairment tests annually or earlier if indicators of potential impairment exist. All other intangible assets will continue to be amortized over their estimated useful lives.

SFAS No. 142 requires that goodwill and other indefinite-lived intangible assets be tested for impairment at the reporting unit level upon adoption and at least annually thereafter, utilizing a two-step methodology. The initial step requires the Company to determine the fair value of each reporting unit and compare it to the carrying value, including goodwill and other indefinite-lived intangible assets, of such unit. If the fair value exceeds the carrying value, no impairment loss is recognized. However, if the carrying value of the reporting unit exceeds its fair value, the goodwill and other indefinite-lived intangible assets of the unit may be impaired. The amount, if any, of the impairment is then measured in the second step.

In conjunction with the implementation of SFAS No. 142 on January 1, 2002, the Company determined it is comprised of one reporting unit and has completed a goodwill impairment test in accordance with provisions of that standard and found no impairment. The Company performed its annual goodwill impairment test during the fourth quarter of 2002 and found no impairment.

Pro forma net income and earnings per share of TSMC under U.S. GAAP for 2000 and 2001, based on the assumption that the Company adopted SFAS No. 142 as of January 1, 2000 are as follows:

|                                                                             | <u>2000</u>     | <u>2001</u>           | <u>2002</u>     |
|-----------------------------------------------------------------------------|-----------------|-----------------------|-----------------|
|                                                                             | NT\$            | NT\$<br>(In Millions) | NT\$            |
| Net income (loss) . . . . .                                                 | 21,740.4        | (21,975.1)            | 14,534.1        |
| Add: Goodwill amortization . . . . .                                        | <u>5,569.7</u>  | <u>12,051.2</u>       | <u>—</u>        |
|                                                                             | 27,310.1        | (9,923.9)             | 14,534.1        |
| Less: Preferred stock dividend . . . . .                                    | <u>—</u>        | <u>(455.0)</u>        | <u>(455.0)</u>  |
| Adjusted Net income (loss) attributable to common<br>shareholders . . . . . | <u>27,310.1</u> | <u>(10,378.9)</u>     | <u>14,079.1</u> |
| Basic and diluted earnings per share                                        |                 |                       |                 |
| Reported basic and diluted earnings per share . . . . .                     | 1.25            | (1.23)                | 0.76            |
| Add: Goodwill amortization . . . . .                                        | <u>0.32</u>     | <u>0.66</u>           | <u>—</u>        |
| Adjusted basic and diluted earnings per share . . . . .                     | <u>1.57</u>     | <u>(0.57)</u>         | <u>0.76</u>     |

In June 2001, the FASB issued SFAS No. 143, "Accounting for Asset Retirement Obligations". The Statement requires, among other provisions, retirement obligations to be recognized when they are incurred and displayed as liabilities, with a corresponding amount capitalized as part of the related long-lived asset. The capitalized element is required to be expensed using a systematic and rational method over its useful life. SFAS No. 143 is required to be adopted by the Company on January 1, 2003. As the Company believes the statement has no current application, it is not expected to have a material impact on its U.S. GAAP financial information.

In August 2001, the FASB issued SFAS No. 144, "Accounting for the Impairment or Disposal of Long-Lived Assets", which was required to be applied by the Company on January 1, 2002. The statement supercedes

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

SFAS No. 121, “Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to be Disposed Of”, and APB Opinion No. 30, “Reporting the Results of Operations—Reporting the Effects of Disposal of a Segment of a Business, and Extraordinary, Unusual, and Infrequently Occurring Events and Transactions”. For long-lived assets to be held and used, the statement retains the requirement of SFAS No. 121 whereby an impairment loss is recognized if the carrying value of the asset is not recoverable from its undiscounted cash flows and an impairment loss is measured as the difference between fair values and carrying values of the asset. The new statement requires long-lived assets to be disposed of other than by sale to be considered held and used until they are disposed. The statement also broadens the scope of APB Opinion No. 30 for the presentation of discontinued operations separately from continuing operations to include a component of an entity that either has been disposed of or is classified as held for sale. In addition, discontinued operations are no longer measured on a net realizable value basis, and expected future operating losses must be reflected in the periods incurred, rather than at the measurement date as previously required under APB Opinion No. 30. The adoption of the statement did not have a material impact on the Company’s U.S. GAAP financial information.

In April 2002, the FASB issued SFAS No. 145, “Rescission of FASB Statements No. 4, 44 and 64, Amendment of FASB Statement No. 13, and Technical Corrections.” Among other things, this statement rescinds FASB Statement No. 4, “Reporting Gains and Losses from Extinguishment of Debt,” which required all gains and losses from the early extinguishment of debt to be aggregated and, if material, classified as extraordinary. This statement now requires those gains and losses to be classified as unusual and infrequently occurring events and transactions. The statement was effective upon issuance in April 2002 for prospective transactions. The adoption of this statement had no impact on the Company’s U.S. GAAP financial information.

In June 2002, the FASB issued SFAS No. 146, “Accounting for Costs Associated with Exit or Disposal Activities”. SFAS No. 146 requires that a liability for a cost associated with an exit or disposal activity be measured at fair value and recorded when it meets the definition of a liability in FASB Concepts Statement No. 6, “Elements of Financial Statements”. SFAS No. 146 superceded Emerging Issues Task Force (EITF) Issue No. 94-3 “Liability Recognition for Certain Employee Termination Benefits and Other Costs to Exit an Activity (Including Certain Costs Incurred in a Restructuring)”, which required recognition of a liability for costs associated with an exit or disposal activity when the company committed to an exit/disposal plan. SFAS No. 146 is effective for exit or disposal activities initiated after December 31, 2002. Restatement of prior periods is not required. SFAS No. 146 applies to future restructuring activities and the application of SFAS No. 146 has no impact on the Company’s historic U.S. GAAP financial information.

In December 2002, the FASB issued SFAS No. 148, “Accounting for Stock-Based Compensation—Transition and Disclosure”, and amends FASB No. 123 “Accounting for Stock-Based Compensation”. This statement provides alternative methods of transition for an entity that voluntarily changes to the fair value based method of accounting for stock-based employee compensation. It also amends the disclosure provisions of that statement to require prominent disclosure about the effects on reported net income of an entity’s accounting policy decisions with respect to stock-based employee compensation. This statement is effective January 1, 2003. The Company has elected not to account for stock-based employee compensation using the fair value based method of accounting as set forth in SFAS No. 123 and 148, but to continue to provide the disclosure requirements under SFAS No. 123. Accordingly, this statement will not affect the financial statement of the Company until the Company decides to adopt the fair value based method of accounting set forth in SFAS No. 123 and 148.

In November 2002, FASB issued Interpretation No. 45, “Guarantor’s Accounting and Disclosure Requirements for Guarantees, Including Indirect Guarantees of Indebtedness of Others”. The Interpretation elaborates on the existing disclosure requirements for most guarantees, including loan guarantees such as standby

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

letters of credit. It also clarifies that at the time a company issues a guarantee, the company must recognize an initial liability for the fair value, or market value, of the obligations it assumes under the guarantee and must disclose that information on its interim and annual financial statements. The provisions related to recognizing a liability at inception of the guarantee for the fair value of the guarantor's obligations does not apply to product warranties or to guarantees accounted for as derivatives. The initial recognition and initial measurement provisions apply on a prospective basis to guarantees issued or modified after December 31, 2002.

In January 2003, the FASB issued FIN 46, "Consolidation of Variable Interest Entities—an Interpretation of Accounting Research Bulletin (ARB) No. 51." FIN 46 requires the primary beneficiary to consolidate a variable interest entity (VIE) if it has a variable interest that will absorb a majority of the entity's expected losses if they occur, receive a majority of the entity's expected residual returns if they occur, or both. FIN 46 applies immediately to VIEs created after January 31, 2003, and to VIEs in which the entity obtains an interest after that date. For VIEs acquired before February 1, 2003, the effective date for the Company is July 1, 2003. The Company is currently in the process of determining the impact of this statement on its results of operations, financial position and cash flows.

In November 2002, the EITF reached a consensus on EITF 00-21, "Revenue Arrangements with Multiple Deliverables," related to the timing of revenue recognition for arrangements in which goods or services or both are delivered separately in a bundled sales arrangement. The EITF requires that when the deliverables included in this type of arrangement meet certain criteria they should be accounted for separately as separate units of accounting. This may result in a difference in the timing of revenue recognition but will not result in a change in the total amount of revenue recognized in a bundled sales arrangement. The allocation of revenue to the separate deliverables is based on the relative fair value of each item. If the fair value is not available for the delivered items then the residual method must be used. This method requires that the amount allocated to the undelivered items in the arrangement is their full fair value. This would result in the discount, if any, being allocated to the delivered items. This consensus is effective prospectively for arrangements entered into in fiscal periods beginning after June 15, 2003. The Company does not believe there will be a significant impact of this consensus on its results of operations, financial position and cash flows.

b. Marketable securities

On December 31, 2001 and 2002, certain investments carried at cost under ROC GAAP were adjusted to fair value under U.S. GAAP for purposes of U.S. GAAP presentation:

|                                                             | (ROC GAAP)<br>Carrying Value |       | (U.S. GAAP)<br>Fair Value |         |
|-------------------------------------------------------------|------------------------------|-------|---------------------------|---------|
|                                                             | 2001                         | 2002  | 2001                      | 2002    |
|                                                             | NT\$                         | NT\$  | NT\$                      | NT\$    |
|                                                             | (In Millions)                |       |                           |         |
| Investment in trading securities . . . . .                  | 191.3                        | 170.0 | 4,127.5                   | 2,286.5 |
| Long-term investments—available for sale (Note 9) . . . . . | 312.8                        | 417.1 | 481.7                     | 435.7   |

The Company uses the average cost method for trading securities and available-for-sale securities when determining cost basis. Proceeds from sales of available-for-sale securities during 2000, 2001 and 2002 were NT\$49.4 million, NT\$559.1 million and NT\$53.1 million, respectively. Realized gains (losses) on these sales were NT\$15.1 million, NT\$105.4 million and (NT\$170.8) million during 2000, 2001 and 2002, respectively.

The gains included in earnings from transfers of securities from the available-for-sale category into the trading category for the year ended December 31, 2000 was NT\$17.5 million. There was no transfer of securities from the available-for-sale category into the trading category for the years ended December 31, 2001 and 2002.

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

c. Pension

|                                                           | December 31   |           |           |
|-----------------------------------------------------------|---------------|-----------|-----------|
|                                                           | 2000          | 2001      | 2002      |
|                                                           | NT\$          | NT\$      | NT\$      |
|                                                           | (In Millions) |           |           |
| Actuarial present value of benefit obligations            |               |           |           |
| Vested benefit obligation                                 | —             | —         | —         |
| Accumulated benefit obligation                            | (765.7)       | (1,027.1) | (1,618.6) |
| Projected benefit obligation                              | (2,315.7)     | (2,434.1) | (2,931.2) |
| Plan assets at fair value                                 | 684.0         | 855.8     | 1,035.7   |
| Projected benefit obligation in excess of plan assets     | (1,631.7)     | (1,578.3) | (1,895.5) |
| Unrecognized net transition obligation                    | 76.1          | 70.7      | 72.6      |
| Unrecognized net loss                                     | (4.8)         | (397.4)   | (428.5)   |
| Unfunded accrued pension cost                             | (1,560.4)     | (1,905.0) | (2,251.4) |
| Accrued pension cost                                      |               |           |           |
| Balance, beginning of year                                | 1,070.4       | 1,560.4   | 1,905.0   |
| Net periodic pension cost                                 |               |           |           |
| Service cost                                              | 376.7         | 418.0     | 442.3     |
| Interest cost                                             | 91.2          | 95.9      | 121.5     |
| Expected return on assets                                 | (32.6)        | (41.0)    | (45.1)    |
| Amortization of unrecognized net transition obligation    | 11.4          | 2.5       | (7.6)     |
| Net periodic pension cost                                 | 446.7         | 475.4     | 511.1     |
| Contributions                                             | (107.3)       | (130.8)   | (164.7)   |
| The “accrued pension cost” transferred from TSMC and WSMC | 150.6         | —         | —         |
| Balance, end of year                                      | 1,560.4       | 1,905.0   | 2,251.4   |
| Change in benefit obligation:                             |               |           |           |
| Benefit obligation at beginning of year                   | 1,405.4       | 2,315.7   | 2,434.1   |
| Service cost                                              | 376.7         | 418.0     | 442.3     |
| Interest cost                                             | 91.2          | 95.9      | 121.5     |
| Actuarial (gain)/loss                                     | 442.6         | (395.5)   | (61.3)    |
| Benefit paid                                              | (0.2)         | —         | (5.4)     |
| Benefit obligation at end of year                         | 2,315.7       | 2,434.1   | 2,931.2   |
| Change in plan assets:                                    |               |           |           |
| Fair value of plan assets at beginning of year            | \$ 371.0      | \$ 684.0  | \$ 855.8  |
| Actual return on plan assets                              | 32.6          | 41.0      | 20.6      |
| Employer contribution                                     | 107.3         | 130.8     | 164.7     |
| Benefits paid                                             | (0.2)         | —         | (5.4)     |
| The “pension assets” transferred from TSMC and WSMC       | 173.3         | —         | —         |
| Fair value of plan assets at end of year                  | 684.0         | 855.8     | 1,035.7   |
| Assumptions used in actuarial calculations:               |               |           |           |
| Discount rate                                             | 6.0%          | 5.0%      | 3.7%      |
| Long-term salary increase                                 | 6.0%          | 5.0%      | 3.0%      |
| Expected long-term rate of return on plan assets          | 6.0%          | 5.0%      | 3.7%      |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

## d. Income tax benefit (expense)

|                                               | Year Ended December 31 |                       |                  |
|-----------------------------------------------|------------------------|-----------------------|------------------|
|                                               | 2000                   | 2001                  | 2002             |
|                                               | NT\$                   | NT\$<br>(In Millions) | NT\$             |
| Income tax current payable .....              | (27.2)                 | (47.4)                | (215.6)          |
| Deferred income tax .....                     | 1,003.7                | 3,788.1               | (5,422.4)        |
| Adjustment of prior years' income taxes ..... | 189.7                  | —                     | —                |
| Income tax benefit (expense) .....            | <u>1,166.2</u>         | <u>3,740.7</u>        | <u>(5,638.0)</u> |

