

TAIWAN SEMICONDUCTOR MANUFACTURING CO LTD

Form 20-F

May 16, 2005

**SECURITIES AND EXCHANGE COMMISSION  
Washington, DC 20549**

**FORM 20-F**

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

OR

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

**For the fiscal year ended December 31, 2004**

OR

**o 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

Republic of China

(Translation of Registrant's Name Into English)

(Jurisdiction of Incorporation or Organization)

No. 8, Li-Hsin Road 6  
Hsinchu Science 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, 2004, 23,251,963,693 Common Shares, par value NT\$10 each were outstanding.

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

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

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

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TSMC and tsmc are our registered trademarks and NEXSYS, 1T RAM and Virtual fab are trademarks used by us.

## CAUTIONARY STATEMENT REGARDING FORWARD-LOOKING INFORMATION

This annual report includes statements that are, or may be deemed to be, forward-looking statements within the meaning of U.S. securities laws. The terms anticipates, expects, may, will, should and other similar expressions identify forward-looking statements. These statements appear in a number of places throughout this annual report and include statements regarding our intentions, beliefs or current expectations concerning, among other things, our results of operations, financial condition, liquidity, prospects, growth, strategies and the industries in which we operate.

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

- the volatility of the semiconductor and microelectronics industry;
- overcapacity in the semiconductor industry;
- the increased competition from other companies and our ability to retain and increase our market share;
- our ability to develop new technologies successfully and remain a technological leader;
- our ability to maintain control over expansion and facility modifications;
- our ability to generate growth or profitable growth;
- our ability to hire and maintain qualified personnel;
- our ability to acquire required equipment and supplies necessary to meet customer demand;
- our reliance on certain major customers;
- the political stability of our local region; and
- general local and global economic conditions.

Forward-looking statements include, but are not limited to, statements regarding our strategy and future plans, future business condition and financial results, our capital expenditure plans, our capacity expansion plans, our expansion plans in mainland China, expectations as to the commencement of commercial production using 90-nanometer technology, technological upgrades, investment in research and development, future market demand, future regulatory or other developments in our industry. Please see Item 3. Key Information Risk Factors for a further discussion of certain factors that may cause actual results to differ materially from those indicated by our forward-looking statements.

## GLOSSARY OF SELECTED 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.
CIS (CMOS Image Sensor)	A photodiode censoring circuit made by CMOS used in applications such as digital camera, surveillance and securing systems.
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 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 erased 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 EPROM in that it is erasable and reprogrammable. The difference is that it can be erased and electrically reprogrammed in the 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 very



	complicated integrated circuits with up to millions 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 is laid out. Integrated circuits may require as many as thirty different layers of design, each with its own mask. Also known as a reticle.
Memory	A group of integrated circuits that are used to store data or programs, such as ROM, Flash RAM, DRAM and SRAM.
Micron	1/25,000 of an inch. Circuitry on an integrated circuit typically follows lines that are less than one micron wide.
MOS	A device which consists of three layers (metal, oxide and semiconductors) and operates as a transistor.
Nonvolatile memory	Memory products which retain their data content without the need for a constant power supply.
Reticle	See Mask above.
RISC (Reduced Instruction Set Computing)	A type of processor architecture that processes programs more quickly than conventional microprocessors by using smaller, faster, less complex sets of instructions.
Scanner	A machine used in the photolithography process in making wafers. A scanner combines stepper technology with a photoscanning method to permit the exposure of a larger segment of the wafer than a stepper.
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. Transistors are the building blocks of all integrated circuits.

Volatile memory

Memory products which lose their data content when the power supply is switched off.

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Wafer

A thin, round, flat piece of material that is the base of most integrated circuits. Silicon is the most commonly used material.

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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 and Operating Data**

The selected income statement data and cash flow data for the years ended December 31, 2002, 2003 and 2004, and the selected balance sheet data as of December 31, 2003 and 2004, 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 thereto. The selected income statement data and cash flow data for the years ended December 31, 2000 and 2001 and the selected balance sheet data as of December 31, 2000, 2001 and 2002, 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 Republic of China ( ROC or Taiwan ) generally accepted accounting principles ( GAAP ) as applied on a consistent basis, which differ in some material respects from US GAAP as further explained under note 27 to our consolidated financial statements.

	<b>Year ended and as of December 31,</b>					
	<b>2000</b>	<b>2001</b>	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>US\$</b>
	<b>(in millions, except for percentages, earnings per share and per ADS, and operating data)</b>					
<b>Income Statement Data:</b>						
<b>ROC GAAP</b>						
Net sales	166,198	125,885	162,301	202,997	257,213	8,104
Cost of sales <sup>(1)</sup>	(87,610)	(92,228)	(109,988)	(128,113)	(141,394)	(4,455)
Gross profit <sup>(1)</sup>	78,588	33,657	52,313	74,884	115,819	3,649
Operating expenses <sup>(1)</sup>	(17,293)	(20,879)	(20,724)	(23,583)	(27,337)	(861)
Income from operations	61,295	12,778	31,589	51,301	88,482	2,788
Non-operating income and gains	6,120	6,476	2,350	5,669	6,090	192
Non-operating expenses and losses	(3,513)	(8,467)	(6,717)	(5,791)	(2,606)	(82)
Income before income tax and minority interest	63,902	10,787	27,222	51,179	91,966	2,898
Income tax (expense) benefit	1,167	3,740	(5,637)	(3,923)	363	11
Income before minority interest	65,069	14,527	21,585	47,256	92,329	2,909
Minority interest in loss (income) of subsidiaries	37	(44)	25	3	(13)	

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Net income	65,106	14,483	21,610	47,259	92,316	2,909
Basic earnings per share <sup>(2)</sup>	2.85	0.60	0.91	2.02	3.97	0.13
Diluted earnings per share <sup>(2)</sup>	2.85	0.60	0.91	2.02	3.97	0.13
Basic earnings per ADS equivalent	14.27	3.00	4.53	10.09	19.85	0.63
Diluted earnings per ADS equivalent	14.27	3.00	4.53	10.09	19.85	0.63
Basic average shares outstanding <sup>(2)</sup>	22,800	23,377	23,325	23,327	23,249	23,249

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	Year ended and as of December 31,					
	2000	2001	2002	2003	2004	2004
	NT\$	NT\$	NT\$	NT\$	NT\$	US\$
	(in millions, except for percentages, earnings per share and per ADS, and operating data)					
Diluted average shares outstanding <sup>(2)</sup>	22,800	23,377	23,325	23,337	23,255	23,255
<b>US GAAP</b>						
Net sales	166,860	127,242	162,990	203,600	260,035	8,193
Cost of sales	(105,359)	(107,194)	(115,374)	(133,493)	(154,785)	(4,877)
Operating expenses	(44,472)	(41,712)	(20,764)	(25,744)	(32,423)	(1,022)
Income (loss) from operations	17,029	(21,664)	26,852	44,363	72,827	2,294
Income (loss) before income tax and minority interest	20,537	(25,672)	20,210	42,441	76,838	2,421
Income tax (expense) benefit	1,166	3,741	(5,638)	(3,881)	(508)	(16)
Net income (loss)	21,740	(21,975)	14,534	38,661	76,253	2,402
Cumulative preferred dividends		(455)	(455)	(184)		
Income (loss) attributable to common shareholders	21,740	(22,430)	14,079	38,477	76,253	2,402
Basic earnings per share <sup>(3)</sup>	1.01	(1.00)	0.62	1.67	3.29	0.10
Diluted earnings per share <sup>(3)</sup>	1.01	(1.00)	0.62	1.67	3.29	0.10
Basic earnings per ADS equivalent	5.06	(4.98)	3.08	8.37	16.47	0.52
Diluted earnings per ADS equivalent	5.06	(4.98)	3.08	8.37	16.46	0.52
Basic average shares outstanding <sup>(3)</sup>	21,478	22,508	22,831	22,975	23,151	23,151
Diluted average shares outstanding <sup>(3)</sup>	21,478	22,508	22,831	22,985	23,157	23,157
<b>Balance Sheet Data:</b>						
<b>ROC GAAP</b>						
Working capital <sup>(4)</sup>	44,920	37,472	62,705	136,121	120,530	3,797
Long-term investments	10,664	11,599	10,635	10,748	38,102	1,200
Properties	244,748	251,288	246,498	211,854	258,911	8,157
Goodwill	11,531	11,438	10,159	8,721	7,116	224
Total assets	370,886	366,518	390,542	407,401	499,454	15,736
Long-term bank borrowing <sup>(5)</sup>	23,339	22,399	11,051	8,800	1,915	60
Long-term bonds payable	29,000	24,000	35,000	30,000	19,500	614
Guaranty deposit-in and other liabilities <sup>(4)(6)</sup>	9,046	9,479	8,710	8,876	15,079	475
Total liabilities	108,810	89,208	94,594	78,098	100,413	3,164
Minority interest equity	322	120	95	89	76	2
Capital stock	129,894	181,326	199,229	202,666	232,520	7,326
Cash dividend on common shares					12,160	383

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Shareholders equity	261,754	277,190	295,853	329,214	398,965	12,570
<b>US GAAP</b>						
Goodwill	58,348	47,464	47,476	47,287	46,757	1,473
Total assets	407,830	393,990	420,528	439,853	536,286	16,896
Total liabilities	114,884	91,419	96,747	81,977	108,416	3,416
Capital Stock	116,894	168,326	186,229	202,666	232,520	7,326
Mandatory redeemable preferred stock	13,000	13,000	13,000			
Shareholders equity	279,946	289,450	310,623	357,173	427,125	13,457
<b>Other Financial Data:</b>						
<b>ROC GAAP</b>						
Gross margin	47%	27%	32%	37%	45%	45%
Operating margin	37%	10%	19%	25%	34%	34%
Net margin	39%	12%	13%	23%	36%	36%
Capital expenditures	103,762	70,201	55,236	37,871	81,095	2,555
Depreciation and amortization	41,446	55,323	65,001	69,161	69,819	2,200
Cash provided by operating activities	94,786	75,818	98,507	116,037	153,151	4,825

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	Year ended and as of December 31,					2004 US\$
	2000 NT\$	2001 NT\$	2002 NT\$	2003 NT\$	2004 NT\$	
	(in millions, except for percentages, earnings per share and per ADS, and operating data)					
Cash used in investing activities <sup>(7)</sup>	(120,949)	(77,232)	(62,190)	(53,706)	(148,013)	(4,663)
Cash provided by (used in) financing activities <sup>(7)</sup>	35,366	897	(6,346)	(27,070)	(32,155)	(1,013)
Net cash flow	9,323	(1,284)	30,234	35,199	(28,687)	(904)
<b>Operating Data:</b>						
Wafers sold <sup>(8)</sup>	3,408	2,159	2,675	3,700	5,008	5,008
Average utilization rate <sup>(9)</sup>	106%	51%	73%	89%	100%	100%

- (1) Amounts in 2000 reflect the reclassification of NT\$2,072 million from cost of sales to research and development.
- (2) Retroactively adjusted for all subsequent stock dividends and employee stock bonuses paid prior to the date hereof.
- (3) Retroactively adjusted for all subsequent stock dividends, paid prior to the date hereof.
- (4) Amounts in 2003 reflect the reclassification of NT\$727 million from current liabilities to long-term liabilities.
- (5) Excludes bonds payable.
- (6) Consists of other long-term payables and total other liabilities.
- (7) Amounts in 2003 reflect the reclassification of NT\$300 million from cash used in investing activities to cash used in financing activities.
- (8) In thousands.
- (9) Commencing in 2003, utilization rates exclude engineering wafers and all capacity and production at Vanguard.

#### 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, the lawful currency of the United States, and NT\$ and NT do 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, 2004, which was NT\$31.74 to US\$1.00 on that date. On May 13, 2005, the noon buying rate was NT\$30.98 to US\$1.00.



The following table sets forth, for the periods 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.

	<b>NT dollars per U.S. dollar</b>			
	<b>Average<sup>(1)</sup></b>	<b>High</b>	<b>Low</b>	<b>Period-End</b>
2000	NT\$31.40	NT\$33.20	NT\$30.48	NT\$33.17
2001	33.82	35.13	32.23	35.00
2002	34.53	35.16	32.85	34.70
2003	34.41	34.98	33.72	33.99
2004	33.37	34.16	31.74	31.74
November 2004	32.78	33.48	32.17	32.20
December 2004	32.17	32.49	31.74	31.74
January 2005	31.85	32.22	31.65	31.71
February 2005	31.50	31.79	31.06	31.06
March 2005	31.11	31.73	30.65	31.46
April 2005	31.48	31.70	31.23	31.23
May 2005 (through May 13, 2005)	31.18	31.33	30.98	31.27

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

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.

## **Capitalization and Indebtedness**

Not applicable.

## **Reasons for the Offer and Use of Proceeds**

Not applicable.

## **Risk Factors**

We wish to caution readers that the following important factors, and those important factors described in other reports submitted to, or filed with, the Securities and Exchange Commission, among other factors, could affect our actual results and could cause our actual results to differ materially from those expressed in any forward-looking statements made by us or on our behalf and that such factors may adversely affect our business and financial status and therefore the value of your investment:

### **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. 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.

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

The prices we can charge our customers for our services are significantly dependent on the overall worldwide supply of integrated circuits and semiconductor products, which is outside of our control. In a period of overcapacity, 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. For example, 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 prices for products that contain semiconductors 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 these products may decrease the demand for our products and adversely affect our revenues. In addition, the historical and continuing trend of declining average selling prices of end use applications places pressure on the prices of the components that go into these end use applications. If the average selling prices of end use applications continue to decrease, the

pricing pressure on components produced by us may lead to a reduction of our revenue.

*If 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 us. Increases in competition may cause us to lose customers or to decrease our average selling prices.

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

The semiconductor industry and the technologies used in it 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 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.

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

We have recently been ramping up production at the Fab 12 (Phase II and III) facility in the Hsinchu Science Park and the Fab 14 (Phase I) facility in the Southern Taiwan Science Park. We have also recently completed the exterior construction of our Fab 14 (Phase II) facility in the Southern Taiwan Science Park.

Although we have studied the potential effects of vibration from the high speed railway currently planned to pass through the Southern Taiwan Science Park and believe that the vibrations will not affect our yield rate for production in the Southern Taiwan Science Park, we can give no assurances that our yield will not be negatively affected after the high-speed railway has commenced operation.

Expansion and modification of our production facilities will increase our costs. We will need to purchase additional equipment, train personnel to operate the new equipment or hire additional personnel. If we do not increase our net sales accordingly in order to offset these higher costs, our financial performance may 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.***

Capital requirements are difficult to plan in the highly cyclical and rapidly changing semiconductor industry. We will continue to need capital to fund our operations and growth. 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.

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.

***We are dependent upon hiring and retaining qualified management and skilled technical and service personnel and our business could suffer if we are unable to retain and recruit such 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. Moreover, we may be required to increase the number of employees in connection with any expansion, and there is intense competition for the services of these personnel.

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

Our operations and expansion plans depend on our ability to obtain a significant amount of equipment from a limited number of suppliers and in a market that is characterized, from time to time, by intense demand, limited

supply and long delivery cycles. 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. Shortages of equipment could result in an increase in their prices and longer delivery times. 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.

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

Our production operations require that we obtain adequate supplies of raw materials, such as silicon wafers, gases and chemicals, and photoresistors, on a timely basis. Shortages in the supply of some materials experienced by the semiconductor industry have in the past resulted in occasional price adjustments and delivery delays. 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 cannot pass on to our customers.

***If the Ministry of Economic Affairs uses a substantial portion 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. Although the Ministry of Economic Affairs has never exercised this option, if this option is exercised to any significant degree during tight market conditions, we may not be able to provide services to all of our other customers unless we are able to increase our capacity accordingly or outsource such increased demand and in a timely manner.

***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 already own or license. In this regard, we are the beneficiary of both technology licenses and a significant number of patent cross license agreements that provide us with technologies or patent protection, as the case may be, that may be material to our business.

We cannot ensure that we will be able to develop independently, or secure from any third party, all of the technologies required for upgrading our production capabilities.

Litigation may also be necessary to enforce or defend our manufacturing processes, patents or other intellectual property rights. We have no means of knowing what patent applications have been filed in Taiwan, the United States or other jurisdictions until they are published or 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 try 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;

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discontinuing using certain process technologies, which could cause us to stop manufacturing certain semiconductor products or applying particular technologies if we were unable to design around the allegedly infringed patents; or

fighting the matter in court and paying substantial monetary judgments in the event we were to lose.

Any one or several of these and other developments could place substantial financial and administrative burdens on us and hinder our business. If we fail to obtain certain licenses and if litigation relating to alleged patent infringement or other intellectual property matters occur, 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.

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

We use highly combustible materials such as silane and hydrogen in our manufacturing processes and are therefore subject to the risk of loss arising from explosion and fire which cannot be completely eliminated. Although we maintain comprehensive fire and casualty 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 could reduce our manufacturing capacity 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 US GAAP, we are required to evaluate our equipment 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. Please see note 27.c. to our consolidated financial statements for a discussion of the criteria which, if met, may require impairment charges.

We currently are not able to estimate the extent or timing of any impairment charge for future years. Any 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.

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. See Item 5. Operating and Financial Review and Prospects <sup>3</sup>/<sub>4</sub> Critical Accounting Policies for a discussion of our estimates made for determining an impairment charge.

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

In 2003 and 2004, our ten largest customers have accounted for 54% and 49%, respectively, of our net sales. In particular, our largest customer in 2003, NVIDIA Corporation, accounted for approximately 15% of our net sales in 2003. In 2004, no customer accounted for 10% or more of our net sales, and our five largest customers accounted for 32% of our net sales. 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. Also, we are the sole foundry service provider for certain of our customers. We cannot assure you that there will be no loss or cancellation of business from any of our 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 ( PRC ) could negatively affect our business and financial status and therefore the market value of your investment.***

Taiwan has a unique international political status. The PRC does not recognize the sovereignty of the ROC. Although significant economic and cultural relations have been established during recent years between Taiwan and the PRC, relations have often been strained. The government of the PRC has threatened to use military force to gain control over Taiwan in limited circumstances. In particular, on March 14, 2005, the PRC adopted an anti-secession law which, among other things, includes such a threat. Past developments in relations between the ROC and the PRC have on occasion depressed the market prices of the securities of Taiwanese companies, including our own.

Our principal executive officers and our principal production facilities are located in Taiwan and a substantial majority of our net revenues are derived from our operations in Taiwan. Therefore, 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.

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

The semiconductor manufacturing process uses extensive amounts of fresh water and electricity. Due to the growth in semiconductor manufacturing capacity in Hsinchu Science Park and Southern Taiwan Science Park, the requirements for fresh water and power in these industrial parks have grown substantially. Taiwan experiences droughts from time to time, and in 2002 and 2003, Taiwan experienced serious droughts. In addition, we have sometimes suffered power outages caused by our major electricity supplier, the Taiwan Power Company, or other power consumers on the same power supply line, which have caused interruptions in our production schedule. For example, on April 10, 2004, a power outage caused by a circuit trip of a high voltage underground cable line of Taiwan Power Company affected our fabs in Hsinchu Science Park. Material power outages or water insufficiencies could disrupt the normal operation of our business and have an adverse effect on our financial condition and results of operations.

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

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. Taiwan is susceptible to earthquakes and typhoons. 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. This earthquake caused damage to production facilities and adversely affected the operations of many companies in the semiconductor and other industries, including our own. 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. 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

currencies other than NT dollars. Therefore, any significant fluctuation to our disadvantage in such 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.

***Any future outbreak of new or unusual diseases may materially affect our operations and business.***

Any outbreak of a contagious disease such as severe acute respiratory syndrome for which there is no known cure or vaccine, may potentially result in a quarantine of infected employees and related persons, and may affect the operations at one or more of our facilities. We cannot predict at this time the impact any future outbreak could have on our financial condition and results of operations. In particular, we cannot assure you that our business or prospects would not be materially and adversely affected.

**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. 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 depositary 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 United States Securities Act of 1933, as amended, or the Securities Act, with respect to all holders of ADSs, or are registered under the provisions of the Securities Act. Although we may be eligible to take advantage of certain exemptions for rights offerings by certain foreign companies, we can give no assurance that we can establish an exemption from registration under the Securities Act, 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, from time to time, dispose of significant numbers of common shares or ADSs. One of our two largest shareholders, Philips, sold an aggregate of 100,000,000 ADSs in November 2003. Since October 1997, Philips has sold a total of 124,000,000 ADSs (without adjustment for subsequent dividend distributions) in two transactions. In October 2003, Philips announced its intention to gradually and orderly reduce its equity interest in us and reiterated this intention in May 2005. Moreover, the Development Fund, which currently owns 7.38% of our common shares, has sold a total of 187,532,800 ADSs (without adjustments for subsequent stock dividends) in several transactions since 1997. On May 10, 2005, our board of

directors approved to sponsor the currently contemplated sale by Philips, the Development Fund and certain other selling shareholders of an aggregate of up to 210,000,000 ADS, which sale is currently expected to occur prior to the end of 2005.

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. Since the establishment of the program in 1999, a total of 42,076,000 ADSs (without adjustments for subsequent stock dividends) were sold in several transactions under 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.

***The market value of our shares 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. 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 ROC 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**

### **Our History and Structure**

We are currently the world's largest dedicated semiconductor foundry in the semiconductor industry. 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.

***WaferTech in the United States.*** In 1996, we entered into a joint venture called WaferTech with several US-based investors 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 interest in WaferTech to 68%. By the end of the first quarter of 2001, we had increased our percentage ownership of WaferTech to approximately 99% by purchasing all of the remaining interest of all of the joint venture partners. As of March 31, 2005, we owned an approximately 100% equity interest in WaferTech.

***Operations in Mainland China.*** The ROC government currently restricts transfer by Taiwanese companies of certain technologies to and certain types of investments by Taiwanese companies in mainland China. The ROC government in April 2002, partially lifted the ban on investment by Taiwan semiconductor manufacturing companies in 200mm wafer fabs in mainland China. In February 2003, we received Phase I approval from the ROC government

to expend US\$898 million (including US\$371 million as a direct equity investment in TSMC Shanghai) to establish TSMC Shanghai and to construct a 200mm wafer fab. In August 2003, we established TSMC Shanghai, a wholly-owned subsidiary primarily engaged in the manufacturing and selling of integrated circuits. We applied for further, Phase II, approval (relating to the relocation of manufacturing equipment from Taiwan to mainland China) with the ROC Ministry of Economic Affairs in March 2004, and received the Phase II approval on May 11, 2004. We commenced small volume production with 0.35 micron and 0.25 micron process technologies in late 2004 in Fab 10, our 200mm wafer fab in the Songjiang Science Park.

**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 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 March 31, 2005, we held a 27.74% interest in Vanguard. Please see Item 7. Major Shareholders and Related Party Transaction Related Party Transactions Vanguard International Semiconductor Corporation for a discussion of certain of the Vanguard contract terms.

**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. As of March 31, 2005, we owned 32%, Philips owned 48% and EDB Investment Pte. Ltd. owned 20% of Systems on Silicon. The fab commenced production in December 2000. While 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; we, alone, are required to purchase up to 28% of the annual installed capacity.

### **Our Principal Office**

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

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

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 2003 and 47% in 2004. We also offer design, mask making, probing, testing and assembly services.

We believe that our large capacity, particularly for advanced technologies, is a major competitive advantage. Please see <sup>3</sup>/<sub>4</sub> Manufacturing Capacity and Technology and <sup>3</sup>/<sub>4</sub> 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 semiconductor companies such as Altera Corporation, ATI Technology Inc., Broadcom Corporation, NVIDIA Corporation, Qualcomm and VIA Technology, Inc., to integrated device manufacturing companies such as Analog Devices, Inc., Freescale Semiconductor Inc. and Philips, and systems companies. Fabless semiconductor companies and integrated device manufacturers accounted for approximately more than 68% and 31%, respectively, of our net sales in 2004.

### **Our Facilities**

After combining the operations at two of our 200mm fabs in 2001 and the decommissioning of one of our 150mm wafer fabs (Fab 1) in March 2002, we currently operate one 150mm wafer fab, seven 200mm wafer fabs and two 300 mm wafer fabs, including Fab 14, where we commenced production in the fourth quarter of 2004. Our corporate headquarters and six of our fabs are located in the Hsinchu Science Park, two fabs are located in the Southern Taiwan Science Park, one fab is located in the United States, and one fab is located in Shanghai. 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 December 2020. We have leased from the Southern Taiwan Science Park Development Office 395,000 square meters of land for our fabs in the Southern Taiwan 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. TSMC Shanghai owns 420,000 square meters of land in Shanghai, where Fab 10 and related offices are located.

Other than certain equipment under leases located at testing areas, we own all of the buildings and equipment for our fabs. We are currently planning to expand our 300mm fabrication capacity through Fab 12

(Phase II and III) in the Hsinchu Science Park and Fab 14 in the Southern Taiwan Science Park. Fab 12 (Phase II) has commenced production in the first quarter of 2005. We will continuously evaluate our 300mm capacity in light of prevailing market conditions.

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 customers that wafers produced by us consistently met or exceeded the quality and reliability requirements in the field.

### 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 0.13 micron and below, and are one of the leaders in the semiconductor industry generally. For example, in February 2004, we announced that our industry-leading low-k technology had entered commercial production and that we were the first semiconductor foundry with proven low-k technology in commercial production, in both the 0.13 micron process technology and the 90-nanometer Nexsys<sup>SM</sup> technology. The 90-nanometer Nexsys<sup>SM</sup> technology is the first process technology based entirely on low-k dielectrics.

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 <sup>(1)</sup>	Year of commencement	Current most advanced technology for volume production <sup>(2)</sup>	Monthly capacity <sup>(3)</sup>				
			2000	2001	2002	2003	2004
1 <sup>(4)</sup>	1987		11,011	11,378			
2	1990	0.45	43,539	45,225	43,540	42,977	47,584
3 <sup>(5)</sup>	1995	0.18	83,700	82,700	71,000	71,600	83,300
5	1997	0.15	39,500	40,000	34,920	37,800	42,500
6	2000	0.13	32,000	41,000	48,700	63,500	73,000
7 <sup>(6)</sup>	1995	0.35	44,000	46,500	22,500	11,800	13,400
8 <sup>(7)</sup>	1998	0.15	48,000	54,700	52,600	63,500	76,500
10	2004	0.25					500
12	2001	0.09		3,375	11,475	31,797	60,300
14	2004	0.13					6,750
WaferTech	1998	0.15	28,000	28,000	30,000	30,000	32,500
Vanguard <sup>(8)</sup>	1994	0.25	22,000	23,000	28,000	40,200	30,000
Systems on Silicon <sup>(9)</sup>	2000	0.18	400	5,166	8,000	9,600	13,400
Total			352,150	381,044	350,735	402,774	479,734

(1) Fab 2 produces 150mm wafers. Fabs 3, 5, 6, 7, 8, 10, WaferTech, Vanguard and Systems on Silicon produce 200mm wafers. Fab 12 and Fab 14 produce 300mm wafers. Fabs 2, 3, 5, 7, 8, 12 and Vanguard are located in

Hsinchu Science Park. Fab 6 and Fab 14 are located in the Southern Taiwan Science Park. WaferTech is located in the United States, Systems on Silicon is located in Singapore and Fab 10 is located in Shanghai.

- (2) In microns, as of year-end.
- (3) Estimated capacity in 200mm 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 150mm 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 1999, 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. As of December 31, 2003, the 40,200 monthly capacity represents the 25,000 monthly capacity that we had the contractual option to utilize plus the 15,200 additional capacity that Vanguard made available to us. As of December 31, 2004, the 30,000 monthly capacity represents the 30,000 monthly capacity that we had the contractual option to utilize.

(9) Represents that portion of the total capacity that we had the option to utilize as of December 31, 2000, December 31, 2001, December 31, 2002, December 31, 2003 and December 31, 2004. This fab commenced production in September 2000.

As of December 31, 2004, our monthly capacity was 479,734 wafers, compared to 402,774 wafers at the end of 2003. This increase was primarily due to the expansion of our 0.18, 0.15 micron and 0.13, 0.09 micron advanced technologies.

### **Capacity Expansion and Technology Upgrade Plans**

We intend to maintain our strategy of expanding manufacturing capacity and improving manufacturing process technologies to meet both the fabrication and the technological needs of our customers. Based upon preliminary estimates, we currently expect our monthly capacity to be approximately 585,100 wafers at the end of 2005, primarily due to increased capacity as a result of: continued ramping up of Fab 12 and Fab 14 and capacity increases at Fab 10 and Systems on Silicon. The current capacity increase plan is based on our long term market demand forecast conducted periodically and may change significantly at any time. Our currently expected capacity by year-end 2005 includes a monthly capacity of approximately 47,800 wafers at Systems on Silicon and Vanguard.

Our capital expenditures in 2002, 2003 and 2004 were NT\$55,236 million, NT\$37,871 million and NT\$81,095 million (US\$2,555 million) on a consolidated basis, respectively. We currently expect our capital expenditures to be approximately US\$2,500 million to US\$2,700 million in 2005. During 2005, we anticipate capital expenditures will focus primarily on the following:

- ramping up production at Fab 10, Fab 12 and Fab 14;

- development of process technologies such as sub-90nm nodes and 300-mm production; and

- other research and development projects.

These investment plans are still preliminary and our expected capital expenditures may change based upon market conditions.

**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 full capacity can have a significant positive effect on output and profitability. Starting from the first quarter of 2003, the capacity utilization rate calculation excludes engineering wafers and Vanguard figures. The average utilization rate for each quarter of 2004 was 105%, 106%, 103% and 88%, respectively and 100% for the entire year, compared to a utilization rate of 89% in 2003. Our capacity utilization rate was 78% for the first quarter of 2005.

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

- 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.

***Commitments by Customers.*** Because of the fast-changing technology and functionality in semiconductor design, foundry customers generally do not place purchase orders far in advance to manufacture a particular type of product. However, we engage in discussions with customers regarding their expected manufacturing requirements in advance of the placement of purchase orders.

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 an advance 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 December 31, 2004, our customers had on deposit an aggregate of approximately US\$12.8 million to reserve future capacity, which reserved capacity for the years 2005 through 2006.

### Markets and Customers

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

Customer Type	Year ended December 31,					
	2002		2003		2004	
	Net Sales	Percentage	Net Sales	Percentage	Net Sales	Percentage
(in millions, except percentages)						
Fabless semiconductor companies	NT\$114,991	70.9%	NT\$144,940	71.4%	NT\$175,162	68.1%
Integrated device manufacturers	45,866	28.2	57,245	28.2	80,508	31.3
Systems companies	1,444	0.9	812	0.4	1,543	0.6
Total	NT\$162,301	100.0%	NT\$202,997	100.0%	NT\$257,213	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 regional geographic breakdown of our net sales during the last three years:

Region	Year ended December 31,					
	2002		2003		2004	
	Net Sales	Percentage	Net Sales	Percentage	Net Sales	Percentage
(in millions, except percentages)						
North America	NT\$125,523	77.3%	NT\$154,075	75.9%	NT\$191,624	74.5%
Asia	30,448	18.8	39,381	19.4	47,584	18.5
Europe	6,330	3.9	9,541	4.7	18,005	7.0
Total	NT\$162,301	100.0%	NT\$202,997	100.0%	NT\$257,213	100.0%

A significant portion of our net sales are attributable to a relatively small number of our customers. In 2003 and 2004, our ten largest customers accounted for approximately 54% and 49% of our net sales, respectively.

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

We have five marketing and customer support offices. The office in Hsinchu serves Asian (excluding Japanese and Chinese) customers. Wholly-owned subsidiaries in the United States, Japan, Shanghai and the Netherlands serve North American, Japanese, mainland Chinese 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 service managers work closely with the sales force by providing integrated services and 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 (also referred to as a reticle), by an electron beam generator.

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



The following diagram illustrates the services we provide, either directly or through outsourcing, to our customers:

***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. 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, 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 We Manufacture.*** We manufacture different types of semiconductors with different specific functions 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 our foundries. We believe that the keys to maintaining high production quality and utilization rates are our effective management and control of the manufacturing process technologies 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 key 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.

