TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD
Form 20-F
June 23, 2003
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As filed with the Securities and Exchange Commission on June 23, 2003

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

x **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

(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 x No ¨

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

* 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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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.

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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.

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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.

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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)					
Income Statement Data:						
ROC GAAP						

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
US GAAP						
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)

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	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 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
Balance Sheet Data:						
ROC GAAP						
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
US GAAP						
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
Other Financial Data:						
ROC GAAP						
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
Operating Data:						
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.

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(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			
	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

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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

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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.

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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

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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

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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

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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

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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

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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

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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.

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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

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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

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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.

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

Name of the Subsidiary	State or Jurisdiction of Incorporation	Our Ownership Interest
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. 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 note. We commenced significant commercial production using 0.13 micron process technology in 2002 and expect to commence commercial production using 90-nanometer in 2003.

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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%,

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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:

	2002		2003	
Fab(1)	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.

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(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.

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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:

	Year ended December 31,					
	2000		2001		2002	
Customer Type	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:

	Year ended December 31,					
	2000		2001		2002	
Region	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.

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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.

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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

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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:

	Year ended December 31,					
	2000		2001		2002	
Semiconductor Type	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

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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;

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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

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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

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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

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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

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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

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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.

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

	Year ended December 31,		
	2000	2001	2002
Resolution	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.

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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.

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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

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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

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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

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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

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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

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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:

	Long-term loans	**Short-term loans**

		(in millions)		
During 2003	NT$	6,951	NT$	730
During 2004				
During 2005		11,051		
During 2006				
During 2007 and thereafter				

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

	Payments Due by Period				
Contractual Obligations	Total	Less than 1 Year	1-3 Years	4-5 Years	More than 5 Years
	(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

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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 NT$	2001 NT$	2002 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

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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.

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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:

	2001	2002
	(In thousands)	
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	NT$ 120,384	NT$ 99,761

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.

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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.

Name	Position with our company	Term Expires	Years with our company
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

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Name	Position with our company	Term Expires	Years with our company
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

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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 Longhborough 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.

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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.

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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.

Names of Shareholders

	Number of Common Shares Owned	Percentage of Total Outstanding Common Shares
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%

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Names of Shareholders	Number of Common Shares Owned	Percentage of Total Outstanding Common Shares
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.

Name	Position with our company in 2002	Transportation Allowance(1)	Bonus	Total Compensation
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)

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Name	Position with our company in 2002	Transportation Allowance(1)	Bonus	Total Compensation
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

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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.

	As of December 31,		
Function	**2000**	**2001**	**2002**
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:

	As of December 31,		
Location of Facility and Office	**2000**	**2001**	**2002**
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

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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.

Name	Common Shares
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.

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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.

Names of Shareholders	Number of Common Shares Owned	Percentage of Total Outstanding Common Shares
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.

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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

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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

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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.

	Stock dividends per 100 shares	Total shares issued as stock dividends	Outstanding common shares at year end
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.

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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 .

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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.

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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.

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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

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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

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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;

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(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.

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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.

Depositary 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 Depositary 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

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(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

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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

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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

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depositary bank or its nominee will not give any such authorization and appointment unless it has received an opinion of ROC counsel addressed to the depositary bank and in form and substance satisfactory to the depositary 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 depositary 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 depositary 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 depositary 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 depositary bank and the owners to attend such meeting and vote the common shares represented by ADSs as to which the depositary 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 depositary bank have not delivered instructions to the depositary bank will be deemed to have instructed the depositary bank to authorize and appoint the voting representative as the representative of the depositary bank or its nominee and the holders to attend such meeting and vote all the common shares represented by ADSs as to which the depositary 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 depositary 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

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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;

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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 depositary 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 Depositary, 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

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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

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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.

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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.

	2003	2004	2005	2006	2007 and thereafter
			(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.

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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.

Foreign Currency Forward Exchange Contracts

	(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

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

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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

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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

* 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.

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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**

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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

Chairman and Chief Executive Officer

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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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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.

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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)

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS

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

	Notes	December 31 2001	December 31 2002	December 31 2002
		NT$	NT$	US$ (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

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

CONSOLIDATED BALANCE SHEETS (Continued)

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

	Notes	December 31		
		2001	2002	2002
		NT$	NT$	US$ (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.

