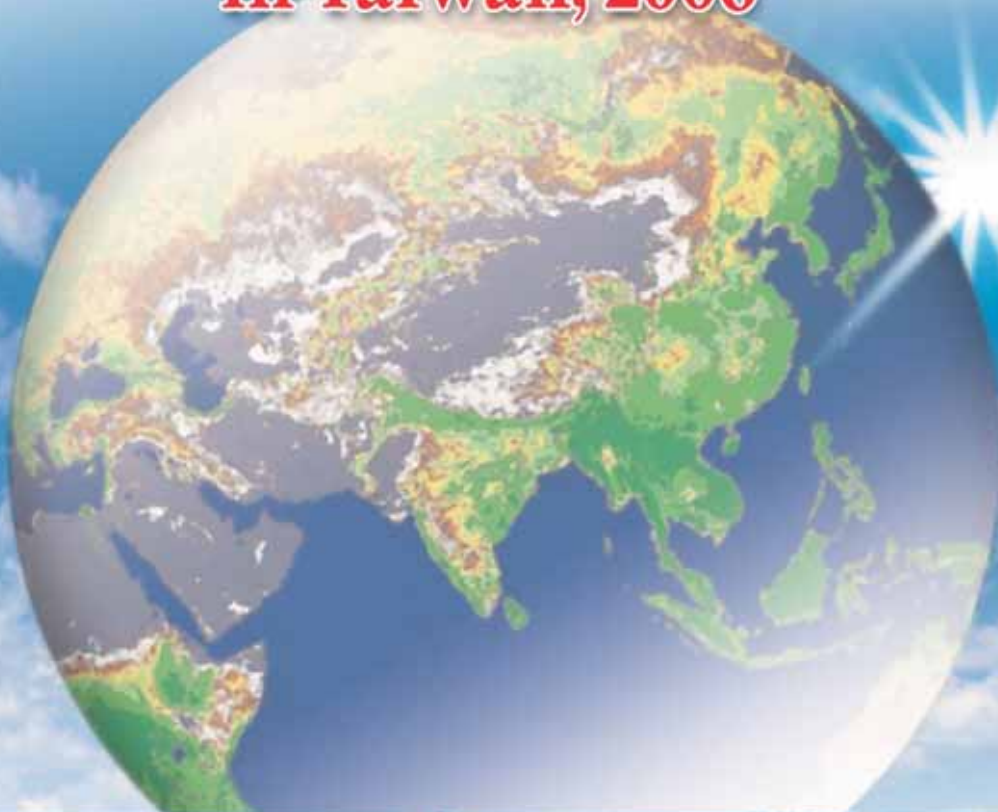




White Paper On Small and Medium Enterprises in Taiwan, 2006



Small and Medium Enterprise Administration
Ministry of Economic Affairs

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**Small and Medium Enterprise Administration
Ministry of Economic Affairs
September, 2006**

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Published by

Small and Medium Enterprise Administration, Ministry of Economic Affairs
95, 3fl, Section 2, Roosevelt Road,
Taipei, Taiwan, ROC, 106

Edited by

Chung-Hua Institution for Economic Research
75 Chang Hsing Street,
Taipei, Taiwan, ROC, 106

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Proof Reader:

Chaio-Ying Chang

Designed and Printed by:

HONBO PRINTING CO., LTD.
No. 10, 7th Fl., Lane 366, Sec. 2, Chung San Rd., Chung Ho City,
Taipei County, Taiwan, ROC, 235

GPN: 1009502303

ISBN-10: 986-00-6482-2

ISBN-13: 978-986-00-6482-7



Foreword

Small and medium enterprises (SMEs) have played an important role in Taiwan's economic development in expanding exports and providing jobs, even though the shares of sales value and export value attributed to SMEs has declined in recent decades. Through enterprise networks and alliances, the interdependence between SMEs and large enterprises has been increasing, and this has been manifested by the fact that the share of intermediate inputs accounted for by SMEs has been rising. Thus SMEs have become the basis for Taiwan's renowned flexible and speedy production structure. What has not changed over time regarding the SMEs are their enthusiastic entrepreneurship and perseverance that have become the ultimate symbol of the Taiwanese spirit.

In 2005, the overall economic climate in Taiwan was very optimistic, with a GDP growth rate of 4.05% being recorded. As for the performance of SMEs in 2005, the number of enterprises rose to 1,226,000, reflecting an increase of 4.17% compared to 2004. These enterprises employed 7,648,000 people, representing an increase of 1.26%, their combined sales in 2005 exceeded NT\$10 trillion, up 2.81%, and their export value stood at NT\$1,519 billion, up 4.86%. In addition, in 2005, 125,313 new SMEs were established, representing a larger increase in terms of the number of newly-established SMEs as compared with that in the previous year.

To cope with the rapidly-changing business environment around the world, the government has been helping the SMEs in various ways by ensuring that the necessary resources are available and that the overall business environment is conducive to them; the SMEs will find that the government is behind them every step of the way.

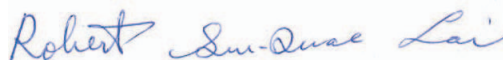
In this volume of the *White Paper on SMEs*, Part One describes the development of SMEs from a wide variety of perspectives in 2005, which includes a comparison with their performance in previous years, and with large enterprises. A comparison of fifteen economies in terms of major SME indicators is also provided.

In Part Two, three special topics are tackled through in-depth analysis. They are the challenges and opportunities facing Taiwan's traditional Industries, the European

Union's new environmental protection directives and their impact on Taiwan's SMEs, and the contribution made by Taiwan's SMEs to the economy as a whole.

In Part Three, the major government policies and measures related to SMEs are discussed, along with their resulting effects over the past year. This section concludes with an examination and discussion of the prospects for future SME policies. The Appendix to this volume also provides, for reference purposes, important SME statistics covering the last decade.

Providing guidance to support the development of SMEs requires a long-term effort. In order to witness the development of SMEs in Taiwan, the Small and Medium Enterprise Administration has since 1992 published the *White Paper on Small and Medium Enterprises in Taiwan* on an annual basis, and the English version has been published since 1998. It is hoped that the *White Paper* will give readers both in Taiwan and overseas a better understanding of Taiwan's SMEs, while at the same time providing a useful reference work to assist SME managers in their decision-making. Your comments on the content of the *White Paper* would be most welcome.