***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 CMOS mixed-signal process down to 0.13 micron technology and 0.35 micron BiCMOS process and 0.35 micron and 0.18 micron 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.

**Memory Semiconductors.** Memory semiconductors, which are used in electronic systems to store data and program instructions, are generally classified as either volatile memory (which lose their data content when power supplies are switched off) or nonvolatile memory (which retain their data content without the need for a constant power supply). Examples of volatile memory include SRAM and DRAM and examples of nonvolatile memory include electrically EPROM and flash memory. We currently offer CMOS process for the manufacture of SRAM in resolutions down to 90 nanometer 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.

**CMOS Image Sensor Semiconductors.** Image sensors are primarily used in cameras, surveillance and security systems, and increasingly in vehicles. We are currently the leading foundry for the production of CMOS image sensors, characterized by technology features including low dark current, high sensitivity, smaller pixel size and high dynamic range achieved through integration with mixed mode processes.

**High Voltage Semiconductors.** We offer a range of high-voltage processes, ranging from 5V to 80V, which are suitable for various panel-size display driver and power IC applications. Applicable voltage range covers up to 20V with double-diffused-drain MOS structures and extends up to 80V with lateral-diffused MOS structures.

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

Semiconductor Type	Year ended December 31,					
	2002		2003		2004	
	Net Sales	Percentage	Net Sales	Percentage	Net Sales	Percentage
	(in millions, except percentages)					
CMOS						
Logic	NT\$129,630	79.9%	NT\$157,526	77.6%	NT\$174,905	68.0%
Memory	4,593	2.8	3,045	1.5	22,120	8.6
Mixed-Signal <sup>(1)</sup>	26,244	16.2	40,599	20.0	50,414	19.6
BiCMOS <sup>(2)</sup>	325	0.2	406	0.2	1,029	0.4
Others	1,509	0.9	1,421	0.7	8,745	3.4
Total	NT\$162,301	100.0%	NT\$202,997	100.0%	NT\$257,213	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 a wide range of design services, from providing fundamental technology files, libraries and other intellectual property to customization and chip implementation services.

To facilitate our customers' semiconductor designs, we provide a set of technology files for the process technologies we offer. The technology files include the necessary information to support design activities in physical layout, verification and circuit simulation.

To accelerate the time-to-market for our customers, we provide a set of foundation library and selected intellectual property to help designers expedite their design process. Our library and intellectual property portfolio includes standard logic cells, input/output interface cells, and memory/analog blocks. Each library and intellectual property portfolio is designed to maximize performance while minimizing area and power consumption. We also enter into arrangements with third-party providers to provide to our customers a broader range of library and intellectual property offerings.

With advanced process technologies entering the sub-micron range, designers require more guidance to deal with the increasing complexities of managing performance and power consumption. For this purpose, we have developed advanced reference design flows with major electronic design automation companies. We also apply these advanced design flows in our chip implementation services.

***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 and reduces mask development costs by a very significant factor, resulting in accelerated time-to-market for our customers. We have extended this program to all customers and library and IP partners using our 90nm process technology. This extension offers a routinely scheduled multiproject wafer run to customers on a shared-cost basis for prototyping and verification.

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. By sharing resources with our customers to the extent permissible, 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 a multifaceted basis, from senior management, sales and marketing, customer service staff to product and line engineers in the fabs and research and development staff;

ability to deliver ordered wafers of consistent quality, on time and in the desired quantities;

responsiveness to customer's requirements in terms of engineering change orders and special wafer handling;

flexibility in manufacturing processes, order size requirements and design changes, attributable in part to our technical capability and ability to plan and manage effectively many production runs;

ability to reduce customer costs through the sharing, to the extent permissible, of ever increasing silicon verification costs through our multi-project wafer service, which combines multiple designs on a single mask set;

eFoundry service which features real-time on-line information exchange throughout product design, engineering and logistic phases, including WIP (work in progress) performance reports for both in-house and subcontracted activities, for the processes of handling, assembly and final testing, before the products are shipped to our customers; and

Virtual fab , which is a customer service program designed to make our manufacturing services as transparent and easy to deal with for our customers as their own in-house fabs, with well coordinated resource management. The Virtual fab provides customers with the benefits of in-house fabs, including confidentiality of proprietary information, quality of service and products, on-time delivery and flexibility in scheduling and capacity.

### **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 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\$11,725 million, NT\$12,713 million and NT\$12,516 million (US\$394 million) in 2002, 2003

and 2004, respectively, on research and development, which represented 7.2%, 6.3% and 4.9%, respectively, of our net sales for these periods. We plan to continue to invest significant amounts on research and development in 2005, 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 and 0.11 micron process technology for volume production and 90 nanometer technology for engineering prototypes and early production, prior to the implementation of those advanced process technologies by most integrated device manufacturers and our competitors.

Our research and development efforts are divided into centralized research and development activities and research and development activities undertaken by each of our fabs. Our centralized research and development activities are principally directed toward developing most advanced and new generation manufacturing technologies. The research and development activities undertaken in each fab focus on upgrading the manufacturing process technologies.

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.

We also continuously create in-house inventions and know-how. We were issued a substantial number of United States and other patents in 2002, 2003 and 2004, most of which are semiconductor-related.

## **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, 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.

## **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 11.8% of our net sales in 2003 and 12.0% of our net sales in 2004. The three largest components of raw material costs — wafers, gas and chemicals — accounted for 40.0%, 12.3% and 19.6%, respectively, of our raw material costs in 2003 and 42.9%, 11.1% and 18.0%, respectively, of our raw material costs in 2004. Most of our raw materials generally are available from several suppliers. Our raw material procurement policy is to select only those vendors who have demonstrated quality control and reliability on delivery time and to maintain multiple sources for each raw material so that a quality or delivery problem with any one vendor will not adversely affect our operations. The quality and delivery performance of each vendor is evaluated monthly or quarterly and quantity allocations are adjusted for subsequent periods based on the evaluation.

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, and MEMC Electronic Materials of the United States. Together they supplied approximately 81% and 82% of our total wafer needs in 2003 and 2004, respectively. We have in the past obtained, and believe we will continue to be able to obtain, a sufficient supply of 150mm, 200mm and 300 mm wafers. After a moderate increase of wafer prices in 2000, the price of wafers decreased slightly during 2002, 2003 and 2004. We currently do not expect difficulties to obtain sufficient raw materials at reasonable prices in 2005. 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, and we have extended those agreements to cover our anticipated wafer needs for the next three to five years.

### **Competition**

We compete internationally and domestically with dedicated foundry service providers, as well as with integrated semiconductor companies that devote a portion of their manufacturing capacity to foundry operations. We 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. For example, 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 by others to establish new dedicated foundry companies in mainland China and elsewhere.

### **Environmental Regulation**

The semiconductor production process generates gaseous chemical wastes, liquid wastes, 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 wastes and liquid wastes 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, US Environmental Protection Agency or State Environmental Protection Administration of mainland China, and local environmental protection authorities, including the Science-Based Industrial Park Administration, the Washington State Department of Ecology or the Shanghai Environmental Protection Bureau.

We have adopted pollution control measures which are expected to result in the effective maintenance of environmental protection standards consistent with the practice of the semiconductor industry in Taiwan, the US and mainland China. 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 Taiwan regulatory requirements. 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 in Taiwan were ISO14001 and OHSAS18001 certified in 2004, except Fab 14, which is currently expected to be certified in June 2005. Fab 10, our manufacturing site in mainland China, is currently expected to receive ISO 14001 and OHSAS18001 certification by the end of 2005. WaferTech obtained ISO 14001 certification in 2001. While WaferTech has not obtained OHSAS18001 certification, it is complying with the U.S. OSHA voluntary protection program. In 2004, we received the Annual Environmental Protection Award for Enterprises from the ROC EPA and the Water Conservation Excellence Award from the Water Resource Agency. Moreover, WaferTech, which has been accepted into the U.S. EPA's performance track program in August 2004, has received four Meritorious Achievement awards from the State of Washington Department of Labor and Industry for its safety program achievements in the reduction of accident rates.

### **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 Southern Taiwan Science Park, such as ours, enjoy preferential electricity supply. We have sometimes suffered power outages caused by our major electricity supplier, the Taiwan Power Company, which lead to interruptions in our production schedule. For example, on April 10, 2004, a power outage caused by a circuit trip of a high voltage underground cable line of Taiwan Power Company affected our fabs in



Hsinchu Science Park. Two of our fabs, Fab 8 and Fab 12, were out of power for about one hour causing, according to our estimates, approximately a 0.6 day loss of wafer movement.

The semiconductor manufacturing processes also use extensive amounts of fresh water. Due to the growth of the semiconductor manufacturers in the Hsinchu Science Park and Southern Taiwan Science Park, and the droughts that Taiwan experiences from time to time, there is concern regarding future availability of sufficient fresh water and the potential impact insufficient water supplies may have on our semiconductor production. A recently

completed pipeline connecting reservoirs in Tainan with the river in Kaoshiung area has provided additional water supplies to the Southern Taiwan Science Park. Under the government's current water management policies, we currently expect to have sufficient water supplies for our production. Moreover, a large dam currently under construction in the Hsinchu area is expected to be in service in early 2006 and should increase the fresh water available in the Hsinchu Science Park. We have not experienced any water shortages at Fab 10, our manufacturing site in mainland China, and WaferTech.

## **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. 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. In addition, we have insurance policies covering losses in respect of the construction and erection of Fab 10, Fab 12 and Fab 14. Equipment and inventories in transit are also insured.

## **ITEM 5. OPERATING AND FINANCIAL REVIEWS AND PROSPECTS**

### **Overview**

We manufacture a variety of semiconductors based on designs provided by our customers. We also provide various design services. Our business model is now commonly called a "dedicated semiconductor foundry". The foundry segment of the semiconductor industry as a whole experienced rapid growth over the last 18 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\$166,198 million and NT\$65,106 million in 2000 to NT\$257,213 million (US\$8,104 million) and NT\$92,316 million (US\$2,909 million) in 2004, respectively, despite one major industry downturn over that same period. 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 erosion in average selling prices significantly offset volume growth. 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 recovery of the semiconductor industry combined with a more favorable product mix resulted in an increase of our net sales and net income from NT\$162,301 million and NT\$21,610 million in 2002 to NT\$202,997 million and NT\$47,259 million in 2003. Our net sales and net income in 2004 further increased to NT\$257,213 million (US\$8,104 million) and NT\$92,316 million (US\$2,909 million), respectively, primarily as a result of the continued growth of the semiconductor industry combined with a more favorable product mix.

The principal source of our revenue is wafer fabrication, which accounted for approximately 91% of our net sales in 2004. The rest of our net sales is derived from design, mask making, probing, testing and assembly services. Factors that significantly impact our revenue include:

the worldwide demand for semiconductor products;

the worldwide semiconductor production capacity as well as our production capacity;

capacity utilization;

technology migration; and

pricing.

***Production Capacity and Capacity Utilization.*** Capacity utilization is one of the key factors influencing our profit margin. Because a high percentage of our cost of sales is of a fixed nature, operations at or near full

capacity can have a significant positive effect on output and profitability. We have expanded our aggregate capacity from approximately 352,150 wafers per month as of year-end 2000 to approximately 479,734 wafers per month as of year-end 2004, and we expect to further expand our capacity to approximately 585,100 wafers per month by year-end 2005. Our annual sales volume grew from 3,408,000 wafers in 2000 to approximately 5,008,000 wafers in 2004. Due to increased demand, our average utilization rate for each quarter of 2004 was 105%, 106%, 103% and 88%, respectively, and 100% for the entire year, compared to 89% for 2003. Our capacity utilization rate was 78% for the first quarter of 2005. Starting from the first quarter of 2003, the capacity utilization rate calculation excludes engineering wafers and Vanguard figures.

**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 300 mm wafers which can produce a greater number of dies than 200mm 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 has usually offset the higher production costs associated with these semiconductors once an appropriate economy of scale is reached. Although mainly dictated by supply and demand, prices for wafers of a given level of technology typically decline over the technology's life cycle. Therefore, we must continue to offer additional services and to develop and successfully implement increasingly sophisticated technological capabilities to maintain our competitive strength.

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

Resolution	Year ended December 31,		
	2002 Percentage of total wafer Sales revenue <sup>(1)</sup>	2003 Percentage of total wafer Sales revenue <sup>(1)</sup>	2004 Percentage of total wafer Sales revenue <sup>(1)</sup>
0.13 micron	4%	17%	28% <sup>(2)</sup>
0.15 micron	26	20	13
0.18 micron	22	26	27
0.25 micron	25	20	15
0.35 micron	13	9	10
>0.5 micron	10	8	7
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.

(2) 2004 includes revenue generated from the sale of wafers with circuit resolutions of 0.13 micron and below.

**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 to our customers 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.

### **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. The following discussion should be read in conjunction with the consolidated financial statements and related notes, which are included in this report.

**Revenue recognition.** We recognize revenue when evidence of an arrangement exists, the shipment is made, price is fixed or determinable, and the collectibility is reasonably assured. Revenues from the design and manufacturing of photo masks, which are used as manufacturing tools in the fabrication process, are recognized when the photo masks are qualified by our customers. We record a provision for estimated future returns and other allowances in the same period the related revenue is recorded. Provision for estimated sales returns and other allowances are generally made at a specific percentage based on historical experience, our management's judgment, and any known factors that would significantly affect the allowance. However, because of the inherent nature of estimates, actual returns and allowances could be significantly different from our estimates. If the actual returns are greater than our estimated amount, we could be required to record additional provisions, which would have a negative impact on our recorded revenue and gross margin.

As of December 31, 2002, 2003 and 2004, the allowance we set aside for pricing discounts and sales returns was NT\$2,373 million, NT\$2,136 million and NT\$3,342 million (US\$105 million), respectively, representing 1.4%, 1.0% and 1.3% of our revenue as of those dates. For the years ended December 31, 2002 and 2003, we did not have to record any additional provisions subsequent to the year end because actual returns and pricing discounts were lower than the estimated amounts. For the year ended December 31, 2004, we also did not have to record any additional provisions as of February 28, 2005.

**Allowances for doubtful accounts.** We record provisions for doubtful accounts based on a percentage of all accounts receivable due from our customers. We determine this percentage 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 in general, were to deteriorate, additional allowances may be required in the future and such additional allowances would increase our operating expenses and therefore reduce our operating income and net income.

As of December 31, 2002, 2003 and 2004, the allowance we set aside for doubtful receivables was NT\$933 million, NT\$1,020 million and NT\$983 million (US\$31 million), respectively, representing 4.8%, 3.6% and 3.1% of our gross accounts receivables as of those dates. For the years ended December 31, 2002 and 2003, we did not have to record any additional allowances subsequent to the year end because the actual uncollectible amounts were lower than the estimated amounts. For the year ended December 31, 2004, we also did not have to record any additional allowances as of February 28, 2005.

**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. Due to rapid technology changes, we also evaluate our ending inventory and reduce the carrying value of inventory for estimated obsolescence and unmarketable inventory by an amount that is the difference between the cost of the inventory and the estimated market value lower than cost of the inventory. The estimated market value of the inventory is mainly determined based on assumptions of future demand and market conditions, generally for the next 180 days or less. If actual demand and market conditions are less favorable than those projected by management, additional write-downs may be required. If actual demand and market conditions are more favorable than anticipated, inventory previously written down may be sold, resulting in lower cost of sales and higher income from operations than expected in that period.

As of December 31, 2002, 2003 and 2004, we recorded inventory valuation allowances in the aggregate amount of NT\$1,736 million, NT\$1,364 million and NT\$1,578 million (US\$50 million), respectively. Our inventory valuation allowances were primarily for estimated scraps and defects. For the years ended December 31, 2002 and 2003, we did not have to record any additional allowances subsequent to the year end because actual write-offs were lower than the estimated amounts. For the year ended December 31, 2004, we also did not have to record any additional allowances as of February 28, 2005.

***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 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. 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. The ultimate realization of the deferred tax assets

depends upon the generation of future taxable income during the periods in which the net operating losses and temporary differences become deductible or the investment tax credits may be utilized. Specifically, our valuation allowances are impacted by our expected future revenue growth and profitability, tax holidays, and the amount of tax credits that can be utilized within the statutory period. In determining the amount of valuation allowance for deferred tax assets as of December 31, 2004, we considered past performance, the general outlook of the semiconductor industry, future taxable income and prudent and feasible tax planning strategies.

Because the determination of the amount of valuation allowance is based, in part, on our forecast of future profitability, it is inherently uncertain and subjective. Changes in market conditions and our assumptions may cause the actual future profitability to differ materially from our current expectation, which may require us to increase or decrease the amount of valuation allowance that we have recorded. 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 deferred tax assets during those periods of already reduced income.

As of December 31, 2002, 2003 and 2004, the ending balance for valuation allowances under ROC GAAP were NT\$12,974 million, NT\$15,957 million and NT\$14,611 million (US\$460 million), respectively, representing 49.6%, 62.7% and 58.0% of gross deferred tax assets as of those dates.

***Valuation of goodwill, intangible assets and other long-lived assets.*** Under U.S. GAAP, we assess the impairment of long-lived assets, intangible assets and goodwill annually, or more frequently whenever events or changes in circumstances indicate that the asset may be impaired and carrying value may not be recoverable. Our long-lived assets subject to this evaluation include property, plant and equipment and amortizable intangible assets. Factors we consider important which could trigger an impairment review include, but are not limited to, 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 goodwill, intangible assets and other long-lived assets 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. If the long-lived assets determined to be impaired are to be held and used, we recognize an impairment loss through a charge to our operating results to the extent the present value of anticipated net cash flows attributable to the assets are less than their carrying value. We also perform periodic reviews to identify the assets that are no longer used and are not expected to be used in future periods. An impairment charge is recorded to the extent, if any, that the carrying amount of the idle assets exceeds their fair value.

The process of evaluating the potential impairment of long-lived assets requires significant judgment. We are required to review for impairment groups of assets related to the lowest level of identifiable independent cash flows. Due to our asset usage model and the interchangeable nature of our semiconductor manufacturing capacity, we must make subjective judgments in determining the independent cash flows that can be related to specific asset groupings. In addition, because we must make subjective judgments regarding the remaining useful lives of assets and the expected future revenue and expenses associated with the assets, changes in these estimates based on changed



economic conditions or business strategies could result in material impairment charges in future periods. 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.

Application of the goodwill impairment test is also highly subjective and requires significant 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.

Net long-lived assets and goodwill amounted to NT\$266,027 million (US\$8,381 million) under ROC GAAP and NT\$301,203 million (US\$9,490 million) under US GAAP as of December 31, 2004.

**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 review all of our investments for impairment quarterly and record an impairment charge when we believe an investment has experienced an other-than-temporary decline in value. Determining whether an other-than-temporary decline in value of the investment has been sustained is highly subjective. Such evaluation is dependent on specific facts and circumstances. Factors we consider include, but are not limited to, the following: the market value of the security in relation to its cost basis, the financial condition of the investee, and the intent and ability to retain the investment for a sufficient period of time to allow for recovery in the market value of the investment. Impairment reviews in respect of private equity investments also require significant judgments. Factors indicative of an other-than-temporary decline in value include recurring operating losses, credit defaults and subsequent rounds of financings at an amount below the cost basis of the investment.

We have experienced significant declines in the value of certain privately held investments and we recorded impairment loss of NT\$796 million, NT\$653 million and NT\$351 million (US\$11 million) in 2002, 2003 and 2004, respectively. While we have recognized all declines that are currently believed to be other-than-temporary, adverse changes in market conditions or poor operating results of underlying investments could result in further losses in future periods.

## 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:

	For the year ended December 31,		
	2002	2003	2004
Net sales	100.0%	100.0%	100.0%
Cost of sales	(67.8)	(63.1)	(55.0)
Gross profit	32.2	36.9	45.0
Operating expenses			
General and administrative	(4.1)	(4.0)	(4.4)
Marketing	(1.4)	(1.3)	(1.3)
Research and development	(7.2)	(6.3)	(4.9)
Total operating expenses	(12.7)	(11.6)	(10.6)
Income from operations	19.5	25.3	34.4
Non-operating income and gains	1.4	2.8	2.4
Non-operating expenses and losses	(4.1)	(2.9)	(1.0)
Income before income tax and minority interest	16.8	25.2	35.8
Income tax (expense) benefit	(3.5)	(1.9)	0.1

Income before minority interest	13.3	23.3	35.9
Minority interest in loss (income) of subsidiaries	0.0	0.0	0.0
Net income	13.3%	23.3%	35.9%

**Year to Year Comparisons***Net Sales and Gross Margin*

	For the Year Ended December 31,					
	2002	2003	% Change from 2002	2004		% Change from 2003
				NT\$	US\$	
	(in millions)	(in millions)		(in millions)		
Net sales	162,301	202,997	25.1%	257,213	8,104	26.7%
Cost of sales	(109,988)	(128,113)	16.5%	(141,394)	(4,455)	10.4%
Gross profit	52,313	74,884	43.1%	115,819	3,649	54.7%
Gross margin percentage	32.2%	36.9%		45.0%		

Our net sales for 2004 increased 26.7% from 2003, following an increase of 25.1% in 2003 from 2002. The back-to-back significant increase in our net sales for 2004 and 2003 was largely attributable to an increase in customer demand, which resulted in a 35.3% increase in wafers sold in 2004, from 3,700 thousand wafers in 2003 to 5,007 thousand wafers in 2004, and a 38.3% increase in wafers sold in 2003, from 2,675 thousand in 2002 to 3,700 thousand in 2003. The increase in sales volume was partially offset by a 3% and a 7% decrease in the average selling price of our wafers in US dollar terms for 2004 and 2003, respectively. The decrease in the average selling price of our wafers in US dollar terms was primarily the result of a decline in pure pricing, partially offset by a more favorable product mix as we saw a shift in product mix toward higher priced products using the more advanced technology. Our sales for 2004 and 2003 were also negatively impacted by a stronger NT dollar against US dollar as the majority of our sales are denominated in US dollars. On the other hand, our sales for 2002 were positively impacted by a weaker NT dollar against the US dollar.

Our gross margin fluctuates, depending on the level of utilization of manufacturing capacity, wafer shipments and product mix, among other factors. Our gross margin improved to 45.0% of net sales in 2004 from 36.9% of net sales in 2003, following the gross margin improvement from 32.2% in 2002 to 36.9% in 2003. The improved margin was primarily driven by higher capacity utilization, as we saw our capacity utilization increase from 73% in 2002 to 89% in 2003 and to 100% in 2004. Higher wafer shipment and the improvement in overall product mix during 2004 and 2003 also offset the unfavorable impact on gross margin of pure price declines and higher fixed manufacturing costs, and to a lesser extent increased material and labor costs typically required during early stages for the manufacturing of advanced semiconductors. Depreciation and amortization expenses related to cost of sales increased from NT\$63,374 million in 2003 to NT\$64,201 million (US\$2,023 million) in 2004, and from NT\$59,566 million in 2002 to NT\$63,374 million in 2003. The increase in depreciation and amortization expenses in 2004 reflects our capital investment in order to ramp up Fab 12 (Phase I) and Fab 14 (Phase I), and the increase in depreciation and amortization expenses in 2003 reflects our capital investment in order to ramp up Fab 12 (Phase I) and expand capacity at Fab 6 and Fab 8. We anticipate that our depreciation and amortization expenses related to cost of sales for 2005 will be higher than 2004 as a result of increased depreciation for Fab 12 (Phase I and Phase II) and Fab 14 (Phase I).

*Operating Expenses*

	For the Year Ended December 31,					
			% Change from 2002	2004		% Change from 2003
	2002 NT\$ (in millions)	2003 NT\$ (in millions)		NT\$ (in millions)	US\$	
Research and development	11,725	12,713	8.4%	12,516	394	(1.5)%
General and administrative	6,768	8,200	21.2%	11,454	361	39.7%
Marketing	2,231	2,670	19.7%	3,367	106	26.1%
Total operating expenses	20,724	23,583	13.8%	27,337	861	15.9%
Percentage of net sales	12.8%	11.6%		10.6%		
Income from operations	31,589	51,301	62.4%	88,482	2,788	72.5%
Operating Margin	19.5%	25.3%		34.4%		

Operating expenses increased NT\$3,754 million in 2004, or 15.9%, from 2003, after an increase in operating expenses of NT\$2,859 million in 2003, or 13.8%, from 2002.

*Research and Development Expenses*

We remain committed to being the leader in developing advanced process technologies. We believe that continued strategic investments in process technologies are essential for us to remain competitive in the markets we serve. Research and development expenditures decreased NT\$197 million in 2004, or 1.5%, from 2003. Research and development expenses were lower in 2004 than in 2003 primarily due to the decrease in expenses relating to development activities in 0.11 micron and 90 nanometer technologies in 2004 compared to 2003 as these technologies have become more mature in 2004 compared to 2003. The decrease in research and development expenses in 2004 was partially offset by an increase in research and development expenditures in connection with our development activities in 65 nanometer technologies. We anticipate that our annual research and development expenditures will remain at a similar absolute level in 2005 as in 2004.

Research and development expenditures increased NT\$988 million in 2003, or 8.4%, from 2002, largely as a result of our continued development activities in 0.11 micron, 90 nanometer and 65 nanometer technologies and in 300 mm wafer manufacturing processes.

*Marketing, General and Administrative Expenses*

Marketing, general and administrative expenses increased NT\$3,951 million in 2004, or 36.3%, from 2003. This increase was primarily due to Fab 14 (Phase I) opening expenses and increased marketing expenses associated with increased business activities.

Marketing, general and administrative expenses increased NT\$1,871 million in 2003, or 20.8%, from 2002. This increase primarily resulted from an increase in expenses associated with patent applications, higher sales and marketing expenses associated with increased business activities, and an increase in expenses for information

technology infrastructure in connection with the expansion of Fab 6 and Fab 12 (Phase I).

For the second year in a row, our operating margin continued to improve, from 19.5% in 2002, to 25.3% in 2003, and to 34.4% in 2004.

*Non-Operating Income and Expenses*

	For the Year Ended December 31,					
			% Change from 2002	2004		% Change from 2003
	2002 NT\$ (in millions)	2003 NT\$ (in millions)		NT\$ (in millions)	US\$ (in millions)	
Non-operating income and gains	2,350	5,669	141.3%	6,090	192	7.4%
Non-operating expenses and losses	(6,717)	(5,791)	(13.8)%	(2,606)	(82)	(55.0)%
Net non-operating income (expenses)	(4,367)	(122)	(97.2)%	3,484	110	(1)

(1) Not meaningful.

Non-operating income and gains increased NT\$421 million in 2004, or 7.4%, from 2003. This increase primarily resulted from a NT\$2,094 million increase in net investment income recognized by the equity method as a result of improved operating results of our unconsolidated affiliates, and a NT\$970 million increase in interest income reflecting the addition of significant amounts of interest bearing instruments to our investment portfolio, partially offset by a NT\$2,624 million decrease in the net gain realized on sales of investments.

Non-operating income increased NT\$3,319 million in 2003, or 141.3%, from 2002. The increase primarily resulted from a NT\$3,538 million increase in the net gain realized on sales of investments largely as a result of the sale of 2.6 million shares of Marvell Technology Group, Ltd. (NASDAQ: MRVL).

Non-operating expenses and losses decreased NT\$3,185 million in 2004, or 55.0%, from 2003. This decrease was primarily attributable to a NT\$1,506 million decrease in write-off of certain fixed and idle assets and related expenses, a NT\$373 million decrease in foreign exchange loss as a result of improved hedging strategies and the selection of appropriate hedging instruments with lower hedging cost, and a NT\$362 million decrease in interest expense as a result of reduced borrowings.

Non-operating expenses decreased NT\$926 million in 2003, or 13.8%, from 2002. The decrease principally resulted from a NT\$1,683 million decrease in investment loss recognized by the equity method as a result of better operating performance from our non-consolidated affiliates, and a NT\$726 million decrease in interest expense, reflecting our reduced borrowings. This was partially offset by a NT\$1,262 million increase in write-off of certain fixed and idle assets and related expenses and a NT\$635 million increase in foreign exchange loss, as we incurred more costs associated with foreign exchange hedging.

*Income Tax Benefit (Expense)*

	For the Year Ended December 31,					
			% Change from 2002	2004		% Change from 2003
	2002 NT\$	2003 NT\$		NT\$	US\$	

	<b>(in millions)</b>			<b>(in millions)</b>		
Income tax benefit (expense)	(5,637)	(3,923)	(30.4)%	363	11	(1)%
Net income	21,610	47,259	118.7%	92,316	2,909	95.3%
Net margin	13.3%	23.3%		35.9%		

(1) Not meaningful.

In 2004, we had an income tax benefit of NT\$363 million, compared to an income tax expense of NT\$3,923 million in 2003. The change was primarily due to an increase in tax credits as a result of an increase in capital expenditures in 2004 and an increase of the portion of profits derived from fabs that enjoy preferential tax



treatment. See *Taxation* below for a discussion of preferential tax treatment. We currently anticipate having similar tax credits in 2005 as a result of our planned capital expenditures in 2005 and because we currently expect to derive a portion of our profits from fabs which enjoy preferential tax treatment.

Our 2003 income tax expense decreased NT\$1,714 million or 30.4% from 2002. The decrease was primarily due to an increase in tax credits, which was partially offset by an increase in our taxes payable in respect of the 10% tax on unappropriated earnings. The increase in tax credits was largely attributable to a 2003 tax law change. In February 2003, the ROC tax authority removed certain restrictions on how companies may utilize their tax credits carried over from prior years. As a result, the amount of tax credits utilized in 2003 and the amount of tax credits that may be utilized in future years has increased.

### Liquidity and Capital Resources

Our financial condition is strong, with cash, cash equivalents and short-term investments of NT\$128,410 million (US\$4,046 million) as of December 31, 2004, up from NT\$116,600 million as of December 31, 2003. Our short-term investments primarily consist of corporate bonds, corporate issued asset-backed securities, bond funds, agency bonds, government bonds and money market funds. Cash and cash equivalents decreased by NT\$28,687 million in 2004 as compared to an increase of NT\$35,199 million in 2003.

	For the year ended December 31,					
	2002	2003	% Change from 2002	2004		% Change from 2003
				NT\$	US\$	
	NT\$ (in millions)	NT\$		NT\$ (in millions)	US\$	
Net cash provided by operating activities	98,507	116,037	17.8%	153,151	4,825	32.0%
Net cash used in investing activities	(62,190)	(53,706)	(13.6)%	(148,013)	(4,663)	175.6%
Net cash provided by (used in) financing activities	(6,346)	(27,070)	326.6%	(32,155)	(1,013)	18.8%
Net increase/(decrease) in cash and cash equivalents	30,234	35,199	16.4%	(28,687)	(904)	(1)%

(1) Not meaningful.  
*Operating Activities*

In 2004, we generated NT\$153,151 million (US\$4,825 million) net cash from operating activities, as compared to NT\$116,037 million in 2003 and NT\$98,507 million in 2002. The increases in 2004 compared to 2003 and in 2003 compared to 2002 were primarily the result of net income of NT\$92,316 million (US\$2,909 million) in 2004 and of NT\$47,259 million in 2003, after adjusting for non-cash depreciation and amortization expenses of NT\$69,819 million (US\$2,200 million) in 2004 and NT\$69,161 million in 2003.

In 2004, non-cash depreciation and amortization expenses were NT\$69,819 million (US\$2,200 million), compared to NT\$69,161 million in 2003 and NT\$65,001 million in 2002. The increase in non-cash depreciation and amortization expenses in 2004 compared to 2003 was primarily due to increased depreciation associated with ramping up Fab 12 (Phase I) and Fab 14 (Phase I). Depreciation and amortization expenses were higher in 2003 than in 2002 primarily due to increased depreciation associated with ramping up Fab 12 (Phase I) and the capacity increases at Fab

6. We expect depreciation and amortization expenses to increase in 2005 as we continue to ramp up capacity at Fab 12 (Phase I and Phase II) and Fab 14 (Phase I).