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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)

		Year Ended December 31			
	Notes	2000	2001	2002	
		NT$	NT$	NT$	US$ (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 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 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, 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

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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)

		Year Ended December 31			
	Notes	2000	2001	2002	
		NT$	NT$	NT$	US$ (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 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 INTEREST		65,069.4	14,527.2	21,585.5	622.1
MINORITY INTEREST IN LOSS (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 PER SHARE	2, 20				
Before income tax and minority interest		3.52	0.55	1.44	0.04
Net income		3.58	0.75	1.14	0.03
BASIC AND DILUTED EARNINGS PER EQUIVALENT ADS	2	17.92	3.75	5.70	0.16
BASIC AND DILUTED WEIGHTED AVERAGE SHARES 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.

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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$10 Par Value)											
		Preferred Stock		Common Stock					Unrealized Gain (Loss) on			Total
	Authorized Shares	Shares	Amount	Shares	Amount	Subscribed Capital	Capital Surplus	Retained Earnings	Long-term Investments	Cumulative Translation Adjustments	Treasury Stock	Shareholders Equity
			NT$		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 TASMC on June 30, 2000				433,515,164	4,335.2		52,225.0					56,560.2
Elimination TASMC goodwill against capital surplus							(52,212.7)					(52,212.7)
Issuance of preferred stock on November 29, 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)				
							(231.6)	231.6				

Adjustments arising from changes in shareholder s equity of investees											
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 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)

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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$10 Par Value)											
		Preferred Stock		Common Stock								
	Authorized Shares	Shares	Amount	Shares	Amount	Subscribed Capital	Capital Surplus	Retained Earnings	Unrealized Gain (loss) on Long-term Investments	Cumulative Translation Adjustments	Treasury Stock	Total Shareholders Equity
			NT$		NT$	NT$	NT$	NT$	NT$	NT$	NT$	NT$
Transfer of the capital surplus from gain on sales of property, plant and equipment to retained earnings			$		$	$	$ (166.5)	$ 166.5	$	$	$	$
Transfer of the capital surplus from gain on sales of property, plant and equipment of investees to retained earnings							(0.1)	0.1				
Unrealized loss on long-term investments									(194.3)			(194.3)
Translation adjustments										(283.7)		(283.7)
Reclassification of parent company stock held by subsidiaries from long-term investments to treasury stock											(1,923.5)	(1,923.5)
Capital surplus from gain on sale of treasury stock							43.0					43.0
BALANCE, DECEMBER 31, 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 (in millions of US$)	374.6	5,366.8	1,642.8	1,175.6	(5.6)	27.2	(55.4)	8,526.0

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

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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.$ (Note 4)
CASH FLOWS FROM OPERATING ACTIVITIES				
Net income	65,106.2	14,483.2	21,610.3	622.8
Adjustments to reconcile net income to net cash provided 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, plant and equipment net	51.8	183.2	192.4	5.5
Reversal of provision for losses on short-term 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 liabilities	1,872.3	(430.0)	601.1	17.3
Net Cash Provided by Operating Activities	94,786.2	75,817.7	98,507.1	2,838.9
CASH FLOWS FROM INVESTING ACTIVITIES				
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 TASMC and WSMC as of July 1, 2000	736.6			
Net Cash Used in Investing Activities	(120,948.5)	(77,231.9)	(62,189.5)	(1,792.2)

(Forward)

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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.$ (Note 4)
CASH FLOWS FROM FINANCING ACTIVITIES				
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	35,366.3	897.2	(6,346.1)	(182.9)
EFFECTS OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	118.5	(766.9)	262.4	7.5
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	9,322.5	(1,283.9)	30,233.9	871.3
CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR	29,517.7	38,840.2	37,556.3	1,082.3
CASH AND CASH EQUIVALENTS, END OF YEAR	38,840.2	37,556.3	67,790.2	1,953.6
SUPPLEMENTAL INFORMATION				
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 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 subsidiaries from short/long-term investments to treasury stock			1,923.5	55.4

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

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

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

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

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.

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

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.

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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

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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.

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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 Depository 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 TASMC 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 TASMC were included in the accompanying financial statements from the acquisition date. Prior to the acquisition date, TASMC 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.

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TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

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 TASMC was completed as of January 1, 2000 as follows:

	2000
	NT$ (Unaudited) (in millions)
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

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

6. SHORT-TERM INVESTMENTS

	December 31	
	2001	2002
	NT$	NT$
	(In Millions)	
Listed stocks carrying value	1,398.1	170.0
Market value	6,917.1	2,455.6

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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

	December 31	
	2001	2002
	NT$	NT$
	(In Millions)	
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)
	(3,682.1)	(3,305.5)
	16,452.2	16,285.4

The changes in the allowances are summarized as follows:

	2000	2001	2002
&nb			