Dr. Robert Sun-Quae Lai

Director General

Small and Medium Enterprise Administration

September 2006



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Summary

The White Paper on Small and Medium Enterprises in Taiwan, 2006, is presented in three parts, with the first part comprising five chapters covering the macroeconomic environment faced by SMEs as well as their recent development, financial status, current labor utilization, and trade and overseas investment. The second part consists of three chapters on three special topics that deal with the challenges and opportunities for Taiwan's traditional manufacturing industries, the impact of the European Union's new environmental protection directives on Taiwan's SMEs, and the contribution of Taiwan's SMEs to the Taiwan economy. The last part covers two chapters on the governmental guidance policies and measures for SMEs and the prospects for the future. A summary of these chapters is presented below.

Changes in the Macroeconomic Environment

In 2005, there was growing concern about the disruption that avian influenza and abnormal weather conditions might have on global economic development. The combined impact of the Southeast Asian tsunami, hurricanes in the US, sandstorms in East Asia, earthquakes, skyrocketing oil prices and dramatic interest rate fluctuations resulted in low growth for the global economy in the first half of 2005, although growth picked up in the second half of the year. This pattern was the exact opposite of the situation in 2004; the global economic growth rate for the whole year was 0.5 percentage points down compared to 2004.

Taiwan's economy, which tends to move in lockstep with the global economy as a whole, also saw a downturn in the first half of 2005 followed by an improvement in the second half of the year. The four main factors affecting the performance of the Taiwanese economy in 2005 were natural disasters, rising oil prices, changes in the external trading environment, and political disruption.

An Overview of SME Development

Statistical indicators for Taiwan's SME sector in 2005 – including the number of SMEs, the number of employed persons and paid employees working in SMEs, total

sales, domestic sales and export sales – all displayed steady growth compared to 2004. As the following table shows, the increases in the number of SMEs and in SME export sales were particularly pronounced.

The Performance of SMEs vs. Large Enterprises

Indicator \ Size	All Enterprises	Large Enterprises	SMEs
No. of enterprises	1,253,694	27,599	1,226,095
Share of total (%)	100.00	2.20	97.80
Annual growth rate (%)	4.10	0.88	4.17
Employed persons (thousands)	9,942	1,333	7,648
Share of total (%)	100.00	13.41	76.93
Annual growth rate (%)	1.59	7.66	1.26
Paid employees (thousands)	7,336	1,327	5,047
Share of total (%)	100.00	18.09	68.80
Annual growth rate (%)	2.87	7.50	2.94
Total sales (NT\$ millions)	33,941,857	23,941,637	10,000,220
Share of total (%)	100.00	70.54	29.46
Annual growth rate (%)	6.89	8.68	2.81
Domestic sales (NT\$ millions)	25,310,936	16,829,539	8,481,397
Share of total (%)	100.00	66.49	33.51
Annual growth rate (%)	8.81	12.32	2.45
Export sales (NT\$ millions)	8,630,921	7,112,098	1,518,823
Share of total (%)	100.00	82.40	17.60
Annual growth rate (%)	1.62	0.96	4.86

Financial Status of SMEs

The financial status of Taiwan's business enterprises showed some improvement in 2004 compared to 2003. Examination of profit and loss data for enterprises as a whole showed that 200,233 enterprises made a profit in 2004, compared to 190,573 in 2003; 34.85% of enterprises failed to make a profit, down from 36.22% in 2003. 20.20% of large enterprises failed to make a profit in 2004, compared to 23.04% in 2003; for SMEs the figures were 35.66% and 36.90%, respectively.

2004 saw a slight increase in SMEs' liquid assets in 2004, a significant decline in funds and long-term investments, and a slight fall in fixed assets. Both current liabilities and long-term liabilities increased compared to 2003, while reserves and surpluses declined. The SMEs' average operating cost ratio was lower than in 2003, but the operating expenses ratio increased; both figures



remained significantly higher among SMEs than among large enterprises. High operating expenses created a situation where, on average, SMEs posted negative operating profit, although current profit and loss was positive. The SMEs' current ratio, quick ratio and inventory ratio were all more or less the same as in 2003. The net liabilities ratio rose, while the long-term funds ratio fell slightly. Some turnover ratios rose while others fell; all of the profitability ratios were positive.

As regards the situation in individual industries, in the SME sector the highest current asset ratio was found in the construction industry, while the lowest ratios were found in the cultural, sporting and leisure services industries. The cultural, sporting and leisure services industry had the highest fixed asset ratio, while the finance and insurance industry had the lowest. Both the cultural, sporting and leisure services industry and the hotel and restaurant industry had average liability ratios in excess of 80%. Apart from the finance and insurance industry, the mining and quarrying industry and the manufacturing sector, all other industries posted negative reserves and surpluses. Overall, most industries had respectable gross profit margins, but poor cost control and low profitability.

As of the end of 2005, the total outstanding loans (excluding overseas loans) of Taiwan's commercial banks were up 7.42% compared to the end of 2004. Loans to SMEs had risen from NT\$2.77 trillion to NT\$2.97 trillion, an increase of 7.22%; the share of total bank loans going to SMEs rose by 0.65 percentage points, from 17.98% to 18.63%.

The Current Status of SMEs' Labor Utilization

The total number of employed persons working in SMEs in 2005 was 7,648,000, representing an increase of 95,000 compared to 2004. However, as a share of all employed persons in all enterprises, those working in SMEs fell to 76.92%; this was because the rate of increase in the number of employed persons working in large enterprises, at 7.67%, was significantly higher than the rate of increase for those working in SMEs (1.26%). The number of paid employees working in SMEs rose by 2.94% to 5,047,000; the SMEs' share of all paid employees increased from 68.75% to 68.80%. The number of SME employers fell by more than 8,000, dropping from 507,000 in 2004 to 498,000 in 2005. The percentage of SME owners

who were women rose slightly compared to 2004, reflecting an increase in entrepreneurial activity among women.