*Investing Activities*

Net cash used in investing activities amounted to NT\$148,013 million (US\$4,663 million) in 2004, a significant increase from NT\$53,706 million in 2003 and NT\$62,190 million in 2002. The primary cash usage for

investing activities for 2002, 2003 and 2004 was for capital equipment purchases, which totaled NT\$55,236 million, NT\$37,871 million and NT\$81,095 million (US\$2,555 million), respectively. Capital equipment purchases in 2002 and 2003 related primarily to the ramping up Fab 12 (Phase I) and capacity increases at Fab 6 and 8. Capital equipment purchases in 2004 related primarily to:

ramping up Fab 12 (Phase I), Fab 14, Fab 6, and Fab 10;

construction of Fab 12 (Phase II);

upgrading the technology at Fab 3, Fab 8, and WaferTech; and

research and development projects.

We currently expect capital expenditures to be between US\$2,500 million and US\$2,700 million for 2005. We expect this amount to be spent primarily on process technologies such as sub-90nm nodes and 300-mm production, ramping up Fab 10, Fab 12 and Fab 14, and research and development projects. See Item 4. Information on the Company Capacity Expansion and Technology Upgrade Plans for a discussion of our capacity expansion and capital expenditures. In addition, we purchased a total of NT\$43,555 million (US\$1,372 million) and NT\$13,326 million in short-term investments in 2004 and 2003, respectively, as part of our efforts to diversify our cash investments.

#### *Financing Activities*

We used NT\$32,155 million (US\$1,013 million) in net cash for financing activities in 2004 as compared to NT\$27,070 million and NT\$6,346 million used for financing activities in 2003 and 2002, respectively. We used NT\$12,137 million (US\$382 million) for the payment of cash dividends on our common stock in June 2004, and we used NT\$7,060 million (US\$222 million) to repurchase shares in the first half of 2004. In addition, we reduced our borrowings by repaying NT\$6,656 million (US\$210 million) in long-term bank loans and NT\$5,000 million (US\$158 million) in corporate bonds. The net cash used in financing activities in 2003 primarily reflects payments for the redemption of our preferred stock of NT\$13,000 million in May 2003 and repayments of long-term bank loans and corporate bonds in the amounts of NT\$8,916 million and NT\$4,000 million, respectively. The net cash used in financing activities in 2002 primarily reflects net payments made on short-term bank loans of NT\$5,539 million and on long-term bank borrowings of NT\$4,397 million, a decrease in guarantee deposits and other liabilities of NT\$5,818 million, partially offset by the net proceeds from the issuance of corporate bonds of NT\$10,000 million.

As of December 31, 2004, we had aggregate short-term debt of NT\$383 million (US\$12 million), current portion of long-term debt of NT\$10,500 million (US\$331 million) and aggregate long-term debt of NT\$21,415 million (US\$675 million). NT\$383 million (US\$12 million) of the short-term debt and NT\$1,915 million (US\$60 million) of the 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\$30,000 million of the long-term bonds (including current portion) had fixed interest rates ranging from 2.60% to 5.36%. As of December 31, 2004, we had an aggregate of approximately NT\$24,250 million (US\$764 million) in unused short-term credit lines. As of December 31, 2004, we did not have any 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:

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an earnings before interest, taxes, depreciation and amortization to gross interest expense ratio of 5:1; and  
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a total net worth to total indebtedness ratio of 1:1.5.

As of March 31, 2005, 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.

#### *Cash Requirements*

The following table sets forth the maturity of our long-term debt (bank loans and bonds) and short-term debt (bank loans and current portion of long term debt) outstanding as of December 31, 2004:

	<b>Long-term debt</b>	<b>Short-term debt</b>
	<b>(in millions)</b>	
During 2005	NT\$ 10,500	383
During 2006	1,915	
During 2007	7,000	
During 2008		
During 2009 and thereafter	12,500	

The following table sets forth information on our material contractual obligated payments for the periods indicated as of December 31, 2004:

<b>Contractual Obligations</b>	<b>Total</b>	<b>Payments Due by Period</b>			
		<b>Less than 1 Year</b>	<b>1-3 Years (in millions)</b>	<b>4-5 Years</b>	<b>More than 5 Years</b>
Long-Term Debt <sup>(1)</sup>	NT\$ 31,915	NT\$ 10,500	NT\$ 8,915	NT\$ 8,000	NT\$ 4,500
Capital Lease Obligations <sup>(2)</sup>	566				566
Operating Leases <sup>(3)</sup>	3,209	354	694	648	1,513
Other Payments <sup>(4)</sup>	9,470	1,505	914	511	6,540
Capital Purchase or other Purchase Obligations <sup>(5)</sup>	5,723	5,691	32		
<b>Total Contractual Cash Obligations<sup>(6)</sup></b>	<b>50,883</b>	<b>18,050</b>	<b>10,555</b>	<b>9,159</b>	<b>13,119</b>

(1) Excludes interest payments.

(2) Capital lease obligations represent our commitment for leases of property. The obligations are included in the consolidated balance sheets as other liability. See note 23 to our consolidated financial statements for additional details.

(3) Operating lease obligations are described in note 23 to our consolidated financial statements.

(4) Includes royalty and license payments, as well as payables for acquisition of property, plant and equipment, but excludes payments that vary based upon our net sales of certain products and our sales volume of certain other products.

- (5) Represents commitments for construction or purchase of equipment, raw material and other property or services. These commitments are not recorded on our balance sheet as of December 31, 2004, as we have not received related goods or taken title of the property.
- (6) Minimum pension funding requirement is not included since such amounts have not been determined. We made pension contributions of approximately NT\$226 million in 2004 and we estimate that we will contribute approximately NT\$233 million to the pension fund in 2005. See note 15 to our consolidated financial statements for additional details regarding our pension plan.

During 2004, we entered into derivative financial instruments transactions to manage exposures related to foreign-currency denominated receivables or payables, and interest rate fluctuations. As of December 31, 2004, our cash requirements in 2005 for outstanding forward exchange contracts was approximately US\$2,312 million, with our expected cash receipts of approximately NT\$69,762 million and EUR119 million. See Item 11. Quantitative and Qualitative Disclosures about Market Risk for more information regarding our derivative financial instruments transactions. See also note 2 to the consolidated financial statements for our accounting policy of derivative financial instruments and note 25 to the consolidated financial statements for additional details regarding our derivative financial instruments transactions.

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\$55,236 million, NT\$37,871 million and NT\$81,095 million (US\$2,555 million) in 2002, 2003 and 2004, respectively. We currently expect that our plans for the development of process technologies such as sub-90nm nodes and 300mm production and ramping up production at Fab 10, Fab 12 and Fab 14 and research and development projects will require capital expenditures of approximately US\$2,500 million to US\$2,700 million for 2005.

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 our working capital, cash flow from operations and unused lines of short-term credit will provide sufficient resources to meet our planned capital requirements.

On March 23, 2004, our board of directors approved a share buyback plan for the purchase of up to 300,000,000 common shares. Please see Item 16E. Purchases of Equity Securities by the Issuer and Affiliated Purchasers for more information.

### 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,			
	2002 NT\$	2003 NT\$	2004 NT\$	2004 US\$
	(in millions)			
Net income (loss) in accordance with:				
ROC GAAP	21,610	47,259	92,316	2,909
US GAAP	14,534	38,661	76,253	2,402
Shareholders' equity in accordance with:				
ROC GAAP	295,853	329,214	398,965	12,570
US GAAP	310,623	357,173	427,125	13,457

Note 27 to the consolidated financial statements provides a description of the principal differences between ROC GAAP and US GAAP as they relate to us, and a reconciliation to US GAAP of certain items, including net income and shareholders' equity. Differences between ROC GAAP and US GAAP that have a material effect on our net income as reported under ROC GAAP include compensation expense pertaining to stock bonuses to employees, directors and supervisors, marketable securities, impairment charges for long-lived assets, and amortization of goodwill.

We paid employee bonuses in the form of common shares in 2002 and in both cash and common shares in 2003. We expect to pay employee bonuses in future periods in both cash and common shares. In May 2005, our shareholders approved the distribution of an aggregate bonus to our employees of NT\$6,172 million, or 8% of our 2004 distributable net income, to be paid in 2005, 50% of which will be paid in cash and 50% will be paid in the form of common shares. 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. 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. 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.

Under ROC GAAP, short-term investments are carried at the lower of cost or market value with only unrealized losses charged to current earnings. The market value of listed stocks is determined using the average-closing price for the last month of the period. Long-term investments in marketable equity securities without exercising significant influence are recorded at historical cost. Long-term investments in debt securities are carried at cost. An allowance is recognized for any decline in the market value of investments with readily ascertainable fair market value with the corresponding amount recorded as an unrealized loss presented as a separate item in shareholders' equity. The carrying values of such investments whose fair market values are not readily ascertainable are reduced to reflect an other-than-temporary decline in their values, with the related impairment loss charged to income. Under US GAAP, debt and equity securities that have readily determinable fair market values are classified as either trading, available-for-sale or held-to-maturity securities. Trading securities are reported at fair value, with unrealized gains and losses included in earnings. Available-for-sale securities are also reported at fair value, with unrealized gains and losses reported in a separate component of shareholders' equity. Debt securities are reported at amortized cost. Additionally, under US GAAP, fair market value of listed stocks is determined using the closing price of the listed stock on the last trading day for the period.

For purposes of US GAAP, we are required to periodically evaluate the recoverability of the carrying amount of our long-lived assets. 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. Prior to 2002, under ROC GAAP, we were not required to record impairment losses of assets that can still be used in the business and were required to evaluate the impairment losses of idle assets which are purchased for use in the business but subsequently determined to have no use. Please see note 27.c. to the consolidated financial statements for a more detailed discussion of the impairment of long-lived assets and US SFAS No. 144.

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 US SFAS No. 142, Goodwill and Other Intangible Assets. In accordance with US 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.

In ROC, a 10% tax is imposed on any undistributed earnings. For ROC GAAP purposes, we record the 10% tax on undistributed earnings in the year of shareholders' approval. Under US GAAP, the 10% tax on undistributed earnings should be accrued during the period the earnings arise and adjusted to the extent that distributions are approved by the shareholders in the following year. To the extent we do not have sufficient tax credits to offset the 10% tax, an expense would be recognized in the year of the earnings under US GAAP.

**Taxation**

We enjoy preferential tax treatment in certain respects under the Hsinchu and Southern Taiwan 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 2002, 2003 and 2004

were NT\$2,527 million, NT\$5,256 million and NT\$14,713 million, respectively. We commenced the exemption period for Fab 6 in 2001, part of Fab 8 in 2002 and part of Fab 2, and Fab 3, 4, 5 and 6 in 2003, and Fab 12 (Phase I) in 2004.

Pursuant to the ROC Statute for Upgrading Industries, we are entitled to credit 5% to 20% of investments, depending on the type 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 ROC 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.

### **Off-Balance Sheet Arrangements**

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

### **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.

### **Recent Accounting Pronouncements**

Please see notes 2 and 28.a. to the consolidated financial statements for a discussion of recent accounting pronouncements relating to ROC GAAP and US GAAP, respectively. We do not expect those recent accounting pronouncements to have a material effect on our consolidated financial statements.

## **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 laws or regulations, or our articles of incorporation or a resolution of a meeting of shareholders.

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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 March 31, 2005. The business address for each of our directors, supervisors and executive officers is No. 8, Li Hsin Road 6, Hsinchu Science Park, Hsinchu, Taiwan, Republic of China.

<b>Name</b>	<b>Position with our company</b>	<b>Term Expires</b>	<b>Years with our company</b>
Morris Chang <sup>(1)</sup>	Chairman and Chief Executive Officer	2006	18
J.C. Lobbezoo	Director (Representative of Philips)	2006	11
Mario Alberto Rivas <sup>(2)</sup>	Director (Representative of Philips)	2006	1
F.C. Tseng <sup>(3)</sup>	Director and Deputy Chief Executive Officer	2006	18
Stan Shih	Director	2006	5
Chintay Shih	Director (Representative of the Development Fund)	2006	8
Lester Carl Thurow	Director	2006	3
Sir Peter Leahy Bonfield	Director	2006	3
Rick Tsai <sup>(1)</sup>	Director, President and Chief Operating Officer	2006	15
Robbert J. Brakel	Supervisor (Representative of Philips)	2006	4
James C. Ho <sup>(4)</sup>	Supervisor (Representative of the Development Fund)	2006	1
Michael E. Porter	Supervisor	2006	3
Quincy Lin <sup>(5)</sup>	Senior Vice President of Corporate Development and Chief Information Officer		15
Shang-Yi Chiang	Senior Vice President of Research and Development		8
Kenneth Kin	Senior Vice President of Worldwide Sales and Services		4
Steve Tso	Senior Vice President of Information Technology and Chief Information Officer		8
Lora Ho	Vice President, Chief Financial Officer and Spokesperson		6
J. B. Chen	Vice President of Material Management and Risk Management		18
Ping Yang	Vice President of Research and Development		7
C.C. Wei	Vice President of Operations I		7
Mark Liu	Vice President of Operations II		11
Genda Hu	Vice President, Special Assistant to Deputy Chief Executive Officer		5
M.C. Tzeng			18

	Vice President of Operations, Deputy of Operations I	
Richard Thurston	Vice President and General Counsel	3
Chiam Wu	Vice President of Worldwide Customer Service	3
P.H. Chang	Vice President of Corporate Human Resources	5
W.J. Lo	Vice President of Operations II	1
Jason Chen	Vice President of Corporate Development	1

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- (1) On May 10, 2005, the Board of Directors resolved that effective July 1, 2005, Mr. Rick Tsai will replace Mr. Morris Chang as the Chief Executive Officer. Mr. Rick Tsai will also continue to serve as a director and President, but will no longer serve as Chief Operating Officer. Mr. Morris Chang will remain as the Chairman.
  - (2) Effective December 15, 2004, Mr. Mario Alberto Rivas replaced Mr. Scott Mc Gregor.
  - (3) On May 10, 2005, the Board of Directors resolved that effective July 1, 2005, Mr. F.C. Tseng will serve as Vice Chairman instead of Deputy Chief Executive Officer.
  - (4) Effective August 20, 2004, Mr. James C. Ho replaced Ms. Susan Chang.
  - (5) Retired on February 28, 2005.

**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 50 years.

**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's 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.

**Mario Alberto Rivas** is a director and replaced Mr. Scott McGregor on December 15, 2004. Mr. Rivas is the Executive Vice President of Communications Business at Philips Semiconductors and also a member of Philips Semiconductors' Executive Management Team. Prior to that, he was Corporate Vice President of the semiconductor business of Motorola, Inc. (now Freescale Semiconductor, Inc.). Mr. Rivas holds a bachelor's degree in electrical engineering from UCA-El Salvador and a master's degree in E.E. Semiconductor physics and business administration from Rensselaer Polytechnic Institute.

**F.C. Tseng** is a director. He has been Deputy Chief Executive Officer since August 2001. He is the Chairman of Global Unichip Corp. and also a director of Prosperity Venture Capital Corp., digimax, Inc. and Allegro Manufacturing Pte. Ltd. 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 34 years.

**Stan Shih** is an independent director. He is the Group Chairman of iD SoftCapital and a director of Acer, BenQ, and Wistron. He is also co-founder and Chairman Emeritus of the Acer Group. He had 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 an honorary Ph.D. in electrical engineering from National Chiao Tung University. He also holds an honorary doctorate degree in technology from the Hong Kong Polytechnic University, an honorary fellowship from the University of Wales and an honorary doctoral degree in international law from the American Graduate School of International Management.

**Chintay Shih** is a director. He is a professor and dean at the College of Technology Management of National Tsing Hua University. He is also a Managing Director and Special Advisor 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. Prof. Thurow is the 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 Financial Corporation. 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 and Chairman of the Executive Committee of British Telecommunications from January 2, 1996 to January 31, 2002. He currently is the 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 a member of the Citigroup International Advisory Board and the Sony Corporation Advisory Board. Furthermore, Sir Peter Bonfield is a non-executive member of Actis LLP Supervisory Board, as well as a non-executive director of the Corporate Board of the Department for Constitutional Affairs and a non-executive director of Her Majesty's Courts Services Board. He holds a bachelors degree in engineering from Loughborough University of Technology.



**Rick Tsai** is a director. He has been President and Chief Operating Officer since August 2001. He was Executive Vice President of Worldwide Marketing and Sales from September 2000 to August 2001. Prior to that, he served as our Executive Vice President of Operations. He also served as the President of Vanguard from 1999 to 2000. He joined us in 1989 as Deputy Director of our Fab 2 operations. He holds a Ph.D. in material science from Cornell University and has been active in the semiconductor industry for over 23 years.

**Robbert J. Brakel** is a supervisor. Mr. Brakel is Vice President and Chief Financial Officer of Philips Mobile Display Systems. He is also a director of Philips Electronic Industries (Taiwan) Ltd. And Philips Electronic Building Elements Industries (Taiwan) Ltd. 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 from the Free University of Amsterdam and is a chartered controller.

**James C. Ho** is a supervisor and replaced Ms. Susan Chang on August 20, 2004. He is the Deputy Executive Secretary of the Development Fund and a director of Taiwan High Speed Rail. He was the Executive Director of the Center for Economic Deregulation and Innovation, as well as Deputy Executive Director and Executive Director of the Asia-Pacific Regional Operations Center, under the Council for Economic Planning and Development of the ROC Executive Yuan. Mr. Ho holds an M.A. and a Ph.D. in economics from the University of Pittsburgh.

**Michael E. Porter** is an independent supervisor. Mr. Porter is also a director of Inforte Corporation, Parametric Technology Corporation as well as Thermo-Electron Corporation. 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 bachelor's degree in mechanical engineering from Princeton University.

**Quincy Lin** had 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 22 years. Mr. Quincy Lin retired on February 28, 2005.

**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 28 years.

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

**Steve Tso** joined us as Vice President of Research and Development in December, 1996 and is now Senior Vice President and Chief Information Officer. Prior to that, he was general manager of Applied Materials. He was assigned as President of WaferTech in November 2001. Mr. Tso holds a Ph.D. in material science and engineering from the University of California, Berkeley.

**Lora Ho** has been Vice President, Chief Financial Officer and Spokesperson since September 8, 2003, when she replaced Mr. Harvey Chang. Prior to joining us in 1999 as controller, she served as Vice President Finance and Chief Financial Officer at Acer Semiconductor Manufacturing Inc. since 1990. Ms. Ho received an EMBA from National

Taiwan University in 2003 and a B.A. degree from National Chengchi University in 1978.

**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 23 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.

**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 18 years.

**Genda Hu** had been Vice President of Corporate Marketing since May 2001 and was appointed as Vice President, Special Assistant to Deputy Chief Executive Officer effective March 31, 2005. 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 18 years.

**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, and a senior partner with the Dallas Texas-based law firm of Haynes and Boone. Mr. Thurston was also Vice President and Assistant General Counsel, and the Asia Pacific regional counsel for Texas Instruments from 1984 to 1996. 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 April 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.

**P.H. Chang** had been senior director of Material Management since we acquired Worldwide Semiconductor in July 2000. Prior to that, he was Vice President of Worldwide Semiconductor. He holds a Ph.D. in Material Science from Purdue University.

**W.J. Lo** joined us as Vice President of Operations II in July 2004. Prior to that, he was director in charge of advanced technology development with Intel Corporation. Mr. Lo holds a Ph.D. in physics from the University of California, Berkeley.

**Jason Chen** joined us as Vice President of Corporate Development in March 2005. Prior to that, he was vice president and co-director of marketing and sales group with Intel Corporation. Mr. Chen holds a MBA degree from University of Missouri, Columbia.

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, 2005 with respect to our common shares owned by our directors, supervisors and executive officers.

Name of Shareholders	Number of Common Shares Owned <sup>(3)</sup>	Percentage of Total Outstanding Common Shares	Number of Common Shares Underlying Stock Options <sup>(4)</sup>
Morris Chang, Chairman and CEO	122,793,152	0.53%	615,000
J.C. Lobbezoo, Director <sup>(1)</sup>	4,413,013,612	18.98%	
Mario Alberto Rivas, Director <sup>(1)</sup>	4,413,013,612	18.98%	
Chintay Shih, Director <sup>(2)</sup>	1,716,683,170	7.38%	
Stan Shih, Director	1,348,371	0.01%	
F.C. Tseng, Director and Deputy CEO	40,041,167	0.17%	
Sir Peter Leahy Bonfield, Director			
Lester Carl Thurow, Director			
Rick Tsai, Director, President & COO	24,267,273	0.10%	615,000
Robbert Brakel, Supervisor <sup>(1)</sup>	4,413,013,612	18.98%	
James C. Ho, Supervisor <sup>(2)</sup>	1,716,683,170	7.38%	
Michael E. Porter, Supervisor			
Shang-Yi Chiang, Senior Vice President	13,208,391	0.06%	
Kenneth Kin, Senior Vice President	2,701,256	0.01%	298,476
Steve Tso, Senior Vice President of Information Technology & CIO	12,003,489	0.05%	312,039
Lora Ho, Vice President & CFO & Spokesperson	2,850,487	0.01%	
J.B. Chen, Vice President	6,391,916	0.03%	
Ping Yang, Vice President	5,074,686	0.02%	
C.C. Wei, Vice President	4,839,702	0.02%	206,019
Mark Liu, Vice President	9,127,631	0.04%	615,000
Genda Hu, Vice President	2,103,879	0.01%	
M.C. Tzeng, Vice President	4,756,521	0.02%	
Richard Thurston, Vice President & General Counsel	1,492,094	0.01%	65,262
Chiam Wu, Vice President	1,281,909	0.01%	
P.H. Chang, Vice President	1,103,349	0.00%	
W.J. Lo	290,000	0.00%	
Jason Chen			

(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) Except for the number of shares held by Koninklijke Philips Electronics N.V., Philips Electronics Industries (Taiwan) Ltd. and the Development Fund of the Executive Yuan, the disclosed number of shares owned by the directors, supervisors and executive officers does not include any common shares held in ADS form by such

individuals as such individual ownership of ADSs has not been disclosed to shareholders or otherwise made public and each of these individuals owns less than one percent of all common shares outstanding as of March 31, 2005.

- (4) The stock options granted to our officers on March 7, 2003 under the 2002 Stock Option Plan all have an original exercise price of NT\$41.6 and all will expire on March 6, 2013 if not previously exercised. The options were granted to certain of our officers as a result of their voluntary selection to exchange part of their profit sharing to stock options.

**Compensation**

The aggregate compensation paid and benefits in kind granted to our directors, supervisors and executive officers in 2004, which included a cash bonus to the directors and supervisors, was NT\$557 million (US\$17.5 million). According to our articles of incorporation, not more than 0.3 percent of our annual net earnings (after recovering any losses incurred in prior years and deducting the legal reserve and special reserve provisions, if any) may be distributed as bonuses to our directors and supervisors and at least one percent of our annual net earnings (after recovering any losses incurred in prior years and deducting the legal reserve and special reserve provisions, if any) 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 19 to our consolidated financial statements. Under our articles of incorporation, directors who also serve as executive officers are not entitled to any director bonuses.

## **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, and the integrity of our financial reporting process and controls.

The Audit Committee, by its charter, is appointed by the board of directors and consists of three to five members, one of whom is selected as chairman of the Audit Committee, and must include a minimum of three independent, non-executive directors. All members of the Audit Committee must have a basic understanding of finance and accounting and at least one member must have accounting or related financial management expertise.

Currently, the Audit Committee consists of four members comprised of three independent directors and one supervisor. The current members of the Audit Committee are Sir Peter Bonfield, Professor Lester Thurow, Mr. Stan Shih, and Mr. Robbert Brakel. Our board of directors has determined that Mr. Robbert Brakel is an audit committee financial expert. See [Item 16A <sup>3</sup>/<sub>4</sub> Audit Committee Financial Expert](#). The Audit Committee is required to meet at least four times a year. Our Audit Committee charter grants the Audit Committee the authority to conduct any investigation which it deems appropriate to fulfill its responsibilities. It has direct access to all our books, records, facilities, and personnel, as well as our outside independent auditors. It has the authority to, among other things, appoint, terminate and approve all fees to be paid to our outside independent auditors, subject to the approval of the board of directors, and to oversee the work performed by the outside independent auditors. The Audit Committee also has the authority to engage special legal, accounting, or other consultants it deems necessary in the performance of its duties.

The Audit Committee convened 4 regular meetings and 2 special meetings in 2004.

### **Compensation Committee**

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

The Compensation Committee, by its charter, shall consist of no fewer than three members of the Board. As of March 2005, five members comprised the Compensation Committee: three of whom are independent directors serving as voting members of the Compensation Committee, and two other directors who are non-voting members on this committee. The current members of the Compensation Committee are Mr. Stan Shih, Sir Peter Bonfield, Professor Lester Thurow, Mr. Morris Chang and Mr. Jan Lobbezoo.

The Compensation Committee convened four regular meetings in 2004.

**Employees**

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

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<b>Function</b>	<b>As of December 31,</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
Managers	1,542	1,700	1,948
Professionals	5,271	5,945	7,158
Assistant Engineers/Clericals	1,173	1,056	1,268
Technicians	7,790	8,296	9,793
Total	15,776	16,997	20,167

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

<b>Location of Facility and Office</b>	<b>As of December 31,</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
Hsinchu Science Park, Taiwan	12,011	12,555	14,081
Southern Taiwan Science Park, Taiwan	2,725	3,303	4,298
China			561
United States	995	1,091	1,173
Europe	25	21	23
Japan	20	27	31
Total	15,776	16,997	20,167

As of December 31, 2004, our total employee population was 20,176 with an educational makeup of 2.3% Ph.Ds, 25.2% masters, 18.2% university bachelors, 23.3% college degrees and 31.1% others. Among this employee population, 9,106 were at a managerial and professional level. Continuous learning is the cornerstone of our employee development strategy. In 2004, one key initiative was individual development plans for each employee, customized and tailored to their individual development needs. Employee development is further supported and enforced by a comprehensive and integrated network of resources including on-the-job training, coaching, mentoring, job rotation, on-site courses, e-learning and external learning opportunities.

Pursuant to our articles of incorporation, our employees participate in our profits by way of a bonus. Employees in the aggregate are entitled to not less than 1% of our net income after the deduction for prior years' losses and contributions to legal and special 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 June 2004, we distributed an aggregate bonus to our employees of NT\$3,408 million, or 8% of our 2003 distributable net income, 20% of which was distributed in cash and 80% of which was distributed in the form of common shares. In May 2005, our shareholders approved the distribution of an aggregate bonus to our employees of NT\$6,172 million, or 8% of our 2004 distributable net income, 50% of which will be distributed in cash, 50% will be distributed in the form of common shares in 2005. 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 the 2002 Employee Stock Option Plan that authorizes the grant of options exercisable for up to 100 million common shares (approximately 0.5% of our total then outstanding common shares). These options will vest between two and four years after the date of grant, with 50% of the 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. Under the 2002 Employee Stock Option Plan, a total of 48,137,264 options were granted, of which 2,716,329 options were granted to certain of our officers (as listed below) as a result of their voluntary election to exchange part of their profit sharing for stock options. The remaining balance of options under the 2002 Employee Stock Option Plan expired on June 25, 2003. As of December 31, 2004, 51,729,551 options were outstanding under the 2002 Employee Stock Option Plan.

In September 2003, we adopted the 2003 Employee Stock Option Plan that authorizes the grant of the options exercisable for up to 120 million common shares (approximately 0.6% of our total then outstanding common shares) in one or more tranches before October 29, 2004, when the 2003 Employee Stock Option Plan expired. 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. Under the 2003 Employee Stock Option Plan, a total of 14,042,000 options have been granted. The remaining balance under the 2003 Employee Stock Option Plan expired on October 29, 2004. As of December 31, 2004, 12,637,236 options were outstanding under the 2003 Employee Stock Option Plan.

In November 2004, we adopted the 2004 Employee Stock Option Plan that authorizes the grant of options exercisable for up to 11 million common shares (approximately 0.05% of our total then outstanding common shares) in one or more tranches before January 6, 2006, when the 2004 Employee Stock Option Plan expires. 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. As of March 31, 2005, no options had been granted under the 2004 Employee Stock Option Plan.

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 under the 2002 Stock Option Plan all have an initial exercise price of NT\$41.6 and all will expire on March 6, 2013 if not previously exercised.

Name	Common Shares Issuable under		
	2002 Employee Stock Option Plan	2003 Employee Stock Option Plan	2004 Employee Stock Option Plan
Morris Chang	615,000		
Rick Tsai	615,000		
Mark Liu	615,000		
Steve Tso	312,039		
Kenneth Kin	298,476		
C.C. Wei	206,019		
Richard Thurston	65,262		

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

## ITEM 7. MAJOR SHAREHOLDERS AND RELATED PARTY TRANSACTIONS

### Major Shareholders

The following table sets forth certain information as of March 31, 2005 with respect to our common shares owned by (i) each person who, according to our records, beneficially owned five percent or more of our common shares and by (ii) all directors, supervisors and executive officers as a group.

Names of Shareholders	Number of Common Shares Owned	Percentage of Total
		Outstanding Common Shares
Philips <sup>(1)</sup>	4,413,013,612	18.98%

Development Fund <sup>(2)</sup>	1,716,683,170	7.38%
Capital Research and Management Company <sup>(3)</sup>	1,542,830,520	6.6%
Directors, supervisors and executive officers as a group <sup>(4)</sup>	255,675,273	1.10%

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- (1) Includes 2,576,997,318 common shares held by Koninklijke Philips Electronics N.V. and 1,836,016,294 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) According to the Schedule 13G of Capital Research and Management Corporation ( CRMC ) filed with the Securities and Exchange Commission on February 14, 2005, CRMC beneficially owned 1,542,830,520 common shares as of December 31, 2004. According to this Schedule 13G, CRMC is an investment adviser registered under the Investment Advisers Act of 1940. We do not have further information with respect to CRMC s ownership in us subsequent to CRMC s Schedule 13G filed on February 14, 2005.
- (4) Excludes ownership of Philips and Development Fund.

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.

In June 2001, the Development Fund sold 14,000,000 ADSs, representing 70,000,000 common shares, in November 2001, the Development Fund sold 20,000,000 ADSs, representing 100,000,000 common shares, in February 2002, the Development Fund sold an additional 30,207,200 ADSs, representing 151,036,000 common shares, and in July 2003, the Development Fund sold an additional 86,457,200 ADSs, representing 432,286,000 common shares. 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. In November 2003, Philips sold 100,000,000 ADSs, representing 500,000,000 common shares. As a result of our redemption of all our Preferred A shares on May 29, 2003 and this sale in November 2003, Philips' ownership percentage decreased to 19.09%. In October 2003, Philips announced its intention to gradually and orderly reduce its equity interest in us and reiterated this intention in May 2005. Moreover, the Development Fund announced in January 2005 its intention to sell up to approximately 130 million of our common shares in 2005. On May 10, 2005, our board of directors approved to sponsor the currently contemplated sale by Philips, the Development Fund and certain other selling shareholders of an aggregate of up to 210,000,000 ADS, which sale is currently expected to occur prior to the end of 2005.

As of March 31, 2005, a total of 23,252,863,457 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, 2005, 3,341,753,899 common shares were registered in the name of a nominee of Citibank, N.A., the depository under our ADS deposit agreement. Citibank, N.A., has advised us that, as of March 31, 2005, 668,350,778 ADSs, representing 3,341,753,899 common shares, were held of record by Cede & Co. and 264 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 <sup>3</sup>/<sub>4</sub> Description of Common Shares Voting Rights.

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

## **Related Party Transactions**

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

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

A technical cooperation agreement exists between ITRI and TSMC whereby ITRI grants TSMC 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.

From time to time, we provide foundry services to ITRI. In 2003 and 2004, we had total sales to ITRI of NT\$60 million and NT\$85 million (US\$3 million), respectively, representing less than 1% of our net sales in each year.