Reconciliation between income tax calculated on pre-tax financial statement income based on the statutory tax rate and income tax benefit which conforms to U.S. GAAP is as follows:

|                                                        | Year Ended December 31 |                       |                  |
|--------------------------------------------------------|------------------------|-----------------------|------------------|
|                                                        | 2000                   | 2001                  | 2002             |
|                                                        | NT\$                   | NT\$<br>(In Millions) | NT\$             |
| Tax on pretax income at ROC statutory rate (25%) ..... | (5,134.4)              | 6,417.9               | (5,052.5)        |
| SBIP tax exemption (5%) .....                          | 1,026.9                | —                     | —                |
| Tax on pretax income at SBIP statutory rate .....      | (4,107.5)              | 6,417.9               | (5,052.5)        |
| 10% tax on undistributed earnings .....                | (88.0)                 | (322.3)               | (3,817.4)        |
| Other tax .....                                        | —                      | (16.3)                | (29.1)           |
| Tax paid by subsidiaries .....                         | (7.4)                  | (31.1)                | (75.9)           |
| Tax effects of:                                        |                        |                       |                  |
| Tax-exempt income .....                                | \$ 7,770.0             | \$ 1,089.0            | \$ 2,526.5       |
| Expiration of net operating loss .....                 | (981.1)                | —                     | —                |
| Permanent differences                                  |                        |                       |                  |
| Bonus expense .....                                    | (5,709.8)              | (6,602.5)             | (2,127.2)        |
| Amortization of goodwill .....                         | (1,079.1)              | (2,697.8)             | 322.7            |
| Marketable securities .....                            | 418.5                  | 21.9                  | (455.0)          |
| Others .....                                           | 2,164.2                | 967.7                 | (4,829.4)        |
| Tax credits—Utilized .....                             | 5,128.0                | 2,888.4               | 7,135.8          |
| —Deferred .....                                        | 5,356.3                | 3,044.1               | 62.2             |
| Valuation allowance .....                              | (7,887.6)              | (623.1)               | 701.3            |
| Change in statutory rate .....                         | —                      | (395.2)               | —                |
| Adjustment of prior year's income tax .....            | 189.7                  | —                     | —                |
| Income tax benefit (expense) .....                     | <u>1,166.2</u>         | <u>3,740.7</u>        | <u>(5,638.0)</u> |

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)**

The roll-forward of deferred income tax is as follows:

|                                           | <b>Income Tax<br/>Credit</b> | <b>Valuation<br/>Allowance</b> | <b>Net<br/>Operating<br/>Loss</b> | <b>Temporary<br/>Difference</b> | <b>Total</b>    |
|-------------------------------------------|------------------------------|--------------------------------|-----------------------------------|---------------------------------|-----------------|
|                                           | <b>NT\$</b>                  | <b>NT\$</b>                    | <b>NT\$</b>                       | <b>NT\$</b>                     | <b>NT\$</b>     |
|                                           |                              |                                | <b>(In Millions)</b>              |                                 |                 |
| Balance as of January 1, 2000 . . . . .   | 11,098.6                     | (4,104.0)                      | 2,541.6                           | 86.4                            | 9,622.6         |
| Increased (decreased) in 2000 . . . . .   | 10,484.3                     | (7,887.6)                      | (174.4)                           | 3,659.9                         | 6,082.2         |
| Acquired from 68% of TSMC . . . . .       | 4,558.4                      | (330.0)                        | —                                 | —                               | 4,228.4         |
| Utilized in 2000 . . . . .                | (5,128.0)                    | —                              | —                                 | —                               | (5,128.0)       |
| Balance as of December 31, 2000 . . . . . | 21,013.3                     | (12,321.6)                     | 2,367.2                           | 3,746.3                         | 14,805.2        |
| Increased (decreased) in 2001 . . . . .   | 5,932.5                      | (623.1)                        | 3,751.1                           | (2,384.1)                       | 6,676.4         |
| Utilized in 2001 . . . . .                | (2,888.4)                    | —                              | —                                 | —                               | (2,888.4)       |
| Balance as of December 31, 2001 . . . . . | 24,057.4                     | (12,944.7)                     | 6,118.3                           | 1,362.2                         | 18,593.2        |
| Increased (decreased) in 2002 . . . . .   | 7,198.0                      | 701.3                          | 1,734.0                           | (7,919.8)                       | 1,713.5         |
| Utilized in 2002 . . . . .                | (7,135.8)                    | —                              | —                                 | —                               | (7,135.8)       |
| Balance as of December 31, 2002 . . . . . | <u>24,119.6</u>              | <u>(12,243.4)</u>              | <u>7,852.3</u>                    | <u>(6,557.6)</u>                | <u>13,170.9</u> |

The information in the tables above reflects the recording of 10% tax on unappropriated earnings (see Note 27), and reduction to the valuation allowance relating to tax credit which would be utilized to reduce the incremental income tax payable for each of the three years ended December 31, 2002.

The components of net deferred income tax assets were as follows:

|                                        | <b>Year Ended December 31</b> |                   |
|----------------------------------------|-------------------------------|-------------------|
|                                        | <b>2001</b>                   | <b>2002</b>       |
|                                        | <b>NT\$</b>                   | <b>NT\$</b>       |
|                                        | <b>(In Millions)</b>          |                   |
| Current deferred income tax assets     |                               |                   |
| Income tax credits . . . . .           | 2,347.0                       | 3,320.0           |
| Other . . . . .                        | 3.1                           | 114.4             |
|                                        | <u>2,350.1</u>                | <u>3,434.4</u>    |
| Non-current deferred income tax assets |                               |                   |
| Income tax credits . . . . .           | 21,710.4                      | 20,799.6          |
| Impairment loss . . . . .              | 3,595.0                       | 3,041.9           |
| Net operating loss . . . . .           | 6,118.3                       | 7,852.3           |
| Pension . . . . .                      | 291.0                         | 465.7             |
| Other . . . . .                        | 260.6                         | 533.7             |
| Valuation allowance . . . . .          | (12,944.8)                    | (12,243.4)        |
|                                        | <u>19,030.5</u>               | <u>20,449.8</u>   |
| Deferred income tax liabilities        |                               |                   |
| Depreciation . . . . .                 | (2,190.1)                     | (6,854.2)         |
| Other . . . . .                        | (597.3)                       | (3,859.1)         |
|                                        | <u>(2,787.4)</u>              | <u>(10,713.3)</u> |
|                                        | <u>18,593.2</u>               | <u>13,170.9</u>   |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

TSMC, under Science-Based Industrial Park Regulations, is entitled to an exemption from ROC income taxes for a period of four years on sales attributable to the expansion of its production capacity as a result of purchases of new equipment funded by capital increases. Pursuant to such tax exemption, TSMC realized tax savings for the year ended December 31, 2000, 2001 and 2002 amounting to NT\$7,770.0 million, NT\$1,089.0 million and NT\$2,526.5 million, respectively.

e. Impairment loss

WaferTech has experienced losses and an extended ramp-up period for its facility. Additionally, economic events have caused WaferTech to substantially alter its forecasts for future years' production and operating results. As a result of these factors, WaferTech performed a valuation and measured the impairment of its long-lived assets in accordance with SFAS No. 121 as of December 31, 2000.

WaferTech's study concluded that the undiscounted value of the projected cash flows of the facility's long-lived assets at December 31, 2000 was less than the net book value of such assets at December 31, 2000. The fair value for such assets was estimated based on market prices for similar assets.

As a result of this conclusion, WaferTech determined the need to record an impairment charge under U.S. GAAP related to its integrated circuit fabrication facility. To determine the fair value of the assets, WaferTech utilized a combination of valuation techniques, including a cost to capacity method and a discounted cash flow method. The total impairment charge was determined to be US\$330.0 million (NT\$10,916.1 million) with respect to certain machinery and equipment classified as assets held for disposal and was included as an operating expense in the accompanying U.S. GAAP condensed statements of operations of the Company as of and for the year ended December 31, 2000.

f. Stock based compensation plans

*Stock option*

The Company has elected to follow APB Opinion No. 25, "Accounting for Stock Issued to Employees", in accounting for its stock option plans. Therefore, as permitted, the Company applies the existing accounting rules under APB 25 and provides pro forma net income and pro forma net income per common share disclosures for stock-based awards made during the year as if the fair-value-based method defined in SFAS 123 had been applied.

The fair value of the following stock-based awards was estimated using the Black-Scholes model with the following weighted-average assumptions for years ended December 31:

|                                   | (Plan I)<br>(See Note 18)<br>2000 | 2001 | (Plan II)<br>(See Note 18)<br>2002 |
|-----------------------------------|-----------------------------------|------|------------------------------------|
| Expected lives . . . . .          | 4 years                           | N/A  | 5 years                            |
| Risk free interest rate . . . . . | 7.00%                             | N/A  | 2.94%~3.29%                        |
| Expected volatility . . . . .     | —                                 | —    | 47.73~49%                          |
| Expected dividend yield . . . . . | —                                 | —    | —                                  |

The estimated weighted-average fair value at the grant date for options granted under TSMC's various stock option plans during fiscal years 2000, 2001 and 2002 was NT\$46.6, NT\$0, and NT\$26.0 per option, respectively.

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

If the fair values of the options granted during a fiscal year had been recognized as compensation expense on December 31 over the vesting period of the grant, stock-based compensation costs would have impacted the Company's income (loss) and income (loss) per common share for the years ended December 31 as follows:

|                                                                                                                       | Year Ended December 31                             |                   |                 |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-------------------|-----------------|
|                                                                                                                       | 2000                                               | 2001              | 2002            |
|                                                                                                                       | NT\$                                               | NT\$              | NT\$            |
|                                                                                                                       | (In Millions, Except shares and Per Share Amounts) |                   |                 |
| <i>U.S. GAAP</i>                                                                                                      |                                                    |                   |                 |
| Net income (loss) of TSMC as reported . . . .                                                                         | 21,740.4                                           | (21,975.1)        | 14,534.1        |
| Stock-based compensation costs under SFAS 123, tax effected . . . . .                                                 | 179.1                                              | —                 | (34.9)          |
| Pro forma net income (loss) . . . . .                                                                                 | <u>21,919.5</u>                                    | <u>(21,975.1)</u> | <u>14,499.2</u> |
| Pro forma basic and diluted shares used in the calculations of pro forma net income (loss) per common share . . . . . | 17,445,090,000                                     | 18,281,322,000    | 18,543,443,000  |
| Pro forma basic and diluted income (loss) Per share . . . . .                                                         | 1.92                                               | (1.37)            | 0.76            |
| Basic and diluted income (loss) per share as reported . . . . .                                                       | 1.25                                               | (1.23)            | 0.76            |
| Pro forma basic and diluted income per ADS . . . . .                                                                  | 9.61                                               | (6.85)            | 3.80            |
| Basic and diluted income (loss) per ADS as reported . . . . .                                                         | 6.23                                               | (6.13)            | 3.79            |

*Stock appreciation rights*

Effective in December 2000, TSMC-North America adopted a stock appreciation rights program ("SAR I") whereby employees are entitled to receive cash bonuses based on the appreciation of TSMC stock as quoted by the Taiwan Stock Exchange. As of December 31, 2002, TSMC-North America has approximately 11.9 million SAR shares outstanding and no employees have elected to exercise their rights. During 2002, benefits under the SAR I have been replaced by the 2002 Stock Option Plan (Plan I, see Note 18) and accordingly, TSMC-North America does not intend to provide additional SAR I benefits subsequent to the adoption of Plan I.

In December 2000, in conjunction with WaferTech's Buyback program, WaferTech implemented the Employee Stock Appreciation Incentive Plan ("Appreciation"). The Appreciation plan is designed to provide employees with a long-term incentive plan that tracks the appreciation of TSMC common stock through Stock Appreciation Rights ("SAR II"). SAR II provide each participant the right to receive, upon exercise, an amount in cash from WaferTech that is the excess of the market price of TSMC common stock at the date of exercise over the exercise price at the date of grant. The exercise price is equivalent to the per share price of TSMC common stock at the date of grant as quoted on the Taiwan Stock Exchange. SAR II granted prior to March 10, 2001 vest 25% per year beginning one year from the date of grant and expire five years from the date of grant. In May 2001, the Board of Directors approved reducing the vesting period from four years to two years for SAR II grants after March 10, 2001. As of December, 2002, there were 4.7 million vested rights under the Appreciation plan.

Compensation expense is recorded based on the difference between the grant price and market price at the end of each period. This expense is recognized ratably over the vesting period and adjusted based on periodic fluctuations in the value of TSMC's stock. As of December 31, 2001, the Company recorded compensation

NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

expenses and recorded an incentive plan liabilities of approximately US\$3.9 million for SAR I and SAR II. Due to the decrease in the quoted market value of the TSMC stock from January 1, 2002 to December 31, 2002, the Company did not record compensation expense or a liability related to this program.

g. Employee benefit plan

During 1997, WaferTech established a defined contribution plan (“the Plan”). Employees who meet certain minimum eligibility criteria can contribute to the plan a percentage of their annual compensation subject to certain regulatory and Plan limitations. The Plan provides for matching contributions by WaferTech on a discretionary basis. For the years ended December 31, 2000, 2001 and 2002, WaferTech made discretionary matching contributions of NT\$23.3 million, NT\$51.0 million and NT\$52.1 million, respectively.

h. Guarantees

As of December 31, 2002, all of the long-term bank loans were guaranteed by TSMC. In addition, the property and equipment of WaferTech with carrying amount of approximately NT\$29,053.5 million (US\$836.0 million) is pledged for the secured loan. Under the unsecured loan, TSMC is required to maintain certain financial covenants which, if violated, could result in the payment of this obligation becoming due prior to the originally scheduled maturity date. These financial covenants require TSMC to, among other things, maintain minimum levels of working capital, earnings before interest, taxes, depreciation and amortization, and net worth. TSMC was in compliance with these financial covenants as of December 31, 2002.