On July 1, 2005, a new Labor Insurance Pension system came into effect in Taiwan, leading to numerous problems related to the winding up of existing company pension funds. The impact of the new system was felt most severely in the SME sector, where over 50,000 people were affected by these issues. With the economy starting to pick up again, the number of people participating in vocational/professional training programs increased by 24,000 in 2004 compared to 2003, reaching a record level. Clearly, there is a feeling among business enterprises that they need to upgrade the quality of their manpower; however, if spending on training programs is measured as a percentage of annual operating revenue, the average for SMEs is still significantly lower than it is for large enterprises.

A survey on SME needs that was conducted in 2005 showed that more than 70% of SMEs did not have a mechanism in place for encouraging employees to undergo in-service training. Among those enterprises that did have such a mechanism, it consisted in most cases of merely of helping employees to pay training costs or making participation in training programs one of the criteria for promotion; very few SMEs offered bonuses or salary hikes to employees who underwent training programs.

The Current State of SME Trade and Investment Activity

Over the years, the SMEs' flexibility and their responsiveness to changes in market demand has been one of the most important drivers of Taiwan's economic development. Faced with the impact of globalization, regional economic integration and the changing environment for cross-strait trade between Taiwan and China, SMEs have been able to leverage the Internet and new marketing techniques to compensate for their financial weakness and limited manpower, helping them to identify and develop new overseas markets. To gain a clearer picture of the new trends in the SMEs' development of overseas markets, that focuses on the changes in trading and investment activity in recent years and on investment in China vis-à-vis investment in other parts of the world, data relating to the percentage of



SMEs that were making a profit, breaking even or making a loss, and the main factors affecting this situation, were used to identify those areas where more effort will be needed in the future.

As the process of economic globalization becomes increasingly pronounced, the global economy is entering an era of intense competition and low profit margins. In a business environment characterized by high levels of competition, high unemployment and low economic growth rates, innovation has become the key factor for maintaining international competitiveness. The strategies that SMEs adopt need to lay emphasis on developing new sources of value creation, improving their cost structure, raising the value-added of their existing products, stimulating the creation of new demand and overcoming organizational obstacles. At the same time, there is a need for comprehensive manpower cultivation planning that embraces both the public and the private sector, long-term and short-term planning, and the recruitment of overseas talent, in line with the changes in industry's needs and the evolution of Taiwan's manpower structure. Innovation should not be limited to those activities that are conventionally thought of as industrial activities. If it can be extended to society as a whole, then the multiplier effect will be that much greater, and the entire business environment can be transformed. Regardless of whether companies are investing in China or in other parts of the world, they should be focusing on innovation and R&D to develop new concepts and new capabilities. Through this process of upgrading and transformation, SMEs will be able to boost the creation of value-added in both tangible and intangible products, and improve their marketing strategies for these products, which in turn will help to expand the market networks and development opportunities open to them.

Challenges and Opportunities for Taiwan's Traditional Manufacturing Industries – A Case Study of the Textile Industry

With the changes taking place in the global economy, it is becoming increasingly difficult for many companies in Taiwan's traditional manufacturing industries to stay in business. If we take the textile industry as an example, while in the past this industry brought in more foreign exchange for Taiwan than any other industry, in

the last couple of years it has been surpassed by both the electronics industry and the communications industry.

The main reason for the dramatic fall in the competitiveness of Taiwan's textile manufacturers is the intense price competition from China following the abolition of the international textile quota system. In the upstream segment, the annual production value of Taiwan's artificial fiber manufacturers has fallen substantially. Taiwan has little natural fiber production; more than 80% of the raw material used by the Taiwanese textile industry is artificial fiber, with polyester fiber having the widest range of applications. In the last few years, the production capacity of China's polyester fiber manufacturers has grown, and they have become very price competitive, leading to a dramatic fall in artificial fiber production value in Taiwan. In the downstream segment, the labor-intensive garment and apparel manufacturing businesses have been moving production overseas, leading to a reduction in demand for artificial fiber, yarn and fabric. The shifting of production overseas by the garment and apparel making industries has also had a negative impact on the production value of the high-value-added segments of the textile industry, such as dyeing and finishing. A more serious problem is that most textile firms have yet to move beyond a traditional contract manufacturing business model in which manufacturers compete largely on price. Faced with increasingly intense competition from other countries where labor costs are much lower, Taiwanese textile manufacturers are finding it more and more difficult to secure orders.

Different segments of the textile industry have responded in different ways to these severe challenges. In the upstream segment, the artificial fiber manufacturers have been investing heavily in more efficient production equipment; as a result, their labor requirements are much lower than those of manufacturers further downstream, enabling most of the firms in this segment to keep production in Taiwan. In the middle segment, there has been a tendency for woven fabric makers to form clusters, and to develop marketing networks that ensure closer access to their target markets. The downstream garment manufacturers have concentrated on the development of efficient production networks. There is less concentration of production locations in this segment; manufacturing operations are located in whichever country offers the highest level of competitiveness, while keeping the



operational headquarters (including the design, R&D, order processing, production scheduling and customer service functions) in Taiwan. Responding to the global trend towards regional economic integration, garment manufacturers have often chosen to locate factories in areas where they will be able to avoid high tariffs and import quotas.

The next few years are expected to see a wave of mergers among the world's leading textile brands and distributors. Under these circumstances, textile manufacturers will need to improve their overall competitiveness, including cost control, quality, lead-time and technology development. To achieve these improvements, textile firms will need to strengthen their global networks and form new strategic alliances, leading to increased demand for legal affairs, tax planning and marketing talent. One important point is that collaboration with leading international brands will force manufacturers to pay more attention to human rights and environmental issues.

How Taiwanese SMEs are Responding to the European Union's New Environmental Protection Directives

The WEEE directive, which was approved by the European Union in February 2003, covers the collection, recycling and recovery of electrical and electronic product waste, as well as the provision of related information to users of such products; the directive applies to 10 major product categories and over 100 individual products. The RoHS directive was formulated to accompany the WEEE directive; its main objective is to control the use of six substances – lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBBs) and polybrominated diphenyl ether (PBDEs) – in electrical and electronic products.

Beginning on July 1, 2006, any electrical or electronic products covered by the WEEE directive that are imported into the European Union may not contain any of the six substances listed above. This chapter of the White Paper examines the impact that the European Union's environmental directives will have on Taiwan's SMEs, and the strategies and measures that the government should be adopting in response.