***Koninklijke Philips Electronics N.V. and its Affiliates***

As of March 31, 2005, Philips, together with its subsidiaries, owned 18.98% of our outstanding equity securities. Two of our nine directors and one of our three supervisors are representatives of Philips. Philips, a global electronics company, is also 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 initially had provided us with certain process and technical information for the production of unencapsulated MOS integrated circuits in wafer form. This agreement was amended on May 12, 1997 and extended for ten years. The agreement was further modified on June 20, 2004 and extended to December 31, 2008. Under the June 20, 2004 amendments, which took retroactive effect on January 1, 2004, we agreed with Philips to cross license certain patents to each other on a non-exclusive, royalty-free basis. In addition, subject to agreement between us and Philips, Philips will include us in certain of its patent cross licensing arrangements with other companies (as identified in the agreement). The consideration for our inclusion in Philips' cross licensing arrangements will be determined as agreed upon between us and Philips. The agreement will not be automatically renewed upon expiration.

On October 28, 1992, we entered into a letter agreement with Philips under which Philips has an option on up to 30% of our capacity as agreed in the agreement on most favored terms and conditions for similar orders if Philips and its affiliates' shareholding in us is 24.8% or higher. From time to time, we provide foundry services to Philips and its affiliates. In 2002, 2003 and 2004, we had total sales to Philips and its affiliates of NT\$2,909 million, NT\$3,577 million and NT\$5,464 million (US\$172 million), representing 2.0%, 1.8% and 2.1% of total net sales in 2003 and 2004, respectively.

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%. We together with Philips, not only have the right to purchase up to 100% of its annual capacity, but are required, in the aggregate, to purchase up to 70% of Systems on Silicon's full capacity. However, 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, 2005, we owned 27.74% of Vanguard.



On April 1, 2004, we entered into an agreement with Vanguard. During the two-year term of this agreement, Vanguard is obligated to use its best commercial efforts to manufacture wafers for us up to a fixed amount of reserved capacity. We pay Vanguard at a fixed discount to the actual selling price as mutually agreed between the parties in respect of each purchase order. We also agreed to license Vanguard our process technologies and transfer technical know-how and information in connection with the manufacturing process, which is subject to certain expiration events. In 2002, 2003 and 2004, we had total purchases of NT\$3,469 million, NT\$4,911 million and NT\$9,170 (US\$289 million) from Vanguard, representing 3.2%, 3.8% and 6.5% of our total cost of sales, respectively.

#### ***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, 2005, 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 at least a major part of its production activities on processes compatible to those in use in our MOS integrated circuits wafer volume production fabs. 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 certain technical services in connection with its production activities. In addition, we granted to Systems on Silicon limited licenses of any pertinent intellectual property rights owned or controlled by us for the purpose of MOS integrated circuit production for the sole use in manufacturing products for us. 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, 2003 and 2004, we had total purchases of NT\$2,751 million, NT\$5,520 million and NT\$5,869 million (US\$185 million) from Systems on Silicon, representing 2.5%, 4.3% and 4.2% of our total cost of sales, respectively.

#### ***Global UniChip Corp (GUC)***

Subsequent to the dissolution of Ya Xin Technology, Inc., one of our consolidated entities in 2002, after its merger with Global UniChip Corp (GUC) on January 4, 2003, we owned 46.9% of GUC as of March 31, 2005. In 2004, we had total sales to GUC of NT\$372 million (US\$12 million), representing less than 1% of our net sales in that year.

## **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 other intellectual property rights of others. In some instances, these disputes have resulted in litigation by or against us

and certain settlement payments by us in some cases. 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 December 2003, we and certain of our subsidiaries commenced legal action in several forums against SMIC for several causes of action including but not limited to patent infringement and trade secret misappropriation. The dispute with SMIC has now been settled under a settlement agreement entered into in January 2005 and pursuant to which SMIC will pay us US\$175 million in installments over six years. Under its terms, we will not sue

SMIC for itemized acts of alleged trade secret misappropriation. In addition, we and SMIC will cross license each other's patent portfolio through December 2010. The settlement agreement also provides for the dismissal without prejudice of all pending legal action between the two companies, including matters pending in the U.S. District Court for the Northern District of California, Superior Court of California for Alameda County, the U.S. International Trade Commission and Hsinchu District Court in Taiwan. The settlement does not grant a license to SMIC to use any of our trade secrets nor does it result in TSMC transferring any technology or providing any technical assistance to SMIC.

Other than the matters described above, we were not involved in any other material litigation in 2004 and 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. During the period from 1995 to 2003, we did not pay any cash dividends. We paid a portion of the dividend in 2004 in cash in the amount of NT\$12,159,971,390.

	<b>Cash Dividends Per Share NT\$</b>	<b>Stock dividends Per 100 shares</b>	<b>Total shares issued as stock dividends</b>	<b>Outstanding common shares at year end</b>
2000	¾	28.0	2,147,846,881	11,689,364,587
2001	¾	40.0	4,675,745,835	16,832,553,051
2002	¾	10.0	1,683,255,306	18,622,886,745
2003	¾	8.0	1,489,830,940	20,266,618,984
2004	0.6037	14.08668	2,837,326,658	23,251,963,693

Our dividend policy is set forth in our articles of incorporation. Except as otherwise specified in the articles of incorporation, we will not pay dividends when there is no profit or retained earnings. Our profits may be distributed by way of cash dividend, stock dividend, or a combination of cash and stock. Historically, our profit distribution generally has been made by way of stock dividend. On December 21, 2004, our shareholders approved amendments to our articles of incorporations pursuant to which distributions of profits shall be made preferably by way of cash dividend. In addition, pursuant to the amendments, the ratio for stock dividends shall not exceed 50% of the total distribution. Our shareholders have approved the declaration of a cash dividend of NT\$2.0 per share and a stock dividend of NT\$0.5 per share, representing 1,162,602,422 common shares, in respect of net income earned in the year ended December 31, 2004. The total amount of common shares outstanding may change should we subsequently repurchase our common shares or issue new common shares to our employees as a result of their exercise of stock options and the ultimate cash dividend and stock dividend per common share may need to be adjusted accordingly. Payment of the stock dividend is subject to the receipt of the approval from the ROC Financial Supervisory Commission.

Holders of outstanding common shares on a dividend record date will be entitled to the full dividend declared without regard to any subsequent transfer of the common shares. Payment of dividends in respect of the prior year is made following approval by our shareholders at the annual general meeting of shareholders and the ROC Financial Supervisory Commission.

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 provide that at least one percent of annual net earnings (after recovering any losses incurred in prior years and deducting the legal reserve and special reserve provisions, if any) be distributed as a bonus to employees and that not more than 0.3 percent of our annual net earnings (after recovering any losses incurred in prior years and deducting the legal reserve and special reserve provisions, if any) may be distributed as a bonus to directors and supervisors. Under our articles of incorporation, directors who also serve as executive officers are not entitled to any director bonuses.

Holders of ADRs evidencing ADSs are entitled to receive dividends, subject to the terms of the deposit agreement, to the same extent as the holders of common shares. Cash dividends will be paid to the depositary in NT dollars and, after deduction of any applicable ROC taxes and except as otherwise provided in the deposit agreement, will be converted by the depositary into U.S. dollars and paid to holders. Stock dividends will be distributed to the depositary and, except as otherwise provided in the deposit agreement, will be distributed to holders by the depositary in the form of additional ADSs.

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

## ITEM 9. THE OFFER AND LISTING

The principal trading market for our common shares is the Taiwan Stock Exchange. Our 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 <sup>(1)</sup>		
	Closing price per common share <sup>(2)</sup>		Average daily Trading volume (in thousands of shares) <sup>(2)</sup>	Closing price per ADS <sup>(2)</sup>		Average daily Trading volume (in thousands of ADSs) <sup>(2)</sup>
	High (NT\$)	Low (NT\$)		High (US\$)	Low (US\$)	
2000	90.17	39.53	65,223	28.25	8.76	3,399
2001	65.67	32.54	56,979	14.08	6.53	5,761
2002	71.94	28.89	62,154	15.31	4.34	7,358
2003	62.67	32.63	53,277	11.32	5.19	8,346
First Quarter	40.99	32.63	60,248	6.95	5.19	6,462
Second Quarter	47.88	34.25	64,507	8.65	5.60	8,471
Third Quarter	62.67	47.48	48,619	11.32	8.27	9,368
Fourth Quarter	62.23	52.15	41,046	10.50	8.28	8,995
2004	60.04	40.90	52,877	10.19	6.64	7,060
First Quarter	60.04	48.21	57,899	10.19	8.15	8,003
Second Quarter	56.10	42.80	55,996	9.86	7.25	7,662
Third Quarter	48.60	40.90	45,719	7.95	6.64	6,391
Fourth Quarter	50.50	41.90	52,488	8.77	6.89	6,222
November	50.50	43.90	69,876	8.77	7.61	6,817
December	50.50	46.40	45,845	8.49	7.87	4,595
2005						
First Quarter	55.00	46.80	46,108	9.43	7.68	6,480

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January	52.00	46.80	44,670	8.75	7.68	7,066
February	55.00	52.50	62,226	9.43	8.73	6,213
March	54.30	50.30	37,610	9.21	8.25	6,178
April	53.00	49.60	37,453	8.63	8.07	5,527
May (through May 13, 2005)	54.80	52.30	44,167	9.08	8.65	6,083

- (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 28% stock dividend in July 2000, a 40% stock dividend in July 2001, a 10% stock dividend in July 2002, a 8% stock dividend in July 2003, and a 14.1% stock dividend in July 2004.

As of March 31, 2005, 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 13,667,151, 15,670,344 and 15,699,717 of our common shares, respectively, representing approximately 0.06%, 0.07% and 0.07% of our outstanding common shares, respectively.

## ITEM 10. ADDITIONAL INFORMATION

### Description of Common Shares

We are organized under the laws of the ROC. 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\$270,500,000,000, divided into 27,050,000,000 common shares of which 500,000,000 common shares are reserved for the issuance for our employee stock options and among which 23,251,963,693 common shares were issued and outstanding and in registered form as of December 31, 2004. Under our articles of incorporation, as amended on December 21, 2004, we are not 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 Financial Supervisory Commission and the Ministry of Economic Affairs or the Science 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.

#### *Dividends and Distributions*

A 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), and may set aside a special reserve. Our articles of incorporation provide that at least one percent of the net distributable income for that fiscal year be distributed as a bonus to employees and that not more than 0.3 percent of the net distributable income for that fiscal year may be distributed as remuneration to directors and supervisors. Under our articles of incorporation, directors who also serve as executive officers are not entitled to any director bonuses. Prior to 2004, it has been our practice in each of the past years to pay all of employee bonuses in the form of stock. In 2004, we paid 20% of the bonus in the form of cash, and in 2005, we intend to pay 50% of the bonus in the form of cash. The number of common shares issued as a bonus is obtained by dividing the cash value of the stock portion 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 market 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 our financial statements for the preceding fiscal year and any proposal for the distribution of a dividend or the making of any other distribution to shareholders from our earnings or retained earnings (subject to compliance with the requirements described above) at the end of the preceding fiscal year. All common shares outstanding and fully paid as of the relevant record date are entitled to share equally in any dividend or other distribution so approved.

Dividends may be distributed in cash, in the form of common shares or a combination thereof, as determined by the shareholders at the meeting.

In addition to permitting dividends to be paid out of earnings or retained earnings, the ROC Company Law permits us to make distributions to our shareholders of additional common shares by capitalizing reserves (including the legal reserve and some other reserves). However, the capitalized portion payable out of our legal reserve is



limited to 50% of the total accumulated legal reserve and this capitalization can only be effected when the accumulated legal reserve exceeds 50% of our paid-in capital.

For information as to ROC taxes on dividends and distributions, see [Taxation](#) [ROC Taxation](#) .

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

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

offerings by shareholders of outstanding shares; and

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 public 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 (i) any amendment to the articles of incorporation (which is required for, among other actions, any increase in authorized share capital), (ii) 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 or (iii) the distribution of any stock dividend, a meeting of the shareholders must be convened with a quorum of holders of at least two-thirds of all issued and outstanding shares of common stock at which the holders of at least a majority of the common stock represented at the meeting vote in favor thereof. However, in the case of a publicly held company such as us, such a resolution may be

adopted by the holders of at least two-thirds of the shares of common stock represented at a meeting of shareholders at which holders of at least a majority of the issued and outstanding shares of common stock are present.

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

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

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

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

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

Our share registrar, Chinatrust 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 ROC Securities and Exchange Law, we may, by a board resolution adopted by majority consent at a meeting with two-thirds of our directors present, purchase our common shares on the Taiwan Stock Exchange or by a tender offer, in accordance with the procedures prescribed by the ROC Financial Supervisory Commission, 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 14, 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 market has been restricted. Since 1983, the ROC government has periodically enacted legislation and adopted regulations to permit foreign investment in the ROC securities market.

On September 30, 2003, the Executive Yuan approved an amendment to Regulations Governing Investment in Securities by Overseas Chinese and Foreign National, or the Regulations, which took effect on October 2, 2003. According to the Regulations, the ROC Financial Supervisory Commission abolished the mechanism of the so-called qualified foreign institutional investors and general foreign investors as stipulated in the Regulations before the amendment.

Under the Regulations, foreign investors are classified as either onshore foreign investors or offshore foreign investors according to their respective geographical location. Both onshore and offshore foreign investors are allowed to invest in ROC securities after they register with the Taiwan Stock Exchange. The Regulations further classify foreign investors into foreign institutional investors and foreign individual investors. Foreign institutional investors

refer to those investors incorporated and registered in accordance with foreign laws outside of the ROC (i.e., offshore foreign institutional investors) or their branches set up and recognized within the ROC (i.e., onshore foreign institutional investors). Offshore overseas Chinese and foreign individual investors are subject to a maximum investment ceiling that will be separately determined by the ROC Financial Supervisory Commission after consultation with the Central Bank of China. On the other hand, foreign institutional investors are not subject to any ceiling for investment in the ROC securities market.

Except for certain specified industries, such as telecommunications, investments in ROC-listed companies by foreign investors are not subject to individual or aggregate foreign ownership limits. Custodians for foreign investors are required to submit to the Central Bank of China and the Taiwan Stock Exchange 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 the capital is remitted to the ROC. Capital gains and income on investments may be remitted out of the ROC at any time.

Foreign investors (other than foreign investors who have registered with the Taiwan Stock Exchange for making investments in the ROC securities market) 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 applicable 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 Financial Supervisory Commission).

Under current ROC 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 a 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 Financial Supervisory Commission enacted regulations permitting ROC companies with securities listed on the Taiwan Stock Exchange, with the prior approval of the ROC Financial Supervisory 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 ROC Financial Supervisory Commission allowed companies whose shares are traded on the ROC GreTai Securities Market or listed on the Taiwan Stock Exchange, upon approval of the ROC Financial Supervisory Commission, to sponsor the issuance and sale of depositary receipts.

A holder of depositary receipts (other than citizens of the PRC and entities organized under the laws of the PRC) may request the depositary to either cause the underlying shares to be sold in the ROC and to distribute the sale proceeds to the holder or to withdraw from the depositary receipt facility the shares represented by the depositary receipts to the extent permitted under the deposit agreement (in practice four to seven business days after the issuance of the depositary receipts) and transfer the shares to the holder.

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 Financial Supervisory Commission approval, except in limited circumstances. These circumstances include issuances of additional depositary receipts in connection with:

dividends on or free distributions of shares;

the exercise by holders of existing depositary receipts of their pre-emptive rights in connection with capital increases for cash; or

if permitted under the deposit agreement and custody agreement, the deposit of common shares purchased by any person directly or through a depositary bank on the Taiwan Stock Exchange or the

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GreTai Securities Market (as applicable) or held by such person for deposit in the depositary receipt facility.

However, the total number of deposited shares outstanding after an issuance under the circumstances described in the third clause above may not exceed the number of deposited shares previously approved by the ROC Financial Supervisory Commission plus any depositary receipts created under the circumstances described in the first two clauses above. Issuances of additional depositary receipts under the circumstances described in the third clause above will be permitted to the extent that previously issued depositary receipts have been canceled and the underlying shares have been withdrawn from the depositary receipt facility

Under current ROC law, a non-ROC holder of ADSs who withdraws and holds the underlying shares must register with the Taiwan Stock Exchange and appoint an eligible local agent to:

open a securities trading account with a local securities brokerage firm;

remit funds; and

exercise rights on securities and perform other matters as may be designated by the holder.

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. 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.

Holders of ADSs who are non-ROC persons withdrawing common shares represented by ADSs 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 or submission of evidencing documents issued by such agent (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:

the net payment indicated on the withholding tax voucher issued by the tax authority;

the net investment gains as indicated on the holder's certificate of tax payment; or

the aggregate transfer price as indicated on the income tax return for transfer of tax-deferred dividend shares, whichever is applicable.

Under existing ROC 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 be required to obtain foreign exchange approval from the Central Bank of China on a payment-by-payment basis for conversion from NT dollars into other currencies relating to the sale of subscription rights for new shares. Proceeds from the sale of any underlying shares by holders of depositary receipts withdrawn

from the depositary receipt facility may be converted into other currencies without obtaining Central Bank of China approval. Proceeds from the sale of the underlying shares withdrawn from the depositary receipt

facility may be used for reinvestment in the Taiwan Stock Exchange or the GreTai Securities Market, subject to registering with the Taiwan Stock Exchange.

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

The ROC government has amended 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 Financial Supervisory Commission has approved a series of overseas bonds issued by ROC companies listed on the Taiwan Stock Exchange or the GreTai Securities Market in offerings outside the ROC. Under current ROC law, these overseas corporate bonds can be:

converted by bondholders, other than citizens of the PRC and entities organized under the laws of the PRC, into shares of ROC companies; or

subject to ROC Financial Supervisory Commission approval, 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 Market, subject to registering with the Taiwan Stock Exchange.

### **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 ROC Financial Supervisory Commission and by the Central Bank of China. Current regulations favor trade-related foreign exchange transactions. Consequently, foreign currency earned from exports of merchandise and services may now be retained and used freely by exporters, and all foreign currency needed for the importation of merchandise and services may be purchased freely from the designated foreign exchange banks.

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

In addition, foreign persons may, subject to certain requirements, but without foreign exchange approval of the Central Bank of China, remit outside and into the ROC foreign currencies of up to US\$100,000 (or its equivalent) for each remittance. The above limit applies to remittances involving a conversion of NT dollars to a foreign currency and vice versa. The above limit does not, however, apply to the conversion of NT dollars into other currencies, including US dollars, in respect of the proceeds of sale of any underlying shares withdrawn from a depositary receipt facility.

### **Voting of Deposited Securities**

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

Except as described below, the holders will not be able to exercise the voting rights attaching to the common shares represented by the ADSs on an individual basis. According to the ROC Company Law, a shareholder's voting rights attached to shares 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 unless our articles of incorporation stipulate otherwise.

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 other 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 and if the depositary bank elects to develop such procedures, it has agreed to do so in a manner so as to give effect, to the extent practicable, to the instructions received from the holders.

Subject to the provisions described in the second succeeding paragraph, which will apply to the election of directors and supervisors done by means of cumulative voting, 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 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 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.

It is currently unclear whether dividends paid by us out of our capital reserves are subject to ROC withholding tax because there are two possible interpretations of the relevant tax laws and regulations that lead to different conclusions on whether such dividends will be taxable, and there is currently no authoritative guidance on this 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 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:

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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 an individual. 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, the United Kingdom, Senegal and Sweden 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 ADS 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 to U.S. holders (as defined below) of owning and disposing of our common shares or ADSs. It applies to you only if you hold your common shares or ADSs as capital assets for tax purposes. This section does not apply to you if you are a member of a special class of holders subject to special rules, including:

dealers in securities;

traders in securities that elect to use a mark-to-market method of accounting for their securities holdings;

tax-exempt organizations;

life insurance companies;

persons liable for alternative minimum tax;

persons that actually or constructively own 10% or more of our voting stock;

persons that hold common shares or ADSs as part of a straddle or a hedging or conversion transaction; or

U.S. holders, as defined below, whose functional currency is not the U.S. dollar.

This section is based on the Internal Revenue Code of 1986, as amended, its legislative history, existing and proposed regulations, published rulings and court decisions, all as currently in effect. These laws are subject to change, possibly on a retroactive basis. In addition, this section is based in part upon the representations of the depository and the assumption that each obligation in the Deposit Agreement and any related agreement will be

performed in accordance with its terms. In general, for United States federal income tax purposes, if you hold ADRs evidencing ADSs, you will be treated as the owner of the shares represented by those ADSs. Exchanges of shares for ADRs, and ADRs for shares, generally will not be subject to United States federal income tax.

Further, this section is based on the depository's representation that it will not, by reason of existing Taiwanese legal and regulatory limitations applicable to depository receipt programs, engage in the issuance of ADRs prior to the receipt of shares or the release of shares prior to the cancellation of ADRs ( pre-release transactions ). The depository has not represented that it will not engage in pre-release transactions if such Taiwanese legal and regulatory limitations change. If the depository engages in such pre-release transactions, there may be material adverse United States federal income tax consequences to holders of ADRs.

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.

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

### *Taxation of Dividends*

Subject to the passive foreign investment company, or PFIC, 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 income taxation. If you are a noncorporate U.S. holder, dividends paid to you in taxable years beginning 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 121-day period beginning 60 days before the ex-dividend date and meet other holding period requirements. Dividends we pay with respect to the common shares or ADSs will be qualified dividend income provided that, in the year that you receive the dividend, the common shares or ADSs are readily tradable on an established securities market in the United States. The dividend is taxable to you when you, in the case of common shares, or the Depository, in the case of ADSs, receives the dividend actually or constructively. The dividend will not be eligible for the dividends-received deduction generally allowed to United States corporations in respect of dividends received from other United States corporations. The amount of the dividend distribution that you must include in your income as a U.S. holder will be the U.S. dollar value of the NT Dollar payments made, determined at the spot NT Dollar/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 will be income from sources outside the United States. Dividends paid in taxable years beginning before January 1, 2007 generally will be passive or financial services income, and dividends paid in taxable years beginning after December 31, 2006 will, depending on your circumstances, be passive or general income which, in either case, 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 against passive income or financial services income (in the case of taxable years beginning before January 1, 2007) or against passive income (in the case of taxable years beginning after December 31, 2006).

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 PFIC 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 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 PFIC for United States federal income tax purposes, but this conclusion is a factual determination that is made annually and thus may be subject to change.

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

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

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

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

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

any gain you realize on the sale or other disposition of your common shares or ADSs; and

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

Under these rules:

the gain or excess distribution will be allocated ratably over your holding period for the common shares or ADSs,

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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. Moreover, your common shares or ADSs will be treated as stock in a PFIC if we were a PFIC at any time during your holding period in your shares or ADSs, even if we are not currently a PFIC. For purposes of this rule, if you make a mark-to-market election with respect to your shares or ADSs, you will be treated as having a new holding period in your shares or ADSs beginning on the first day of the first taxable year beginning after the last taxable year for which the mark-to-market election applies. Dividends that you receive that do not constitute qualified dividend income are not eligible for taxation at the 15% maximum rate applicable to qualified dividend income. Instead, you must include the gross amount of any such dividend paid by us out of our accumulated earnings and profits (as determined for United States federal income tax purposes) in your gross income, and it will be subject to tax at rates applicable to ordinary income as well as the special rules provided with respect to excess distributions, if applicable, as described above.

If you own common shares or ADSs during any year that we are a PFIC with respect to you, 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 debt, 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, 2004.

	2005	2006	2007	2008	2009 and thereafter
Long-term debt					
US\$-denominated debt					
Variable rate		US\$60			
Average interest rate		4.41%			
NT\$-denominated debt					
Fixed rate	NT\$10,500		NT\$7,000		NT\$12,500
Average interest rate	5.25%		4.37%		2.84%
Interest rate swaps					
Variable to fixed rate					
Average pay fixed rate					
Fixed to variable rate	NT\$3,000				
Average receive fixed rate	5.25%				

**Foreign Currency Risk:** Substantial portions of our revenues and expenses are denominated in currencies other than the NT dollar. As of December 31, 2004, more than 87% 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 98% 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 25 of our consolidated financial statements for information on the net assets, liabilities and purchase commitments that have been hedged by these derivative transactions.

The table below presents our outstanding financial derivative transactions as of December 31, 2004. These contracts all have a maturity date of not more than 12 months.

	Foreign Currency Contracts	(in thousands)
Hedging assets/liabilities (Sell US\$/buy NT\$)		
Contract amount		US\$ 2,153,000

Average contractual exchange rate (against NT dollars)	32.3574
(Buy EUR/sell US\$)	
Contract amount	EUR118,500
Average contractual exchange rate (against US dollars)	1.3425

**Other Market Risk.** In addition to our interests in Systems on Silicon, Vanguard, GUC and VisEra Technology Company, we have made investments in equity securities issued by a significant number of private companies related to semiconductor and other technology industries mostly through a number of investment funds. As of December 31, 2004, the aggregate carrying value of these investments on our balance sheet was NT\$3,194 million (US\$101 million). As of December 31, 2004, approximately NT\$2,581 million (US\$81 million) of this amount in venture capital investments was made through InveStar Semiconductor Development Fund, and InveStar Semiconductor Development Fund (II), our two 97.1% owned subsidiaries, Emerging Alliance Fund L.P.

and Venture Alliance Fund II, our 99.5% and 98.0% owned subsidiaries. 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, 2004 or any subsequent date. As of December 31, 2004, we also had NT\$54,108 million (US\$1,705 million) in short-term investments in government bonds, money market funds, bond funds and listed stocks, which had a market value of NT\$54,991 million (US\$1,733 million) as of that date.

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

#### **ITEM 12. DESCRIPTION OF SECURITIES OTHER THAN EQUITY SECURITIES**

Not applicable.

#### **ITEM 13. DEFAULTS, DIVIDEND ARREARAGES AND DELINQUENCIES**

None.

#### **ITEM 14. MATERIAL MODIFICATIONS TO THE RIGHTS OF SECURITY HOLDERS AND USE OF PROCEEDS**

None.

#### **ITEM 15. CONTROLS AND PROCEDURES**

Pursuant to Rule 13a-15(b) of the Securities Exchange Act of 1934, an evaluation was carried out under the supervision and with the participation of our principal executive and principal financial officers of the effectiveness of our disclosure controls and procedures. Based upon that evaluation, the Chief Executive Officer and Chief Financial Officer concluded that these disclosure controls and procedures were effective as of December 31, 2004.

During 2004, no change to our internal control over financial reporting occurred that has materially affected, or is reasonably likely to materially affect, our internal control over financial reporting.

#### **ITEM 16A. AUDIT COMMITTEE FINANCIAL EXPERT**

Our Board of Directors has determined that Mr. Robbert Brakel is an audit committee financial expert as defined under the applicable rules of the SEC issued pursuant to Section 407 of the Sarbanes-Oxley Act of 2002 serving on our audit committee.

#### **ITEM 16B. CODE OF ETHICS**

We have adopted a Code of Business Conduct and Ethics for Officers, which applies to our Chief Executive Officer, Chief Financial Officer, Controller, and any other persons performing similar functions.

We will provide to any person without charge, upon request, a copy of our Code of Business Conduct and Ethics for Officers. Any request should be made per email to our Investor Relations Division at [invest@tsmc.com](mailto:invest@tsmc.com).

**ITEM 16C. PRINCIPAL ACCOUNTANT FEES AND SERVICES**

The table below summarizes the fees that we paid for services provided by Deloitte & Touche and its affiliated firms (the Deloitte Entities ) for the years ended December 31, 2003 and 2004.

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	<b>2003</b>	<b>2004</b>
	<b>(In thousands)</b>	
Audit Fees	NT\$37,988	NT\$43,954
Audit Related Fees		210
Tax Fees	5,801	747
All Other Fees	933	3,820
<b>Total</b>	<b>NT\$44,722</b>	<b>NT\$48,731</b>

*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 Financial Supervisory Commission ( ROC Financial Supervisory Commission ) of the ROC. This category also includes comfort letters, consents and assistance with and review of documents filed with the SEC.

*Audit-Related Fees.* This category consists of assurance and related services by the Deloitte Entities 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 includes review of certain regulatory filings with the ROC Financial Supervisory Commission.

*Tax Fees.* This category consists of professional services rendered by the Deloitte Entities 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 the review or study of financial and other information flow processes.

All non-audit services need to be pre-approved by the Audit Committee on a case-by-case basis. Accordingly, we have not established any pre-approval policies and procedures. All audit and non-audit services performed by Deloitte & Touche after May 6, 2003, the effective date of revised Rule 2-01(c) (7) of Regulation S-X entitled Audit Committee Administration of the Engagement on strengthening requirements regarding auditor independence, were pre-approved by the Audit Committee.

#### **ITEM 16D. EXEMPTIONS FROM THE LISTING STANDARDS FOR AUDIT COMMITTEES**

Not applicable.

#### **ITEM 16E. PURCHASES OF EQUITY SECURITIES BY THE ISSUER AND AFFILIATED PURCHASERS**

On March 23, 2004, we announced a share buyback plan to buy back up to 300,000,000 of common shares at prices in the range of NT\$38.5 to NT\$95.0 per share during the period from March 24, 2004 to May 23, 2004. The table below sets forth certain information about the repurchase of shares under the share buyback plan. A total of 124,720,000 shares were repurchased pursuant to the share buyback plan, which was concluded on May 23, 2004.

<b>Period</b>	<b>Total Number of Common Shares Purchased</b>	<b>Average Price Paid per Common Share (NT\$)</b>	<b>Total Number of Common Shares Purchased as Part of Publicly Announced Plans or Programs</b>	<b>Maximum Number of Common Shares that May Yet be Purchased Under the Plans or Programs</b>
March (from March 24, 2004)	8,808,000	59.23	8,808,000	291,192,000
April	16,786,000	60.88	16,786,000	274,406,000
May (to May 23, 2004)	99,126,000	55.65	99,126,000	¾
Total	124,720,000	56.61	124,720,00	¾

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We may in the future engage in additional share buy-back plans.

## ITEM 17. FINANCIAL STATEMENTS

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

## ITEM 18. FINANCIAL STATEMENTS

### INDEX TO CONSOLIDATED FINANCIAL STATEMENTS

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<b>Consolidated Financial Statements of Taiwan Semiconductor Manufacturing Company Limited and Subsidiaries</b>	
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Consolidated Statements of Income	F-6
Consolidated Statements of Changes in Shareholders' Equity	F-8
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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:
  - 1.1 Articles of Incorporation of Taiwan Semiconductor Manufacturing Company Limited, as amended and restated on May 10, 2005.
  - 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<sup>(1)</sup> Rules for Election of Directors and Supervisors, as amended and restated on May 7, 2002.
  - 3.2<sup>(1)</sup> Rules and Procedures of Shareholders' Meetings, as amended and restated on May 7, 2002.
  - 4.1<sup>(2)</sup> Land Lease with Southern Taiwan Science Park Administration (formerly Tainan Science Park Administration) relating to the fabs located in Southern Taiwan Science Park (effective August 1, 1997 to July 31, 2017) (in Chinese with English summary).
  - 4.2<sup>(2)</sup> Land Lease with Southern Taiwan Science Park Administration (formerly Tainan Science Park Administration) relating to the fabs located in Southern Taiwan Science Park (effective May 1, 1998

to April 30, 2018) (in Chinese with English summary).

- 4.3<sup>(2)</sup> Land Lease with Southern Taiwan Science Park Administration (formerly Tainan Science Park Administration) relating to the fabs located in Southern Taiwan Science Park (effective November 1, 1999 to October 31, 2019) (in Chinese with



English summary).