The maximum amount of the guarantees provided by TSMC to its subsidiaries is limited to 30% of its issued capital. For each subsidiary guarantee, the amount cannot exceed 10% of TSMC’s issued capital as well as the issue capital of the guarantee, unless otherwise approved by Board of Directors. TSMC-North America and TSMC Development are wholly owned and WaferTech is approximately 100% owned by TSMC. If the subsidiaries default on the repayment and thus trigger the debt holders to exercise TSMC’s guarantees, TSMC may be required to pay the remaining loans in full. As of December 31, 2002, the maximum amount of the guarantees was approximately US\$200.0 million, US\$40.0 million and US\$440.0 million for TSMC Development, TSMC-North America and WaferTech, respectively.

i. Statements of cash flows

The Company applies ROC SFAS No. 17, “Statement of Cash Flows”. Its objectives and principles are similar to those set out in the U.S. SFAS No. 95, “Statement of Cash Flows”. The principal differences between the standards relate to classification. Cash flows from changes in short-term investments, deferred charges, pledge time deposits, refundable deposits, other assets-miscellaneous, guarantee deposits and other liabilities and bonus to directors and supervisors are included as operating activities under U.S. SFAS No. 95. Summarized cash flow data by operating, investing and financing activities in accordance with U.S. SFAS No. 95 are as follows:

|                                                      | Year Ended December 31 |            |            |           |
|------------------------------------------------------|------------------------|------------|------------|-----------|
|                                                      | 2000                   | 2001       | 2002       |           |
|                                                      | NT\$                   | NT\$       | NT\$       | US\$      |
|                                                      | (In Millions)          |            |            |           |
| Net cash inflow (outflow) from:                      |                        |            |            |           |
| Operating activities                                 | 99,348.4               | 75,611.4   | 88,245.1   | 2,543.1   |
| Investing activities                                 | (122,747.9)            | (77,534.9) | (57,878.9) | (1,668.0) |
| Financing activities                                 | 32,603.5               | 1,406.5    | (394.7)    | (11.3)    |
| Change in cash and cash equivalents                  | 9,204.0                | (517.0)    | 29,971.5   | 863.8     |
| Cash and cash equivalents at the beginning of period | 29,517.7               | 38,840.2   | 37,556.3   | 1,082.3   |
| Effect of changes in foreign exchange rate           | 118.5                  | (766.9)    | 262.4      | 7.5       |
| Cash and cash equivalents at the end of period       | 38,840.2               | 37,556.3   | 67,790.2   | 1,953.6   |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

## j. Supplemental information of acquisitions:

On June 30, 2000 TSMC acquired the remaining 68% of TSMC-Acer Semiconductor Manufacturing Corporation (TASMC) by issuing new shares. The purchase price of NT\$56,560.2 million plus the carrying value of the 32% investment in TASMC was allocated to TASMC's assets and liabilities based on fair values as follows:

|                                                        | NT\$<br>(In Millions) |
|--------------------------------------------------------|-----------------------|
| Cash and cash equivalent .....                         | 736.6                 |
| Inventories .....                                      | 1,647.8               |
| Other current assets .....                             | 2,308.4               |
| Property, plant and equipment—net .....                | 19,846.7              |
| Other assets .....                                     | 7,335.5               |
| Current liabilities .....                              | (16,699.1)            |
| Long-term liabilities .....                            | (2,000.0)             |
| Other liabilities .....                                | (654.8)               |
| Tangible net assets .....                              | 12,521.1              |
| Goodwill .....                                         | 52,212.7              |
|                                                        | <u>64,733.8</u>       |
| Purchase price .....                                   | 56,560.2              |
| Carrying value of 32% investment (already owned) ..... | 3,318.9               |
| Carrying value of preferred stock .....                | 4,854.7               |
|                                                        | <u>64,733.8</u>       |

In addition, an additional 29% of WaferTech was acquired at a purchase price of US\$474.6 million (NT\$14,809.7 million) in December 2000. The purchase price was allocated to WaferTech's assets and liabilities as follows:

|                             | NT\$<br>(In Millions) |
|-----------------------------|-----------------------|
| Current Assets .....        | 1,094.0               |
| Plant and Equipment .....   | 11,787.7              |
| Other assets .....          | 93.7                  |
| Current liabilities .....   | (1,817.4)             |
| Long-term liabilities ..... | (4,569.5)             |
| Tangible net assets .....   | 6,588.5               |
| Goodwill .....              | 8,221.2               |
| Purchase price .....        | <u>14,809.7</u>       |

## NOTES TO CONSOLIDATED FINANCIAL STATEMENTS—(Continued)

## k. Statement of comprehensive income

|                                                  | Year Ended December 31 |                       |                  |               |
|--------------------------------------------------|------------------------|-----------------------|------------------|---------------|
|                                                  | 2000                   | 2001                  | 2002             |               |
|                                                  | NT\$                   | NT\$<br>(in Millions) | NT\$             | US\$          |
| Current earnings (loss) based on U.S. GAAP ..... | 21,740.4               | (21,975.1)            | 14,534.1         | 418.9         |
| Other comprehensive income (loss), net of tax :  |                        |                       |                  |               |
| Adjustment of marketable securities              |                        |                       |                  |               |
| —available for sale securities                   |                        |                       |                  |               |
| TSMC .....                                       | (2,005.4)              | 200.3                 | (150.3)          | (4.3)         |
| Equity Investees .....                           | (14.0)                 | 513.3                 | (686.5)          | (19.8)        |
| Translation adjustments .....                    | 811.7                  | 1,507.1               | (283.7)          | (8.2)         |
|                                                  | <u>(1,207.7)</u>       | <u>2,220.7</u>        | <u>(1,120.5)</u> | <u>(32.3)</u> |
| Comprehensive income (loss) .....                | <u>20,532.7</u>        | <u>(19,754.4)</u>     | <u>13,413.6</u>  | <u>386.6</u>  |

## l. Pro forma information—unaudited

Under APB Opinion No. 16, “Business Combination”, the acquisition of 68% of TSMC in June 2000 and the acquisition of 29% of WaferTech in December 2000 were accounted by the purchase method, and the merger with WSMC in June 2000 was accounted for as a pooling of interests, with the results of operations of WSMC retroactively restated in the consolidated statements of income for all periods presented.

Unaudited pro forma net sales, net income and earnings per share of TSMC under U.S. GAAP for 2000, based on the assumption that the acquisition of TSMC and WaferTech were completed as of January 1, 2000 as follows:

|                                                                                                    | 2000<br>NT\$<br>(In Millions,<br>Except<br>shares and<br>Per Share<br>Amount) |
|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| Net sales .....                                                                                    | 170,132.4                                                                     |
| Net income .....                                                                                   | 17,745.3                                                                      |
| Earnings per share                                                                                 |                                                                               |
| Based on weighted-average number of shares outstanding—17,778,897<br>thousand shares in 2000 ..... | 1.00                                                                          |

## EXHIBIT INDEX

(a) See Item 18 for a list of the financial statements filed as part of this annual report.

(b) Exhibits to this Annual Report:

- 2b.1 The Company hereby agrees to furnish to the Securities and Exchange Commission, upon request, copies of instruments defining the rights of holders of long-term debt of the Company and its subsidiaries.
- 3.1 Articles of Incorporation of Taiwan Semiconductor Manufacturing Company Limited, as amended and restated on June 3, 2003.
- \*3.2 Rules for Election of Directors and Supervisors, as amended and restated on May 7, 2002.
- \*3.3 Rules and Procedures of Shareholders' Meetings, as amended and restated on May 7, 2002.
- \*\*4.1 Land Lease with Tainan Science Park Administration relating to the fabs located in Tainan Science Park (effective August 1, 1997 to July 31, 2017) (in Chinese with English summary)
- \*\*4.2 Land Lease with Tainan Science Park Administration relating to the fabs located in Tainan Science Park (effective May 1, 1998 to April 30, 2018) (in Chinese with English summary)
- \*\*4.3 Land Lease with Tainan Science Park Administration relating to the fabs located in Tainan Science Park (effective November 1, 1999 to October 31, 2019) (in Chinese with English summary)
- \*4.4 Land Lease with Hsinchu Science Park Administration relating to Fab 7 (effective December 4, 1989 to December 3, 2009) (in Chinese with English summary)
- \*4.5 Land Lease with Hsinchu Science Park Administration relating to the Fab 7 (effective July 1, 1995 to June 30, 2015) (in Chinese with English summary)
- \*4.6 Land Lease with Hsinchu Science Park Administration relating to Fab. 8. (effective March 15, 1997 to March 14, 2017) (in Chinese with English summary)
- \*\*4.7 Land Lease with Hsinchu Science Park Administration relating to Fab 12 (Phase I), (effective December 1, 1999 to November 30, 2019) (in Chinese with English summary)
- †4.8 Technology Cooperation Agreement between Taiwan Semiconductor Manufacturing Company Ltd. and Philips Electronics N.V. as amended and restated on May 12, 1997.
- 4.9a Taiwan Semiconductor Manufacturing Company Limited 2002 Employee Stock Option Plan, as revised by the board of directors on March 4, 2003.
- 4.9b TSMC North America 2002 Employee Stock Option Plan, as revised on June 5, 2003.
- 4.9c WaferTech, LLC 2002 Employee Stock Option Plan, as revised on June 5, 2003.
- \*\*\*†4.10 Shareholders Agreement, dated as of March 15, 1999, by and among EDB Investments Pte. Ltd., Koninklijke Philips Electronics N.V. and Taiwan Semiconductor Manufacturing Company Ltd.
- 8.1 List of the subsidiaries of TSMC
- 99.1 Consent of Deloitte & Touche

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\* Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 2001, filed by TSMC on May 9, 2002.

\*\* Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 1999, filed by TSMC on June 29, 2000.

\*\*\* Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 1998, filed by TSMC on April 30, 1999.

† Contains portions for which confidential treatment has been granted.

**ARTICLES OF INCORPORATION  
OF  
TAIWAN SEMICONDUCTOR MANUFACTURING  
COMPANY LIMITED**

**Section I—General Provisions****Article 1**

The Corporation shall be incorporated, as a company limited by shares, under the Company Law of the Republic of China, and its name shall be 台灣積體電路製造股份有限公司 in the Chinese language, and Taiwan Semiconductor Manufacturing Company Limited in the English language.

**Article 2**

The scope of business of the Corporation shall be as follows:

1. Manufacturing and sales of integrated circuits and assembly of other semiconductor devices in wafer form at the order of and pursuant to product design specifications provided by customers.
2. Provision of packaging and testing services related to the above services.
3. Providing computer assisted design services and technology for integrated circuits.
4. Providing mask making and mask design services.

**Article 3**

The Corporation shall have its head office in Science Based Industrial Park, Hsin Chu, Taiwan, Republic of China, and shall be free, upon approval of government authorities in charge, to set up representative and branch offices at various locations within and without the territory of the Republic of China, wherever and whenever the Corporation deems it necessary or advisable to carry out any or all of its activities.

**Article 4**

Public announcements of the Corporation shall be made in accordance with the Company Law and other relevant rules and regulations of the Republic of China.

**Article 5**

The Corporation may provide endorsement and guarantee and act as a guarantor.

**Article 6**

The total amount of the Corporation's reinvestment shall not be subject to the restriction of not more than forty percent of the Corporation's paid-up capital as provided in Article 13 of the Company Law. Any matters regarding the reinvestment shall be resolved in accordance with the resolutions of the Board of Directors.

**Section II—Capital Stock****Article 7**

The total capital stock of the Corporation shall be in the amount of 246,000,000,000 New Taiwan Dollars, divided into 24,600,000,000 shares, at ten New Taiwan Dollars each, and may be paid-up in installments.

The Corporation may issue employee stock options from time to time. A total of 500,000,000 shares among the above total capital stock should be reserved for issuing employee stock options.

**Article 8**

The Corporation may issue shares without printing share certificate(s). If the Corporation decides to print share certificates for shares issued, the Corporation shall comply with relevant provisions of the Company Law and relevant rules and regulations of the Republic of China.

**Article 9**

The share certificates of the Corporation shall all be name-bearing share certificates, and issued in accordance with the Company Law and relevant rules and regulations of the Republic of China.

**Article 10**

All transfer of stocks, pledge of rights, loss, succession, gift, loss of seal, amendment of seal, change of address or similar stock transaction conducted by shareholders of the Corporation shall follow the "Guidelines for Stock Operations for Public Companies" unless specified otherwise by law and securities regulations.

**Article 11**

Registration for transfer of shares shall be suspended sixty (60) days immediately before the date of regular meeting of shareholders, and thirty (30) days immediately before the date of any special meeting of shareholders, or within five (5) days before the day on which dividend, bonus, or any other benefit is scheduled to be paid by the Corporation.

**Article 12**

Shareholders' meetings of the Corporation are of two types, namely: (1) regular meetings and (2) special meetings. Regular meetings shall be convened, by the Board of Directors, within six (6) months after the close of each fiscal year. Special meetings shall be convened in accordance with the relevant laws, rules and regulations of the Republic of China.

**Article 13**

Written notices shall be sent to all shareholders at their latest places of residence as registered with the Corporation for the convening of shareholders' meetings, at least thirty (30) days in advance, in case of regular meetings; and at least fifteen (15) days in advance, in case of special meetings. The purpose(s) for convening any such meeting shall be clearly stated in the written notices sent out to the shareholders. Notices shall be written in Chinese, and English when necessary.

**Article 14**

Except as provided in the Company Law of the Republic of China, shareholders' meetings may be held if attended by shareholders in person or by proxy representing more than one half of the total issued and outstanding capital stock of the Corporation, and resolutions shall be adopted at the meeting with the concurrence of a majority of the votes held by shareholders present at the meeting.

**Article 15**

Each share of stock shall be entitled to one vote.

**Article 16**

If a shareholder is unable to attend a meeting, he/she may appoint a representative to attend it, and to exercise, on his/her behalf, all rights at the meeting, in accordance with Article 177 of the Company Law of the Republic of China. A representative does not need to be a shareholder of the Corporation.

**Article 17**

The shareholders' meeting shall be presided over by the Chairman of the Board of Directors of the Corporation. In his absence, either the Vice Chairman of the Board of Directors, or one of the Directors shall preside in accordance with Article 208 of the Company Law of the Republic of China.

**Article 18**

The resolutions of the shareholders' meeting shall be recorded in the minutes, and such minutes shall be signed by or sealed with the chop of the chairman of the meeting. Such minutes, together with the attendance list and proxies, shall be filed and kept at the head office of the Corporation. The minutes shall be drafted in both the Chinese language and the English language.

**Section III—Directors and Supervisors****Article 19**

The Corporation shall have seven to nine Directors and three Supervisors. The Board of Directors is authorized to determine the number of Directors.

**Article 20**

The term of office for Directors and Supervisors shall be three (3) years. Both the Directors and the Supervisors shall be eligible for re-election.

**Article 21**

Except as otherwise provided in the Company Law of the Republic of China, a meeting of the Board of Directors may be held if attended by a majority of total Directors and resolutions shall be adopted with the concurrence of the majority of the Directors present at the meeting.

**Article 22**

The Directors shall elect from among themselves a Chairman of the Board of Directors, and may elect a Vice Chairman of the Board of Directors, by a majority in a meeting attended by over two-thirds of the Directors. The Chairman shall not have a second or casting vote at any meeting of the Board of Directors. The Chairman of the Board of Directors shall have the authority to represent the Corporation.

**Article 23**

Except the first Board meeting of every term of the newly elected Board of Directors, which shall be convened by the Director who has received the largest number of votes after such new election, meetings of the Board of Directors shall be convened by the Chairman of the Board of Directors, upon written notice mailed to all the other Directors and Supervisors, at least fourteen days, unless in case of urgent circumstances, prior to the date of the meeting, specifying the date and place of the meeting and its agenda. The meeting of the Board of Directors shall be held at least once every quarter. Such prescribed notices may be waived in writing by any Director and Supervisor, either before or after the meeting. The meetings of the Board of Directors may be convened, at any time, without such prescribed notice in case of urgent circumstances. Notices shall be written in both the Chinese language and the English language. Personal attendance at a meeting will represent a waiver of the notice. Any Director attending the meeting via video conference shall be deemed attending the meeting in person.