The Contributions Made by Taiwan's SMEs to the Economy as a Whole

Examination of the statistics presented in the White Paper on Small and Medium Enterprises in Taiwan over the years shows that SMEs have consistently played a very important role in Taiwan's economy, whether in terms of the number of enterprises, annual sales or the number of people employed. It is clear that SMEs have made a significant contribution to Taiwan's economic development through the creation of value-added, job creation, boosting the government's tax revenue, helping to smooth out regional economic inequality, fostering the growth of the entrepreneurial spirit, and contributing to the development of an effective division of labor within individual industries.

SMEs account for over 40% of the gross product value (i.e., value-added) of Taiwanese industry as a whole. This is a higher percentage than the SMEs' share of total sales, indicating that SMEs are better than large enterprises at creating value-added. While the SMEs' share of Taiwan's total exports has tended to fall, these exports are responsible for total production value 2.5 times higher than the value of the exports themselves; the multiplier effect is particularly pronounced in the case of the manufacturing sector. The period 1987–2005 saw a net increase of almost 1.38 million in the number of employed persons working in SMEs in Taiwan; most of the increase in SMEs was in the commercial sector and in the social and personal services industry. Around one-quarter of the government's tax revenue comes from SMEs; the amount of tax that SMEs have to pay for every NT dollar of sales is twice the amount that large enterprises have to pay. SMEs have made a significant contribution to the growth of the local economy in all of Taiwan's counties and cities, thereby helping to reduce the disparities in economic development between different regions.

On average, new enterprises established within the past year account for around 10% of all business enterprises in Taiwan; 99.74% of these new enterprises are SMEs. These figures reflect the strong entrepreneurial spirit of Taiwan's citizens. It has been shown that investment in incubator centers – the cradle for the growth of many new enterprises – creates economic benefits worth almost three times the value of the investment, with each incubator center creating around 43



new jobs a year. For both large enterprises and the SME sector, the percentage of intermediates provided by SMEs has been rising steadily, indicating that the importance of SMEs within the overall industry supply chain is increasing.

With the ongoing trends towards globalization and internationalization, Taiwan's SMEs are faced with dramatic changes in the business environment. Given the growing importance of SMEs within Taiwan's economy, government policy formulation should be focusing on measures to boost value-added, stimulate job creation, assist in the development of overseas markets, and reduce the barriers to SME growth. At the same time, the government should be moving away from being a provider of subsidies to business enterprises towards a new emphasis on creating the business environment that enterprises need to develop. In this way, SMEs will be able to compete on a level playing field in today's rapidly evolving global economy with its emphasis on speed, innovation, and responsiveness to change.

The Government's SME Policies and Measures

In 2005, nearly 98% of Taiwan's business enterprises (a total of over 1.22 million enterprises) were SMEs. SMEs constitute the bedrock of the Taiwanese economy. Today, however, faced with the rapid increase in the number of regional and bilateral trade agreements, the implementation of the New Basel Capital Accord, rising environmental consciousness, the growing importance of the emerging economies and the new patterns of global competition, rising oil prices and the slowdown in global economic growth, there is a clear need for the government to help in creating the environment that Taiwan's SMEs require if they are to develop successfully over the long term.

In order to build Taiwan into an ideal environment for SME operation and growth, in line with the provisions of the SME Development Statute, the Small and Medium Enterprise Administration of the Ministry of Economic Affairs has been focusing on five key areas in its policy formulation: creating a first-rate environment for SME development; building up SME start-up and incubation platforms; improving SMEs' IT capabilities; strengthening the overall SME management guidance function; and integrating SME finance and financing

mechanisms. SME development strategy has been revised in accordance with key economic trends both in Taiwan and in the global economy as a whole, and on the basis of SMEs' current and future needs. The Small and Medium Enterprise Administration has formulated the necessary ancillary measures to enhance SMEs' competitiveness, facilitate mutual assistance and collaboration between SMEs, and promote stable industrial development, thereby helping to give Taiwan SMEs that are highly competitive in international terms.

SME Policy in Taiwan: Past, Present and Future

For many years now, the government's SME policy has focused on creating an environment conducive to SME development, and on building up SMEs' operational capabilities. This has involved the establishment of guidance systems covering operational management, finance and financing, information management, mutual assistance, R&D, production technology, industrial safety, pollution prevention, marketing and quality improvement. Today, with the emergence of the knowledge economy and the transformation that is taking place in Taiwan's industrial structure, the business environment in which Taiwanese SMEs have to operate has grown increasingly severe. The areas on which the government needs to focus now as it works to ensure the sustainable development of Taiwan's SMEs are helping SMEs to strengthen themselves, and to build up their competitive advantage.

In the future, SME policy in Taiwan will continue to emphasize the following areas: creation of an environment in which SMEs can achieve sustainable development, strengthening the incubation and guidance mechanisms, transforming Taiwan into an "innovation society," ensuring that SMEs make effective use of knowledge and information technology, expanding the industry clustering effect, strengthening the operational capabilities of the SME sector, helping Taiwan's SMEs to build competitive advantage, improving SMEs' financial management capabilities and expanding the range of funding channels available to SMEs.

Part One

Recent Development of SMEs





Chapter 1

Changes in the Macroeconomic Environment

In 2005 the global economy was affected by a variety of natural disasters, including tsunamis, hurricanes, sandstorms and earthquakes, as well as the impact of individual countries' economic policies and other man-made events, including fluctuations in oil prices and in interest rates. The global economy as a whole performed poorly in the first half of 2005, but then recovered in the second half of the year; this trend was exactly the opposite of the situation in the previous year. The global economic growth rate was 0.5 percentage points lower than in 2004.

Given this international environment, what major changes took place in the Taiwanese economy in 2005? How did the Chinese economy – which is growing so rapidly, and which is so closely linked with the Taiwanese economy – perform? What is the outlook for the Taiwanese and Chinese economies, and for the global economy as a whole, in 2006? This chapter will analyze the performance of the Taiwanese, Chinese and global economies in 2005, and will present forecasts for their performance in 2006.