- 4.4<sup>(2)</sup> 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<sup>(1)</sup> 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<sup>(1)</sup> 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<sup>(2)</sup> 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).
- +4.8a Technology Cooperation Agreement between Taiwan Semiconductor Manufacturing Company Ltd. and Philips Electronics N.V., as amended and restated on June 30, 2004.
- 4.9a<sup>(3)</sup> Taiwan Semiconductor Manufacturing Company Limited 2002 Employee Stock Option Plan, as revised by the board of directors on March 4, 2003.
- 4.9aa<sup>(4)</sup> Taiwan Semiconductor Manufacturing Company Limited 2003 Employee Stock Option Plan.
- 4.9aaa<sup>(5)</sup> Taiwan Semiconductor Manufacturing Company Limited 2004 Employee Stock Option Plan.
- 4.9aaaa Taiwan Semiconductor Manufacturing Company Limited 2004 Employee Stock Option Plan, as revised on February 22, 2005.
- 4.9b<sup>(3)</sup> TSMC North America 2002 Employee Stock Option Plan, as revised on June 5, 2003.
- 4.9bb<sup>(4)</sup> TSMC North America 2003 Employee Stock Option Plan.
- 4.9c<sup>(3)</sup> WaferTech, LLC 2002 Employee Stock Option Plan, as revised on June 5, 2003.
- 4.9cc<sup>(4)</sup> Wafer Tech, LLC 2003 Employee Stock Option Plan.
- 4.9ccc<sup>(5)</sup> Wafer Tech, LLC 2004 Employee Stock Option Plan.
- 4.9cccc Wafer Tech, LLC 2004 Employee Stock Option Plan, as revised on February 22, 2005.
- +4.10<sup>(6)</sup> 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.
- 4.11<sup>(8)</sup> Land Lease with Hsinchu Science Park Administration relating to Fabs 2 and 5 and Corporate Headquarters (effective April 1, 1988 to March 31, 2008) (in Chinese with English summary).
- 4.12<sup>(8)</sup> Land Lease with Hsinchu Science Park Administration relating to Fabs 3 and 4 (effective May 16, 1993 to May 15, 2013) (in Chinese with English summary).



- 4.13<sup>(7)</sup> Land Lease with Hsinchu Science Park Administration relating to Fab 12 (Phase II) (effective May 1, 2001 to December 31, 2020)(English summary).
- 4.14<sup>(7)</sup> Land Lease with Southern Taiwan Science Park Administration relating to fabs located in Southern Taiwan Science Park (effective November 1, 2000 to October 31, 2020)(English summary).
- 8.1 List of subsidiaries of Taiwan Semiconductor Manufacturing Company Limited.
- 12.1 Certification of Chief Executive Officer required by Rule 13a-14(a) under the Exchange Act.
- 12.2 Certification of Chief Financial Officer required by Rule 13a-14(a) under the Exchange Act.
- 13.1 Certification of Chief Executive Officer required by Rule 13a-14(b) under the Exchange Act.
- 13.2 Certification of Chief Financial Officer required by Rule 13a-14(b) under the Exchange Act.
- 99.1 Consent of Deloitte & Touche.
- (1) 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.
- (2) 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.
- (3) Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 2002, filed by TSMC on June 23, 2003.
- (4) Previously filed in TSMC's registration statement on Form S-8, filed by TSMC on October 20, 2003.
- (5) Previously filed in TSMC's registration statement on Form S-8, filed by TSMC on January 6, 2005.
- (6) 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.
- (7) Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 2003, filed by TSMC on May 28, 2004.
- (8) Previously filed in TSMC's registration statement on Form F-1, filed by TSMC on September 15, 1997.
- + Contains portions for which confidential treatment has been requested.

**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: May 16, 2005

TAIWAN SEMICONDUCTOR  
MANUFACTURING  
COMPANY LIMITED

By: /s/ Lora

Ho

Name: Lora Ho

Title: Vice President and Chief Financial Officer

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**Taiwan Semiconductor Manufacturing  
Company Limited and Subsidiaries**

**Consolidated Financial Statements for the  
Years Ended December 31, 2002, 2003 and 2004 and  
Independent Auditors Report**

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**REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

To the Board of Directors and 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 its subsidiaries (the Company) as of December 31, 2003 and 2004, and the related consolidated statements of income, changes in shareholders' equity, and cash flows for the years ended December 31, 2002, 2003 and 2004, 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 standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. The Company is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control over financial reporting. Accordingly, we express no such opinion. Our audit also includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, 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, such consolidated financial statements present fairly, in all material respects, the financial position of Taiwan Semiconductor Manufacturing Company Limited and subsidiaries as of December 31, 2003 and 2004, and the results of their operations and their cash flows for the years ended December 31, 2002, 2003 and 2004, in conformity with accounting principles generally accepted in the Republic of China.

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, 2004 and the determination of shareholders' equity and financial position at December 31, 2003 and 2004 to the extent summarized in Note 27 to the consolidated financial statements.

Our audits also comprehended the translation of New Taiwan dollar amounts into U.S. dollar amounts and, in our opinion, such translation has been made in conformity with the basis stated in Note 3. Such U.S. dollar amounts are presented solely for the convenience of the readers.

Deloitte & Touche  
Taipei, Taiwan  
The Republic of China

February 4, 2005

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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 and Par Value)

	Notes	December 31		
		2003 NT\$	2004 NT\$	US\$ (Note 3)
<b>ASSETS</b>				
<b>CURRENT ASSETS</b>				
Cash and cash equivalents	2, 4, 5	102,988.9	74,302.4	2,341.0
Short-term investments, net	2, 5	13,611.5	54,108.0	1,704.7
Receivables, net	2, 6	25,348.9	26,889.1	847.2
Receivables from related parties	22	1,052.2	795.9	25.1
Other financial assets	2, 25	1,373.7	2,212.4	69.7
Inventories, net	2, 7	12,135.3	15,555.9	490.1
Deferred income tax assets, net	2, 16	8,398.2	8,918.0	280.9
Prepaid expenses and other current assets		1,632.9	1,667.4	52.5
Total current assets		166,541.6	184,449.1	5,811.2
LONG-TERM INVESTMENTS	2, 8, 20, 25	10,748.1	38,101.9	1,200.4
PROPERTY, PLANT AND EQUIPMENT, NET	2, 9, 12, 22	211,854.3	258,911.3	8,157.3
GOODWILL	2	8,720.9	7,115.5	224.2
<b>OTHER ASSETS</b>				
Deferred charges, net	2, 10, 24	7,992.0	8,992.5	283.3
Deferred income tax assets, net	2, 16	1,111.4	1,650.0	52.0
Refundable deposits	22	199.5	106.4	3.4
Others	2	232.7	127.4	4.0
Total other assets		9,535.6	10,876.3	342.7
<b>TOTAL ASSETS</b>		<b>407,400.5</b>	<b>499,454.1</b>	<b>15,735.8</b>



**LIABILITIES AND SHAREHOLDERS EQUITY****CURRENT LIABILITIES**

Short-term bank loans	11	407.7	383.0	12.0
Payables to related parties	22	3,248.3	2,217.8	69.9
Accounts payable		6,438.6	7,264.4	228.9
Payable to contractors and equipment suppliers		7,232.1	33,427.7	1,053.2
Accrued expenses and other current liabilities	2, 14, 25	8,094.2	10,126.4	319.0

(Continued)

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	Notes	December 31		
		2003 NT\$	2004 NT\$	US\$ (Note 3)
Current portion of bonds payable	13	5,000.0	10,500.0	330.8
Total current liabilities		30,420.9	63,919.3	2,013.8
<b>LONG-TERM LIABILITIES</b>				
Long-term bank loans	12	8,800.3	1,915.0	60.3
Bonds payable	13	30,000.0	19,500.0	614.4
Other long-term payables	14	3,300.8	7,965.0	251.0
Other payables to related parties	22, 24		2,318.0	73.0
Liability under capital lease	2, 9	726.6	566.2	17.8
Total long-term liabilities		42,827.7	32,264.2	1,016.5
<b>OTHER LIABILITIES</b>				
Accrued pension cost	2, 15	2,601.5	3,101.7	97.7
Guarantee deposits	24	763.9	412.9	13.0
Others		1,483.2	715.0	22.6
Total other liabilities		4,848.6	4,229.6	133.3
<b>COMMITMENTS AND CONTINGENCIES</b>				
	24			
<b>MINORITY INTEREST IN SUBSIDIARIES</b>				
	2	89.0	75.7	2.4
<b>SHAREHOLDERS' EQUITY</b>				
Capital stock NT\$10 par value	2, 18			
Authorized: 24,600,000 thousand shares Issued:				
Common 20,266,619 thousand and 23,251,964 thousand shares in 2003 and 2004, respectively		202,666.2	232,519.6	7,325.7
Capital surplus		56,855.9	56,537.3	1,781.3
Retained earnings		71,100.1	113,730.0	3,583.2
Unrealized loss on long-term investments	2	(0.1)		
Cumulative translation adjustments	2	225.4	(2,226.4)	(70.1)
Treasury stock 40,597 thousand and 45,521 thousand shares in 2003 and 2004, respectively	2, 20	(1,633.2)	(1,595.2)	(50.3)

Total shareholders equity	329,214.3	398,965.3	12,569.8
TOTAL LIABILITIES AND SHAREHOLDERS EQUITY	407,400.5	499,454.1	15,735.8

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

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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)

	Notes	Year Ended December 31			US\$ (Note 3)
		2002 NT\$	2003 NT\$	2004 NT\$	
NET SALES	2, 22, 26	162,301.2	202,996.8	257,212.6	8,103.7
COST OF SALES	17, 22	109,988.1	128,113.3	141,393.4	4,454.7
GROSS PROFIT	26	52,313.1	74,883.5	115,819.2	3,649.0
OPERATING EXPENSES	17, 22, 26				
Research and development		11,725.0	12,712.7	12,516.4	394.3
General and administrative		6,767.8	8,200.0	11,454.4	360.9
Marketing		2,231.3	2,670.2	3,366.7	106.1
Total operating expenses		20,724.1	23,582.9	27,337.5	861.3
INCOME FROM OPERATIONS		31,589.0	51,300.6	88,481.7	2,787.7
NON-OPERATING INCOME AND GAINS	26				
Investment income recognized by equity method, net	2, 8			2,094.1	66.0
Interest	2, 25	1,094.7	888.1	1,858.4	58.6
Gain on sales of investments, net	2		3,538.1	914.5	28.8
Technical service income	22, 24	162.1	209.8	423.8	13.3
Gain on disposal of property, plant and equipment	2	274.0	438.8	242.8	7.7
Royalty income	24	527.1			
Other	22	291.9	594.5	556.6	17.5
Total non-operating income and gains		2,349.8	5,669.3	6,090.2	191.9
NON-OPERATING EXPENSES AND LOSSES	26				
Interest	2, 9, 25	2,616.7	1,891.0	1,528.9	48.2
Foreign exchange loss, net	2, 25	120.6	755.1	382.2	12.0

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Loss on impairment of long-term investments	2	795.7	652.7	350.6	11.1
Loss on disposal of property, plant and equipment	2	222.0	374.1	131.1	4.1
Unrealized valuation loss of short-term investments	2			75.2	2.4
Loss on impairment of property, plant and equipment and idle assets	2	244.4	1,506.2		
Investment loss recognized by equity method, net	2, 8	1,976.8	294.3		
Amortization of premium from option contracts, net	2, 25	419.5	153.8		

(Continued)

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	Notes	Year Ended December 31			US\$ (Note 3)
		2002 NT\$	2003 NT\$	2004 NT\$	
Casualty loss, net		119.5			
Loss on sales of investments, net	2	101.2			
Other		100.3	164.1	138.3	4.3
Total non-operating expenses and losses		6,716.7	5,791.3	2,606.3	82.1
INCOME BEFORE INCOME TAX AND MINORITY INTEREST	26	27,222.1	51,178.6	91,965.6	2,897.5
INCOME TAX BENEFIT (EXPENSE)	2, 16	(5,636.6)	(3,922.9)	363.4	11.4
INCOME BEFORE MINORITY INTEREST		21,585.5	47,255.7	92,329.0	2,908.9
MINORITY INTEREST IN LOSS (INCOME) OF SUBSIDIARIES	2, 26	24.8	3.0	(12.9)	(0.4)
NET INCOME		21,610.3	47,258.7	92,316.1	2,908.5
BASIC EARNINGS PER SHARE	2, 21				
Before income tax and minority interest		1.15	2.19	3.96	0.12
Net income		0.91	2.02	3.97	0.13
DILUTED EARNINGS PER SHARE	2, 21				
Before income tax and minority interest		1.15	2.19	3.95	0.12
Net income		0.91	2.02	3.97	0.13
BASIC EARNINGS PER EQUIVALENT ADS	2				
Before income tax and minority interest		5.74	10.93	19.78	0.62
Net income		4.53	10.09	19.85	0.63
DILUTED EARNINGS PER EQUIVALENT ADS	2				

Before income tax and minority interest		5.74	10.93	19.77	0.62
Net income		4.53	10.09	19.85	0.63

**BASIC WEIGHTED AVERAGE SHARES**

OUTSTANDING (Thousands)	2, 21	23,324,617	23,327,354	23,248,682
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**DILUTED WEIGHTED AVERAGE**

SHARES OUTSTANDING (Thousands)	2, 21	23,324,617	23,336,953	23,255,086
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The accompanying notes are an integral part of the consolidated financial statements.

(Concluded)

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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)				Capital Surplus NT\$	Unrealized Loss on Retained Earnings NT\$	Long-term Investments NT\$	Cumulative Translation Adjustments NT\$	Treasury Stock (Note 20) NT\$	Total Sharehold Equity NT\$
	Preferred stock		Common stock							
	Shares (Thousands)	Amount NT\$	Shares (Thousands)	Amount NT\$						
BALANCE, DECEMBER 31, 2001	1,300,000	13,000.0	16,832,554	168,325.6	57,128.4	37,507.5	1,228.7		277,190.0	
Appropriations of earnings for year s										
Dividends Bonus to employees stock cash			107,078	1,070.8		(1,070.8)				
Dividends preferred shares						(455.0)			(455.0)	
Dividends 10% remuneration to directors and supervisors			1,683,255	16,832.5		(16,832.5)				
Net income in 2002						21,610.3			21,610.3	
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 subsidiaries to retained earnings					(0.1)	0.1				
Realized loss on long-term investments							(194.3)		(194.3)	
Translation adjustments							(283.7)		(283.7)	



classification of ent company ck held by sidiaries from g-term estments to asury stock asury stock sales he parent npany stock d by sidiaries									(1,923.5)	(1,923.5)
					43.0					43.0
BLANCE, CEMBER 31, 02	1,300,000	13,000.0	18,622,887	186,228.9	57,004.8	40,792.3	(194.3)	945.0	(1,923.5)	295,853.0
demption and rement of ferred stock ropriations of or year s nings Bonus to ployees stock sh idends preferred res ck dividends 8% muneration to ectors and bservisors t income in 03 justment arising m changes in nership centage in estees versal of realized loss on g-term estments of estees	(1,300,000)	(13,000.0)								(13,000.0)
			153,901	1,539.0		(1,539.0)				
							(455.0)			(455.0)
			1,489,831	14,898.3		(14,898.3)				
							(58.6)			(58.6)
						47,258.7				47,258.7
						(158.9)				(158.9)
								194.2		194.2
									(Continued)	

	Capital Stock (NT\$10 Par Value)		Capital Surplus NT\$	Unrealized Gain (Loss)			Treasury Stock NT\$	Total Shareholders' Equity NT\$	
	Preferred stock	Common stock		Retained Earnings	Long-term Investments	Cumulative Translation Adjustments			
	Shares (Thousands)	Amount NT\$		NT\$	NT\$	NT\$			NT\$
Translation adjustments						(719.6)	(719.6)		
Treasury stock sales of the parent company stock held by subsidiaries			10.0				290.3	300.3	
<b>BALANCE, DECEMBER 31, 2003</b>		20,266,619	202,666.2	56,855.9	71,100.1	(0.1)	225.4	(1,633.2)	329,214.3
Appropriations of prior year's earnings									
Bonus to employees cash					(681.6)			(681.6)	
Bonus to employees stock		272,651	2,726.5		(2,726.5)				
Cash dividends preferred shares					(184.5)			(184.5)	
Cash dividends 6% Stock					(12,160.0)			(12,160.0)	
dividends 14%		2,837,327	28,373.3		(28,373.3)				
Remuneration to directors and supervisors					(127.8)			(127.8)	
Net income in 2004					92,316.1			92,316.1	
Adjustment arising from changes in ownership percentage in investees				34.0				34.0	
Reversal of unrealized loss on long-term						0.1		0.1	

investments in investees								
Translation adjustments						(2,451.8)		(2,451.8)
Issuance of stock from stock option exercises	87	0.8	2.8					3.6
Cash dividends received by subsidiaries from parent company				22.8				22.8
Treasury stock sales of the parent company stock held by subsidiaries			1.9			38.0		39.9
Common stock repurchases						(7,059.8)		(7,059.8)
Retirement of treasury stock	(124,720)	(1,247.2)	(380.1)	(5,432.5)		7,059.8		
BALANCE, DECEMBER 31, 2004	23,251,964	232,519.6	56,537.3	113,730.0		(2,226.4)	(1,595.2)	398,965.3
BALANCE, DECEMBER 31, 2004 (In millions of US\$ Note 3)		7,325.7	1,781.3	3,583.2		(70.1)	(50.3)	12,569.8

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

(Concluded)

## TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED AND SUBSIDIARIES

## CONSOLIDATED STATEMENTS OF CASH FLOWS

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

	Year Ended December 31			
	2002 NT\$	2003 NT\$	2004 NT\$	US\$ (Note 3)
<b>CASH FLOWS FROM OPERATING ACTIVITIES</b>				
Net income	21,610.3	47,258.7	92,316.1	2,908.5
Adjustments to reconcile net income to net cash provided by operating activities:				
Depreciation and amortization	65,000.8	69,161.3	69,818.5	2,199.7
Deferred income taxes	5,421.0	3,665.4	(1,058.4)	(33.3)
Investment loss (income) recognized by equity method, net	1,976.8	294.3	(2,094.1)	(66.0)
Amortization of premium/discount of long-term bond investments			28.7	0.9
Loss on impairment of property, plant and equipment, and idle assets	244.4	1,506.2		
Loss on impairment of long-term investments	795.7	652.7	350.6	11.0
Loss (gain) on sales of long-term investments, net	170.8	(78.7)	(85.2)	(2.7)
Gain on disposal of property, plant and equipment, net	(52.0)	(64.7)	(111.6)	(3.5)
Accrued pension cost	355.7	389.9	500.3	15.8
Minority interest in income (loss) of subsidiaries	(24.8)	(3.0)	12.9	0.4
Changes in operating assets and liabilities:				
Decrease (increase) in:				
Receivables, Net	166.8	(9,063.5)	(1,540.3)	(48.5)
Receivable from related parties	55.0	(612.5)	256.2	8.1
Inventories, net	(1,373.1)	(933.9)	(3,420.6)	(107.8)
Other financial assets	(162.6)	(347.2)	(777.1)	(24.5)
Prepaid expenses and other current assets	(330.8)	605.0	(34.5)	(1.1)
Increase (decrease) in:				
Payable to related parties	727.9	1,472.1	(1,500.0)	(47.2)
Accounts payable	3,740.7	1,300.0	825.8	26.0
Accrued expenses and other current liabilities	184.5	835.0	(336.4)	(10.6)
 Net cash provided by operating activities	 98,507.1	 116,037.1	 153,150.9	 4,825.2
<b>CASH FLOWS FROM INVESTING ACTIVITIES</b>				
Decrease (increase) in short-term investments net	1,184.5	(13,326.3)	(43,554.9)	(1,372.2)
Acquisitions of:				
Long-term investments	(3,192.4)	(1,412.3)	(23,054.4)	(726.3)
Property, plant and equipment	(55,235.5)	(37,870.9)	(81,094.5)	(2,555.0)
Proceeds from sales of:				
Long-term investments	53.1	505.7	165.2	5.2

Property, plant and equipment	495.9	177.3	1,812.6	57.1
Increase in deferred charges	(5,724.6)	(2,138.1)	(2,405.7)	(75.8)

(Continued)

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	<b>Year Ended December 31</b>			<b>US\$ (Note 3)</b>
	<b>2002 NT\$</b>	<b>2003 NT\$</b>	<b>2004 NT\$</b>	
Decrease in refundable deposits	226.8	357.7	93.1	2.9
Decrease in other assets others	2.7	4.6	51.6	1.6
Decrease in minority interest in subsidiaries		(3.5)	(26.1)	(0.8)
 Net cash used in investing activities	 (62,189.5)	 (53,705.8)	 (148,013.1)	 (4,663.3)
 <b>CASH FLOWS FROM FINANCING ACTIVITIES</b>				
Cash dividends paid for common stock			(12,137.2)	(382.4)
Repurchase of treasury stock			(7,059.8)	(222.4)
Payments on:				
Long-term bank loans	(4,397.3)	(8,915.5)	(6,656.1)	(209.7)
Bonds payable		(4,000.0)	(5,000.0)	(157.5)
Short-term bank loans	(5,539.4)	(309.8)		
Cash bonus paid to employees			(681.6)	(21.5)
Decrease in guarantee deposits and other liabilities	(5,817.6)	(631.1)	(351.0)	(11.1)
Issuance costs of financing	(3.0)			
Cash dividends paid on preferred shares	(455.0)	(455.0)	(184.5)	(5.8)
Redemption of preferred stock		(13,000.0)		
Remuneration to directors and supervisors	(133.8)	(58.6)	(127.8)	(4.0)
Proceeds from disposal of treasury stock		300.3	39.9	1.2
Proceeds from issuance of stock from stock option exercises			3.6	0.1
Proceeds from issuance of long-term bonds	10,000.0			
 Net cash used in financing activities	 (6,346.1)	 (27,069.7)	 (32,154.5)	 (1,013.1)
 <b>EFFECTS OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS</b>	 262.4	 (62.9)	 (1,669.8)	 (52.6)
 <b>NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS</b>	 30,233.9	 35,198.7	 (28,686.5)	 (903.8)
 <b>CASH AND CASH EQUIVALENTS, BEGINNING OF YEAR</b>	 37,556.3	 67,790.2	 102,988.9	 3,244.8
 <b>CASH AND CASH EQUIVALENTS, END OF YEAR</b>	 67,790.2	 102,988.9	 74,302.4	 2,341.0

SUPPLEMENTAL DISCLOSURES OF CASH FLOW  
INFORMATION

Interest paid (excluding amounts capitalized)	2,301.8	1,982.6	1,470.3	46.3
Income tax paid	165.1	219.0	389.2	12.3

NONCASH INVESTING AND FINANCING  
ACTIVITIES

Current portion of bond payable	12,107.9	5,000.0	10,500.0	330.8
Current portion of other payables to related parties (under payables to related parties)			492.0	15.5

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	Year Ended December 31			US\$ (Note 3)
	2002 NT\$	2003 NT\$	2004 NT\$	
Current portion of other long-term payables (under accrued expenses and other current liabilities)	1,157.3	1,592.0	1,505.3	47.4
Reclassification of long-term investments to short-term investments	43.6	141.0	344.0	10.8
Reclassification of short-term investments to long-term investments			3,402.4	107.2
Reclassification of parent company stock held by subsidiaries from long-term investments to treasury stock	1,923.5			

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

(Concluded)

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**TAIWAN SEMICONDUCTOR MANUFACTURING COMPANY LIMITED  
AND SUBSIDIARIES**

**NOTES TO CONSOLIDATED FINANCIAL STATEMENTS**

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**1. GENERAL**

Taiwan Semiconductor Manufacturing Company Ltd. (TSMC), a Republic of China (R.O.C.) corporation, was incorporated as a venture among the Government of the R.O.C., acting through the Development Fund of the Executive Yuan; Philips Electronics N.V. and certain of its affiliates (Philips); and certain other private investors. On September 5, 1994, its shares were listed on the Taiwan Stock Exchange (TSE). On October 8, 1997, TSMC listed some of its shares of stock on the New York Stock Exchange (NYSE) in the form of American Depositary Shares (ADSs).

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

TSMC has six direct wholly-owned subsidiaries: TSMC International Investment Ltd. (TSMC International), TSMC North America (TSMC - North America), Taiwan Semiconductor Manufacturing Company Europe B.V. (TSMC - Europe), TSMC Japan K. K. (TSMC - Japan), TSMC (Shanghai) Company Limited (TSMC - Shanghai) and TSMC Partners, Ltd. (TSMC Partners). In addition, TSMC has the following consolidating subsidiaries: a 99.5% owned subsidiary, Emerging Alliance Fund, L.P. (Emerging Alliance), a 98% owned subsidiary, VentureTech Alliance Fund II, L.P. (VTAF II, a newly established entity in 2004) 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) and 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 a 99.996% owned subsidiary, WaferTech, LLC (WaferTech).

The following diagram presents information regarding the relationship and ownership percentages among TSMC and its consolidated subsidiaries as of December 31, 2004:

TSMC - North America is engaged in the selling and marketing of integrated circuits and semiconductor devices. TSMC - Europe and TSMC - Japan are engaged mainly in marketing activities. TSMC Technology is engaged mainly in engineering support activities. TSMC - Shanghai is engaged in the manufacturing and marketing of integrated circuits and other semiconductor devices. TSMC Partners, TSMC Development, Chi Cherng and Hsin Ruey are engaged in investing activities. TSMC International is engaged in investing in companies involved in the design, manufacture, and other related business in the semiconductor industry. Emerging Alliance, VTAF II, InveStar and InveStar II are engaged in investing in new start-up technology companies. WaferTech is engaged in the manufacturing, selling, testing and computer-aided designing of integrated circuits and other semiconductor devices.

## **2. SIGNIFICANT ACCOUNTING POLICIES**

The consolidated financial statements are presented in conformity with Guidelines Governing the Preparation of Financial Reports by Securities Issuers and accounting principles generally accepted in the R.O.C.

Significant accounting policies are summarized as follows:

### **Consolidation**

TSMC consolidates the accounts of all majority (directly and indirectly) owned subsidiaries. All significant intercompany balances and transactions have been eliminated.

The consolidated financial statements include the accounts of TSMC, TSMC - North America, TSMC - Europe, TSMC - Japan, TSMC - Shanghai, TSMC Partners, Emerging Alliance, VTAF II, Chi Cherng, Hsin Ruey 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 .

Minority interest in WaferTech (0.004%), Emerging Alliance (0.5%), VTAF II (2%), InveStar (3%) and InveStar II (3%) is presented separately in the consolidated financial statements.

### **Use of Estimates**

The preparation of financial statements in conformity with the aforementioned guidelines and principles requires management to make reasonable assumptions and estimates of matters that are inherently uncertain. The actual results may differ from management's estimates.

### **Classification of Current and Noncurrent Assets and Liabilities**

Current assets are those expected to be converted to cash, sold or consumed within one year from the balance sheet date. Current liabilities are obligations due on demand or within one year from the balance sheet date. Assets and liabilities that are not classified as current are noncurrent assets and liabilities, respectively.

### **Cash Equivalents**

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



### **Short-term Investments**

Short-term investments primarily consist of corporate bonds, asset-backed securities, bond funds, agency bonds, government bonds and others.

Short-term investments are recorded at historical cost and are carried at the lower of cost or market value as of the balance sheet date. An allowance for decline in value is provided and is charged to current earnings when the aggregate carrying value of the investments exceeds the aggregate market value. A reversal of the allowance is recorded for a subsequent recovery of the market value.

The costs of funds and listed stocks sold are accounted for using the weighted-average method; whereas the other securities are accounted for using the specific identification method.

The market value of funds is determined using the net asset value of the funds at the end of the year, and the market value of listed stocks is determined using the average-closing price of the listed stocks for the last month of the year. The others are determined using the average of bid and ask prices as of the balance sheet date.

Cash dividends are recorded as investment income in the current year.

### **Allowance for Doubtful Receivables**

An allowance for doubtful receivables is provided based on a review of the collectibility of accounts receivables. The Company determines the amount of allowance for doubtful receivables by examining the historical collection experience and current trends in the credit quality of its customers as well as its internal credit policies.

### **Revenue Recognition and Allowance for Sales Returns and Others**

The Company recognizes revenue when evidence of an arrangement exists, the shipment is made, price is fixed or determinable, and the collectibility is reasonably assured. Revenues from the design and manufacturing of photo masks, which are used as manufacturing tools in the fabrication process, are recognized when the photo masks are qualified by our customers. The Company records a provision for estimated future returns and other allowances in the same period the related revenue is recorded. Provisions for estimated sales returns and other allowances are generally made at a specific percentage based on historical experience, management's judgment, and any known factors that would significantly affect the allowance. However, because of the inherent nature of estimates, actual returns and allowances could be significantly different from the Company's estimates. If the actual returns are greater than the Company's estimated amount, the Company could be required to record additional provisions, which would have a negative impact on the Company's recorded revenue and gross margin.

Sales are determined using the fair value taking into account related sales discounts agreed to by the Company and its customers. Sales agreements typically provide that payment is due 30 days from invoice date for a majority of the customers and 30 to 45 days after the end of the month in which the sales occur for some customers. Since the receivables from sales are collectible within one year and such transactions are frequent, the fair value of receivables is equivalent to the nominal amount of cash received.

## **Inventories**

Inventories are stated at the lower of cost or market value. Inventories are recorded at standard cost and adjusted to the approximate weighted-average cost at the end of the period. Market value represents net replacement cost for raw materials, supplies and spare parts and net realizable value for finished goods and work in process. The Company assesses the impact of changing technology on its inventory on hand and writes off inventories that are considered obsolete. Ending inventories are evaluated for estimated excess quantities and obsolescence based on demand forecast within a specific time horizon, generally 180 days or less, and the estimated losses on scrap and slow-moving items are recognized in the allowance for losses.

## **Long-term Investments**

Investments in companies wherein the Company exercises significant influence on the operating and financial policy decisions are accounted for using the equity method of accounting. The Company's proportionate share in the net income or net loss of investee companies is recognized in the investment income/loss recognized by equity method, net account. When equity investments are made, the difference, if any, between the cost of investment and the Company's proportionate share of investee's net equity is amortized using the straight-line method over five years and is recorded in the investment income/loss recognized by equity method, net account.

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 the investee differs from the amount of the Company's proportionate share in the investee's net equity. The Company records such difference as an adjustment to long-term investments with the corresponding amount charged or credited to capital surplus.

Investments in companies wherein the Company does not exercise significant influence are recorded at historical cost. Cash dividends are recognized as investment income in the year received but are accounted for as reductions in the carrying amount of the long-term investments if the dividends are received in the same year that the related investments are acquired. Stock dividends are recorded as an increase in the number of shares held and do not affect investment income or the carrying amount of the investment. An allowance is recognized for any decline in the market value of investments with readily ascertainable fair market value with the corresponding amount recorded as an unrealized loss, a component of shareholders' equity. A reversal of the allowance will result from a subsequent recovery of the market value of such investments. The carrying amounts of investments whose fair market values are not readily ascertainable 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 aggregate cost or net asset value. An allowance is recognized when the net assets value of the funds is lower than their cost, with the corresponding amount recorded as a reduction to shareholders' equity. A reversal of the allowance will result from a subsequent recovery of the net asset value.

The costs of stocks and mutual funds sold are determined using the weighted-average method.

Investments in long-term bonds are stated at amortized cost. The discount or premium is amortized over the duration period using the interest method, and recorded as an adjustment to interest income.

When investments in publicly-traded stocks are reclassified from short-term investments to

long-term investments or from long-term investments to short-term investments, the Company recognizes a loss to the extent, if any, that the market value of such investments is lower than the carrying amount, and the market value becomes the new basis.

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

Gains or losses on sales from the Company to investee companies accounted for using the equity method are deferred in proportion to the Company's ownership percentage in the investee companies until realized through transactions with third parties. The entire amount of the gains or losses on sales to majority-owned subsidiaries is deferred until such gains or losses are realized through the subsequent sales of the related products to third parties.

Gains or losses on sales from investee companies to the Company are deferred in proportion to the Company's ownership percentages in the investee companies until realized through transactions with third parties.

If an investee's functional currency is a foreign currency, translation adjustments will result from the process of translating the investee's financial statements into the reporting currency of the Company. Such adjustments are accumulated and reported as a separate component of shareholders' equity.

#### **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. When impairment is determined, the related assets are stated at the lower of fair value or book value. Idle assets are stated at the lower of net realizable value or book value. Significant additions, renewals and betterments incurred during the construction period are capitalized. Maintenance and repairs are expensed in the year incurred. Interest expense incurred for the project during the purchase and construction period is also capitalized. Properties covered by agreements qualifying as capital leases are carried at the lower of the leased equipment's market value or the present value of the minimum lease payments at the inception date of the lease. Assets leased to others and idle assets are included in other assets.