**Article 24**

The Chairman of the Board of Directors shall preside over all meetings of the Board of Directors. In addition, the Chairman shall have the right to execute documents in accordance with the resolutions of the Board of Directors in the name and on behalf of the Corporation as well as acting on behalf of the Board pursuant to Board resolutions and the Corporation's objectives when the Board is not in session. In his absence, the Vice Chairman of the Board of Directors, or any one of the Directors shall be acting for him according to Article 208 of the Company Law of the Republic of China.

**Article 25**

A Director may, by written authorization, appoint another Director to attend on his behalf any meeting of the Board of Directors, and to vote for him on all matters presented at such meeting, but no Director may act as proxy for more than one other Director.

**Article 26**

The Directors shall exercise their functions by resolutions adopted at meetings of Shareholders and the Board of Directors.

**Article 27**

The functions of the Supervisors shall be:

- 1 To review the financial condition of the Corporation;
- 2 To examine the accounting books and documents; and
- 3 Any other functions assigned by law, rules, regulations or ordinance.

**Article 28**

Supervisor(s), in addition to executing his (their) own duties according to law, may attend meetings of the Board of Directors and express his (their) opinion, but shall not be entitled to vote.

#### **Article 29**

In the case that vacancies on the Board of Directors exceed, for any reason, one third of the total number of the Directors, or all three (3) Supervisors are discharged or resign concurrently, then the Board of Directors shall convene a shareholders' meeting to elect new Directors or Supervisors to fill such vacancies in accordance with relevant laws, rules and regulations. Except for the election of new Directors or Supervisors across the board, the new Directors or Supervisors shall serve the remaining term of the predecessors.

#### **Article 30**

The Board of Directors is authorized to determine the compensation for the Chairman, Directors and Supervisors, taking into account the extent and value of the services provided for the management of the Corporation and the standards of the industry within the R.O.C. and overseas.

### **Section IV—Management of the Corporation**

#### **Article 31**

The Corporation may, by resolution of the Board of Directors, appoint a Chief Executive Officer with overall responsibilities for the business of the Corporation and all the affiliated companies. The Corporation shall also have one President and one or more Vice Presidents, all to be appointed by the Board of Directors. The President shall also be the Chief Operating Officer of the Corporation and may be a Director of the Corporation. Subject to the policies of the Corporation, the President shall act under the direction of the Board of Directors headed by the Chairman and be responsible for the overall control of allocated business and operation of the Corporation and shall report to the Board of Directors. The President shall supervise and control day-to-day business and operation of the Corporation, subject to the policies of the Board of Directors headed by the Chairman. The Chief Executive Officer shall cause to be prepared and furnished to the Board of Directors of the Corporation a balance sheet of the Corporation and related statements of income and loss, as of the end of each calendar month, quarter and year. Monthly and quarterly statements shall be furnished no more than sixty (60) days after the end of each month and quarter, and year-end statements shall be furnished no more than ninety (90) days after the end of each year. Such financial statements shall be prepared in accordance with generally accepted accounting principles applied in the Republic of China on a consistent basis. Such statements shall be accompanied by a certification of the Corporation that such statements have been so prepared. The Vice President-Finance shall have special responsibility for the financial affairs and accounting of the Corporation.

**Article 32**

The President and Vice Presidents shall perform such duties as designated by the Board of Directors. The President and Vice Presidents may, in accordance with Chief Executive Officer's authorization, handle all matters within the scope of his/her responsibilities and sign documents on behalf of the Corporation.

**Article 33**

Subject to the provisions of the Company Law of the Republic of China and these Articles of Incorporation, all actions of the Corporation's officers shall be in conformance with, and in furtherance of, the directions of the Board of Directors.

**Section V—Financial Reports****Article 34**

The fiscal year for the Corporation shall be from January 1 of each year to December 31 of the same year. After the close of each fiscal year, the following reports shall be prepared by the Board of Directors, and, after being audited by the Supervisors of the Corporation, shall be submitted by the Board of Directors to the regular shareholders' meeting for acceptance:

1. Business Report;
2. Financial Statements;
3. Proposal Concerning Appropriation of Net Profits or Covering of Losses.

### Article 35

When allocating the net profits for each fiscal year, the Corporation shall first offset its losses in previous years and set aside a legal capital reserve at 10% of the profits left over, until the accumulated legal capital reserve has equaled the total capital of the Corporation; then set aside special capital reserve in accordance with relevant laws or regulations or as requested by the authorities in charge; and then set aside 0.3% of the balance as bonus to directors and supervisors and not less than 1% as bonus to employees of this Corporation. This Corporation may issue stock bonuses to employees of an affiliated company meeting the conditions set by the Board of Directors or, by the person duly authorized by the Board of Directors. Any balance left over shall be allocated according to the following principles per resolution of the shareholders' meeting:

1. Except distribution of reserve in accordance with item (2) below, this Corporation shall not pay dividends or bonuses when there is no profit; however, where the legal capital reserve reaches over 50% of the paid-in capital, this Corporation may distribute the amount in excess as dividends and bonuses. Profits may be distributed in total after taking into consideration financial, business and operational factors. Profits of this Corporation may be distributed by way of cash dividend and/or stock dividend. Since this Corporation is in a capital-intensive industry at the developmental stage of its business, distribution of profits shall be made preferably by way of stock dividend. Distribution of profits may also be made by way of cash dividend; provided however, the ratio for cash dividend shall not exceed 50% of total distribution.
2. In case there is no profit for distribution in a certain year, or the profit of a certain year is far less than the profit actually distributed by this Corporation in the previous year, or considering the financial, business or operational factors of this Corporation, this Corporation may allocate a portion or all of its reserves for distribution in accordance with relevant laws or regulations or the orders of the authorities in charge.

## **Section VI—Supplementary Provisions**

### **Article 36**

The internal organization of the Corporation and the detailed procedures of business operation shall be determined by the Board of Directors.

### **Article 37**

In regard to all matters not provided for in these Articles of Incorporation, the Company Law of the Republic of China shall govern.

### **Article 38**

These Articles of Incorporation are agreed to and signed on December 10, 1986 by all the promoters of the Corporation, and the first Amendment was approved by the shareholders' meeting on April 28, 1987, the second Amendment on November 27, 1989, the third Amendment on May 28, 1991, the fourth Amendment on May 18, 1993, the fifth Amendment on January 28, 1994, the sixth Amendment on May 12, 1995, the seventh Amendment on April 8, 1996, and the eighth Amendment on May 13, 1997, the ninth Amendment on May 12, 1998, the tenth Amendment on May 11, 1999, the eleventh Amendment on April 14, 2000, the twelfth Amendment on September 5, 2000, the thirteenth Amendment on May 15, 2001, the fourteenth Amendment on May 7, 2002, and the fifteenth Amendment on June 3, 2003.

**AMENDMENT CONTRACT**

**relative to**

**the Technology Co-operation Agreement**

**by and between**

**N.V. Philips' Gloeilampenfabrieken  
and**

**Taiwan Semiconductor Manufacturing Company Ltd**

**effective as of July 9, 1987**

THIS AMENDMENT CONTRACT is made and entered into this 12<sup>th</sup> day of May, 1997 by and between:

**PHILIPS ELECTRONICS N.V.** (formerly named N.V. Philips' Gloeilampenfabrieken) of Groenewoudseweg 1, Eindhoven, the Netherlands (hereinafter referred to as "PENV")

and

**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD** of No. 121 Park Avenue 3, Science-Based Industrial Park, Hsin-Chu, Taiwan, Republic of China (hereinafter referred to as "TSMC")

WHEREAS, as per December 31, 1986 the Parties entered into a Technology Co-operation Agreement ("the TCA") having an initial duration of ten (10) years from the date said agreement became effective;

WHEREAS, the TCA provided an initial platform and continues to provide a valued base framework for the transfer of technology and the licensing of patents, pursuant to which TSMC has also obtained the right to use and has been granted valuable sublicenses under patents of a number of third parties, with which PENV had concluded license and/or cross-license agreements; and,

WHEREAS, the Parties are interested in continued co-operation under and pursuant to the TCA on a basis which adequately reflects their relationship as it has developed over the years and in this connection have concluded to the amendment of certain terms of the TCA.

NOW, THEREFORE, this Amendment Contract confirms as follows:

1. Upon amendment the TCA will read as specified in Exhibit 1 to this Contract.
2. This Amendment Contract shall be effective as of the date of its approval of this Amendment Contract by the relevant competent authority, if required and the TCA in amended form shall become operative as of July 9, 1997.

IN WITNESS WHEREOF, each of the Parties hereto has caused this Amendment Contract to be signed by its duly authorized representative on the date first written above.

|                                                                            |                                                                        |
|----------------------------------------------------------------------------|------------------------------------------------------------------------|
| Philips Electronics N.V.                                                   | Taiwan Semiconductor Manufacturing Co., Ltd                            |
| <div>/s/ A.P.M. van Poel</div> <div></div>                                 | <div>/s/ Morris Chang</div> <div></div>                                |
| By: A.P.M. van der Poel                                                    | By: Morris Chang                                                       |
| Title: Chairman and CEO<br>Philips Semiconductors                          | Title: Chairman and CEO<br>Taiwan Semiconductor Manufacturing Co. Ltd. |
| and                                                                        |                                                                        |
| Member of the Group<br>Management Committee<br>of Philips Electronics N.V. |                                                                        |

**Exhibit 1**  
**to**  
**PENV/TSMC TCA Amendment Contract**  
**dated May .., 1997**

**TECHNOLOGY COOPERATION AGREEMENT**  
(full revision version effective as of July 9,1997)

THIS AGREEMENT made and entered into as of the 31st day of December 1986, upon inclusion of the amendments agreed with effect as of July 9, 1997, is reconfirmed by and between

PHILIPS ELECTRONICS N.V. (formerly known as N.V. Philips' Gloeilampenfabrieken) of Eindhoven, the Netherlands (hereinafter referred to as "PENV")

of the one part

and

TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LTD of N0.121, Park Ave. III, Science-Based Industrial Park, Hsin-Chu, Taiwan, Republic of China (hereinafter referred to as "TSMC")

of the other part

WHEREAS TSMC has been established by and between Development Fund, Executive Yuan, N.V. Philips' Gloeilampenfabrieken and investors from the Republic of China for the purpose of the manufacture of IC's at the order of and pursuant to product design specifications provided by its customers;

WHEREAS on the basis of own initiatives, focus and resources, TSMC has successfully engaged in extensive process- and production-related R&D efforts and with a view to continued profitable development of its world wide business has organized and may in future organize subsidiary companies in the USA and other countries of the world for the same customer foundry production purpose;

WHEREAS, Philips Semiconductors (as hereinafter defined) has for many years been engaged in the worldwide manufacture and processing of IC's and other semiconductor devices and has acquired considerable knowledge and manufacturing experience thereby;

WHEREAS, such manufacturing and processing activities were and are supported by continuously on-going scientific research and development work in connection with the products in the above field, which are produced by or for Philips Semiconductors, and by (cross) license arrangements with third parties with respect to patents and similar intellectual property rights; and,

WHEREAS, with a view to maximum cost savings and co-operation, the Parties are desirous to ensure for own in-house use and benefit a regular technology exchange by and between them and their subsidiaries involved in activities within the scope of this Agreement by means of own program and industry trend reviews, (researcher exchange) visits and, on the terms and conditions to be agreed upon on a case-by-case basis, the full transfer of agreed relevant processes, whilst PENV shall continue its best efforts to include TSMC (including its subsidiaries and in any event its wholly owned subsidiaries) under PENV's IPR (cross) license arrangements.

NOW, THEREFORE, IT IS HEREBY AGREED AS FOLLOWS:

**Clause 1**

In this Agreement the following terms shall have the following meanings, unless the context clearly requires otherwise:

- a. The term "Subsidiaries" shall mean and include any company or other business entity, present or future, in which TSMC or PENV owns or controls, directly or indirectly, more than fifty percent (50%) of the voting stock or otherwise has a controlling interest, but only so long as such ownership or control exists.

- b. The term “Philips Semiconductors” shall mean any and all Subsidiaries of PENV active within the scope of this Agreement, with PENV hereby undertaking to perform and to cause all such Subsidiaries to perform all duties and obligations required to be performed by Philips Semiconductors under this Agreement.
- c. The term “Group” shall mean either TSMC and its Subsidiaries (“TSMC Group”) or PENV and its Subsidiaries (“Philips Group”), whilst the term “Groups” shall mean both TSMC Group and Philips Group.
- d. The term “Patents” shall mean any and all applications for patents and any and all patents (including patents of importation, patents of confirmation, improvement patents, patents and certificates of addition and utility models, as well as divisions, reissues, continuations, continuations-in-part, renewal and extensions of any of the foregoing), having a first filing date or entitled to receive the benefit of a priority date, prior to the termination of this Agreement.
- e. The term “Circuitry Patents” shall mean any and all Patents in as far as their claims cover circuit function means, which term is understood to mean separately or in combination any one or more of (i) a circuit, a complex of circuits and/or system arrangement of circuits, and/or (ii) a functional combination of semiconductor regions, whether or not interacting with layers and/or electrodes on the semiconductor body or bodies, in an operational arrangement performing a circuit function which otherwise cannot be obtained except by means of a plurality of interconnected single circuit elements.
- f. The term “Philips (Circuitry) Patents” shall mean any and all (Circuitry) Patents, which are owned or in respect of which the right to license is controlled by Philips Group without an obligation to pay royalties or other consideration to any third party other than their employees or any of them.
- g. The term “TSMC (Circuitry) Patents” shall mean any and all (Circuitry) Patents, which are owned or in respect of which the right to license is controlled by TSMC Group without an obligation to pay royalties or other consideration to any third party other than their employees or any of them.

## **Clause 2**

The scope of this Agreement shall be unencapsulated IC’s in wafer or die form (hereinafter referred to as the “Products”).

### **Clause 3**

With a view to maximum cost savings and co-operation, the Parties shall ensure that each of Philips Semiconductors and TSMC Group shall provide the other with all information, technical or otherwise, reasonably necessary to understand and appreciate the technical and economic merits of relevant processes used or under review for use in their IC wafer and die volume production facilities. By agreement of the Parties each Group shall also be prepared to render all services as reasonably required by the other in connection with their production of Products using corresponding relevant processes as aforesaid, but only if, as and when duly agreed upon pursuant to the terms of this Agreement, more particularly Clause 4.1 hereinafter.

In this connection the Parties have agreed that next to or in combination with the quarterly Operational Reviews bi-annual R&D review meetings will be organized, one in Hsin-Chu and one in Eindhoven, or such other locations as agreed upon, during which experts of both sides will with proper back-up documentation exchange views on pertinent industry trends as well as on-going R&D programs and plans within the scope of this Agreement at each Group.

As part of such meetings the Parties will also discuss and conclude on the desirability of having researchers of one Group participate in R&D programs of the other Group, including operational details and the terms and conditions to apply to co-operative R&D programs of mutual interest.