I Changes in the International Economic Environment

1. 2005 – A Downturn in the Global Economy Followed by a Recovery

The growth rate achieved by the global economy as a whole fell from 4.1% in 2004 to 3.6% in 2005. The performance in the first and second halves of the year was the exact opposite of 2004, with a downturn in the first half of the year being followed by an upturn in the second half. The recovery was expected to continue

into 2006; the global economic growth rate forecast for 2006 was 3.8%, 0.2 percentage point up on 2005 (Table 1-1-1). 2005 saw significant variation in the economic growth performance of individual regions, although steady growth was seen in all three major regions—Asia, the Americas, and Europe. An analysis of the economic performance of key countries and regions is presented below.

Table 1-1-1 Global Economic Growth Rates, 2003–2006

Unit: %

Region Year	World	USA	European Union	Japan	China	Asia (ex Japan, ex China)
2003	2.7	2.7	1.2	1.8	10.0	4.6
2004	4.1	4.2	2.2	2.3	10.1	5.8
2005	3.6	3.5	1.7	2.7	9.9	5.1
2006 ^f	3.8	3.3	2.3	3.2	9.9	5.2

Note: f stands for forecast.

Sources: 1. Global Insight, May 2006.

2. Directorate-General of Budget, Accounting and Statistics (DGBAS), *Taiwan's Economic Performance of the First Quarter and Outlook for 2006*, May 2006.

(1) Slower Growth in the US

The economic growth rate in the US fell from 4.2% in 2004 to 3.5% in 2005, although this latter figure still represented robust growth. Under the impact of high interest rates, there was a marked falling off in the private-sector investment growth rate; domestic demand was not strong enough to support a higher economic growth rate. Both the budget deficit and the trade deficit continued to expand. The tight monetary policy of 2004 continued into 2005, although interest rates fell slightly. The large current account deficit led to an increase in the quantity of overseas funds flowing into the US, resulting in a strong dollar, and making it more difficult to achieve any improvement in the trade deficit.

(2) The Economic Situation in the EU Continues to Improve, but Overall Growth Remains Low

Although the economic situation in the European Union (EU) has gradually begun to improve, growth in this region is still relatively slow. Unemployment rates are falling, but remain high by international standards. Rising oil prices have pushed consumer prices up, putting governments in the region in a difficult situation when it comes to setting interest rates. With France and the Netherlands having rejected



the draft EU Constitution, progress towards further integration has stalled. The pronounced disparities between the economic situation in individual EU member states makes it difficult to implement unified, consistent policies; this is likely to act as a major drag on economic growth in the EU.

(3) 2005 Saw Japan's Long Economic Downturn Come to a Close

Rising domestic demand in Japan helped to support higher economic growth in 2005; overseas demand remained relatively weak, however. Japan has finally recovered from the economic downturn that followed the bursting of the bubble economy. By the end of 2005, deflationary pressure had eased, and the Japanese government was able to terminate the loose monetary policy that it had followed for five years. The unemployment rate continued to fall, the Yen strengthened against the US dollar, and the ruling party's election victory provided a firm foundation for aggressive policy implementation. The improvement in the economic situation was expected to continue into 2006, possibly with a higher growth rate.

(4) High Growth Continues in China

In 2005, the Chinese government continued to implement measures to prevent the economy from overheating; however, these measures did not seem to be particularly effective. Even the 2% revaluation of the Yuan against the US dollar in July 2005 had little effect. The preparations for the Beijing Olympics in 2008 are fueling economic growth, which has remained consistently high. However, new controls on real estate transactions may go some way towards cooling the overheating real estate market. The following section of this chapter contains a more detailed analysis of developments in China.

(5) 2005 Saw a Worsening of South Korea's Economic Performance

In South Korea, foreign trade's contribution to growth has fallen off dramatically; consumer spending has become the main engine driving economic growth. The economy continued to grow steadily throughout the year in 2005, but the whole-year growth rate was lower than in 2004. Rising oil prices had a knock-on effect on commodity prices, which remained stubbornly high, but falling rental

costs kept the rise in the consumer price index down to 2.5% to 3.5%, within the government's target zone. In response to this lackluster economic performance, the Korean government adopted an expansionary fiscal policy, with increased public spending and tax cuts, in an effort to stimulate the economy.

(6) Slow but Steady Growth in the Southeast Asian Economies

The economies of Southeast Asia continued to grow steadily in 2005, although signs of a slowdown were already evident. The foreign trade growth rate fell off dramatically; Thailand in particular experienced a severe worsening of its trade deficit. The high price of oil pushed consumer prices up, and forced governments to adjust their oil price subsidy policies, in some cases leading to substantial hikes in the price of fuel. The threat of terrorist attacks remained ever-present, and bird flu continued to spread.

(7) Slower Growth in Latin America and the Caribbean

Contractionary monetary policy has led to a weakening of domestic demand growth in Latin America and the Caribbean; this in turn has caused economic growth rates in the region to fall. The main driver of growth in this region is the expansion in trade surpluses. The combination of rising interest rates and the revaluation of the US dollar has put many countries in Latin America and the Caribbean under severe debt repayment pressure.

(8) India – A Rising Star

The *BRIC Report* published by Goldman Sachs in October 2003 pointed out that Brazil, Russia, India and China had the potential for impressive growth over the period from 2003 to 2050, and coined the term “BRIC” (Brazil, Russia, India, China) as a shorthand reference to these four countries. Of the four BRIC nations, India has grown particularly fast in the last few years, and is rapidly closing the gap on China.

Until economic reforms began in 1991, India was widely viewed as having the most centrally planned economy and the most restrictions on private enterprise of any country in the world outside the Communist bloc. However, in July 1991



the Indian government embarked on a program of economic reforms that included new industrial, trade, investment and foreign exchange policies. Between 1998 and 2003 India averaged a real economic growth rate of 5.4%. After rising to 8.2% in 2003, the growth rate fell slightly to 6% in 2004, but then rose again to 7.5% in 2005. Although inequality (both between rich and poor, and between urban and rural areas) remained pronounced, it was estimated that more than 300 million people out of India's population of 1.1 billion now belonged to the middle class, with significant spending power.

In the last few years, India's potential as a base for customer service centers has attracted the attention of business enterprises all over the world. However, the customer service center business is just one small part of India's IT sector. Segments where Indian companies have achieved particularly rapid development include software (including system software), semiconductor design and semiconductor testing. Within the software industry, the main growth areas include financial services software (particularly banking and insurance).