Depreciation is computed using the straight-line method over the following estimated service lives: land improvements 20 years; buildings 10 to 20 years; machinery and equipment 5 to 10 years; office equipment 3 to 15 years; and leased assets 20 years.

Upon sale or disposal of property, plant and equipment, the related cost and accumulated depreciation are removed from the corresponding accounts, with any gain or loss credited or charged to non-operating income or expenses in the year of sale or disposal.

#### **Goodwill**

Goodwill represents the excess of the consideration paid for acquisition over the fair market value of identifiable net assets acquired and acquisition costs. Goodwill is amortized using the straight-line method over the estimated life of 10 years.

### **Deferred Charges**

Deferred charges consist of technology license fees, software and system design costs and other charges. The amounts are amortized as follows: technology license fees the shorter of the estimated life of the technology or the term of the technology transfer contract, software and system design costs and other charges 3 or 5 years.

### **Pension Costs**

TSMC records net periodic pension costs on the basis of actuarial calculations. Unrecognized net transition obligation and unrecognized net gains or losses are amortized over 25 years.

### **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 net operating loss carryforwards. 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 classified as current or non-current in accordance with the classification of its related asset or liability. 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 either current or noncurrent based on the expected length of time before it is realized or settled.

Any tax credits arising from the purchases of machinery, equipment and technology, research and development expenditures, personnel training, and investments in important technology-based enterprises are recognized using the flow-through method.

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

Income taxes on unappropriated earnings (excluding earnings from foreign consolidating subsidiaries) of 10% are expensed in the year of shareholder approval which is the year subsequent to the year the earnings are generated.

### **Stock-based Compensation**

Employee stock option plans that are amended or have options granted on or after January 1, 2004 must be accounted for by the interpretations issued by the Accounting Research and Development Foundation. The Company adopted the intrinsic value method and any compensation cost determined using this method is charged to expense over the employee vesting period.

### **Treasury Stock**

When the Company repurchases its outstanding common stock, the cost of the reacquired stock is recorded as treasury stock as a reduction to shareholders' equity. When the Company retires treasury stock, the treasury stock account is reduced and the common stock as well as the capital surplus-additional paid-in capital are reversed in proportionate to the equity percentage of the retirement. When the book value of the treasury stock exceeds the sum of the par value and additional paid-in capital, the difference is charged to capital surplus - treasury stock and to retained earnings for any remaining amount. The Company's stock held by its subsidiaries is also treated as treasury stock and reclassified from long-term investments to treasury stock. The cash dividends received by the subsidiaries from the Company are recorded under capital surplus - treasury stock.

### **Foreign-Currency Transactions**

Foreign currency transactions are recorded in New Taiwan dollars at the rates of exchange in effect when the transactions occur. Exchange gains or losses derived from foreign currency transactions or monetary assets and liabilities denominated in foreign currencies are recognized in current income. At the end of each year, assets and liabilities denominated in foreign currencies are revalued at the prevailing exchange rates with the resulting gains or losses recognized in current income.

### **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 institutions. The Company's sales are primarily denominated in U.S. dollars. Sales to one customer represented 20%, 15% and 8% of the consolidated sales for the years ended December 31, 2002, 2003 and 2004, 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 on a regular basis.

### **Derivative Financial Instruments**

The Company enters into foreign currency forward contracts to manage currency exposures on cash flow and foreign-currency-denominated assets and liabilities. The contracts are recorded in New Taiwan dollars at the spot rate of exchange on the contract date. The differences in the New Taiwan dollar amounts translated using the spot rates 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 end of each year, the receivables or payables arising from forward contracts are restated using the prevailing spot rates at the balance sheet date with the resulting differences charged to income. In addition, the receivables and payables related to the forward contracts of the same counter party are netted with the resulting amount presented as either an asset or a liability. Any resulting gain or loss upon settlement is credited or charged to income in the year of settlement.

The Company enters into cross-currency swap contracts to manage currencies exposures on foreign currency denominated assets and liabilities. The principal amount is recorded using the spot rates at the contract date. The differences in the New Taiwan dollar amounts translated using the spot rates and the amounts translated using the contracted rates on the contract date are amortized over the terms of the contracts using the straight-line method. At the end of each year, the receivables or payables arising from cross-currency swap contracts are restated using the prevailing spot rate with the resulting differences charged to income. In addition, the receivables and payables related to the contracts are netted with the resulting amount presented as either an asset or a liability. The difference in interest computed pursuant to the contracts on each settlement date or the balance sheet date is recorded as an adjustment to the interest income or expense associated with the hedged items. Any resulting gain or loss upon settlement is credited or charged to income in the year of settlement.

The Company enters into interest rate swap contracts to manage exposures to changes in interest rates on existing assets or 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 associated with the hedged items.

The premiums paid for the foreign currency option contracts entered into for hedging purposes are amortized and charged to income on a straight-line basis over the term of the related contract. Any resulting gain or loss upon settlement is credited or charged to income in the year of settlement.

### **Translation of Foreign-currency Financial Statements**

R.O.C. Statement of Financial Accounting Standard (SFAS) No. 14, Accounting for Foreign-Currency Transactions and Translation of Foreign Financial Statements applies to foreign subsidiaries that use their respective local currencies as their functional currencies. The financial statements of foreign subsidiaries are translated into New Taiwan dollars at the following exchange rates: Assets and liabilities spot rate on balance sheet date; shareholders equity historical rate; income and expenses 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 to the beginning of the year for stock dividends and stock bonuses issued subsequently. Earnings per equivalent ADS is calculated by multiplying earnings per share by five (one ADS represents five common shares).

### **Recent Accounting Pronouncements**

In December 2003, the R.O.C. Accounting Research and Development Foundation (ARDF) issued SFAS No. 34 Accounting for Financial Instruments, which is required to be applied by the Company on January 1, 2006. SFAS No. 34 will require the Company to classify all financial instruments, excluding limited financial instruments specified by SFAS No. 34, as either trading, available-for-sale or held-to-maturity. Debt securities that the Company has the positive intent and ability to hold to maturity are classified as held-to-maturity securities and reported at amortized cost. Debt and equity securities that are bought and traded for short-term profit are classified as trading securities and reported at fair value, with unrealized gains and losses charged to earnings for the current period. Debt and equity securities not classified as either held-to-maturity or trading are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported as a separate component of shareholders equity. Additionally, SFAS No. 34 will require the Company to recognize all derivatives on the balance sheet at fair value. Derivatives that are not deemed as hedges under SFAS No. 34 must be adjusted to fair value through income. If the derivative is deemed a hedge, depending on the nature of the hedge, changes in the fair value of derivatives will either be offset against the change in fair value of the hedged assets, liabilities or firm commitments through earnings, or recognized in other comprehensive income until the hedged item is recognized in earnings. The change in a derivative's fair value related to the ineffective portion of a hedge, if any, will be immediately recognized in earnings. The Company is currently evaluating the effect of adopting the standard but expects the implementation will not have a material effect on the Company's financial position or overall trends in results of operations.

In July 2004, ARDF issued SFAS No. 35 Accounting for Impairment of Assets, which was required to be applied by the Company on January 1, 2005. For all assets, excluding certain assets specified by SFAS No. 35, the Company will be required to evaluate for any indication of

impairment. If there is an indication that an asset may be impaired, the Company is required to calculate the recoverable amount of the asset and record impairment loss if the carrying value of the assets is less than its recoverable amount. Furthermore, goodwill is required to be amortized continuously with an annual test for impairment. Subsequent reversal of an impairment loss is required under SAFS No. 35, if there is any indication that an impairment loss recognized for an asset in prior years may no longer exist or may have decreased. However, reversal of an impairment loss for goodwill is prohibited. The adoption of the statement did not have a material impact on the Company's financial position or overall trends in results of operations.

In December 2004, ARDF revised SFAS No. 7 Consolidated Financial Statements, which will be required to be adopted by the Company on June 30, 2005. Revised SFAS No. 7 will require the Company to consolidate all investees under the control of the Company. Control is not only presumed when the parent acquires more than half of the voting rights of the investee but also evidenced by control under certain situations indicated in the revised standard. Beginning January 1, 2005, TSMC will consolidate the accounts of GUC and VisEra, as TSMC executives represent a majority of the directors on GUC's board of directors and several members of TSMC's management team hold key management positions at GUC and VisEra.

### Reclassifications

Certain accounts in the consolidated financial statements as of December 31, 2003 and for the years ended December 31, 2002 and 2003 have been reclassified to conform to the consolidated financial statements as of and for the year ended December 31, 2004.

### 3. 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, 2004, which was NT\$31.74 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.

### 4. CASH AND CASH EQUIVALENTS

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Cash and bank deposits	97,041.5	54,609.0
Government bonds acquired under repurchase agreements	5,947.4	19,215.2
Corporate issued notes		478.2
	102,988.9	74,302.4

**5. SHORT-TERM INVESTMENTS**

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Corporate bonds		13,554.6
Corporate issued asset-backed securities		11,766.9
Bond funds	1,000.0	10,662.8
Agency bonds		8,633.9
Government bonds	7,692.6	7,346.8
Money market funds	3,068.2	1,641.0
Government bonds acquired under repurchase agreements	1,800.0	249.4
Listed stocks	50.7	168.3
Commercial papers		95.7
Corporate issued notes		63.8
	13,611.5	54,183.2
Allowance for valuation losses		(75.2)
	13,611.5	54,108.0
Market Value	14,054.5	54,990.5

The Company entered into investment management agreements with three well-known financial institutions (fund managers) to manage investment portfolios for the Company. In accordance with the investment guidelines and terms in these agreements, the securities invested by the fund managers cannot be below a pre-defined credit rating. As of December 31, 2004, the Company had investment portfolios with these fund managers that aggregated to an original amount of US\$1,200,000 thousand. The investment portfolios included securities such as corporate bonds, asset-backed securities, agency bonds, government bonds and others. Securities acquired with maturities less than three months from the date of purchase were reclassified as cash equivalents.

**6. RECEIVABLES NET**

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Notes receivable	9.9	2.9
Accounts receivable	28,495.2	31,211.5
	28,505.1	31,214.4
Allowance for doubtful receivables	(1,020.4)	(982.8)
Allowance for sales returns and others	(2,135.8)	(3,342.5)

(3,156.2) (4,325.3)

25,348.9 26,889.1

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The changes in the allowances are summarized as follows:

	<b>2002</b> <b>NT\$</b>	<b>2003</b> <b>NT\$</b>	<b>2004</b> <b>NT\$</b>
		<b>(In Millions)</b>	
Allowance for doubtful receivables			
Balance, beginning of year	1,100.5	933.0	1,020.4
Additions	228.1	98.4	
Deductions	(395.6)	(11.0)	(37.6)
Balance, end of year	933.0	1,020.4	982.8
Allowance for sales returns and others			
Balance, beginning of year	2,581.6	2,372.5	2,135.8
Additions	3,756.9	4,251.8	4,650.2
Deductions	(3,966.0)	(4,488.5)	(3,443.5)
Balance, end of year	2,372.5	2,135.8	3,342.5

## 7. INVENTORIES NET

	<b>December 31</b>	
	<b>2003</b> <b>NT\$</b>	<b>2004</b> <b>NT\$</b>
	<b>(In Millions)</b>	
Finished goods	2,881.5	3,526.0
Work in process	9,100.2	11,437.5
Raw materials	465.7	993.2
Supplies and spare parts	1,052.1	1,176.7
Allowance for losses	13,499.5	17,133.4
	(1,364.2)	(1,577.5)
	12,135.3	15,555.9

The changes in the allowance are summarized as follows:

	<b>2002</b> <b>NT\$</b>	<b>2003</b> <b>NT\$</b>	<b>2004</b> <b>NT\$</b>
		<b>(In Millions)</b>	
Balance, beginning of year	1,191.8	1,736.3	1,364.2
Additions	3,585.4	1,532.3	1,771.6
Write-offs	(3,040.9)	(1,904.4)	(1,558.3)

Balance, end of year	1,736.3	1,364.2	1,577.5
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**8. LONG-TERM INVESTMENTS**

	December 31			
	2003	% of	2004	% of
	Carrying Value NT\$	Owner- Ship	Carrying Value NT\$	Owner- Ship
	(In Millions)			
Equity method:				
Vanguard International Semiconductor Corporation (VIS)	4,077.2	28	5,402.0	28
Systems on Silicon Manufacturing Company Pte Ltd. (SSMC)	2,759.4	32	3,290.9	32
Global UniChip Corporation (GUC)	368.4	47	391.6	47
VisEra Technologies Company Ltd. (VisEra)	50.2	25	59.1	25
	7,255.2		9,143.6	
Cost method:				
Common stock				
Publicly traded stocks	26.7		71.8	
Non-publicly traded stock	1,156.8		1,226.5	
Preferred stock	2,038.7		1,677.9	
Funds	270.6		290.1	
	3,492.8		3,266.3	
Long-term bonds				
Government bonds			10,260.5	
Corporate bonds				
China Steel Corporation			2,978.8	
Taiwan Power Company			915.3	
Nan Ya Plastics Corporation			407.5	
Formosa Plastics Corporation			405.5	
Formosa Chemicals & Fibre Corporation			202.6	
			15,170.2	
Other investments			10,521.7	
	10,748.0		38,101.8	

On January 8, 2003, TSMC's investee, VIS, issued 600,000 thousand shares of common stock at a price of NT\$7 per share of which TSMC purchased a total of 230,882 thousand shares. VIS reduced its capital on August 11, 2004 in order to decrease its accumulated deficit. The number of shares of VIS held by TSMC after the capital reduction declined from 787,016 thousand shares to 409,532 thousand shares. TSMC's ownership percentage

remained the same.

For the years ended December 31, 2002 and 2003, net investment loss recognized from the equity method investees was NT\$1,976.8 million and NT\$294.2 million, respectively. For the year ended December 31, 2004, net investment income recognized from the equity method investees was NT\$2,094.1 million. The carrying amounts of investments accounted for under the equity method and the related investment income or losses were determined based on the

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audited financial statements of the investees as of and for the same periods as the Company.

As of December 31, 2004, other investments consisted of the following:

	<b>Nominal Amount NT\$</b>	<b>Carrying Amount NT\$</b>	<b>Range of Interest Rates</b>	<b>Maturity Date</b>
	<b>(In Millions)</b>			
<u>Step-up callable deposits</u>				
Domestic bank	2,000.0	2,007.7	2.05%-2.20%	July 2007 to August 2007
Foreign bank	2,138.3	2,152.4	1.44%-4.75%	June 2007 to August 2007
<u>Callable range accrual deposits</u>				
Foreign bank	6,383.4	6,414.1	(See below)	September 2009 to December 2009
	10,521.7	10,574.2		

During the year ended December 31, 2004, the Company deposited funds into structured-time deposits with the following terms:

The interest rate of the step-up callable deposits is determined by the Company and the related banks.

The amount of interest earned by the Company for the callable range accrual deposits is based on a pre-defined range as determined by the 3-month or 6-month LIBOR rate plus an agreed upon rate ranging between 2.1% and 3.45%. Based on the terms of the deposits, if the 3-month or 6-month LIBOR rate moves outside of the pre-defined range, the interest paid to the Company is at a fixed rate of 1.5%. Under the terms of the contracts, the bank has the right to cancel the contracts prior to the maturity date.

Deposits that reside in banks located in Hong Kong and Singapore amounted to NT\$2,553.4 million and NT\$638.3 million, respectively.

## 9. PROPERTY, PLANT AND EQUIPMENT NET

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Cost		
Land and land improvements	855.4	803.5
Buildings	79,778.5	97,882.7
Machinery and equipment	371,315.7	433,130.4
Office equipment	7,457.6	8,538.2
Leased assets	726.6	566.2

Construction in progress	460,133.8	540,921.0
	26,733.6	49,244.2
	486,867.4	590,165.2
Accumulated depreciation		

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	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Land improvements	154.1	172.5
Buildings	31,665.8	38,160.3
Machinery and equipment	238,392.3	287,204.4
Office equipment	4,800.9	5,683.6
Leased assets		33.1
	275,013.1	331,253.9
	211,854.3	258,911.3

Information on the status of the expansion or construction plans of TSMC's manufacturing facilities as of December 31, 2004, was as follows:

<b>Construction/Expansion Plan</b>	<b>Estimated</b>	<b>Expected Date of Commencement</b>
	<b>Complete Cost NT\$</b>	
	<b>(In Millions)</b>	
Fab 12 expansion	58,744.2	41,870.3 January 2005

Depreciation expense on property, plant and equipment was NT\$59,747.0 million, NT\$64,382.9 million and NT\$64,276.5 million for the years ended December 31, 2002, 2003 and 2004, respectively.

Interest expense for the years ended December 31, 2002, 2003 and 2004 was NT\$2,830.4 million, NT\$2,030.5 million and NT\$1,807.2 million, respectively (before deducting capitalized amounts of NT\$213.7 million, NT\$139.5 million and NT\$278.3 million in 2002, 2003 and 2004, respectively). The interest rates used for the purpose of calculating the capitalized amounts were 2.07% to 5.283% in 2002, 1.77% to 5.283% in 2003 and 1.89% to 2.89% in 2004.

The Company entered into agreements to lease certain buildings that qualify as capital leases. The term of the leases is from December 2003 to December 2013.

**10. DEFERRED CHARGES, NET**

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Technology license fees	5,084.7	6,534.9
Software and system design costs	2,719.2	2,213.7
Others	188.1	243.9
	7,992.0	8,992.5

Amortization expense on deferred charges was NT\$4,039.5 million, NT\$3,473.1 million and NT\$4,286.7 million for the years ended December 31, 2002, 2003 and 2004, respectively.

As of December 31, 2004, the Company's estimated aggregate amortization expense for each of the five succeeding fiscal years and thereafter is as follows:

<b>Year</b>	<b>Amount</b>
	<b>NT\$</b>
	<b>(In Millions)</b>
2005	3,654.8
2006	1,909.4
2007	1,021.0
2008	943.6
2009	466.6
2010 and thereafter	997.1
	8,992.5

**11. SHORT-TERM BANK LOANS**

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Unsecured loans in U.S. dollars: US\$12.0 million repayable by June 2006, annual interest at 1.52% and 2.80% in 2003 and 2004, respectively	407.7	383.0

**12. LONG-TERM BANK LOANS**

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Unsecured loan:		
US\$60.0 million, repayable by December 2006, annual interest at 1.56% and 2.475% in 2003 and 2004, respectively	2,038.7	1,915.0
Secured loan:		
US\$199.0 million, annual interest at 1.8275%	6,761.6	
	8,800.3	1,915.0

As of December 31, 2004, all the assets of WaferTech with a carrying amount of approximately NT\$15,955.9 million (US\$499.9 million) were pledged for the secured loan. WaferTech is required to maintain compliance with certain financial covenants defined in the agreement. As of December 31, 2004, WaferTech was in compliance with all such financial covenants. Under the unsecured loan agreement above, TSMC is required to maintain compliance with certain financial covenants which, if violated, could result in payment of the obligation prior to the originally scheduled maturity date. These financial covenants require TSMC to maintain at least an earnings before interest, taxes, depreciation and amortization to gross interest expense ratio of 5:1; and a total net worth to total indebtedness of 1:1.5. TSMC was in compliance with the financial covenants as of December 31, 2004.

**13. BONDS PAYABLE**

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Domestic unsecured bonds:		
Issued in December 2000 and repayable in December 2005 and 2007 in two equal payments, 5.25% and 5.36% interest payable annually, respectively	15,000.0	15,000.0
Issued in January 2002 and repayable in January 2007, 2009 and 2012 in three equal payments, 2.6%, 2.75% and 3% interest payable annually, respectively	15,000.0	15,000.0
Issued in October 1999 and repayable in October 2004, 5.95% interest payable annually	5,000.0	
	35,000.0	30,000.0

As of December 31, 2004, future principal payments for the bonds are as follows:

<b>Year of Repayment</b>	<b>Amount NT\$ (In Millions)</b>
2005	10,500.0
2007	7,000.0
2009	8,000.0
2010 and thereafter	4,500.0
	30,000.0

#### 14. OTHER LONG-TERM PAYABLES

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Payables for acquisition of property, plant and equipment (Note 24k)		6,030.0
Payables for royalties	4,892.8	3,440.3
	4,892.8	9,470.3
Less: current portion	1,592.0	1,505.3
	3,300.8	7,965.0

TSMC entered into several license arrangements for certain semiconductor-related patents. Future payments under the agreements as of December 31, 2004 are as follows:

<b>Year of Payment</b>	<b>Amount NT\$ (In Millions)</b>
2005	1,505.3
2006	466.8
2007	446.8
2008	255.3
2009	255.3
2010 and thereafter	510.8
	3,440.3

The current portion of other long-term payables is recorded in the accrued expenses and other current liabilities account.

**15. PENSION PLAN**

TSMC has a defined benefit pension plan for all regular employees that provides benefits based on the employee's length of service and average monthly salary or wage for the six-month period prior to retirement. TSMC contributes an amount equal to 2% of salaries and wages paid each month to a pension fund (the Fund). The Fund is administered by a pension fund monitoring committee (the Committee) and deposited in the Committee's name in the Central

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Trust of China. Under the R.O.C. regulation, government authority will then collect the Fund as a Labor Retirement Fund and determine the assets allocation and investment policy.

TSMC uses December 31 as the measurement date for its pension plan.

The changes in the benefit obligation, and plan assets for the years ended December 31, 2002, 2003 and 2004 are summarized as follows:

	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
<b>Benefit obligation</b>			
Projected benefit obligation at beginning of year	2,432.3	2,926.0	3,958.7
Service cost	442.3	502.1	632.6
Interest cost	121.5	109.7	128.3
Actuarial gain (loss)	(61.5)	424.4	185.9
Benefits paid	(5.4)	(3.5)	(1.4)
Other	(3.2)		
Projected benefit obligation at end of year	2,926.0	3,958.7	4,904.1
<b>Plan assets</b>			
Balance, beginning of year	834.0	1,014.0	1,207.3
Actual return of plan assets	20.7	15.7	15.3
Employer contribution	164.7	181.1	226.3
Benefits paid	(5.4)	(3.5)	(1.4)
Balance, end of year	1,014.0	1,207.3	1,447.5

Other information of TSMC's defined benefit plan is as follows:

	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
<b>a. Components of net periodic pension cost</b>			
Service cost	442.3	502.1	632.6
Interest cost	121.5	109.7	128.3
Projected return on plan assets	(45.1)	(41.2)	(41.9)
Amortization	1.7	2.4	8.3



Net periodic pension cost	520.4	573.0	727.3
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	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
<b>b. Reconciliation of the funded status of the plan and accrued pension cost</b>		
Benefit obligation		
Vested benefit obligation	21.9	67.1
Nonvested benefit obligation	2,184.6	2,704.3
Accumulated benefit obligation	2,206.5	2,771.4
Additional benefits based on future salaries	1,752.2	2,132.7
Projected benefit obligation	3,958.7	4,904.1
Fair value of plan assets	(1,207.3)	(1,447.5)
Funded status	2,751.4	3,456.6
Unrecognized net transitional obligation	(141.1)	(132.8)
Unrecognized actuarial loss	(10.1)	(222.6)
Accrued pension cost	2,600.2	3,101.2
Vested benefit	22.3	76.0
<b>c. Actuarial assumptions</b>		
Discount rate used in determining present values	3.25%	3.25%
Future salary increase rate	3.00%	3.00%
Expected rate of return on plan assets	3.25%	3.25%

d. TSMC expects to make contributions of NT\$233.1 million to its pension fund in 2005.

The Labor Pension Act will be effective beginning July 1, 2005 and this pension mechanism is considered as a defined contribution plan. The employees who were subject to the Labor Standards Law prior to the enforcement of this Act may choose to be subject to the pension mechanism under this Act or remain to be subject to the pension mechanism under the Labor Standards Law. For those employees who were subject to the Labor Standards Law prior to July 1, 2005 and still work for the same business after July 1, 2005 and choose to be subject to the pension mechanism under this Act, their seniority as of July 1, 2005 shall be maintained. The rate of contribution by an employer to the Labor Pension Fund per month shall not be less than 6% of each employee's monthly salary or wage.

## 16. INCOME TAXES

a. Income tax benefit (expense) consists of:

	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
Current			
Domestic	(17.7)	(136.5)	(566.5)
Foreign	(152.9)	(158.8)	(173.7)
	(170.6)	(295.3)	(740.2)

(Continued)

	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
Deferred			
Domestic	(5,489.5)	(3,639.9)	1,101.4
Foreign	23.5	12.3	2.2
	(5,466.0)	(3,627.6)	1,103.6
Income tax benefit (expense)	(5,636.6)	(3,922.9)	363.4

b. A reconciliation of income tax expense based on income before income tax and minority interest at statutory rates and income tax benefit (expense) is as follows:

	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
Income tax expense based on income before income tax and minority interest at statutory rates	(6,881.3)	(12,881.5)	(24,685.4)
Tax-exempt income	2,526.5	5,255.7	14,712.5
Temporary and permanent differences	(519.5)	732.7	186.7
Current income tax expense before income tax credits	(4,874.3)	(6,893.1)	(9,786.2)
Additional 10% tax on the unappropriated earnings	(179.4)	(1,273.5)	(823.9)
Income tax credits	4,867.2	7,917.1	10,470.9
Other income tax	(29.1)	(8.0)	(555.6)
Net change in deferred income tax assets (liabilities)			
Net operating loss carryforwards	1,734.0	535.8	(1,653.0)
Investment tax credits	2,510.2	(917.7)	234.7
Temporary differences	(5,910.2)	(300.9)	1,131.3
Net change in valuation allowance of deferred income tax assets	(3,755.0)	(2,982.5)	1,345.4
Adjustment of prior years taxes		(0.1)	(0.2)
Income tax benefit (expense)	(5,636.6)	(3,922.9)	363.4

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

	<b>December 31</b>	
	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>	
Current deferred income tax assets		
Investment tax credits	8,322.0	8,849.0
Temporary differences	385.2	319.7
Valuation allowance	(309.0)	(250.7)
	8,398.2	8,918.0
Noncurrent deferred income tax assets		
Net operating loss carryforwards	8,388.1	6,735.1
Investment tax credits	17,327.9	17,035.6
Temporary differences	14.6	13.7
Valuation allowance	(15,647.6)	(14,360.5)
	10,083.0	9,423.9
Noncurrent deferred income tax liabilities		
Depreciation	(7,040.4)	(5,298.2)
Temporary differences	(1,931.2)	(2,475.7)
	(8,971.6)	(7,773.9)
Net noncurrent deferred income tax assets	1,111.4	1,650.0

d. Integrated income tax information:

The balance of TSMC's imputation credit account (ICA) as of December 31, 2003 and 2004 was NT\$2.8 million and zero, respectively.

The actual and expected creditable ratio for distribution of earnings of 2003 and 2004 was 0.03% and zero, respectively.

The imputation credits allocated to the shareholders are based on the balance as of the date of dividend distribution. The expected creditable ratio for distribution of earnings of 2004 may be adjusted when the allocation of the imputation credits is made.

e. TSMC's earnings generated prior to December 31, 1997 have been appropriated.

f. As of December 31, 2004, TSMC's investment tax credits consisted of the following:

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Regulation	Items	Total Creditable Amounts	Remaining Creditable Amounts	Expiry Year
		NT\$	NT	
(In Millions)				
Statute for Upgrading Industries	Purchases of machinery and equipment	4,448.5		2004
		3,819.9	116.2	2005
		4,886.4	4,886.4	2006
		4,140.5	4,140.5	2007
		6,309.2	6,309.2	2008
		23,604.5	15,452.3	
Statute for Upgrading Industries	Research and development expenditures	2,270.0		2004
		3,147.1	3,147.1	2005
		3,343.0	3,343.0	2006
		1,976.9	1,976.9	2007
		1,843.8	1,843.8	2008
		12,580.8	10,310.8	
Statute for Upgrading Industries	Personnel training	48.7		2004
		29.4	29.4	2005
		27.3	27.3	2006
		26.8	26.8	2007
				132.2
Statute for Upgrading Industries	Investments in important technology-based enterprises	38.0	38.0	2005

g. As of December 31, 2004, the net operating loss carryforwards were generated from WaferTech, TSMC Development and TSMC Technology and will expire at various dates through 2024.

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

	Tax-Exemption Period
Construction of Fab 6	2001 to 2004

Construction of Fab 8 module B	2002 to 2005
Expansion of Fab 2 modules A and B, Fab 3 and Fab 4, Fab 5 and Fab 6	2003 to 2006
Construction of Fab 12	2004 to 2007

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- i. The tax authorities have examined income tax returns of TSMC through 2000. However, TSMC is contesting the assessment of the tax authority for 1992 and 1998. TSMC believes that any additional assessment will not have a material adverse effect on TSMC.

## 17. LABOR COST, DEPRECIATION AND AMORTIZATION EXPENSES

	Year Ended December 31, 2003			Year Ended December 31, 2004		
	Classified as Cost of Sales NT\$	Classified as Operating Expenses NT\$	Total NT\$	Classified as Cost of Sales NT\$	Classified as Operating Expenses NT\$	Total NT\$
	(In Millions)					
Labor cost						
Salary	9,014.1	4,647.9	13,662.0	10,719.7	5,886.7	16,606.4
Labor and health insurance	476.7	245.4	722.1	572.2	320.8	893.0
Pension	379.8	193.7	573.5	472.3	271.2	743.5
Other	339.5	304.4	643.9	430.8	531.9	962.7
	10,210.1	5,391.4	15,601.5	12,195.0	7,010.6	19,205.6
Depreciation	61,988.1	2,398.8	64,386.9	61,703.8	2,563.4	64,267.2
Amortization	1,385.6	3,367.5	4,753.1	2,496.8	3,052.2	5,549.0

## 18. SHAREHOLDERS EQUITY

### *Common Stock, Capital Surplus and Earnings*

TSMC has issued a total of 668,351 thousand ADSs which are traded on the NYSE as of December 31, 2004. The number of common shares represented by the ADSs is 3,341,754 thousand shares (one ADS represents five common shares).

Capital surplus can only be used to offset a deficit under the Company Law of the R.O.C. However, the capital surplus generated from donations and the excess of the issue price over the par value of capital stock (including the stock issued for new capital, mergers, convertible bonds and the surplus arising from treasury stock transactions) may be appropriated as stock dividends restricted to a certain percentage based on shareholders ownership.

As of December 31, 2003 and 2004, the capital surplus consisted of the following:

December 31	
2003	2004
NT\$	NT\$
(In Millions)	

From merger	24,132.3	24,003.6
Additional paid-in capital	23,172.6	23,051.7
From long-term investments	87.3	121.4
From convertible bonds	9,410.6	9,360.4
Donations		
Treasury stock	53.1	0.2
Total	56,855.9	56,537.3

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TSMC's Articles of Incorporation, as revised on December 21, 2004, provide that the following shall be appropriated from annual earnings to the extent that the annual earnings exceed any cumulative deficit:

- a. 10% legal reserve; until the amount of total legal reserve equals TSMC's paid-in capital;
- b. Special reserve in accordance with relevant laws or regulations;
- c. Remuneration to directors and supervisors and bonus to employees at 0.3% and at least 1% of the remainder, respectively. Individuals eligible for the employee bonus may include employees of affiliated companies as approved by the board of directors or a representative of the board of directors;
- d. The appropriation of any remaining balance shall be approved by the shareholders.

Dividends may be distributed by way of cash dividend, stock dividend, or a combination of cash and stock at the discretion of the shareholders. Pursuant to TSMC's articles of incorporation, distribution of profit should be made preferably by way of cash dividend. In addition, the ratio of stock dividend shall not exceed 50% of the total distribution.

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

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

A special reserve equivalent to the net debit balance of the other components of shareholder's equity (for example, unrealized loss on long-term investments and cumulative translation adjustments, but excluding treasury stock) shall be appropriated from unappropriated earnings pursuant to existing regulations promulgated by the R.O.C. Securities and Futures Bureau (SFB). Any special reserve appropriated may be reversed to the extent that the net debit balance of the related account reverses.