### **Clause 4**

1. In order to maintain and achieve proper process compatibility of relevant processes as agreed and intended, each of PENV and TSMC undertake to arrange that its Group shall make available to the other Group in Taiwan, the Netherlands or elsewhere as agreed upon, both on its own initiative and upon the reasonable request of that other Group, further detailed process and manufacturing information and process test vehicle information to understand and assess the technical and economic merits of IC volume production based on (changes to) relevant processes, which have previously been agreed upon or are newly under positive consideration by both Parties for transfer from the Group first mentioned to the other Group. Such process and manufacturing information, in as far legally rightfully permitted, shall be given to the extent actually applied or firmly

intended to and with a view to facilitate timely transfer and transfer-implementation decisions.

The term “process compatibility” is understood to mean that Products made by Philips Semiconductors in volume production with the use of agreed relevant mainstream processes of Philips Semiconductors can also be made with the same design rules, with the same device parameters, with identical electrical performance and with substantially the same yield and at substantially the same cost with the corresponding production processes in use at TSMC Group and vice versa.

It is expressly understood that this further information and review of relevant processes beyond and in elaboration of the R&D discussions as per Clause 3 does not impose on any of the Parties any obligation to agree to the actual transfer of new processes, which will be negotiated in good faith and with due urgency, however, case by case, upon specific request by one Party to the other. In any event neither Party will have any obligation to arrange support as detailed in Clause 4.2 hereinafter during the so-called Lead Time Period. For TSMC Group such Lead Time Period in respect of processes transferred from Philips Semiconductors shall end after a certain period of exclusivity to Philips Semiconductors to be agreed upon from case to case in good faith. For Philips Semiconductors such Lead Time Period in respect of TSMC processes shall be determined on a case-by-case basis in good faith negotiations taking account of agreed purchase commitments on TSMC Group by Philips Semiconductors.

- 4.2 After the Lead Time Period each of TSMC Group and Philips Semiconductors will be prepared to actively support the introduction and use of an agreed process at the other Group. It is understood and agreed that such support in the form of fully detailed process and manufacturing information shall be sufficient and adequate for the other Group to base its Product wafer and/or die volume production on a corresponding compatible process.

However, it is expressly stipulated and provided that such support shall not refer to or include designs for devices, circuitry and/or system aspects, nor shall it include information for assembly and final testing of Products.

Without limiting the generality of the above provisions and Clause 3 hereof, the disclosing Group shall be prepared, in as far as reasonably required by the receiving Group and agreed to by the disclosing Group, to:

- a. advise, without any obligation on the part of the other Group to accept such advice, on factory lay-outs for the routing of production together with advice on lighting, ventilation, water and/or electricity supply and other auxiliary facilities as required;
- b. make available the pertinent technical data and findings as obtained by the disclosing Group in respect of the process and manufacturing information for the production of the Products based on the agreed relevant processes, including those more particularly described in Annexes attached hereto, if and to the extent required;
- c. provide information regarding cost calculation procedures and other systems required for checking whether planning targets regarding efficiency, output and time are being met as well as other data on factory efficiency;
- d. test and examine samples of the particular types of Products made by the other Group in the agreed relevant processes for establishing properties and performance and to render advice on the improvement thereof, such samples to be made available by the other Group free of charge;
- e. arrange for training and instruction of a reasonable number of engineers, technicians and technical trainees (“personnel”) of the other Group in one of the main IC production plants of the disclosing Group, for periods to be mutually agreed upon, in respect of the process and manufacturing information for the production of the Products in order to get the personnel acquainted with the working methods and agreed relevant processes of the disclosing Group, on the condition that the regular course of the production activities in the factory concerned is not unduly interfered with thereby; all costs and expenses incidental thereto to be borne by the Group, whose personnel is being trained;
- f. send to the factories of the other Group at the latter’s request such experts for temporary visits as can reasonably be spared from time to time, but only in so far as such visits are essential for the smooth working of the other Group’s production activities with respect to Products; all travelling and living expenses incidental to the deputation of such experts to be borne by the other Group and it being understood that such experts shall act in accordance with the instructions of the other Group during the duration of stay at the other Group;

- g. render advice, without any obligation on the part of the other Group to accept such advice, on parts, raw materials and on services reasonably required to be obtained by the other Group from reputable outside suppliers, either locally or abroad; such advice to include data, specifications and other information required for ensuring that such parts, raw materials or services are adequate for the other Group's requirements; and,
- h. update the process and manufacturing information provided to the other Group on a timely basis.

#### **Clause 5**

It is understood and agreed that also with a view towards proper process compatibility as desired and intended, the Parties shall regularly consult on the procurement of equipment, instruments and machinery in the context of the Operational Reviews.

#### **Clause 6**

1. All information given and data supplied to TSMC Group by Philips Semiconductors pursuant to the provisions of this Agreement are given to TSMC Group and shall be used by TSMC Group only for the manufacture of Products by or for TSMC Group.
2. All information given and data supplied to Philips Semiconductors by TSMC Group pursuant to the provisions of this Agreement are given to Philips Semiconductors and shall be used by Philips Semiconductors only for the manufacture of Products by or for Philips Semiconductors.

#### **Clause 7**

To facilitate their co-operation PENV will designate one of the main Philips Semiconductors IC production plants as contact point for TSMC Group and will station a Philips Semiconductors technology expert as liaison at TSMC Group in Taiwan. Such expert shall act in accordance with the instructions of TSMC Group during the duration of stay at TSMC Group.

During the validity of this Agreement all costs associated with the transfer and stay of such technology expert at TSMC Group shall be shared equally by and between TSMC Group and Philips Semiconductors.

#### **Clause 8**

In addition to the process and manufacturing information relating to Products in wafer or die form as described in Clause 4 above, Philips Semiconductors is willing upon TSMC's request to make available, subject to a consideration to be agreed, such information as TSMC Group may reasonably require for the assembly and final testing of Products to the extent Philips Semiconductors is free to do so and in so far as actually applied by Philips Semiconductors in its own assembly and final testing of Products.

Such information shall be given by Philips Semiconductors to TSMC Group as, when and to the extent TSMC Group would build up its own capacity for the assembly and final testing of Products.

#### **Clause 9**

1. In order that each Group may derive the fullest benefit out of the various services covered under this Agreement, each of the Parties ("Licensor") grants the other and its Group ("Licensee") for the period of this Agreement and thereafter, a non-exclusive, non-transferable and indivisible license, without the right to sublicense, to use the information obtained by Licensee under and pursuant to this Agreement and with respect to any and all of Licensor's Patents (other than Circuitry Patents), to manufacture, to have manufactured and to use (packaged die) Products in any and all countries of the world and to sell and import the (packaged die) Products so made in any and all countries of the world.
2. In addition, Licensor agrees not to assert or have asserted any of its Circuitry Patents against the sale, use or other disposal of (packaged die) Products so made by or for Licensee, on the understanding that such non-assertion undertakings will only extend to circuit function means as and to the extent incorporated in such (packaged die) Products in such manufacture by or for Licensee and will not extend to circuit function means incorporated in (packaged die) Products Licensor and/or its Group only supply for in-house (OEM) use, or to (packaged die) Products incorporating circuit function means covered by Circuitry

Patents, the use of which is subject to special license programs or other limitations.

3. The above licenses granted in Clause 9.1 hereinabove and the non-assert undertakings stipulated in Clause 9.2 hereinabove are expressly understood to refer and to refer only to Philips and TSMC Patents as the case may be and do not extend to Patents, which Philips and/or TSMC can license to any and all interested third parties, but only subject to payment of royalties or other consideration to a third party, except in the event that Licensee would expressly agree to pay a fair share of such royalties or other consideration.
4. The above licenses granted in Clause 9.1 hereinabove and the non-assert undertakings stipulated in Clause 9.2 hereinabove are expressly understood to refer and to refer only to Philips and TSMC Patents as the case may be and will run for the lifetime of the Patents concerned except in case of early termination as provided for in Clause 17.

#### **Clause 10**

1. PENV shall use its best efforts to obtain new and to continue and expand existing licenses for TSMC Group and in any event for TSMC and its wholly owned Subsidiaries under its patent license arrangements with third parties. Such efforts shall be directed at obtaining or licenses of maximum scope and in any event at least of a scope as wide as the licenses granted for Products to TSMC Group under Clause 9.1.

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\* Omitted material has been filed separately with the Commission pursuant to an application for confidential treatment.

It is understood that the inclusion of TSMC Group under any such arrangements is subject to TSMC's specific prior approval and that PENV's sublicensing rights in respect of any and all TSMC Patents shall in principle be limited to situations in which PENV has obtained similar return licenses for TSMC Group under the Patents of the third party which is to receive licenses under TSMC Patents through PENV.

2. In order to allow TSMC a proper judgement as to the value of the licenses concerned Philips Semiconductors will provide regular information on on-going negotiations in the framework of the review meetings referenced in Clause 3. In addition PENV will be prepared to provide detailed advice as regards particular license situations in response to questions considered of particular interest to TSMC Group. Subject to existing confidentiality commitments, this undertaking may involve contract text review and the like.

In order for Philips to understand TSMC's licensing interests TSMC shall keep PENV/Philips Semiconductors regularly advised of patent infringement warnings received and situations it is significantly concerned about in view of the regular business activities of TSMC Group.

PENV agrees to that the Philips patent experts will be available for advice as regards the defense of patent infringement suits threatened or initiated against TSMC Group by third parties because of or in connection with its foundry manufacturing activities

3. If the grant of any license or right by TSMC Group to Philips Semiconductors or a grant of a sublicense by PENV under the terms of this Clause 10, should make TSMC Group or Philips Group, as the case may be, liable to a third party or parties (i.e. parties other than employees of either Group) for the payment of license fees or similar consideration, the grant of such license or sublicense shall be made only upon an agreement in writing on payment of a fair share of such fee or consideration.

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\* Omitted material has been filed separately with the Commission pursuant to an application for confidential treatment.

It is understood that any payment by TSMC to a third party as aforesaid, either directly or through Philips, after the fifth anniversary of the Prolongation Date may be deducted from the payments due to Philips in accordance with the provisions of Clause 11.

### **Clause 11**

1. In consideration of the rights and licenses available under this Agreement, TSMC Group will pay to PENV during the term of this Agreement as well as during a period of three (3) years thereafter an amount calculated as a percentage of the net selling price of all Products sold by TSMC Group as follows:

- (i) during the period up to and including July 8, 1997 : \*
- (ii) during the subsequent 5-year period : \*
- (iii) during the remaining (payment) period of this Agreement : \*

on the understanding that during this last remaining period such remuneration may be adjusted downwards, but never below a level of 1% of the net selling price, in case and for

- (x) non-refundable amounts paid to any third party licensor for the purpose of settling, with due regard to the interests of both Groups, patent licensing/infringement issues raised against TSMC Group and for no other reason in respect of Patents other than Circuitry Patents, unless TSMC had previously refused inclusion under a license arrangement made by Philips with such third party; and,
- (y) any patent defense costs reasonably paid to third parties in connection with the settlement of such patent licensing/infringement issues;  
in as far as such amounts and costs do not exceed in the aggregate, the cost of a license settlement previously offered and positively recommended by the Philips experts duly consulted on the case.

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\* Omitted material has been filed separately with the Commission pursuant to an application for confidential treatment.

No royalties will be due and payable on the sale of Products made by TSMC Group on the basis of processes above 2 micron.

2. The expression “net selling price” shall mean the amount invoiced by TSMC Group for the pertinent Products sold by TSMC Group to any third party in arm’s length trade, less normal cash and volume discounts actually granted, sales returns, insurance fees and packing and transportation charges as invoiced separately to customers and duties and sales taxes actually incurred and paid by TSMC Group in connection with the delivery of such Products.

#### **Clause 12**

The payment under Clause 11.1 does not refer to or include costs incurred by Philips Semiconductors or TSMC Group in and because of the actual transfer of information hereunder pursuant to Clause 4.2, which will be charged separately on a basis as agreed upon from time to time and from case to case.

Notwithstanding anything to the contrary contained herein, neither Group shall be obligated to pay any costs or expenses incurred by the other Group in connection with this Agreement, unless such costs and expenses are incurred with the prior written consent of the first-mentioned Group.

#### **Clause 13**

- a. Within sixty (60) days after March 31, June 30, September 30 and December 31 of each year this Agreement shall be in force, TSMC undertakes to submit to PENV or such person or body as PENV may designate from time to time, a statement in writing setting out the net turnover of the Products referred to in Clause 11, manufactured, sold or otherwise disposed of by TSMC Group in the preceding quarter and to pay to PENV simultaneously the amount due pursuant to Clause 11.1. All taxes payable on said remuneration, if any, will be borne by PENV and TSMC in accordance with the laws of the Republic of China.

Within ninety (90) days after the end of each fiscal year of TSMC, TSMC shall submit to PENV a statement in writing duly certified by the independent public accountants of TSMC setting out the net turnover of the Products realized during such fiscal year. Any difference between the aggregate of the amounts paid on the basis of its quarterly statements and the amount shown to be due in the

statement certified by the independent public accountants of TSMC shall be settled on the occasion of the first quarterly payment thereafter.

- b. All payments due to PENV under this Agreement shall be effected by transfer of Netherlands Guilders or—at the option of PENV—of US Dollars to a bank account in the Netherlands indicated by PENV having due regard to the foreign exchange regulations from time to time in force.  
Each payment will constitute a valid discharge only in so far as it is transferred to said bank for PENV's account in the currency of payment.
- c. The rate of exchange for converting the currency of the Republic of China shall be the telegraphic transfer selling rate of the Netherlands Guilder—or US Dollar, as the case may be—in terms of currency officially quoted in the Republic of China by the officially authorized foreign exchange bank for the then current transaction on the day of transfer. The stipulations in this paragraph shall apply mutatis mutandis to all other payment procedures agreed between Philips Semiconductors and TSMC Group.

#### **Clause 14**

Each Party hereto agrees that its Group shall treat as confidential and hold in strict confidence any and all information and data made available by the other Group hereunder.

Confidential information of the disclosing Group will be treated by the receiving Group in the same manner and with the same degree of care as it applies with respect to its own confidential information.

The receiving Group shall disclose confidential information of the disclosing Group only to its employees, who have a need to know and are aware of and have agreed to respect the conditions set forth herein.

The Parties agree that their respective Groups shall not disclose confidential information received from the other Group to third parties, unless and to the extent that the receiving Group can prove by written record or otherwise that said information:

- a. was already in its possession prior to disclosure thereof by the other Group;

- b. is or becomes publicly known through no fault of the receiving Group;
- c. was lawfully obtained from a third party, who was free to disclose same without a confidentiality obligation;
- d. was necessarily disclosed by the sale of a product on a commercial basis by a person or entity other than the receiving Group;
- e. was or is developed independently by the receiving Group; or,
- f. was disclosed as required by law.

The furnishing of any information hereunder shall not be construed as the granting of the license under any patent application, copyright or any other industrial or intellectual property right or as implying any obligation other than as specifically provided herein.