2. Natural and Man-made Disasters, Including the Spread of Bird Flu

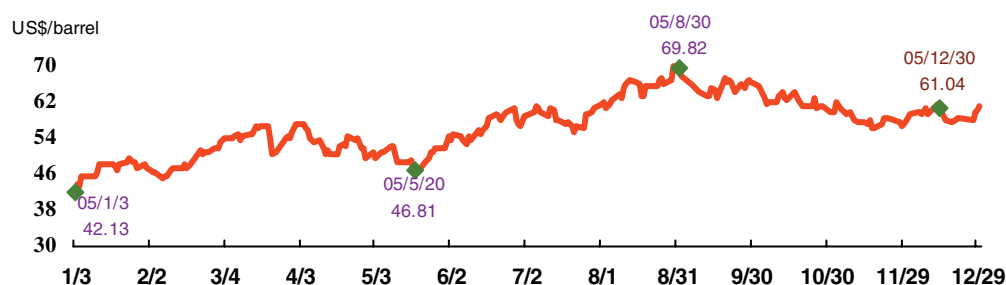
In 2005, avian influenza (bird flu) continued to spread around the world. The threat to the global economy both from bird flu and from worsening climatic conditions became increasingly obvious.

3. Oil Prices Continue to Skyrocket

In late 2004, with global economic growth expected to slow and the Chinese government continuing to implement measures to prevent the Chinese economy from overheating, there was widespread speculation that the price of oil might fall back to around US\$40 a barrel. In the event, however, 2005 did not see any significant fall in global demand. The level of demand in China remained as strong as ever, and the Organization of Petroleum Exporting Countries (OPEC) agreed to reduce production in early 2005; in addition, many oil production facilities in the US were damaged by hurricanes in August 2005. As a result, the price of oil increased dramatically. Up until May 2005, the spot price of West Texas

Intermediate crude oil had been hovering at around US\$50 per barrel. By the end of August, the spot price had risen to US\$69.82 per barrel, and the price of oil futures had risen to over US\$70 per barrel. It was estimated that the average price of oil in 2005 (whole-year) would be around US\$55 a barrel, far higher than had been forecast in 2004 (Figure 1-1-1).

Figure 1-1-1 Spot Prices of West Texas Intermediate Crude Oil in 2005



Source: US Department of Energy.

4. Global Trade Displays a Severe Imbalance

The USA's trade deficit continued to worsen in 2005, rising to US\$770.3 billion. As a result, America's current account deficit expanded, too; a large net inflow of foreign funds was needed to keep the economy operating normally. Countries with a current account surplus included Russia, India, and many countries in East Asia, the Middle East and Latin America; in these countries, there was a clear need for their respective governments to do more to encourage investment in the local economy, so as to reduce the amount of funds flowing out of the country. Not only did China need to revalue its currency, several other countries were in a similar position.

5. The WTO's Liberalization Efforts Are Stalled

When the member economies of the World Trade Organization (WTO) issued their "July Draft" in August 2004, the prospects for further liberalization of the global economy looked bright. Although no further breakthrough had been achieved by the end of 2004, many people were still hopeful that agreement could



be reached in 2005. In the event, WTO negotiations did not proceed smoothly in 2005; the talks stalled, and no concrete results were achieved. The ministerial meeting held in Hong Kong on December 13–18, 2005 produced only a summary of the course that the negotiations had taken so far; basically, 2005 was a wasted year as far as the WTO was concerned.

6. No Significant Change Anticipated in the Global Economic Growth Rate in 2006

There are few positive factors that could be expected to boost growth in the global economy in 2006; on the other hand, there are several negative factors that could retard it. The most significant negative factors include: (1) With the US having achieved relatively strong growth of 3.5% in 2005, it is anticipated that the Federal Reserve will raise the base rate to over 5%, which will pull the economic growth rate in the US in 2006 down to around 3.3%. (2) International oil prices are expected to remain above the US\$60 per barrel level. (3) The imbalances in international trade and investment flows are likely to worsen. (4) While bird flu has yet to become a serious problem, it is clear that if the epidemic gets out of control, the impact could be extremely serious. Expenditure to combat the threat from bird flu will continue to increase, which could affect economic performance.

Overall, there are also several positive factors that could boost global economic growth in 2006. The US government is planning to implement US\$60 billion worth of tax cuts over a five-year period. In Japan, the ruling party's electoral victory has put it in a stronger position for undertaking aggressive policy implementation, while the pace of economy recovery in the European Union appears to be bucking the global trend by speeding up. The emerging economies of Asia are also expected to maintain slow but steady growth in 2006.

Given that there is some degree of uncertainty as to whether all of the negative factors listed above will in fact have a significant impact on the global economy in 2006, a moderately optimistic forecast would be that the global economy may be able to achieve a growth rate of 3.8% in 2006, roughly 0.2% higher than in 2005.

II The Chinese Economy – Major Trends and Key Issues

1. Little Effect of The Measures Implemented in 2005 to Prevent the Economy from Overheating

In 2004, the Chinese government began to implement a series of measures intended to rein in the economy, which had been overheating. These measures succeeded in bringing down the investment growth rate, which had stood at over 40%. Although the high price of agricultural products kept the consumer price index high, broadly speaking the government's initiatives did create the intended cooling off effect. However, GDP growth had reached 10.1% in 2004.

Concerned that the investment growth rate might start to shoot up again, the Chinese government continued to implement its macro adjustment policies in 2005. Although there was some disagreement as to whether China would experience a “soft landing” or “hard landing,” the general consensus both in China and overseas was that China's economic growth rate would slow in 2005. In the event, the growth rate remained high, stood at 9.9%.

The main reason why China's growth rate did not slow was that, rather than falling as expected, investment actually rose slightly. A year-on-year comparison of the first three quarters of 2005 with the same period in 2004 shows that investment in the coal mining sector rose by 77%, while investment in the oil and natural gas sectors increased by 31%. Investment in the rail transportation system – which is the main route by which coal is transported within China – also rose, by 41%. At the same time, although it was clear that a real estate bubble had formed in China's coastal regions, both real estate developers and consumers continued to invest in the real estate market, resulting in a 22% growth rate in the real estate sector in the first three quarters of the year. With the real estate sector continuing to act as a driver of growth for the economy as a whole, any chance that the private-sector investment growth rate would fall was eliminated.