The appropriations of the earnings of 2002 and 2003 were approved in the shareholders' meetings on June 3, 2003 and May 11, 2004, respectively. The appropriations and dividend per share are as follows:

	<b>Appropriation of Earnings</b>		<b>Dividend Per Share</b>	
	<b>For Fiscal Year 2002</b>	<b>For Fiscal Year 2003</b>	<b>For Fiscal Year 2002</b>	<b>For Fiscal Year 2003</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(in Millions)</b>			
Legal reserve	2,161.0	4,725.8		
Special reserve	68.9	(68.9)		
Bonus paid to employees in cash		681.6		
Bonus paid to employees in stock	1,539.0	2,726.5		
Preferred stock dividend in cash	455.0	184.5	0.35	0.35
Common stock dividend in cash		12,160.0		0.60
Common stock dividend in stock	14,898.3	28,373.3	0.80	1.41

Remuneration to directors and supervisors in cash	58.5	127.8
	19,180.7	48,910.6

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The amount of the above appropriations of earnings for 2002 and 2003 is consistent with the resolutions of the meetings of board of directors on March 4, 2003 and February 17, 2004, respectively. However, the Company Law of the R.O.C. prescribes that TSMC, as a holder of treasury stock, shall not participate in the appropriations of earnings. Therefore, the actual cash dividend per share and stock dividend per share are slightly more than those in the aforementioned resolution. If the above employee bonus paid in stock had been paid in cash and all of the bonus to employees and remuneration to directors and supervisors had been charged against income for 2002 and 2003, the after income tax basic earnings per share for the years ended December 31, 2002 and 2003 would have decreased from NT\$ 1.14 to NT\$1.05 and NT\$2.33 to NT\$2.15, respectively. The shares distributed as a bonus to employees represented 0.83% and 1.35% of TSMC's total outstanding common shares as of December 31, 2002 and 2003, respectively.

As of February 4, 2005, the board of directors of TSMC has not resolved the appropriation for earnings of 2004.

The above information about the appropriations of bonus to employees and remuneration to directors and supervisors is available at Market Observation System website.

Under the Integrated Income Tax System that became effective on January 1, 1998, the R.O.C. resident shareholders are allowed a tax credit for their proportionate share of the income tax paid by TSMC on earnings generated since January 1, 1998.

#### *Preferred Stock*

TSMC issued 1,300,000 thousand shares of unlisted Series A preferred stock to certain investors on November 29, 2000. All of the preferred stock was redeemed at par value and retired on May 29, 2003. Under TSMC's Articles of Incorporation, TSMC is no longer authorized to issue preferred stock.

The preferred shareholders had the following rights and the related terms and conditions prior to redemption:

#### Preferred shareholders

- a. Are entitled to receive cumulative cash dividends at an annual rate of 3.5%.
- b. Are not entitled to receive any common stock dividends (whether declared out of unappropriated earnings or capital surplus).
- c. Have priority over the holders of common shares to the assets of TSMC available for distribution to shareholders upon liquidation or dissolution; however, the pre-emptive rights to the assets shall not exceed the issue price of the shares.
- d. Have voting rights similar to that of the holders of common shares.

- e. Have no right to convert their shares into common shares. The preferred shares are to be redeemed within thirty months from their issuance. The preferred shareholders have the aforementioned rights and TSMC's related obligations remain the same until the preferred shares are redeemed by TSMC.

	<b>2002 Plan</b>		<b>2003 Plan</b>	
	<b>Number of Outstanding Stock Option Rights (in Thousands)</b>	<b>Weighted- Average Exercise Prices (NT\$)</b>	<b>Number of Outstanding Stock Option Rights (in Thousands)</b>	<b>Weighted- Average Exercise Price (NT\$)</b>
Balance, January 1, 2002		48.6		
Options granted	19,726	50.3		
Options cancelled	(357)	48.7		
Balance, December 31, 2002	19,369			
Options granted	32,031	50.3	843	66.5
Options cancelled	(2,885)	48.7	(1)	66.5

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	2002 Plan		2003 Plan	
	Number of Outstanding Stock Option Rights (in Thousands)	Weighted- Average Exercise Prices (NT\$)	Number of Outstanding Stock Option Rights (in Thousands)	Weighted- Average Exercise Price (NT\$)
Balance, December 31, 2003	48,515		842	
Options granted	7,201	42.6	13,199	49.9
Options exercised	(87)	41.8		
Options cancelled	(3,899)	44.2	(1,404)	50.9
Balance, December 31, 2004	51,730		12,637	

The number of outstanding option rights and exercise prices have been adjusted to reflect the appropriations of dividends in accordance with the plans.

As of December 31, 2004, information on outstanding and exercisable option rights is as follows:

	Options Outstanding			Options Exercisable	
	Number of Outstanding Options (in Thousands)	Average Remaining Contractual Life (Years)	Weighted- Average Exercise Price (NT\$)	Number of Exercisable Options (in Thousands)	Weighted- Average Exercise Price (NT\$)
Range of Exercise Price (NT\$)					
32.8-46.2	51,865	8.09	42.6	10,307	41.7
49.9-57.8	12,502	9.33	50.4		
	64,367	8.33	44.1	10,307	41.7

The compensation cost recognized for the year ended December 31, 2004 was zero. Had the Company used the fair value based method to evaluate the 2003 Plan options granted during 2004, the method, assumptions and pro forma results of the Company would have been as follows:

Method:	Black-Scholes Model
Assumptions:	
Expected dividend yield	1.00%
Expected volatility	43.77%-46.15%
Risk free interest rate	3.07%-3.85%

Expected life	5 years
	<b>NT\$</b>
	<b>(In Millions)</b>
Net income:	
Net income as reported	92,316.1
Pro forma net income	92,257.4
	<b>NT\$</b>
Earnings per share (EPS) after income tax:	
Basic EPS as reported	3.97
Pro forma basic EPS	3.97
Diluted EPS as reported	3.97
Pro forma diluted EPS	3.97

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The estimated weighted average fair value for the options granted during the year ended December 31, 2004 was NT\$19.73 per unit.

### *Stock Appreciation Rights*

In December 2000, WaferTech and TSMC - North America implemented a stock appreciation rights program (Appreciation). The Appreciation plan is designed to provide employees with a long-term incentive plan that tracks the appreciation of TSMC common stock through Stock Appreciation Rights (SARs). SARs provide each participant the right to receive, upon exercise, an amount in cash from WaferTech and TSMC - North America that is the excess of the market price of TSMC common stock on TSE on the date of exercise over the exercise price. As of December 31, 2004, WaferTech and TSMC - North America accrued US\$0.4 million and US\$1.4 million, respectively, in connection with the Appreciation plan. During 2002, benefits under the Appreciation plan for TSMC - North America were replaced by the stock option plans aforementioned.

## 20. TREASURY STOCK (COMMON STOCK)

Purpose	Beginning Shares	Increase/ Dividend	Decrease	Ending Shares
	(Shares in Thousands)			
<u>Year ended December 31, 2003</u>				
Reclassification of parent company stock held by subsidiaries from long-term investments	42,001	3,357	4,761	40,597
<u>Year ended December 31, 2004</u>				
Reclassification of parent company stock held by subsidiaries from long-term investments	40,597	5,676	752	45,521
Repurchase under share buyback plan		124,720	124,720	
	40,597	130,396	125,472	45,521

Proceeds from the sales of treasury stock for the years ended December 31, 2002, 2003 and 2004 were NT\$96.5 million, NT\$331.9 million and NT\$39.9 million, respectively. TSMC's capital stock held by a subsidiary as an investment is recorded as treasury stock, with the holder having the same rights as other common shareholders. As of December 31, 2003 and 2004, the book value of the treasury stock was NT\$1,633.2 million and NT\$1,595.2 million, respectively; the market value was NT\$2,548.8 million and NT\$2,241.0 million, respectively.

TSMC held a special meeting of the board of directors and approved a share buyback plan to repurchase TSMC's common shares listed on the TSE during the period from March 24, 2004 to May 23, 2004. TSMC repurchased 124,720 thousand common shares for a total cost of NT\$7,059.8 million. All the treasury stock repurchased under the buyback plan was retired on August 16, 2004.

**21. EARNINGS PER SHARE**

EPS are computed as follows:

	Amounts (Numerator)		Number of Shares (Denominator) (Thousands)	EPS	
	Income Before Income Tax and Minority Interest NT\$ (In Millions)	Consolidated Net Income NT\$ (In Millions)		Income Before Income Tax and Minority Interest NT\$	Consolidated Net Income NT\$
Year ended December 31, 2002					
Income	27,222.1	21,610.3			
Less preferred stock dividends	(455.0)	(455.0)			
Basic and diluted EPS					
Income available to common shareholders	26,767.1	21,155.3	23,324,617	1.15	0.91
Year ended December 31, 2003					
Income	51,178.6	47,258.7			
Less preferred stock dividends	(184.5)	(184.5)			
Basic EPS					
Income available to common shareholders	50,994.1	47,074.2	23,327,354	2.19	2.02
Effect of diluted securities stock options			9,599		
Diluted EPS					
Income available to common shareholders (including effect of diluted potential common stock)	50,994.1	47,074.2	23,336,953	2.19	2.02
Year ended December 31, 2004					
Basic EPS					
Income available to common shareholders	91,965.6	92,316.1	23,248,682	3.96	3.97
Effect of diluted securities stock options			6,404		

Diluted EPS

Income available to common shareholders  
(including effect of diluted potential  
common stock)

91,965.6	95,316.1	23,255,086	3.95	3.97
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**22. RELATED PARTY TRANSACTIONS**

The significant transactions with related parties in addition to those disclosed in other notes are summarized as follows:

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

VIS

SSMC

GUC

VisEra

	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
For the year			
Sales			
Philips and its affiliates	2,909.0	3,577.0	5,463.6
Others	193.6	610.6	459.0
	3,102.6	4,187.6	5,922.6
Purchases			
VIS	3,469.2	4,910.8	9,169.6
SSMC	2,751.3	5,519.8	5,869.1
	6,220.5	10,430.6	15,038.7
Operating expenses rental			
GUC			13.2
ITRI	40.4		
Manufacturing expenses technical assistance fees Philips (see Note 24a)	2,849.5	3,023.7	907.0
Research and development expenses GUC			11.7
Proceeds from disposal of property, plant and equipment VIS		15.1	34.0

(Continued)



	<b>Year Ended December 31</b>		
	<b>2002</b> NT\$	<b>2003</b> NT\$	<b>2004</b> NT\$
	<b>(In Millions)</b>		
Non-operating income and gains			
SSMC (primarily technical service income, see Note 24e)	126.1	201.9	364.5
VIS (primarily technical service income, see Note 24j)		0.2	117.8
VisEra			28.9
	126.1	202.1	511.2
 <u>At December 31</u>			
Receivables			
Philips and its affiliates		895.1	581.5
Others		25.4	72.9
		920.5	654.4
Other receivables			
SSMC		13.2	63.7
VIS		118.5	47.6
VisEra			30.3
		131.7	141.6
Payables			
VIS		1,034.1	1,533.9
Philips and its affiliates		1,579.6	469.5
SSMC		634.6	207.8
GUC			6.6
		3,248.3	2,217.8
Other long-term payables			
Philips and its affiliates			2,318.0
Refundable deposits			
VIS		150.8	

The terms of sales to related parties are not significantly different from those to third parties. For other related parties transactions, since there are no other similar transactions, the prices are determined in accordance with the related contractual agreements.

**23. SIGNIFICANT LONG-TERM LEASES**

TSMC leases land from the Science-Based Industrial Park Administration. These agreements expire on various dates from March 2008 to December 2020. The agreements can be renewed upon their expiration.

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TSMC - North America leases its office premises and certain equipment under non-cancelable lease agreements. TSMC - Europe and TSMC - Japan entered into lease agreements for their office premises. The lease agreements will expire between 2005 and 2010 and can be renewed upon their expiration.

As of December 31, 2004, future remaining leases payments were as follows:

<b>Year</b>	<b>Amount NT\$ (In Millions)</b>
2005	354.3
2006	353.0
2007	340.7
2008	325.6
2009	322.5
2010 and thereafter	1,513.0
	3,209.1

Rental expense for the years ended December 31, 2002, 2003 and 2004 was NT\$1,489.9 million, NT\$1,297.7 million and NT\$823.0 million, respectively.

#### **24. SIGNIFICANT COMMITMENTS AND CONTINGENCIES**

The significant commitments and contingencies of TSMC and its subsidiaries as of December 31, 2004 are as follows:

- a. On June 20, 2004, TSMC and Philips revised the Technical Cooperation Agreement, which was originally signed on May 12, 1997, with an effective date from January 1, 2004 for five years. Upon expiration, this amended Technical Cooperation Agreement will be terminated at the expiration date and will not be automatically renewed. Under this amended Technical Cooperation Agreement, TSMC will pay Philips royalties based on fixed amounts mutually agreed-on, rather than under certain percentage of TSMC's annual net sales. TSMC and Philips also agree to cross license the patents owned by each party. TSMC also obtained through Philips a number of patent cross licenses.
- b. Under a technical cooperation agreement with ITRI, TSMC shall reserve and allocate up to 35% of certain of its production capacity for use by the Ministry of Economic Affairs (MOEA) or any other party designated by the MOEA. 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.
- c. On October 28, 1992, TSMC entered into a letter agreement with Philips under which Philips has an option of up to 30% of TSMC's capacity based on the most favored terms and conditions for similar orders, as long as Philips and its affiliates' shareholding in TSMC remains at 24.8% or higher. As of December 31, 2004, Philips and its affiliates' shareholding in the Company is 18.98%.
- d. Under several foundry agreements, TSMC shall reserve a portion of its production capacity





for certain major customers that have guarantee deposits with TSMC. As of December 31, 2004, TSMC had a total of US\$12.8 million of guarantee deposits.

- e. Under a Shareholders Agreement entered into with Philips and EDB Investments Pte Ltd. on March 30, 1999, the parties formed a joint venture company, SSMC, for the purpose of constructing an integrated circuit foundry in Singapore. As of December 31, 2004, TSMC's equity interest in SSMC was 32%. TSMC and Philips committed to buy specific percentages of the production capacity of SSMC. TSMC and Philips are required, in the aggregate, to purchase up to 70% of SSMC's full capacity, but TSMC alone is not required to purchase more than 28% of the annual installed capacity. If any party defaults on the commitment and the capacity utilization of SSMC falls below a specific percentage of its total capacity, the defaulting party is required to compensate SSMC for all related unavoidable costs.
- f. TSMC provides technical services to SSMC under a Technical Cooperation Agreement (the Agreement) entered into on May 12, 1999. TSMC receives compensation for such services computed at a specific percentage of net selling price of certain products sold by SSMC. The Agreement shall remain in force for ten years and may be automatically renewed for successive periods of five years each unless pre-terminated by either party under certain conditions.
- g. Under a Technology Transfer Agreement (TTA) with National Semiconductor Corporation (National) entered into on June 27, 2000, TSMC shall receive payments for the licensing of certain technology to National. The agreement was to remain in force for ten years and could be automatically renewed for successive periods of two years thereafter unless either party gives notice for early termination under certain conditions. In January 2003, TSMC and National entered into a Termination Agreement whereby the TTA was terminated for convenience. Under the Termination Agreement, TSMC will be relieved of any further obligation to transfer any additional technology. In addition, TSMC granted National an option to request the transfer of certain technologies under the same terms and conditions as the terminated TTA. The option will expire in January 2008.
- h. Beginning in 2001, TSMC entered into several licensing arrangements for certain semiconductor patents. The terms of the contracts range from five to ten years with payments to be made in the form of royalties over the term of the related contracts. TSMC has recorded the related amounts as a liability with the corresponding amounts recorded as deferred charges which are amortized and charged to cost of sales on a straight-line basis over the estimated life of the technology or the term of the contract, whichever is shorter.
- i. In November 2002, TSMC entered into an Amended and Restated Joint Technology Cooperation Agreement with Philips, Motorola, Inc. and STMicroelectronics to jointly develop 90-nm to 65-nm advanced CMOS Logic and e-DRAM technologies. TSMC also agreed to align 0.12 micron CMOS Logic technology to enhance its foundry business opportunities. TSMC will contribute process technologies and share a portion of the costs associated with this joint development project.
- j. In December 2003, TSMC entered into a Technology Development and License Agreement with Motorola, Inc. to jointly develop 65-nm SOI (silicon on insulator) technology. TSMC will also license related 90-nm SOI technology from Motorola, Inc. Any intellectual properties arising out of the co-development project shall be jointly owned by the parties. In accordance with the agreement, TSMC will pay royalties to Motorola, Inc. and will share a portion of the costs associated with the joint development project.

- k. TSMC provides a technology transfer to VIS under a Manufacturing License and Technology Transfer Agreement entered into in August 2004. TSMC receives compensation for such technology transfer in the form of royalty payments from VIS computed at specific percentages of net selling price of certain products sold by VIS. VIS agreed to reserve its certain capacity to manufacture for TSMC certain products at prior as agreed by the parties.
- l. Under an agreement signed with a certain company, TSMC - Shanghai has the obligation to purchase certain assets within a specified period at the price agreed upon by both parties. TSMC - Shanghai will compensate the other party in case of a breach of the agreement.
- m. Amounts available under unused letters of credit as of December 31, 2004 were NT\$6.5 million, US\$1.3 million and SG\$0.1 million. Among the unused letters of credit, TSMC - North America has an outstanding irrevocable standby letter of credit for US\$1.1 million. The standby letter of credit was entered into as security to the landlord of TSMC - North America's office spaces in San Jose, California. The standby letter of credit will expire in October, 2005.
- n. The Company filed a series of lawsuits in late 2003 and 2004 in both state and federal courts in California and with the U.S. International Trade Commission against Semiconductor Manufacturing International Corporation (SMIC), SMIC (Shanghai), and SMIC Americas. The lawsuits alleged that the SMIC companies infringed multiple patents of the Company and misappropriated the Company's trade secrets. These suits have been settled out of court on January 30, 2005. As part of the agreement, SMIC will pay TSMC US\$175 million over six years to resolve the Company's patent infringement and trade secret claims.

## 25. FINANCIAL INSTRUMENTS

The Company entered into derivative financial instrument transactions for the years ended December 31, 2003 and 2004 to manage exposures related to foreign exchange rate and interest rate fluctuations. Certain information on these contracts is as follows:

- a. Outstanding forward exchange contracts as of December 31, 2003 and 2004:

	<b>Currency To be Received</b>	<b>Amounts (In Millions)</b>	<b>Currency To Pay</b>	<b>Amounts (In Millions)</b>	<b>Maturity</b>	<b>Fair Value (In Millions)</b>
<u>2003</u>						
Sell	US\$	US\$ 1,805.0	NT\$	NT\$ 61,230.3	Jan. to Jul. 2004	NT\$ 40.6
Buy	EUR	EUR 7.5	US\$	US\$ 9.3	Jan. 2004	NT\$ 3.0
Buy	JPY	JPY 748.4	US\$	US\$ 7.0	Jan. 2004	NT\$
<u>2004</u>						
Sell	US\$	US\$ 733.0	NT\$	NT\$ 23,681.3	Jan. to Mar. 2005	NT\$ 68.3
Sell	US\$	US\$ 159.1	EUR	EUR 118.5	Jan. 2005	NT\$ 248.8

As of December 31, 2003 and 2004, receivables from forward exchange contracts (included in other financial assets account) aggregated to approximately NT\$76.4 million and NT\$392.5 million, respectively; payables from forward contracts (included in the other



current liabilities account) aggregated to approximately NT\$174.0 million and NT\$0.6 million, respectively.

b. Outstanding cross currency swap contracts as of December 31, 2004:

<b>Maturity Date</b>	<b>Contract Amount (in Millions)</b>	<b>Range of Interest Rate Paid</b>	<b>Range of Interest Rate Received</b>
January 2005 to June 2005	US\$ 1,420.0	1.28%-2.72%	0.49%-1.17%

During 2003, the Company did not enter into any cross currency swap contracts.

As of December 31, 2004, receivables from the cross currency swap contracts (included in the other financial assets account) were approximately NT\$761.0 million.

Net exchange gains arising from forward exchange contracts and cross currency swap contracts for the years ended December 31, 2002 and 2003 were NT\$1,522.4 million and NT\$321.0 million, respectively. Net exchange losses for the year ended December 31, 2004 were NT\$3,844.0 million. Net interest expenses arising from cross currency swap contracts for the year ended December 31, 2004 were NT\$91.3 million.

c. Interest rate swaps

Outstanding contracts as of December 31, 2003 and 2004 were as follows:

<b>Contract Date</b>	<b>Notional Amount (In Millions)</b>	<b>Contract Period</b>	<b>Interest Rate Received</b>	<b>Interest Rate Paid</b>
<u>2003</u>				
July 1999	US\$ 2.9	July 1999 to June 2004	One month LIBOR	5.95%
September 2003	NT\$ 500.0	September 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$ 500.0	October 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$ 500.0	October 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$ 500.0	October 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$ 500.0	October 2003 to December 2005	One month LIBOR	5.25%
November 2003	NT\$ 500.0	November 2003 to December 2005	One month LIBOR	5.25%
<u>2004</u>				
September 2003	NT\$ 500.0	September 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$ 500.0			5.25%

			October 2003 to December 2005	One month LIBOR	
October 2003	NT\$	500.0	October 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$	500.0	October 2003 to December 2005	One month LIBOR	5.25%
October 2003	NT\$	500.0	October 2003 to December 2005	One month LIBOR	5.25%
November 2003	NT\$	500.0	November 2003 to December 2005	One month LIBOR	5.25%

Net interest expenses arising from interest rate swap for the years ended December 31, 2002 and 2003 were NT\$261.1 million and NT\$141.0 million, respectively. Net interest income arising from interest rate swap for the year ended December 31, 2004 was NT\$11.6 million.

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## d. Options contracts

During 2004, the Company did not enter into any foreign currency option contracts.

There were no outstanding option contracts as of December 31, 2003. The Company entered into foreign currency option contracts for hedging purposes; therefore, the related premiums and the foreign exchange gain or loss are recognized in the foreign exchange loss, net account.

Net realized premium expenses for the years ended December 31, 2002 and 2003 were NT\$419.5 million and NT\$153.8 million, respectively.

## e. Transaction risk

- i) Credit risk. Credit risk represents the positive net settlement amount of those contracts with positive fair values at the balance sheet date. The positive net settlement amount represents the loss incurred by the Company if the counter-parties breached the contracts. The banks, which are the counter-parties to the foregoing derivative financial instruments, are reputable financial institutions. Management believes its exposure related to the potential default by those counter-parties is low.
- ii) Market price risk. All derivative financial instruments are intended as hedges for fluctuations in foreign exchange rates and interest rates. Gains or losses from these hedging instruments are likely to be offset by gains or losses from the hedged items. Thus, market price risks are believed to be low.
- iii) Cash flow risk and the amount and period of future cash needs.

As of December 31, 2004, the Company's future cash needs for outstanding forward exchange contracts and cross currency swap contracts were as follows:

<b>Term</b>	<b>Inflow</b>	<b>Outflow</b>
	<b>(In Millions)</b>	
Within one year	NT\$69,761.5	US\$ 2,312.1
	EUR 118.5	

The Company has sufficient operating capital to meet the above cash needs. In addition, there will be corresponding cash inflow for the cash outflow. Therefore, the cash flow risk is low.

## f. Fair values of financial instruments were as follows:

	<b>December 31, 2003</b>		<b>December 31, 2004</b>	
	<b>Carrying</b>	<b>Fair</b>	<b>Carrying</b>	<b>Fair</b>
	<b>Amount</b>	<b>Value</b>	<b>Amount</b>	<b>Value</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>			
<u>Non-derivative financial instruments</u>				
Assets				
Short-term investments, net	13,611.5	14,054.5	54,108.0	54,990.5
	4,103.9	10,976.7	31,165.7	34,265.1

Long-term investments (securities with market price)

Liabilities

Bonds payable (including current portion)	35,000.0	35,850.4	30,000.0	30,607.3
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	December 31, 2003		December 31, 2004	
	Carrying Amount NT\$	Fair Value NT\$	Carrying Amount NT\$	Fair Value NT\$
<b>(In Millions)</b>				
<u>Derivative financial instruments</u>				
Forward exchange contracts (buy)	2.4	3.0		
Forward exchange contracts (sell)	(100.0)	40.6	392.0	317.1
Cross currency swap contracts			761.0	760.0
Interest rate swaps contracts		2.1	4.4	(22.7)

The above financial instruments do not include cash and cash equivalents, receivables, other financial assets, payables, and payable to contractors and equipment suppliers. The carrying amounts of the aforementioned instruments reported in the balance sheet approximate their fair values.

The above financial instruments also exclude refundable deposits, guarantee deposits, long-term investments that do not have quoted market prices as well as other long-term payables. The future cash inflow and outflow of the deposits approximate their fair values. Some of long-term investments do not have quoted market prices; therefore, fair values for those long-term investments are not shown above. The fair value of other long-term payables is determined using the discounted value of expected cash flows, which approximates the carrying amount.

Fair values of financial instruments were determined as follows:

- a) Fair value of short-term and publicly traded long-term investments is based on quoted market prices.
- b) The fair value of bonds payable is the quoted market value.
- c) Fair value of derivative financial instruments is the amount receivable from or payable to the counter-party if the contracts were terminated on the balance sheet date.

## 26. SEGMENT INFORMATION

- a. The Company engages mainly in the manufacturing, selling, packaging, testing and designing of integrated circuits and other semiconductor devices, and the manufacturing of masks. The Company's chief operating decision maker is the Chief Executive Officer, who reviews consolidated results of manufacturing operations when making decisions about allocating resources and assessing performance of the Company. The Company believes it operates in one segment, and all financial segment information can be found in the consolidated financial statements.

## b. Geographic information

	Overseas NT\$	Taiwan NT\$	Adjustments and Elimination NT\$ (In Millions)	Consolidated NT\$
<u>Year ended December 31, 2002</u>				
Sales to unaffiliated customers	95,774.4	66,526.8		162,301.2
Transfers between geographic areas	9,537.9	94,434.5	(103,972.4)	
Total sales	105,312.3	160,961.3	(103,972.4)	162,301.2
Gross profit	(19.9)	51,967.1	365.9	52,313.1
Operating expenses				(20,724.1)
Non-operating income and gains				2,349.8
Non-operating expenses and losses				(6,716.7)
Income before income tax and minority interest				27,222.1
Minority interest in loss of subsidiaries				24.8
Identifiable assets	75,840.4	336,405.0	(32,338.5)	379,906.9
Long-term investments				10,635.5
Total assets				390,542.4
<u>Year ended December 31, 2003</u>				
Sales to unaffiliated customers	118,851.4	84,145.4		202,996.8
Transfers between geographic areas	11,494.9	117,758.9	(129,253.8)	
Total sales	130,346.3	201,904.3	(129,253.8)	202,996.8
Gross profit	2,392.9	72,891.6	(401.0)	74,883.5
Operating expense				(23,582.9)

Non-operating income and gains				5,669.3
Non-operating expenses and losses				(5,791.3)
Income before income tax and minority interest				51,178.6
Minority interest in loss of subsidiaries				3.0
Identifiable assets	52,276.3	358,451.5	(14,075.3)	396,652.5
Long-term investments				10,748.0
Total assets				407,400.5

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	<b>Overseas NT\$</b>	<b>Taiwan NT\$</b>	<b>Adjustments and Elimination NT\$</b>	<b>Consolidated NT\$</b>
			<b>(In Millions)</b>	
<u>Year ended December 31, 2004</u>				
Sales to unaffiliated customers	143,801.1	113,411.5		257,212.6
Transfers between geographic areas	15,657.8	142,580.9	(158,238.7)	
Total sales	159,458.9	255,992.4	(158,238.7)	257,212.6
Gross profit	6,173.8	110,160.6	(515.2)	115,819.2
Operating expense				(27,337.5)
Non-operating income and gains				6,090.2
Non-operating expenses and losses				(2,606.3)
Income before income tax and minority interest				91,965.6
Minority interest in income of subsidiaries				12.9
Identifiable assets	89,000.9	416,076.7	(43,725.3)	461,352.3
Long-term investments				38,101.8
Total assets				499,454.1

## c. Net sales:

<u>Area</u>	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
R.O.C.	19,668.9	22,195.2	36,649.6
United States	94,438.2	104,500.7	114,866.0
Asia and others	42,721.8	68,872.8	91,342.4
Europe	9,358.8	11,710.4	19,089.3
	166,187.7	207,279.1	261,947.3
Sales returns and allowances	(3,886.5)	(4,282.3)	(4,734.7)
Net sales	162,301.2	202,996.8	257,212.6

The net sales information is presented by billed regions.

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

In 2004, no customer accounted for at least 10% of the Company's total sales. The Company only has one customer that accounted for at least 10% of its total sales in 2002 and 2003. The sales to such customer amounted to NT\$32,769.1 million, NT\$31,220.1 million and NT\$21,893.3 million in 2002, 2003 and 2004, representing 20%, 15% and 8% of total net sales, respectively.