#### **Clause 15**

- a. Each Party warrants as regards full process transfer by its Group as Transferor to the other Group as Transferee that the process and manufacturing information provided by Transferor shall be sufficient, adequate and most current for Transferee to manufacture the Products on the basis of processes compatible to those in use in the IC wafer and/or die volume production facilities of Transferor and to establish, maintain and operate production facilities for the volume production of the Products on the basis of processes compatible to those in use in the Product wafer and/or die volume production facilities of Transferor.
- b. Each Party warrants that its Group shall furnish the information to be supplied by it hereunder to the best of its ability, but makes no representation or warranty as to the value of the information transmitted or the ability of the other Group to make use thereof. Except as may be otherwise agreed upon between the Parties hereto, no warranty whatsoever is made that the use of information supplied under this Agreement and the exercise of rights granted herein will not cause infringement of intellectual property rights owned or controlled by third parties.

#### Clause 16

- a. This Agreement shall be governed by and construed in accordance with the laws of the State of New York, U.S.A.
- b. Parties hereto agree to endeavour to identify in advance issues that could generate controversies or disputes, in order to permit their early resolution by friendly negotiations, and to use their best efforts to negotiate in good faith, for a period of sixty (60) days or such other period as shall be actually agreed upon by them, to resolve all such controversies or disputes in an amicable manner.
- c. In the event that any controversy dispute among the Parties hereto arising out of or in connection with the validity, effectiveness, construction or performance of this Agreement, or any amendment, modification or addition hereto, or as to the construction hereof, or with respect to the rights, obligations or liabilities of any Party hereunder (unless such agreements, modifications or additions expressly state that they shall not be subject to this Clause 16) cannot, in the sole judgement of any Party to the controversy or dispute, be resolved by negotiation pursuant to the terms of the preceding Clause 16 b, then such Party may require that such controversy or dispute be referred to, and settled by, arbitration proceedings in New York, N.Y., U.S.A., in accordance with the Rules for the International Chamber of Commerce Court of Arbitration by one or more arbitrators appointed under the Rules.

Any award of the Arbitral Tribunal shall be rendered in writing, shall state the reasons on which it was based and shall be final and binding on all Parties hereto. The cost of arbitration shall be borne and paid for as the Arbitral Tribunal may direct in the award.

- d. Judgement upon any arbitral award rendered under the preceding Clause 16 c may be entered in a competent court in the Kingdom of the Netherlands and in the Republic of China where application may be made to such court for judicial recognition of that award and an order of enforcement, as the law of such jurisdiction may require and allow.

Each Party hereto hereby agrees that any judgement upon an arbitral award rendered under the preceding Clause 16 c may be executed against the assets of that party in any jurisdiction. Each Party hereto hereby irrevocably submits to the jurisdiction of the court of any such jurisdiction in any legal action or proceeding relating to such execution.

While any arbitration proceeding is pending, unless the Arbitral Tribunal shall direct otherwise, the Parties hereto shall continue the performance of their respective obligations under this Agreement, except to the extent that such performance is the subject-matter of such arbitration.

#### **Clause 17**

As confirmed in writing between the Parties, this Agreement has become effective on July 9, 1986, the date of the latest of the required approvals by the competent authorities in the Republic of China, which date shall be called and considered the "Effective Date".

Unless terminated in accordance with the provisions specified herebelow in this Clause 17, this Agreement shall remain in force up to July 9, 2007. Thereafter it shall automatically continue for successive periods of three (3) years, unless and until terminated by either Party hereto by giving written notice to that effect to the other Party at least six (6) months prior to the end of the then current period.

Each Party hereto will have the right to terminate this Agreement by three (3) months prior written notice to the other Party in case a Party commits a breach of a material obligation under this Agreement and fails to remedy such breach within sixty (60) days (or within such longer period as may be reasonable in the circumstances) after receipt of the written notice from the Party affected by such breach, calling upon the defaulting Party to remedy such breach.

The following rights and obligations shall survive any termination of this Agreement to the degree necessary to permit their fulfilment or discharge:

- a. PENV's right to receive or recover and TSMC's obligation to pay royalties accrued prior to such termination, as well as any applicable interest accrued or accruable thereon at the time of termination.
- b. any cause of action or claim of either Party, accrued or to accrue, because of any breach or default by the other Party.

**Clause 18**

This Agreement, together with any exhibits thereto, constitutes the entire agreement and understanding between the Parties hereto with respect to all matters provided herein, and supersedes and cancels all previous negotiations, statements, representations, undertakings, and agreements, if any, theretofore made between the Parties hereto.

**Clause 19**

Unless otherwise provided in this Agreement, neither Party hereto may assign, transfer or otherwise convey its rights, interest or obligations hereto, herein or hereunder in whole or in part to any party, without the prior written consent of the other Party, it being understood that PENV shall be entitled to assign its interest in this Agreement or rights herein granted to any of its Subsidiaries, provided any such Subsidiary shall then take over also all of the obligations and duties of PENV under this Agreement and provided further that PENV shall remain fully responsible for the due performance of all obligations of Philips Semiconductors under this Agreement.

**Clause 20**

No modification or amendment of this Agreement or any exhibit hereto shall be valid or binding, unless made in writing and signed by the duly authorized representatives of the Parties hereto. No waiver of any of the terms or conditions hereof shall be valid or binding, unless made in writing and signed by the duly authorized representatives of the Parties hereto.

**Clause 21**

Notwithstanding any other provision of this Agreement, in the event that the performance of an obligation under this Agreement by a Group is prevented due to acts of God, governmental acts or decisions to act or not to act, wars, hostilities, blockades, civil disturbances, revolutions, strikes, lockouts, fire, typhoons, tidal waves, flood or any other causes beyond the reasonable control of such Group, such Group shall not be responsible to the other Group for failure or delay in the performance of its obligations under this Agreement, provided that prompt notice shall have been given to the Party heading the other Group of the occurrence of such force majeure event. If such event continues for more than three (3) consecutive months, the Parties hereto shall consult

with each other about the continuation of this Agreement. The foregoing provision shall not exempt the Parties hereto from their duty to perform their obligations under this Agreement as soon as possible after a force majeure ceases to exist.

## **Clause 22**

All notices, consents, requests, agreements and other documents authorized or required to be given or made by or pursuant to this Agreement to any Party hereto, shall be effective upon receipt and shall be in writing, either personally served on an officer of the Party to whom it is given or sent by telex, facsimile or mailed by registered air-mail, postage prepaid, addressed to each party hereto as follows:

if to PENV to:

Philips Electronics N.V.  
Groenewoudseweg 1  
5600 MD Eindhoven  
The Netherlands

Fax. no.: (+31)40 2788842

Attention: General Secretary

if to TSMC to:

Taiwan Semiconductor Manufacturing Company Ltd  
No. 121, Park Ave. III,  
Science-Based Industrial Park  
Hsin-Chu  
Taiwan  
Republic of China

Fax. no.: (+886) 3 578 1546

Attention: President

IN WITNESS WHEREOF, the Parties hereto have caused their duly authorized representatives to have the Agreement executed and delivered as of the date first written above.

Philips Electronics N.V.

Taiwan Semiconductor Manufacturing Co., Ltd

By /s/ A.P.M. van Poel

By /s/ Morris Chang

Name:

Name:

Title:

Title:

Date:

Date:

**Taiwan Semiconductor Manufacturing Company Limited**  
**2002 Employee Stock Options Plan**  
**(Translation)**

**1. Purpose**

The purpose of the 2002 Employee Stock Options Plan (the “Plan”) of Taiwan Semiconductor Manufacturing Company Limited (the “Company”) is to promote the interests of the Company and its shareholders by attracting and retaining the high-tech talents/professionals of the Company and its subsidiaries by means of incentives in the form of stock options.

**2. Period of Grant**

The Company may grant the options in one or more tranches within one (1) year from the date of receipt of notice from the relevant authority (“Authority”) indicating that the Company’s filing of the Plan with the Authority has become effective. The actual dates of grant will be determined by the Chairman of the Board of Directors of the Company (the “Chairman”).

**3. Optionee**

Each optionee shall be a full-time employee of either the Company or any of its domestic or foreign subsidiaries, in which the Company’s shareholding with voting rights, directly or indirectly, is more than fifty percent (50%). Whether an employee is entitled to receive options, and the number of options to be received, shall be reviewed and determined by the Chairman taking into consideration factors as relates to job grade, performance, contribution, special achievement and/or years of employment, subject to approval by the Board of the Directors of the Company (the “Board”). The number of options granted to any optionee in any tranche shall not exceed ten percent (10%) of the total number of options granted in that tranche, and the total number of options to be exercised by any optionee within each fiscal year shall not exceed one percent (1%) of the outstanding common shares of the Company at the year-end.

**4. Total Number of Options to be Granted**

The total number of options authorized to be granted with respect to the Plan shall

be one hundred million (100,000,000) units, with one (1) unit entitled to subscribe one (1) common share of the Company. The total number of common shares of the Company to be reserved for granting the options shall be one hundred million (100,000,000) shares.

## 5. Terms and Conditions

### (1) Exercise Price

The exercise price of the options shall be the closing price of the Company's common shares on the date that the options are granted.

### (2) Vesting Schedule

The options will not vest in the first two (2) years ("Waiting Period") and may be exercised in accordance with the following schedule. The options will be existent for ten (10) years and may not be transferred, except by inheritance.

| <u>Number of Years<br/>after the Date the<br/>Options are Granted</u> | <u>Accumulated Percentage of<br/>Options Exercisable</u> |
|-----------------------------------------------------------------------|----------------------------------------------------------|
| 2 years                                                               | 50%                                                      |
| 3 years                                                               | 75%                                                      |
| 4 years                                                               | 100%                                                     |

### (3) Type of Shares Underlying the Options

The common shares of the Company shall be the underlying shares.

### (4) After the Company grants options to an optionee, the Company shall have the right to revoke and cancel unvested options in the event that the optionee commits serious misconduct and violates the employment contract or policies of the Company.

### (5) Termination of Employment

If an optionee's employment with the Company is terminated, the optionee shall exercise options in accordance with the following provisions, subject to the ten-year limit set forth in Paragraph 5(2) above:

- a. Voluntary Termination or Terminated for Cause by the Company in Accordance with Labor Law of ROC—  
Options vested in accordance with the schedule set forth in Paragraph

5(2) above shall be exercised within three (3) months from the employment termination date. Unvested options shall become invalid on the employment termination date.

b. Retirement—

All options granted are exercisable subject to the Waiting Period, regardless of the vesting schedule set forth in Paragraph 5(2) above. Nevertheless, the optionee shall exercise all options within one (1) year from the later of: (x) the date of retirement; or, (y) the end of the Waiting Period.

c. Temporarily on Leave Without Pay—

In case the optionee is approved to be temporarily on leave without pay, vested options shall be exercised within three (3) months from the effective date of the temporary leave; otherwise, the right to exercise options shall be deferred until the optionee's reinstatement. For unvested options, the accumulation of years of employment with respect to the vesting schedule set forth in Paragraph 5(2) above shall suspend during the period of the optionee's temporary leave and shall resume after the optionee's reinstatement, subject to the ten-year limit set forth in Paragraph 5(2) above.

d. Death—

Options vested in accordance with the schedule set forth in Paragraph 5(2) above shall be exercised by the optionee's inheritor within one (1) year from the death of the optionee. Unvested options shall expire and become invalid upon the death of the optionee.

e. Death or Disability Caused by Work Injury—

(a) Regardless of the vesting schedule set forth in Paragraph 5(2) above, all options granted are exercisable upon the departure of the optionee from the Company due to any disability caused by work injury, subject only to the Waiting Period. Nevertheless, the optionee shall exercise the options within one (1) year from the later of: (x) the date of departure; or, (y) the end of the Waiting Period.

(b) Regardless of the vesting schedule set forth in Paragraph 5(2) above, all options granted are exercisable by the optionee's inheritor upon the death of the optionee, which is caused by

work injury, subject only to the Waiting Period. Nevertheless, the inheritor shall exercise the options within one (1) year from the later of: (x) the death of the optionee; or, (y) the end of the Waiting Period.

f. Transfer to Affiliates—

In case the optionee is transferred to an affiliate due to the necessity of the operations of the Company, the rights and obligations of the options granted shall not be affected by such transfer.

g. Severance/Layoff in Accordance with Labor Law of ROC—

Options vested in accordance with the schedule set forth in Paragraph 5(2) above shall be exercised within three (3) months from the effective date of the severance/layoff (other than situations set forth in Paragraph 5(5)a above). Unvested options shall become invalid upon the effective date of the severance/layoff; or, may be exercised in accordance with a schedule determined by the Chairman based on the schedule set forth in Paragraph 5(2) above, which shall be subsequently approved by the Board.

h. If the optionee or his/her inheritor is unable to exercise the options within the periods set forth above, the unexercised options shall expire and become invalid.

(6) Invalidated Options

Any invalidated options shall be cancelled.

**6. Underlying Shares**

The Company will issue new common shares of the Company as the underlying shares.

**7. Adjustments of the Exercise Price**

- (1) The exercise price shall be subject to adjustment in accordance with the following formula upon the occurrence of events relating to changes in paid-in capital with respect to common shares, such as issuance of new common shares in connection with cash injection, capitalization of retained earnings and/or capital reserves, stock split, or the issuance of depositary receipts with primary common shares as the underlying securities.

$$NEP = OEP \times [N + (n \times PNI)/OEP] / [N + n]$$

Where: NEP = the exercise price after such adjustment

OEP = the exercise price before such adjustment

N = the number of outstanding common shares before issue (the number of treasury shares which have not been transferred or cancelled.)

n = the number of new common shares

PNI = Offering price of new shares (PNI shall be zero in the event that new shares are issued in connection with capitalization of retained earnings and/or capital reserves, or in connection with stock split)

Nevertheless, the exercise price will not be adjusted in case of issuance of new common shares in connection with mergers.

If the exercise price after adjustment exceeds the exercise price before adjustment, no adjustment shall be made.

- (2) When the Company distributes cash dividends, the exercise price shall be adjusted pari passu.

## 8. Issuance of Additional Options

Upon the occurrence of the Company's capitalization of retained earnings or capital reserves, in addition to adjusting the exercise price in accordance with provisions set forth in Paragraph 7(1) above, the Company will issue additional options in proportion to the increase of paid-in capital (only integral options will be issued and any fractional options resulting therefrom will be disregarded) at the adjusted price to holders of existing unvested or unexercised options, provided that there are sufficient common shares reserved for granting the options as specified in the Articles of Incorporation of the Company.

## 9. Procedures for Exercising Options

- (1) Except during a period in which the shareholders' book is closed in accordance with relevant laws; or, the period from three (3) business days prior to the date of public announcement to close shareholders' book for stock dividends, cash dividends, or rights offering filed by the Company with the Taiwan Stock Exchange Corporation to the record date, optionee may exercise options in accordance with the vesting schedule set forth in

Paragraph 5(2) above by submitting a written notice (the “Exercise Notice”) to the Company to purchase the newly issued common shares of the Company.