Another important factor behind China's high growth in 2005 was the continuing export boom. High demand in the US market, which accounts for



around one third of China's exports, ensured steady export growth throughout the year; the consumer spending growth rate in the US averaged 3.4% in the first three quarters of 2005.

One factor that could affect China's exports is trade friction. Despite China's introduction of a new exchange rate mechanism in July 2005, trade friction and problems related to protectionist sentiment can be expected to become even more severe in the next few years. Whether this takes the form of pressure being put on China to revalue the Yuan, or the creation of artificial obstacles to trade, China may well find it more difficult to maintain high export growth in the future.

Broadly speaking, while the economic growth rate in China remains high, China is faced with five major problems: the rise in the prices of key resources, the continuing revaluation of the Yuan, the difficulty in achieving effective policy coordination between central and local government, the failure to improve living standards in rural areas, and the continuing stimulus to growth provided by rising domestic demand.

2. The Thorny Question of How to Adjust the Price of Key Resources

In the last few years, the rising price of raw materials has made the business environment in downstream processing industries increasingly difficult. If one considers the efficiency of energy use, the quantity of raw materials that Chinese companies need to produce a given quantity of goods is much higher than that needed by companies in the advanced nations to produce the same quantity of goods. If this continues, the global economy as a whole may find itself suffering from a shortage of raw materials. One important requirement for improving the efficiency of resource use in China is for the prices of key resources – which have in the past been very cheap in China – to rise. Once the Chinese government allows the prices of resources to be determined by market forces, although the inevitable rise in prices will force manufacturers to use resources more efficiently, it will also encourage new entrants to move into the industries in question, putting the government's macro adjustment policies under strain. In the short term at least, any attempt to push up the price of key resources and the efforts to prevent the

economy from overheating will work against each other.

3. China's Substantial Trade Surplus Puts Upward Pressure on the RMB Yuan

China's trade surplus has continued to expand in recent years; the annual trade surplus now exceeds US\$100 billion. This situation has given rise to a number of problems. Firstly, the rapid growth of China's trade surplus is partly a reflection of weakening domestic demand. As a rough estimate, the net increase in exports in the first half of 2005 accounted for 29% of GDP growth during that period; for the whole year, the figure is estimated to have exceeded 30%. China's economic growth is thus becoming steadily more dependent on overseas demand, which implies a higher level of risk. At the same time, while China's export growth rate exceeds 30%, the volume of global trade is growing by less than 10% a year; China's high export growth will inevitably lead to trade friction. There has already been a pronounced rise in the number of anti-dumping investigations and protective and safeguard measure investigations launched against Chinese exporters; China is the target of more such investigations than any other country in the world. If this situation continues, the negative consequences will become more and more severe. Furthermore, China is too heavily dependent on a handful of major export markets; this tends to make the impact of trade friction more severe, and puts further upward pressure on the RMB Yuan.

4. Lack of Coordination between Central and Local Government

For many years, Chinese government agencies at all levels have based their planning almost exclusively on GDP growth targets and factors that may affect individual officials' performance appraisal. The emphasis has been on 'growth at all costs,' without worrying about the nature of the growth. While China's high economic growth rate and the rapid increase in private-sector investment have boosted domestic demand, they have also encouraged the channeling of resources towards projects of limited economic value. The impact of the government's macro adjustment policies has been felt most keenly in the Changjiang (Yangtze)



River Delta and in the Pearl River Delta, where manufacturers' efforts to achieve backward integration have been disrupted; as a result, the economic performance of these two regions has deteriorated. In the future, if the Chinese government is to succeed in its goal of sustaining long-term economic development while smoothing out short-term fluctuations in the growth rate, it will need to overcome the structural problems involved in ensuring uniformity of purpose between central and local government.

5. The Challenge of Improving Rural Living Standards

The Chinese government reduction of the tax burden in rural communities and the measures taken to increase the prices paid for agricultural products has led to rapid growth in rural incomes and a substantial improvement in rural living standards. In 2005, however, the growth in rural incomes started to slow. The price of agricultural products – particularly grain – fell slightly, so that farmers were receiving less income for their produce. At the same time, there was a substantial increase in the price of the production inputs used in the agricultural sector. The price of chemical fertilizer, which had started to rise in 2004, continued to increase in 2005. Domestically produced urea rose in price by 13%, while the price of phosphate fertilizer increased by 19.7%, and the cost of compound fertilizers rose by 14 – 24%. These price hikes are estimated to have increased the cost of cereal production per *mou* (one *mou* equals approximately 0.025 acres) of land by RMB 20 – 30. The combination of falling grain prices and rising production input costs has made it difficult to achieve any significant improvement in farmers' living standards, and will tend to discourage rural residents from continuing to work in the agricultural sector. With prices in rural areas rising even faster than in the cities, consumer spending in these areas is also unlikely to increase. There have been a series of demonstrations by farmers complaining about inadequate compensation in cases where agricultural land is seized by local governments for development projects. Overall, not only has there been no improvement in the problems affecting China's rural areas, but the problems are in fact also worsening.

6. China Will Need to Rely on Domestic Demand to Stimulate Economic Growth

In the last few years, capital investment in China has continued to grow faster than GDP. As a result, investment's share of GDP has broken through the 55% mark, and is now approaching 60%, so that the structural contradictions between investment and spending are becoming increasingly marked. At the same time, the rapid growth of exports relative to GDP is sparking concern overseas. Boosting domestic consumption is a vital part of China's adjustment of its economic structure. China will need to raise income levels for citizens in all social classes, thus putting an end to the long-standing situation where household sector income growth lags behind the growth rate for the economy as a whole; at the same time, the government will need to prevent the disparity in income levels between different groups from worsening. Other key tasks include the reform of the social welfare system, healthcare provision and the education system. Only when people are sure that their basic living needs will be met will they be willing to increase consumption.

7. China's Economic Growth Rate May Slow in 2006

Although, starting in October 2005, there has been some upward revision of the forecasts for China's economic growth performance in 2006, given that high oil prices are expected to hold down growth in the global economy as a whole, demand for Chinese exports in major export markets cannot be expected to increase. There is little sign of any significant rise in domestic demand in China; at the same time, China's high foreign exchange holdings (the highest in the world) and its steadily increasing trade surplus with respect to the US, increase the risk that other countries will adopt measures to reduce their imports from China. Under these circumstances, the upward pressure on the Yuan will continue. The general view is that, in 2006, China's economic growth rate will either remain flat or else fall slightly.