## e. Net sales by product categories:

<u>Products</u>	<b>Year Ended December 31</b>		
	<b>2002</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
	<b>(In Millions)</b>		
Wafer fabrication	146,551.3	186,178.9	233,216.9
Mask making	11,655.0	12,629.9	14,136.6
Others	4,094.9	4,188.0	9,859.1
	162,301.2	202,996.8	257,212.6

**27. SUMMARY OF SIGNIFICANT DIFFERENCES BETWEEN ACCOUNTING PRINCIPLES FOLLOWED BY TSMC AND ACCOUNTING PRINCIPLES GENERALLY ACCEPTED IN THE UNITED STATES**

The accompanying financial statements have been prepared in accordance with accounting principles generally accepted in the Republic of China (R.O.C. GAAP), which differ in the following respects from accounting principles generally accepted in the United States (U.S. GAAP):

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a. Marketable securities

Under R.O.C. GAAP, marketable equity securities are carried at the lower of cost or market value with only unrealized losses recognized. Debt securities are carried at amortized cost. Under U.S. GAAP, debt and equity securities that have readily determinable fair values are classified as either trading, available-for-sale or held-to-maturity securities. Debt securities that the Company has the positive intent and ability to hold to maturity are classified as held-to-maturity securities and reported at amortized cost. Debt and equity securities that are bought and traded for short-term profit are classified as trading securities and reported at fair value, with unrealized gains and losses charged to earnings for the current period. Debt and equity securities not classified as either held-to-maturity or trading are classified as available-for-sale securities and reported at fair value, with unrealized gains and losses excluded from earnings and reported as a separate component of shareholders' equity.

b. Equity-method investees

The Company's proportionate share of the income (loss) from an equity-method investee may differ if the equity-method investee's net income (loss) under R.O.C. GAAP differs from that under U.S. GAAP. The differences between R.O.C. GAAP and U.S. GAAP for the equity-method investees would result in adjustments to long-term investments and net income (loss).

c. Impairment of long-lived assets

Under U.S. GAAP, an impairment loss is recognized when the carrying value of an asset or a group of assets is not recoverable from the expected future cash flows and an impairment loss is measured as the difference between fair value and carrying value of the asset or group of assets. The impairment losses are recorded in current period earnings and cannot be reversed subsequently. Long-lived assets (excluding goodwill and other indefinite-lived assets effective January 1, 2002) held and used by the Company are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. Prior to 2001, for purposes of evaluating the recoverability of long-lived assets under R.O.C. GAAP, assets purchased for use in the business but subsequently determined to have no use were written down to fair value and recorded as either idle assets or assets held for disposition. At the time, R.O.C. GAAP did not provide guidelines for impairment for assets that can still be used in the business. Accordingly, long-lived assets impaired prior to 2001 under U.S. GAAP continue to be depreciated under R.O.C. GAAP.

d. 10% Tax on undistributed earnings

In R.O.C., a 10% tax is imposed on any undistributed earnings. Prior to 2002, for R.O.C. GAAP purposes, the Company recorded the 10% tax on undistributed earnings in the year of shareholders' approval. The Company's accounting policy with respect to the 10% tax on undistributed earnings under U.S. GAAP was consistent with the policy used for R.O.C. GAAP. During 2002, the American Institute of Certified Public Accountants International Practices Task Force (the Task Force) concluded that in accordance with Emerging Issues Task Force (EITF) 95-10, Accounting for tax credits related to dividends in accordance with SFAS 109, the 10% tax on undistributed earnings should be accrued during the period the earnings arise and adjusted to the extent that distributions are approved by the shareholders in the following year. In 2002, the Company modified its U.S. GAAP

accounting policy to comply with the Task Force's conclusion. The effect of this modification was to increase the income tax expense, current tax payable and deferred tax asset through a reduction in the valuation allowance. The valuation allowance is reduced as previously reserved tax credits would be utilized. To the extent the Company does not have sufficient tax credits to offset the 10% tax, an expense would be recognized in the year of the earnings under U.S. GAAP.

e. Goodwill

Under R.O.C. GAAP, goodwill was recorded for the excess of the purchase price over the net tangible assets for the purchase of 32% of TSMC-Acer Semiconductor Manufacturing Corporation (TASMC) in 1999 and is amortized over ten years. Under U.S. GAAP, the goodwill is amortized over five years until December 31, 2001. Goodwill was not recorded under R.O.C. GAAP for the acquisition of the remaining 68% of TASMC in June 2000, because under R.O.C. GAAP goodwill from a business combination in the form of a share exchange is charged to capital surplus. Under U.S. GAAP, the acquisition cost is the fair value of the shares exchanged and the difference between the cost of an acquired company and the sum of the fair values of the net tangible and identifiable intangible assets is recorded as goodwill. Accordingly, the goodwill from the acquisition of the remaining 68% of TASMC is recorded for U.S. GAAP and is amortized over the estimated life of five years. Effective January 1, 2002, the Company adopted U.S. SFAS No. 142, Goodwill and Other Intangible Assets and ceased amortization of goodwill and indefinite-lived intangible assets which are now assessed for impairment on at least an annual basis. Purchased intangible assets other than goodwill and indefinite-lived intangible assets are amortized over their estimated useful lives and are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. In accordance with U.S. SFAS No. 142, the Company determined that it is comprised of one reporting unit and has completed its goodwill impairment test in accordance with the provisions of the standard and found no impairment as of December 31, 2003 and 2004.

f. Capital stock issued for contributed technology

In 1998, certain employees received common shares of Worldwide Semiconductor Manufacturing Corporation prior to its merger with TSMC in exchange for contributing technology related to the testing and packaging of integrated circuits. The value of the contributed technology was determined to be NT\$270 million. Under R.O.C. GAAP, capital stock issued for the contributed technology is recorded as an intangible asset and amortized over a five-year period, the estimated life of the technology. Under U.S. GAAP, the Company adjusted the carrying value of the technology to zero.

g. Derivative financial instruments

There are no specific accounting standards under R.O.C. GAAP which address measurement for derivative instruments, except for foreign-currency forward contracts. Under R.O.C. GAAP, foreign-currency forward contracts are accounted for in a manner similar to that required under U.S. SFAS No. 52. All other derivatives are recorded upon settlement under R.O.C. GAAP as described in Note 2. Under U.S. GAAP, accounting for derivative instruments is covered under U.S. SFAS No. 133, as amended, and requires all entities to recognize derivative instruments as assets and liabilities in the statement of financial position at fair value. If certain conditions are met, entities may elect to designate a derivative instrument as a hedge. The Company does not designate derivatives as



hedges. Therefore, under U.S. GAAP, derivatives have historically been, and continue to be, recorded on the balance sheet at fair value, with the changes in fair values charged to current period earnings.

h. Bonuses to employees and remuneration to directors and supervisors

According to R.O.C. regulations and the Company's Articles of Incorporation, a portion of the Company's distributable earnings should be set aside as bonuses to employees, remuneration to directors and supervisors. Remuneration to directors and supervisors is usually paid in cash. However, bonuses to employees may be paid in cash or stock or a combination of both. Under R.O.C. GAAP, the bonuses and remuneration, including stock bonuses which are valued at par value of NT\$10, are treated as appropriation of retained earnings and are charged against retained earnings after such bonuses and remuneration are formally approved by the shareholders in the following year. Under U.S. GAAP, such bonuses and remuneration are treated as compensation expense and are charged to earnings. The amount of compensation expense related to stock bonuses is determined based on the market value as determined upon approval of distribution by the shareholders in the subsequent year. The total amount of the aforementioned bonuses and remuneration to be paid in the following year is initially accrued based on management's estimate pursuant to the Company's Articles of Incorporation. Any difference between the amount initially accrued and the market value of the bonuses upon the payment of cash and the issuance of shares is recognized in the year of approval by shareholders.

i. Pension benefits

U.S. SFAS No. 87, *Employer's Accounting for Pensions*, requires the Company to determine the accumulated pension obligation and the pension expenses on an actuarial basis. The Company adopted U.S. SFAS No. 87 at the beginning of 1993 for U.S. GAAP purposes. R.O.C. SFAS No. 18 is similar in many respects to U.S. SFAS No. 87 and was adopted by the Company in 1996. The difference in the dates of adoption gives rise to a U.S. GAAP difference in the actuarial computation for pension expense.

j. Stock-based compensation

For U.S. GAAP reporting, the Company has elected to follow Accounting Principles Board Opinion (APB Opinion) No. 25, *Accounting for Stock Issued to Employees*, which measures compensation expense based on the difference, if any, between the market price of the underlying common stock and the exercise price of the stock option on the date of grant for stock option plans that are determined to be a fixed plan under the guidelines. The Company's 2002 Plan includes a provision for a reduction in the exercise price in the event the Company issues additional common shares or issues ADSs at a price lower than the exercise price of a granted stock option. As such, under U.S. APB Opinion No. 25 and its related interpretations, the 2002 Plan is deemed a variable plan and the Company is required to record compensation expense over the vesting period based on the difference between the exercise price and the current market price at the end of each period. The Company's 2003 Plan is a fixed plan and does not result in any compensation expense as long as the exercise price is equal to the market price of the underlying common stock on the date of grant. The Company is required under U.S. SFAS No. 123, *Accounting for Stock-based Compensation*, to disclose the pro forma information regarding option grants to its employees computed as if the fair value method had been applied.

Under R.O.C. GAAP, employee stock option plans that are amended or have options

granted on or after January 1, 2004 must be accounted for by the interpretations issued by the Accounting Research and Development Foundation. The Company adopted the intrinsic value method and any compensation expense determined using this method is recognized over the employee vesting period. No stock-based compensation expense was recognized under R.O.C. GAAP for the years ended December 31, 2002, 2003 and 2004.

k. Earnings per share

Under R.O.C. GAAP, earnings per share is calculated as described in Note 2. Under U.S. GAAP, earnings per share is calculated by dividing net income by the average number of shares outstanding in each period, adjusted retroactively for any stock dividends and stock splits issued subsequently. Other shares issued from unappropriated earnings, such as stock bonus to employees, are included in the calculation of average number of shares outstanding from the date of occurrence. Earnings per equivalent American Depository Share (ADS) is calculated by multiplying earnings per share by five (one ADS represents five common shares).

l. Mandatory redeemable preferred stock

Preferred stock subject to mandatory redemption at the option of the holder is included in shareholders' equity under R.O.C. GAAP and classified outside shareholders' equity under U.S. GAAP.

m. Consolidated entities

Under R.O.C. SFAS No. 7, an investee is required to be consolidated into an enterprise only if the enterprise holds more than 50% of the outstanding common shares of the investee. As a result, the Company has not consolidated GUC and VisEra for R.O.C. GAAP. Under U.S. GAAP, consolidation may be required when share ownership is less than 50% but there are various factors that indicate substantive control of an entity. In January and February of 2003, TSMC purchased an aggregate of 47% ownership interest in GUC. In addition to the share ownership, TSMC executives represent a majority of the directors on GUC's board of directors and several members of TSMC's management team also hold management positions at GUC. Additionally, in November 2003, TSMC acquired a 25% ownership interest in VisEra. In addition to the share ownership, several members of TSMC's management team hold key management positions at VisEra. As a result, the Company consolidates the accounts of GUC and VisEra for U.S. GAAP purposes.

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	<b>Year Ended December 31</b>			
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>US\$</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>(Note 3)</b>
	<b>(In Millions Except Shares and Per Share Amounts)</b>			
<u>Net income</u>				
Net income based on R.O.C. GAAP	21,610.3	47,258.7	92,316.1	2,908.5
Adjustments:				
Unrealized gain on trading marketable securities	(1,819.7)	(1,667.7)	365.1	11.5
Reversal of R.O.C. GAAP unrealized loss on marketable securities			75.2	2.4
U.S. GAAP adjustments on equity-method investees	61.7	(70.6)	952.2	30.0
Reversal of depreciation on assets impaired under U.S. GAAP	1,455.5	1,483.6	1,514.7	47.7
Reversal of additional impairment write-off under R.O.C. GAAP		104.6		
Income tax effect of U.S. GAAP adjustments	(1.4)	42.4	7.0	0.2
Reversal of amortization of goodwill	1,290.8	1,281.7	1,255.3	39.5
Reversal of amortization of capital stock payment for technology transfer	54.0	59.6		
Adjustment to market value for derivative financial instruments	445.9	555.3	(142.0)	(4.5)
Bonuses to employees and remuneration to directors and supervisors				
Current year accrual	(1,597.5)	(3,530.2)	(6,403.9)	(201.7)
Fair market value adjustment of prior year accrual	(6,911.4)	(6,441.1)	(12,956.7)	(408.2)
Pension expense	8.6	(0.5)	2.6	0.1
Stock-based compensation		(463.7)	156.2	4.9
10% tax on undistributed earnings			(878.1)	(27.7)
Minority interest effect of U.S. GAAP adjustments	(62.7)	49.3	(10.3)	(0.3)
Net decrease in net income	(7,076.2)	(8,597.3)	(16,062.7)	(506.1)
Net income based on U.S. GAAP	14,534.1	38,661.4	76,253.4	2,402.4
Cumulative preferred dividends	(455.0)	(184.5)		
Income attributable to common shareholders	14,079.1	38,476.9	76,253.4	2,402.4
Basic earnings per common share	0.62	1.67	3.29	0.10
Diluted earnings per common share	0.62	1.67	3.29	0.10

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	Year Ended December 31			
	2002 NT\$	2003 NT\$	2004 NT\$	US\$ (Note 3)
	(In Millions Except Shares and Per Share Amounts)			
Basic number of weighted average shares outstanding under U.S. GAAP (Thousands)	22,830,647	22,974,911	23,151,094	
Diluted number of weighted average shares outstanding under U.S. GAAP (Thousands)	22,830,647	22,984,509	23,157,498	
Basic earnings per ADS	3.08	8.37	16.47	0.52
Diluted earnings per ADS	3.08	8.37	16.46	0.52

	December 31		
	2003 NT\$	2004 NT\$	US\$ (Note 3)
	(In Millions)		
<u>Shareholders' equity</u>			
Shareholders' equity based on R.O.C. GAAP	329,214.3	398,965.3	12,569.8
Adjustments:			
Unrealized gain on trading marketable securities	448.7	813.9	25.6
U.S. GAAP adjustments on equity-method investees	(1,403.8)	(463.1)	(14.6)
Unrealized gain on available-for-sale marketable securities			
TSMC	379.7	33.6	1.0
Equity-method investees	130.7	242.7	7.6
Reversal of R.O.C. GAAP unrealized loss on marketable securities		75.2	2.4
Loss on impairment of assets	(11,090.9)	(10,335.7)	(325.6)
Reversal of depreciation on assets impaired under U.S. GAAP	4,435.8	5,529.7	174.2
Effect of U.S. GAAP adjustments on income tax	37.8	41.9	1.3
Goodwill			
Carrying value difference for purchase of 68% of TSMC	52,212.7	52,212.7	1,645.0
Reversal of amortization	(13,647.0)	(12,545.0)	(395.2)
Derivative financial instruments	39.0	(103.0)	(3.2)
Bonuses to employees and remuneration to directors and supervisors	(3,530.2)	(6,403.9)	(201.7)
10% tax on undistributed earnings		(878.1)	(27.7)
Accrued pension expense	(40.3)	(37.7)	(1.2)

(Continued)



	<b>2003</b>	<b>December 31</b>	
	<b>NT\$</b>	<b>2004</b>	<b>US\$</b>
		<b>NT\$</b>	<b>(Note 3)</b>
		<b>(In Millions)</b>	
Minority interest effect of U.S. GAAP adjustments	(13.4)	(23.7)	(0.7)
Net increase in shareholders' equity	27,958.8	28,159.5	887.2
Shareholders' equity based on U.S. GAAP	357,173.1	427,124.8	13,457.0

	<b>Year Ended December 31</b>			
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>US\$</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>(Note 3)</b>
		<b>(In Millions)</b>		
<u>Changes in shareholders' equity based on U.S. GAAP</u>				
Balance, beginning of year	289,449.9	310,622.7	357,173.1	11,253.1
Net income for the year	14,534.1	38,661.4	76,253.4	2,402.4
Unrealized gain on available-for-sale marketable securities				
TSMC	(150.3)	361.1	(346.1)	(10.9)
Equity-method investees	(686.5)	317.8	112.0	3.5
Common shares issued as bonus to employees	7,979.0	7,980.1	15,677.5	493.9
Adjustment arising from changes in ownership percentage in investees		(158.9)	34.6	1.1
Translation adjustment	(283.7)	(991.4)	(2,273.6)	(71.6)
Proceeds from sales of treasury stock	235.2	300.3	39.9	1.3
Retirement of treasury stock			(7,059.8)	(222.4)
Cash dividends received by subsidiaries from parent company			22.8	0.7
Cash dividends paid for preferred stock	(455.0)	(455.0)	(184.5)	(5.8)
Cash dividends paid for common stock			(12,160.0)	(383.1)
Deferred stock-based compensation		545.3	(168.1)	(5.3)
Issuance of stock from stock option exercises			3.6	0.1
Capital stock payment for technology transfer		(10.1)		
Balance, end of year	310,622.7	357,173.1	427,124.8	13,457.0

The following U.S. GAAP condensed balance sheets as of December 31, 2003 and 2004, and statements of income for the years ended December 31, 2002, 2003 and 2004 have been derived from the audited financial statements and reflect the adjustments presented above.

Certain accounts have been reclassified to conform to U.S. GAAP. Royalty income and technical service income are included as sales with the related costs included in the cost of sales. Gains and losses on sales of and the provision for loss on property, plant and equipment are included as cost of sales or operating expenses depending on the classification of the property, plant and equipment. Certain amounts in 2002 and 2003 have been reclassified to conform to 2004 classifications.

	2003 NT\$	December 31	
		2004 NT\$	US\$ (Note 3)
(In Millions)			
Assets			
Current assets	168,077.4	186,379.7	5,872.0
Long-term investments	9,325.3	37,509.5	1,181.8
Property, plant and equipment net	205,439.8	254,446.4	8,016.6
Goodwill	47,286.6	46,756.6	1,473.1
Other assets	9,723.7	11,193.6	352.7
Total assets	439,852.8	536,285.8	16,896.2

(Continued)



	<b>December 31</b>		
	<b>2003</b>	<b>2004</b>	<b>US\$</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>(Note 3)</b>
	<b>(In Millions)</b>		
Liabilities			
Current liabilities	34,957.1	71,861.3	2,264.0
Long-term liabilities	42,123.9	32,275.9	1,016.9
Other liabilities	4,895.9	4,279.1	134.8
Minority interest in subsidiaries	702.8	744.7	23.5
Shareholders' equity	357,173.1	427,124.8	13,457.0
Total Liabilities and Shareholders' equity	439,852.8	536,285.8	16,896.2

	<b>Year Ended December 31</b>			
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>US\$</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>(Note 3)</b>
	<b>(In Millions)</b>			
Net sales	162,990.4	203,599.6	260,035.0	8,192.7
Cost of sales	115,374.3	133,492.6	154,785.3	4,876.7
Gross profit	47,616.1	70,107.0	105,249.7	3,316.0
Operating expenses	20,764.0	25,744.2	32,423.3	1,021.5
Income from operations	26,852.1	44,362.8	72,826.4	2,294.5
Non-operating income (expenses), net	(6,642.1)	(1,922.1)	4,011.6	126.4
Income before income tax and minority interest	20,210.0	42,440.7	76,838.0	2,420.9
Net income	14,534.1	38,661.4	76,253.4	2,402.4
Cumulative preferred dividends	(455.0)	(184.5)		
Income attributable to common shareholders	14,079.1	38,476.9	76,253.4	2,402.4

Statements of comprehensive income for the years ended December 31, 2002, 2003 and 2004 are as follows:

	<b>Year Ended December 31</b>			
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>US\$</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>(Note 3)</b>
	<b>(In Millions)</b>			
Net income based on U.S. GAAP	14,534.1	38,661.4	76,253.4	2,402.4
Other comprehensive income (loss), net of tax:				
Adjustment of available-for-sale marketable securities				
TSMC	(150.3)	361.1	(346.1)	(10.9)
Equity-method investees	(686.5)	317.8	112.0	3.5

Translation adjustments	(283.7)	(991.4)	(2,273.6)	(71.6)
	(1,120.5)	(312.5)	(2,507.7)	(79.0)
Comprehensive income	13,413.6	38,348.9	73,745.7	2,323.4

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The Company applies R.O.C. SFAS No. 17, Statement of Cash Flows. Its objectives and principles are similar to those set out in the U.S. SFAS No. 95, Statement of Cash Flows. The principal differences between the standards relate to classification. Cash flows from changes in short-term investments, deferred charges, pledge time deposits, refundable deposits, other assets-miscellaneous, guarantee deposits and other liabilities and remuneration to directors and supervisors are included as operating activities under U.S. SFAS No. 95. Summarized cash flow data by operating, investing and financing activities in accordance with U.S. SFAS No. 95 are as follows:

	<b>Year Ended December 31</b>			
	<b>2002</b>	<b>2003</b>	<b>2004</b>	<b>US\$</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>(Note 3)</b>
	<b>(In Millions)</b>			
Net cash inflow (outflow) from:				
Operating activities	88,245.1	102,372.4	109,352.7	3,445.3
Investing activities	(57,878.9)	(40,557.7)	(104,887.5)	(3,304.6)
Financing activities	(394.7)	(26,115.0)	(31,691.0)	(998.5)
Change in cash and cash equivalents	29,971.5	35,699.7	(27,225.8)	(857.8)
Cash and cash equivalents at the beginning of year	37,556.3	67,790.2	103,427.0	3,258.6
Effect of changes in foreign exchange rate	262.4	(62.9)	(1,669.8)	(52.6)
Cash and cash equivalents at the end of year	67,790.2	103,427.0	74,531.4	2,348.2

## 28. ADDITIONAL DISCLOSURES REQUIRED BY U.S. GAAP

### a. Recent accounting pronouncements

In January 2003, the FASB released Interpretation No. 46, Consolidation of Variable Interest Entities an Interpretation of Accounting Research Bulletin (ARB) No. 51 which requires that all primary beneficiaries of Variable Interest Entities (VIE) consolidate that entity. FIN46 is effective immediately for VIEs created after January 31, 2003 and to VIEs in which an enterprise obtains an interest after that date. In December 2003, the FASB published a revision to FIN 46 ( FIN 46R ) to clarify some of the provisions of the interpretation and to defer the effective date of implementation for certain entities. Under the guidance of FIN 46R, entities that do not have interests in structures that are commonly referred to as special purpose entities (SPE s) are required to apply the provisions of the interpretation in financial statements for periods ending after March 14, 2004. The Company does not have interests in special purpose entities and will apply the provisions of FIN 46R with its 2004 financial statements.

In December 2004, the FASB issued SFAS No. 123(R) Share-Based Payment. SFAS No. 123(R) requires that companies recognize compensation expense equal to the fair value of stock options or other share based payments for the annual reporting period that begins after June 15, 2005. SFAS No. 123(R) applies to all awards granted after January 1, 2006, and prior period s awards that are modified, repurchased, or cancelled after January 1, 2006. The impact on the Company s net income will include the remaining amortization of the fair

value of existing options currently disclosed as pro forma expense in Note 28.c. and is contingent upon the number of future options granted, the selected transition method and the selection of either the Black-Scholes or the binominal lattice model for valuing options. The effect of adopting the standard is currently being evaluated but is not expected to have a material effect on the Company's financial position or overall trends in results of operations.

b. Marketable securities

On December 31, 2003 and 2004, certain investments carried at cost under R.O.C. GAAP were adjusted to fair value for purposes of U.S. GAAP presentation:

	<b>(R.O.C. GAAP)</b>		<b>(U.S. GAAP)</b>	
	<b>Carrying Value</b>		<b>Fair Value</b>	
	<b>2003</b>	<b>2004</b>	<b>2003</b>	<b>2004</b>
	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>	<b>NT\$</b>
<b>(In Millions)</b>				
Marketable securities trading	344.1	401.7	792.8	1,215.6
Marketable securities available-for-sale	9,379.0	52,965.2	9,758.7	53,044.7
Marketable securities held-to-maturity	7,692.6	29,894.9	7,722.3	29,837.4

The Company uses the average cost method for trading securities and available-for-sale securities when determining cost basis. Proceeds from sales of available-for-sale securities for the year ended December 31, 2002, 2003 and 2004 were NT\$53.1 million, NT\$11,151.5 million and NT\$28,954.6 million, respectively. Realized losses on these sales were NT\$170.8 million during 2002. Realized gains on these sales were NT\$74.5 million and NT\$ 154.5 million during 2003 and 2004, respectively.

There was no transfer of securities from the available-for-sale category into the trading category during the years ended December 31, 2003 and 2004.

As of December 31, 2003 and 2004, available-for-sale and held-to-maturity investments of the Company were as follows:

	Adjusted Cost	2004		Estimated Fair Value
		Gross Unrealized Gains	Gross Unrealized Losses	
Corporate bonds	18,464.3	8.4	(124.4)	18,348.3
Corporate issued asset-backed securities	11,766.9	9.9	(51.0)	11,725.8
Bond funds	10,662.7	100.1		10,762.8
Agency bonds	8,633.9	6.6	(30.2)	8,610.3
Government bonds	17,607.3	3.4	(27.3)	17,583.4
Money market funds	1,641.0			1,641.0
Government bonds acquired under repurchase agreements	249.4	2.2		251.6
Listed common stocks	34.1	115.5	(15.0)	134.6
Commercial papers	95.7			95.7
Corporate issued notes	63.8			63.8

	2004			Estimated
	Adjusted	Gross	Gross	Fair
	Cost	Unrealized	Unrealized	Value
		Gains	Losses	
Non-publicly traded common stock	1,226.5			1,226.5
Preferred stock	1,677.9			1,677.9
Funds	290.1			290.1
Structure time deposits	10,521.7	23.3	(74.7)	10,470.3
Total	82,935.3	269.4	(322.6)	82,882.1

Reported as:				
Short-term investments				53,946.9
Long-term investments				28,935.2
Total				82,882.1

	2003			Estimated
	Adjusted	Gross	Gross	Fair
	Cost	Unrealized	Unrealized	Value
		Gains	Losses	
Bond funds	1,000.0	6.9		1,006.9
Government bonds	7,692.6	29.7		7,722.3
Money market funds	3,068.2			3,068.2
Government bonds acquired under repurchase agreements	1,800.0			1,800.0
Listed common stocks	44.7	372.8		417.5
Non-publicly traded common stock	1,156.8			1,156.8
Preferred stock	2,038.7			2,038.7
Funds	270.6			270.6
Total	17,071.6	409.4		17,481.0

Reported as:				
Short-term investments				13,728.8
Long-term investments				3,752.2
Total				17,481.0

The duration of the unrealized losses on available-for-sale and held-to-maturity investments of the Company as of December 31, 2004 did not exceed 12 months. The following table provides the breakdown of the investments with unrealized losses as of December 31, 2004:

	Estimated	Gross
	Fair	Unrealized
	Value	Losses

Corporate bonds	15,474.6	(124.4)
Corporate issued asset-backed securities	8,823.6	(51.0)
Agency bonds	6,453.4	(30.2)
Government bonds	14,610.5	(27.3)
Listed common stocks	1.2	(15.0)
Structure time deposits	6,458.1	(74.7)
Total	51,821.4	(322.6)

The gross unrealized losses related to bonds, asset-backed securities and structure time deposits were due to changes in interest rates. The gross unrealized losses related to listed common stocks were due to changes in market prices. Management believes that none of the unrealized losses represented an other-than-temporary impairment based on its evaluation of available evidence as of December 31, 2004.

As of December 31, 2004, the amortized cost and estimated fair value of the Company's

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available-for-sale and held-to-maturity investments in debt securities by contractual maturity were as follows:

	Amortized Cost Under U.S. GAAP	Estimated Fair Value
Due less than 1 year	12,544.0	12,487.0
Due in 1-2 years	28,472.5	28,391.6
Due in 3-5 years	18,086.6	17,998.8
Due after 5 years	8,299.9	8,271.8
Total	67,403.0	67,149.2

c. Stock based compensation plans

The Company applies U.S. APB Opinion No. 25, Accounting for Stock Issued to Employees, and related Interpretations in accounting for its stock-based compensation plans. Accordingly, the Company records expense for employee stock compensation plans equal to the excess of the market price of the underlying TSMC shares at the date of grant over the exercise price of the stock-related award, if any (known as the intrinsic value).

Certain characteristics of the stock options granted under the 2002 Plan are not reasonably estimable using appropriate valuation methodologies as prescribed under U.S. SFAS No. 123. Accordingly, the expense for the stock options granted under the 2002 Plan is determined using the variable accounting method as prescribed under U.S. APB Opinion No. 25. No additional expense would be required if the Company were to adopt U.S. SFAS No. 123.

With respect to the 2003 Plan which qualifies as a fixed plan under U.S. APB Opinion No. 25, all employee stock options are issued with the exercise price equal to the market price of the underlying shares at the date of grant and therefore, no compensation expense is recorded.

The following table summarizes the pro forma operating results of the Company for the year ended December 31, 2004 had compensation cost for stock options granted under the 2003 Plan been determined in accordance with the fair value based method prescribed by U.S. SFAS No. 123:

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	NT\$ (In Millions)
Net income based on U.S. GAAP, as reported	76,253.4
Less stock-based compensation income included in reported net income under U.S. APB Opinion No.25, net of tax	(156.2)
Less stock-based compensation expenses determined under U.S. SFAS No.123, net of tax	(61.6)
Pro forma net income	76,035.6

## Earnings per shares:

	NT\$
Pro forma basic and diluted earnings per share	3.28
Basic and diluted earnings per share as reported	3.29
Pro forma basic and diluted earnings per ADS	16.42
Basic earnings per ADS as reported	16.47
Diluted earnings per ADS as reported	16.46

The fair value of the options granted under the 2003 Plan was estimated using the Black-Scholes model with the following assumptions:

Expected life	5 years
Risk free interest rate	3.07%~3.85%
Expected volatility	43.77%~46.70%
Expected dividend yield	0%~1%

The estimated weighted-average fair value at the grant date for options granted under the 2003 Plan during 2003 and 2004 were NT\$28.97 and NT\$19.73 per option, respectively.

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**EXHIBIT INDEX**

- (a) See Item 18 for a list of the financial statements filed as part of this annual report.
- (b) Exhibits to this Annual Report:
  - 1.1 Articles of Incorporation of Taiwan Semiconductor Manufacturing Company Limited, as amended and restated on May 10, 2005.
  - 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<sup>(1)</sup> Rules for Election of Directors and Supervisors, as amended and restated on May 7, 2002.
  - 3.2<sup>(1)</sup> Rules and Procedures of Shareholders Meetings, as amended and restated on May 7, 2002.
  - 4.1<sup>(2)</sup> Land Lease with Southern Taiwan Science Park Administration (formerly Tainan Science Park Administration) relating to the fabs located in Southern Taiwan Science Park (effective August 1, 1997 to July 31, 2017) (in Chinese with English summary).
  - 4.2<sup>(2)</sup> Land Lease with Southern Taiwan Science Park Administration (formerly Tainan Science Park Administration) relating to the fabs located in Southern Taiwan Science Park (effective May 1, 1998 to April 30, 2018) (in Chinese with English summary).
  - 4.3<sup>(2)</sup> Land Lease with Southern Taiwan Science Park Administration (formerly Tainan Science Park Administration) relating to the fabs located in Southern Taiwan Science Park (effective November 1, 1999 to October 31, 2019) (in Chinese with English summary).
  - 4.4<sup>(2)</sup> 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<sup>(1)</sup> 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<sup>(1)</sup> 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<sup>(2)</sup> 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 June 20, 2004.
  - 4.9a<sup>(3)</sup> Taiwan Semiconductor Manufacturing Company Limited 2002 Employee Stock Option Plan, as revised by the board of directors on March 4, 2003.
  - 4.9aa<sup>(4)</sup> Taiwan Semiconductor Manufacturing Company Limited 2003 Employee Stock



Option Plan.

- 4.9aaa<sup>(5)</sup> Taiwan Semiconductor Manufacturing Company Limited 2004 Employee Stock Option Plan.
  - 4.9aaaa Taiwan Semiconductor Manufacturing Company Limited 2004 Employee Stock Option Plan, as revised on February 22, 2005.
  - 4.9b<sup>(3)</sup> TSMC North America 2002 Employee Stock Option Plan, as revised on June 5, 2003.
  - 4.9bb<sup>(4)</sup> TSMC North America 2003 Employee Stock Option Plan.
  - 4.9c<sup>(3)</sup> WaferTech, LLC 2002 Employee Stock Option Plan, as revised on June 5, 2003.
  - 4.9cc<sup>(4)</sup> Wafer Tech, LLC 2003 Employee Stock Option Plan.
  - 4.9ccc<sup>(5)</sup> Wafer Tech, LLC 2004 Employee Stock Option Plan.
  - 4.9cccc Wafer Tech, LLC 2004 Employee Stock Option Plan, as revised on February 22, 2005.
  - +4.10<sup>(6)</sup> 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.
  - 4.11<sup>(8)</sup> Land Lease with Hsinchu Science Park Administration relating to Fabs 2 and 5 and Corporate Headquarters (effective April 1, 1988 to March 31, 2008) (in Chinese with English summary).
  - 4.12<sup>(8)</sup> Land Lease with Hsinchu Science Park Administration relating to Fabs 3 and 4 (effective May 16, 1993 to May 15, 2013) (in Chinese with English summary).
  - 4.13<sup>(7)</sup> Land Lease with Hsinchu Science Park Administration relating to Fab 12 (Phase II) (effective May 1, 2001 to December 31, 2020)(English summary).
  - 4.14<sup>(7)</sup> Land Lease with Southern Taiwan Science Park Administration relating to fabs located in Southern Taiwan Science Park (effective November 1, 2000 to October 31, 2020)(English summary).
  - 8.1 List of subsidiaries of Taiwan Semiconductor Manufacturing Company Limited.
  - 12.1 Certification of Chief Executive Officer required by Rule 13a-14(a) under the Exchange Act.
  - 12.2 Certification of Chief Financial Officer required by Rule 13a-14(a) under the Exchange Act.
  - 13.1 Certification of Chief Executive Officer required by Rule 13a-14(b) under the Exchange Act.
  - 13.2 Certification of Chief Financial Officer required by Rule 13a-14(b) under the Exchange Act.
  - 99.1 Consent of Deloitte & Touche.
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- (1) 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.
  - (2) 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.
  - (3) Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 2002, filed by TSMC on June 23, 2003.
  - (4) Previously filed in TSMC's registration statement on Form S-8, filed by TSMC on October 20, 2003.
  - (5) Previously filed in TSMC's registration statement on Form S-8, filed by TSMC on January 6, 2005.
  - (6) 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.
  - (7) Previously filed in TSMC's annual report on Form 20-F for the fiscal year ended December 31, 2003, filed by TSMC on May 28, 2004.
  - (8) Previously filed in TSMC's registration statement on Form F-1, filed by TSMC on September 15, 1997.
- + Contains portions for which confidential treatment has been requested.