- (2) The Company shall inform the optionee of the payment for exercising the options to a designated bank upon the receipt of the Exercise Notice. The Exercise Notice shall not be withdrawn once the payment has been made.
- (3) The transfer agent of the Company shall register the optionee and his/her shares in the shareholders record upon the Company’s confirmation of the payment and shall book transfer common shares of the Company to the optionee within five (5) business days. The common shares so issued are tradeable on the Taiwan Stock Exchange upon delivery to the optionee.
- (4) The Company shall file the change in the paid-in capital with the relevant authority within fifteen (15) days from each quarter end.

#### **10. Rights and Obligations after Exercising Options**

The holders of common shares of the Company issued after options are exercised shall have the same rights, obligations and privileges as holders of common shares of the Company.

#### **11. Miscellaneous**

- (1) The Plan, and its amendments, shall become effective upon obtaining approval from the Board and the Authority.
- (2) Any other matters not set forth in the Plan shall be dealt with in accordance with the applicable laws and regulations.

**TSMC North America  
2002 Employee Stock Option Plan  
As Amended June 5, 2003**

**1. Purpose**

The purpose of the 2002 Employee Stock Option Plan, as amended (the "Plan") of TSMC North America is to promote the interests of the Corporation and its shareholders by attracting and retaining the high-tech talents/professionals of the Corporation and its subsidiaries by means of incentives in the form of stock options.

**2. Definitions**

- (a) "Board" shall mean the Board of Directors of the Corporation.
- (b) "Committee" shall mean the committee appointed by the Board, in accordance with Section 3(a) hereof, to administer the Plan.
- (c) "Common Stock" shall mean the voting common stock of Taiwan Semiconductor Manufacturing Company Limited.
- (d) "Corporation" shall mean TSMC NORTH AMERICA, a California corporation, and, where appropriate based on context, its subsidiaries.
- (e) "Effective Date" shall mean August 22, 2002.
- (f) "Employee" shall mean any individual who is employed, within the meaning of Section 3401 of the Internal Revenue Code of 1986 and the regulations thereunder, by the Corporation.
- (g) "Exercise Price" of the Options shall be the closing price of the common shares of Taiwan Semiconductor Manufacturing Company Limited on the date that the Options are granted; or, if no trading occurred on such date, the preceding day on which trading occurred.
- (h) "Option" shall mean an option to purchase Common Stock granted pursuant to the Plan.
- (i) "Optionee" shall mean any person who holds an Option pursuant to the Plan.
- (j) "Outside Director" shall mean a non-employee member of the Board who (1) is not a current employee of the Corporation; and (2) does not receive compensation for prior services

(other than benefits under a tax-qualified retirement plan) from the Corporation during a taxable year in which he or she serves on the Committee.

(k) "Plan" shall mean this TSMC North America 2002 Employee Stock Option Plan as it may be amended from time to time.

(l) "Purchase Price" shall mean at any particular time the Exercise Price times the number of Shares for which an Option is being exercised.

(m) "Share" shall mean one share of authorized Common Stock.

(n) "TSMC Plan" shall mean the Taiwan Semiconductor Manufacturing Company Limited 2002 Employee Stock Options Plan.

(o) "WaferTech Plan" shall mean the WaferTech, LLC 2002 Employee Stock Options Plan.

### **3. Administration.**

#### **(a) The Committee**

The Plan shall be administered by a Committee of Outside Directors that shall consist of not less than two members, who during the one year prior to service as an administrator of the Plan, shall not have been granted or awarded equity securities pursuant to the Plan.

#### **(b) Powers of the Committee**

Subject to the provisions of the Plan, the TSMC Plan, and applicable laws and regulations, the Committee shall have the authority, in its discretion and on behalf of the Corporation:

- (i) to grant Options;
- (ii) to determine the Exercise Price per Share of Options to be granted consistent with the definition of Exercise Price;
- (iii) to determine the Employees to whom, and the time or times at which, Options shall be granted and the number of Shares for which an Option will be exercisable;
- (iv) to interpret the Plan;
- (v) to prescribe, amend, and rescind rules and regulations relating to the Plan;
- (vi) to determine the terms and provisions of each Option granted and, with the consent of the holder thereof, modify or amend each Option;

- (vii) to accelerate or defer, with the consent of the Optionee, the exercise date of any Option;
- (viii) to authorize any person to execute on behalf of the Corporation any instrument required to effectuate the grant of an Option previously granted by the Committee;
- (ix) with the consent of the Optionee, cancel and regrant an Option previously granted by the Committee; and
- (x) to make all other determinations deemed necessary or advisable for the administration of the Plan.

(c) Committee's Interpretation of the Plan

The interpretation and construction by the Committee of any provision of the Plan or of any Option granted hereunder shall be final and binding on all parties claiming an interest in an Option granted under the Plan. No member of the Committee shall be liable for any action or determination made in good faith with respect to the Plan or any Option.

**4. Period and Nature of the Option Grant**

The Committee on behalf of the Corporation may grant the Options in one or more tranches after the Plan has become effective. The actual dates of grant will be determined by the Committee. Options shall be evidenced by written stock option agreements between the Optionee and the Corporation in such form as the Committee shall from time to time determine. No Option or purported Option shall be a valid and binding obligation of the Corporation unless so evidenced in writing.

**5. Optionee**

Each Optionee shall be a regular full-time Employee of the Corporation, or in a subsidiary in which the Corporation's shareholding with voting rights, directly or indirectly, is more than fifty percent (50%). Whether an Employee is entitled to receive Options, and the number of Options to be received, shall be subject to approval by the Committee, and based on job grade, performance, contribution, special achievement and/or years of employment.

**6. Maximum Number of Options to be Granted**

The maximum number of Options authorized to be granted with respect to the Plan shall be nineteen million six hundred thousand (19,600,000) units, with one (1) unit entitled to subscribe to one (1) Share. The number of Shares for which an Option is exercisable at any time shall not exceed the number of Shares remaining available for issuance under the Plan. If any Option expires or is terminated, the number of Shares for which such Option was

exercisable may be made exercisable pursuant to other Options under the Plan. No Option shall be granted with respect to the Plan, however, if the aggregate number of Shares issued or issuable to all past and present Optionees under the Plan, the TSMC Plan and the WaferTech Plan would thereupon exceed one hundred million (100,000,000) Shares, which is the maximum aggregate number of Shares that have been authorized by Taiwan Semiconductor Manufacturing Company Limited for issuance under the Plan, the TSMC Plan and the WaferTech Plan collectively. The Committee shall consult with a designated officer of Taiwan Semiconductor Manufacturing Company Limited prior to granting any Options with respect to the Plan to ensure compliance with the foregoing limitation. The limitations established by this Section 6 shall be subject to adjustment in the manner provided in Section 8 hereof upon the occurrence of an event specified therein.

## 7. Terms and Conditions

### (a) Exercise Price

The Exercise Price of the Options is defined in Section 2(g) hereof.

### (b) Vesting Schedule

An Optionee may not exercise his or her Option for any Shares until the Option, in regard to such Shares, has vested. Each stock option grant agreement shall include a vesting schedule in accordance with this section which shall show when the Option becomes exercisable. The vesting schedule shall not impose upon the Corporation any obligation to retain the Optionee in its employ or under contract for any period of time or otherwise change the employment-at-will status of an Optionee who is an employee of the Corporation. The Options will not vest in the first two (2) years ("Waiting Period") and may be exercised in accordance with the following schedule. Except as may be shortened in the Plan or by the Committee, the options shall be valid for ten (10) years from grant date and may not be transferred, except by inheritance, enforceable court order, or in accordance with applicable law, rule or regulation. The following is the vesting schedule:

| <u>Years after Grant</u> | <u>Percent Vesting</u> |
|--------------------------|------------------------|
| 2 years                  | 50%                    |
| 3 years                  | 75%                    |
| 4 years and after        | 100%                   |

(c) After the Corporation grants an Option to an Optionee, the Committee shall, in its sole discretion, have the right to revoke and cancel unvested Options in the event that the Optionee commits serious misconduct or violates the policies of the Corporation.

(d) Termination of Employment

If an Optionee's employment with the Corporation is terminated for any reason, the Optionee shall exercise their vested Options in accordance with the following provisions, subject to the ten-year limit set forth in Paragraph 7(b) above:

(i) Voluntary Termination or Terminated by the Corporation in Accordance with applicable state or Federal laws—

If an Optionee's employment by the Corporation is either voluntarily terminated by the Optionee or by the Corporation in accordance with applicable state or Federal laws, the Optionee's Options vested in accordance with the schedule set forth in Paragraph 7(b) above must be exercised within three (3) months from the employment termination date. Any Options unvested as of the employment termination date or not exercised within three (3) months from the employment termination date shall expire and not be exercisable by the Optionee.

(ii) Retirement—

If an Optionee's employment by the Corporation is terminated because the Optionee retires in accordance with the then current policies of the Corporation, all Options granted to the Optionee as of the employment termination date shall completely vest and be exercisable following the Waiting Period, regardless of the vesting schedule set forth in Paragraph 7(b) above. The Optionee shall exercise all Options within one (1) year from the later of: (x) the date of retirement; or, (y) the end of the Waiting Period, whichever date is later. Any Options not exercised within the time frame set forth in the immediately preceding sentence shall expire and not be exercisable by the Optionee.

(iii) Temporarily on Leave Without Pay—

If the Optionee is approved to be temporarily on leave without pay in accordance with the then current policies of the Corporation or applicable law, rule or regulation, their vested Options shall be exercised within three (3) months from the effective date of the temporary leave; otherwise, the right to exercise options shall be deferred until the Optionee's reinstatement. For unvested Options, the accumulation of years of employment with respect to the vesting schedule set forth in Paragraph 7(b) above shall suspend during the period of the Optionee's temporary leave and shall resume after the

Optionee's reinstatement, subject to the ten-year limit set forth in Paragraph 7(b) above.

(iv) Death—

If an Optionee dies while employed by the Corporation, their Options vested in accordance with the schedule set forth in Paragraph 7(b) above shall be exercised by the Optionee's inheritor within one (1) year from the death of the Optionee. Any Options unvested upon the death of the Optionee or not exercised within one (1) year of their death shall expire and not be exercisable by the Optionee's inheritor.

(v) Death or Disability Caused by Work Injury—

(1) Regardless of the vesting schedule set forth in Paragraph 7(b) above, if an Optionee ceases to be employed by the Corporation due to any permanent total disability caused by a work related injury, on such date all Options they were granted shall immediately vest and become exercisable, subject only to the Waiting Period. The Optionee shall exercise their vested Options within one (1) year from the later of: (x) the date they cease to be employed by the Corporation; or, (y) the end of the Waiting Period, whichever date is later. Any Options not exercised within the time frame set forth in the immediately preceding sentence shall expire and not be exercisable by the Optionee.

(2) Regardless of the vesting schedule set forth in Paragraph 7(b) above, if an Optionee ceases to be employed by the Corporation due to their death caused by a work related injury, on such date all Options they were granted shall immediately vest and become exercisable by the Optionee's inheritor, subject only to the Waiting Period. The inheritor shall exercise the Options within one (1) year from the later of: (x) the death of the Optionee; or, (y) the end of the Waiting Period, whichever date is later. Any Options not exercised within the time frame set forth in the immediately preceding sentence shall expire and not be exercisable by the Optionee's inheritor.

(vi) Transfer to Affiliates—

If an Optionee is transferred to an affiliate of Taiwan Semiconductor Manufacturing Company Limited or of the Corporation, due to the necessity of the operations of the Corporation, the rights of the Optionee and obligations of the Corporation with respect to the Options granted shall not be affected by such transfer.

**8. Adjustments of the Exercise Price and Number of Granted Options**

(a) The Exercise Price of each Option shall be subject to adjustment in accordance with the following formula upon the occurrence of events relating to changes in paid-in capital of Taiwan Semiconductor Manufacturing Company Limited, such as issuance of new common shares in connection with cash injection, capitalization of retained earnings and/or capital reserves, stock split, or the issuance of depositary receipts with primary common shares as the underlying securities.

$$NEP = OEP \times [N + (n \times PNI)/OEP] / [N + n]$$

Where: NEP = the Exercise Price after such adjustment

OEP = the Exercise Price before such adjustment

N = the number of outstanding common Shares before issue (the number of treasury Shares which have not been transferred or cancelled, or convertible bonds, shall not be included)

n = the number of new common Shares

PNI = Offering price of new Shares (PNI shall be zero in the event that new Shares are issued in connection with capitalization of retained earnings and/or capital reserves, or in connection with stock split)

The Exercise Price will not be adjusted in case of issuance of new Common Stock in connection with mergers involving either the Corporation or Taiwan Semiconductor Manufacturing Company Limited.

If the Exercise Price after adjustment exceeds the Exercise Price before adjustment, no adjustment shall be made.

(b) When Taiwan Semiconductor Manufacturing Company Limited distributes cash dividends, the Exercise Price of each then outstanding Option shall be adjusted pari passu.

(c) Upon the occurrence of the Taiwan Semiconductor Manufacturing Company Limited's capitalization of retained earnings or capital reserves, in addition to adjusting the Exercise Price in accordance with provisions set forth in Paragraph 8(a) above, the Corporation will issue additional Options in proportion to the increase of paid-in capital (only integral Options will be issued and any fractional Options resulting therefrom will be disregarded) at the adjusted price to holders of existing unvested or unexercised Options, provided that there are sufficient common shares reserved for granting the Options as specified in the Articles of Incorporation of Taiwan Semiconductor Manufacturing Company Limited. Any such

adjustments shall be determined by the Committee, in their sole discretion.

**9. Procedures for Exercising Options**

(a) Except during a period in which the exercise of Options is not permitted by relevant laws and regulations, the Optionee may exercise their Options in accordance with the vesting schedule set forth in Paragraph 7(b) above by submitting a written notice (the "Exercise Notice") to the Corporation.

(b) The Corporation shall inform the Optionee of the payment needed for exercising the Options to a designated bank upon the receipt of the Exercise Notice, and the Purchase Price shall be payable in full in cash. The Exercise Notice shall not be withdrawn once given.

(c) The Corporation shall cause Taiwan Semiconductor Manufacturing Company Limited to register the Optionee and his/her shares in the shareholders record upon confirmation of the payment.

**10. Miscellaneous**

(a) The Plan, and its amendments, shall become effective when the TSMC Plan is approved by the relevant authority and upon approval from the Committee.

(b) Any other matters not set forth in the Plan shall be dealt with in accordance with the applicable laws and regulations by the Committee, whose decisions regarding the Plan and its administration shall be final.

**WaferTech**  
**2002 Employee Stock Options Plan**  
**As Amended June 5, 2003**

**1. Purpose**

The purpose of the Amended WaferTech 2002 Employee Stock Options Plan (the "Plan") of WaferTech, LLC is to promote the interests of the Company and its shareholders by attracting and retaining the high-tech talents/professionals of the Company and its subsidiaries by means of incentives in the form of stock options.

**2. Definitions**

- (a) "Board" shall mean the Board of Directors of the Company.
- (b) "Committee" shall mean the committee appointed by the Board, in accordance with Section 3(a) hereof, to administer the Plan.
- (c) "Common Stock" shall mean the voting common stock of Taiwan Semiconductor Manufacturing Company Limited.
- (d) "Company" shall mean WaferTech, LLC, a Delaware limited liability company.
- (e) "Effective Date" shall mean August 22, 2002.
- (f) "Employee" shall mean any individual who is employed, within the meaning of Section 3401 of the Internal Revenue Code of 1986 and the regulations thereunder, by the Company.
- (g) "Exercise Price" of the options shall be the closing price of the common shares of Taiwan Semiconductor Manufacturing Company Limited on the date that the options are granted; or, if no trading occurred on such date, the preceding day on which trading occurred.
- (h) "Option" shall mean an option to purchase Common Stock granted pursuant to the Plan.
- (i) "Optionee" shall mean any person who holds an Option pursuant to the Plan.
- (j) "Outside Director" shall mean a non-employee member of the Board who (1) is not a current employee of the Company; and (2) does not receive compensation for prior services (other than benefits under a tax-qualified retirement plan) from the Company during a taxable year in which he or she serves on the Committee.

- (k) "Plan" shall mean this WaferTech 2002 Employee Stock Options Plan as it may be amended from time to time.
- (l) "Purchase Price" shall mean at any particular time the Exercise Price times the number of Shares for which an Option is being exercised.
- (m) "Share" shall mean one share of authorized Common Stock.
- (n) "TSMC Plan" shall mean the Taiwan Semiconductor Manufacturing Company Limited 2002 Employee Stock Options Plan.
- (o) "TSMC North America Plan" shall mean the TSMC North America 2002 Employee Stock Options Plan.

### 3. Administration.

#### (a) The Committee

The Plan shall be administered by a Committee of Outside Directors that shall consist of not less than two members, who during the one year prior to service as an administrator of the Plan, shall not have been granted or awarded equity securities pursuant to the Plan.

#### (b) Powers of the Committee

Subject to the provisions of the Plan, the TSMC Plan, and applicable laws and regulations, the Committee shall have the authority, in its discretion and on behalf of the Company:

- (i) to grant Options;
- (ii) to determine the Exercise Price per Share of Options to be granted consistent with the definition of Exercise Price;
- (iii) to determine the Employees to whom, and the time or times at which, Options shall be granted and the number of Shares for which an Option will be exercisable;
- (iv) to interpret the Plan;
- (v) to prescribe, amend, and rescind rules and regulations relating to the Plan;
- (vi) to determine the terms and provisions of each Option granted and, with the consent of the holder thereof, modify or amend each Option;
- (vii) to accelerate or defer, with the consent of the Optionee, the exercise date of any Option;

(viii) to authorize any person to execute on behalf of the Company any instrument required to effectuate the grant of an Option previously granted by the Committee;

(ix) with the consent of the Optionee, cancel and regrant an Option previously granted by the Committee; and

(x) to make all other determinations deemed necessary or advisable for the administration of the Plan.

**(c) Committee's Interpretation of the Plan**

The interpretation and construction by the Committee of any provision of the Plan or of any Option granted hereunder shall be final and binding on all parties claiming an interest in an Option granted under the Plan. No member of the Committee shall be liable for any action or determination made in good faith with respect to the Plan or any Option.

**4. Period and Nature of the Option Grant**

The Committee on behalf of the Company may grant the Options in one or more tranches after the Plan has become effective. The actual dates of grant will be determined by the Committee. Options shall be evidenced by written stock option agreements between the Optionee and the Company in such form as the Committee shall from time to time determine. No Option or purported Option shall be a valid and binding obligation of the Company unless so evidenced in writing.

**5. Optionee**

Each Optionee shall be a regular full-time Employee of the Company, or in a subsidiary in which the Company's shareholding with voting rights, directly or indirectly, is more than fifty percent (50%). Whether an Employee is entitled to receive Options, and the number of Options to be received, shall be subject to approval by the Committee, and based on job grade, performance, contribution, special achievement and/or years of employment.

**6. Maximum Number of Options to be Granted**

The maximum number of Options authorized to be granted with respect to the Plan shall be eighteen million five hundred eighty-three thousand three hundred ( 18,583,300) units, with one (1) unit entitled to subscribe to one (1) Share. The number of Shares for which an Option is exercisable at any time shall not exceed the number of Shares remaining available for issuance under the Plan. If any Option expires or is terminated, the number of Shares for which such Option was exercisable may be made exercisable pursuant to other Options under

the Plan. No Option shall be granted with respect to the Plan, however, if the aggregate number of Shares issued or issuable to all past and present Optionees under the Plan, the TSMC Plan and the TSMC North America Plan would thereupon exceed one hundred million (100,000,000) Shares, which is the maximum aggregate number of Shares that have been authorized by Taiwan Semiconductor Manufacturing Company Limited for issuance under the Plan, the TSMC Plan and the TSMC North America Plan collectively. The Committee shall consult with a designated officer of Taiwan Semiconductor Manufacturing Company Limited prior to granting any Options with respect to the Plan to ensure compliance with the foregoing limitation. The limitations established by this Section 6 shall be subject to adjustment in the manner provided in Section 8 hereof upon the occurrence of an event specified therein.

## 7. Terms and Conditions

### (a) Exercise Price

The Exercise Price of the Options is defined in Section 2(g) hereof.

### (b) Vesting Schedule

An Optionee may not exercise his or her Option for any Shares until the Option, in regard to such Shares, has vested. Each stock option grant agreement shall include a vesting schedule in accordance with this section which shall show when the Option becomes exercisable. The vesting schedule shall not impose upon the Company any obligation to retain the Optionee in its employ or under contract for any period of time or otherwise change the employment-at-will status of an Optionee who is an employee of the Company. The Options will not vest in the first two (2) years (“Waiting Period”) and may be exercised in accordance with the following schedule. Except as may be shortened in the Plan or by the Committee, the options shall be valid for ten (10) years and may not be transferred, except by inheritance, enforceable court order, or in accordance with applicable law, rule or regulation. The following is the vesting schedule:

| <u>Years after Grant</u> | <u>Percent Vesting</u> |
|--------------------------|------------------------|
| 2 years                  | 50%                    |
| 3 years                  | 75%                    |
| 4 years and after        | 100%                   |

(c) After the Company grants an Option to an Optionee, the Committee shall, in its sole discretion, have the right to revoke and cancel unvested Options in the event that the Optionee commits serious misconduct or violates their employment contract or policies of the Company.

(d) Termination of Employment

If an Optionee's employment with the Company is terminated for any reason, the Optionee shall exercise their vested Options in accordance with the following provisions, subject to the ten-year limit set forth in Paragraph 7(b) above:

(i) Voluntary Termination or Terminated by the Company in Accordance with applicable state or Federal laws—

If an Optionee's employment by the Company is either voluntarily terminated by the Optionee or by the Company in accordance with applicable state or Federal laws, the Optionee's Options vested in accordance with the schedule set forth in Paragraph 7(b) above must be exercised within three (3) months from the employment termination date. Any Options unvested as of the employment termination date or not exercised within three (3) months from the employment termination date shall expire and not be exercisable by the Optionee.

(ii) Retirement—

If an Optionee's employment by the Company is terminated because the Optionee retires in accordance with the then current policies of the Company, all Options granted to the Optionee as of the employment termination date shall completely vest and be exercisable following the Waiting Period, regardless of the vesting schedule set forth in Paragraph 7(b) above. The Optionee shall exercise all Options within one (1) year from the later of: (x) the date of retirement; or, (y) the end of the Waiting Period, whichever date is later. Any Options not exercised within the time frame set forth in the immediately preceding sentence shall expire and not be exercisable by the Optionee.

(iii) Temporarily on Leave Without Pay—

If the Optionee is approved to be temporarily on leave without pay in accordance with the then current policies of the Company or applicable law, rule or regulation, their vested Options shall be exercised within three (3) months from the effective date of the temporary leave; otherwise, the right to exercise options shall be deferred until the Optionee's reinstatement. For unvested Options, the accumulation of years of employment with respect to the vesting schedule set forth in Paragraph 7(b) above shall

suspend during the period of the Optionee's temporary leave and shall resume after the Optionee's reinstatement, subject to the ten-year limit set forth in Paragraph 7(b) above.

(iv) Death—

If an Optionee dies while employed by the Company, their Options vested in accordance with the schedule set forth in Paragraph 7(b) above shall be exercised by the Optionee's inheritor within one (1) year from the death of the Optionee. Any Options unvested upon the death of the Optionee or not exercised within one (1) year of their death shall expire and not be exercisable by the Optionee's inheritor.

(v) Death or Disability Caused by Work Injury—

(1) Regardless of the vesting schedule set forth in Paragraph 7(b) above, if an Optionee ceases to be employed by the Company due to any permanent total disability caused by a work related injury, on such date all Options they were granted shall immediately vest and become exercisable, subject only to the Waiting Period. The Optionee shall exercise their vested Options within one (1) year from the later of: (x) the date they cease to be employed by the Company; or, (y) the end of the Waiting Period, whichever date is later. Any Options not exercised within the time frame set forth in the immediately preceding sentence shall expire and not be exercisable by the Optionee.

(2) Regardless of the vesting schedule set forth in Paragraph 7(b) above, if an Optionee ceases to be employed by the Company due to their death caused by a work related injury, on such date all Options they were granted shall immediately vest and become exercisable by the Optionee's inheritor, subject only to the Waiting Period. The inheritor shall exercise the Options within one (1) year from the later of: (x) the death of the Optionee; or, (y) the end of the Waiting Period, whichever date is later. Any Options not exercised within the time frame set forth in the immediately preceding sentence shall expire and not be exercisable by the Optionee's inheritor.

(vi) Transfer to Affiliates—

If an Optionee is transferred to an affiliate of Taiwan Semiconductor Manufacturing Company Limited or of the Company, due to the necessity of the operations of the Company, the rights of the Optionee and obligations of the Company with respect to the Options granted shall not be affected by such transfer.

**8. Adjustments of the Exercise Price and Number of Granted Options**

(a) The Exercise Price of each Option shall be subject to adjustment in accordance with the following formula upon the occurrence of events relating to changes in paid-in capital of Taiwan Semiconductor Manufacturing Company Limited, such as issuance of new common shares in connection with cash injection, capitalization of retained earnings and/or capital reserves, stock split, or the issuance of depositary receipts with primary common shares as the underlying securities.

$$NEP = OEP \times [N + (n \times PNI)/OEP] / [N + n]$$

Where: NEP = the Exercise Price after such adjustment

OEP = the Exercise Price before such adjustment

N = the number of outstanding common Shares before issue (the number of treasury Shares which have not been transferred or cancelled, or convertible bonds, shall not be included)

n = the number of new common Shares

PNI = Offering price of new Shares (PNI shall be zero in the event that new Shares are issued in connection with capitalization of retained earnings and/or capital reserves, or in connection with stock split)

The Exercise Price will not be adjusted in case of issuance of new Common Stock in connection with mergers involving either the Company or Taiwan Semiconductor Manufacturing Company Limited.

If the Exercise Price after adjustment exceeds the Exercise Price before adjustment, no adjustment shall be made.

(b) When Taiwan Semiconductor Manufacturing Company Limited distributes cash dividends, the Exercise Price of each then outstanding Option shall be adjusted *pari passu*.

(c) Upon the occurrence of the Taiwan Semiconductor Manufacturing Company Limited's capitalization of retained earnings or capital reserves, in addition to adjusting the Exercise Price in accordance with provisions set forth in Paragraph 8(a) above, the Company will issue additional Options in proportion to the increase of paid-in capital (only integral Options will be issued and any fractional Options resulting therefrom will be disregarded) at the adjusted price to holders of existing unvested or unexercised Options, provided that there are sufficient common shares reserved for granting the Options as specified in the Articles of Incorporation of Taiwan Semiconductor Manufacturing Company Limited. Any such

adjustments shall be determined by the Committee, in their sole discretion.

**9. Procedures for Exercising Options**

(a) Except during a period in which the exercise of Options is not permitted by relevant laws and regulations, the Optionee may exercise their Options in accordance with the vesting schedule set forth in Paragraph 7(b) above by submitting a written notice (the "Exercise Notice") to the Company.

(b) The Company shall inform the Optionee of the payment needed for exercising the Options to a designated bank upon the receipt of the Exercise Notice, and the Purchase Price shall be payable in full in cash. The Exercise Notice shall not be withdrawn once given.

(c) If the Optionee elects not to immediately sell the Common Stock issued pursuant to the Exercise Notice, the Company shall deliver certificates reflecting the ownership of Common Stock of Taiwan Semiconductor Manufacturing Company Limited to Optionee.

**10. Miscellaneous**

(a) The Plan, and its amendments, shall become effective when the TSMC Plan is approved by the relevant authority and upon approval from the Committee.

(b) Any other matters not set forth in the Plan shall be dealt with in accordance with the applicable laws and regulations by the Committee, whose decisions regarding the Plan and its administration shall be final.

**Subsidiaries of Registrant as of March 31, 2003**

| <b>Name of the Subsidiaries</b> | <b>State or Jurisdiction of<br/>Incorporation</b> | <b>Other Names under which<br/>such Subsidiary does<br/>business</b> | <b>Ownership Interest</b> |
|---------------------------------|---------------------------------------------------|----------------------------------------------------------------------|---------------------------|
| WaferTech, LLC                  | Delaware, U.S.A.                                  | None                                                                 | 99.996%                   |

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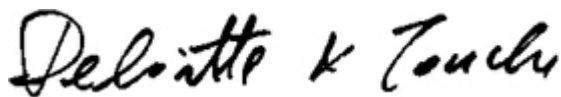
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INDEPENDENT AUDITORS' CONSENT

We consent to the incorporation by reference in the Registration Statement Nos. 333-98405 on Form S-8 of Taiwan Semiconductor Manufacturing Company Limited of our report dated February 27, 2003 (May 29, 2003 as to Note 26c) (which report expresses an unqualified opinion and includes explanatory paragraphs relating to adoption of accounting standards and reconciliation to accounting principles generally accepted in the United States of America) appearing in this Annual Report on Form 20-F of Taiwan Semiconductor Manufacturing Company Limited for the year ended December 31, 2002 and to the reference to us under the heading "Selected Financial Data" in the Annual Report on Form 20-F.



Deloitte & Touche  
Taipei, Taiwan  
The Republic of China

June 23, 2003

*TN Soong & Co. and Deloitte & Touche Taiwan combined to establish new Deloitte & Touche effective June 1, 2003*

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