III Changes in Taiwan's Economic Environment and Export Competitiveness

1. Taiwan's Economy Performs Poorly in the First Half of 2005, but Picks Up Again in the Second Half of the Year

The upturn in the global economy that had begun in the second half of 2003 continued into the first half of 2004. However, the second half of 2004 saw a renewed downturn, which continued into the first half of 2005. It was not until the second half of 2005 that quarterly growth rates started to rise again. The situation in 2004, when strong growth in the first half of the year was followed by a deterioration in the second half, was thus reversed in 2005. But the whole-year growth rate for 2005 was lower than in 2004.

Taiwan's economic performance is closely linked to that of the global economy as a whole. As in other parts of the world, economic growth in the first half of 2005 was unimpressive, but with some improvement in the second half of the year. As was the case with the global economy as a whole, Taiwan's economic performance gradually began to improve over the course of 2005. Taiwan's quarterly growth rates were as follows: 2.49% in the first quarter, 2.97% in the second quarter, 4.38% in the third quarter, and 6.40% in the fourth quarter. The whole-year growth rate for 2005 was 4.09% (Table 1-3-1).

Table 1-3-1 Key Indicators for the Taiwanese Economy, 2001-2005

Unit: %

Indicator Year	Economic Growth Rate	Wholesale Prices	Retail Prices	Tax Revenue	Money Supply		Labor Force Participation Rate	Unemployment Rate	Exchange Rate 1 US\$ to NT\$
					M1B	M2			
2001	-2.17	-1.34	-0.01	-35.2	-1.0	5.8	57.23	4.57	34.999
2002	4.25	0.05	-0.20	-0.8	17.0	3.6	57.34	5.17	34.753
2003	3.43	2.48	-0.28	2.5	11.8	3.8	57.34	4.99	33.978
2004	6.07	7.03	1.62	10.9	19.0	7.5	57.66	4.44	31.917
2005	4.09	0.60	2.30	12.9	7.1	6.2	57.78	4.13	32.850

Note: With the exception of the labor force participation rate and unemployment rate, all other indicators are expressed as growth rates.

Sources: DGBAS, Ministry of Economic Affairs (MOEA), Ministry of Finance (MOF), Central Bank.

2. Prices Have Remained Reasonably Stable

With the impact of a series of natural disasters in various parts of the world, coupled with rising oil prices, Taiwan's consumer price index (CPI) rose steadily during the first three quarters of 2005; the growth rate for the third quarter was 3.04%. However, this growth slowed in the fourth quarter. The whole-year CPI growth rate for 2005 was 2.30% (Table 1-3-1); this figure represented an annual increase of 0.68 percentage points. The growth rate for the core CPI (excluding perishables and energy) rose by 0.65 percentage points, compared to an increase of 0.71 percentage points in the previous year.

Wholesale prices were already at a high level in 2004. As a result, the whole-year increase in 2005 was just 0.60 percentage points, although growth appeared to be quickening in the fourth quarter. With international oil prices and the price of naphtha and iron ore remaining high, energy and mineral prices as a whole continued to increase. Intense market competition continued to force the prices of electronic components, computers, and communications and audiovisual equipment downwards, although the decline was less pronounced than in the previous year.

3. Tax Revenue Continues to Increase

The Taiwanese government's tax revenue in 2005 totaled NT\$1,527.5 billion, representing an annual increase of 12.9% (Table 1-3-1). While the revenue from securities transaction tax fell by 19.0%, all other taxation items saw positive revenue growth. Overall, tax revenue amounted to 112.4% of the government's budgetary target. Income tax had the highest revenue target achievement rate, at 129.4%, followed by land tax with 114.3%. Surplus tax revenue totaled NT\$169 billion, the highest total ever, and the tax burden rose for the fourth consecutive year to reach 13.7%.

4. A Loose Money Supply

In 2005, the daily average value for the annual growth rate in the M2 money supply was 6.2%, representing a decline of 1.3 percentage points compared to 2004. This was still within the Central Bank's target zone of 3.5% to 7.5%. For the M1B money supply, the daily average value of the annual growth rate was 7.1%,



11.9 percentage points down on 2004.

As a result of the Central Bank's interest rate hike, both the inter-bank offered rate and the commercial paper interest rate rose slowly in 2005, with annual averages of 1.31% and 1.27%, respectively; these figures were, respectively, 0.25 percentage points and 0.28 percentage points up on 2004. In 2005, the New Taiwan Dollar rose by 2.92% against the US Dollar, with the exchange rate reaching US\$1: NT\$32.85 (Table 1-3-1). In real terms, the effective exchange rate reached 85.06, up 0.2 percentage points from 2004.

Various negative factors affected the Taiwan stock market in 2005, including rising oil prices, the interest rate hikes in the US and China's enactment of the new "Anti-Secession Law," as well as domestic political problem. With the trading volume falling, the TAIEX stock market index dropped below 5,700 points in both April and October. Stock market performance began to improve in November, due to the fall in international oil prices, the upturn in the US stock market and stepped up purchasing of Taiwanese stocks by overseas institutional investors. By the end of December 2005 the stock market index had risen to 6,500 points, and the daily trading volume broke through the NT\$100 billion mark on several occasions. For the whole year, the weighted stock market index averaged 6,092 points, up 58 points from 2004.

5. A Continuing Rise in the Labor Force Participation Rate, and a Pronounced Fall in the Unemployment Rate

The situation in the Taiwanese labor market continued to improve in 2005. The labor force participation rate rose to 57.78%, up 0.12 percentage points from 2004. The ongoing implementation of various government initiatives helped to reduce unemployment; these included the Care Industry Development Program, the Six-star Plan for Healthy Communities, the Employability Enhancement Plan, the Indigenous Peoples Employment and Retraining Guidance Plan, and the Diversified Employment Development Plan, etc.

The number of unemployed persons in Taiwan averaged 428,000 in 2005 (5.7% down on 2004), representing an average unemployment rate of 4.13%,

which was 0.31 percentage points lower than in 2004, and the lowest level for five years.

6. Foreign Trade Continues to Expand, with a Increase in Taiwan's Trade Surplus

Taiwan's foreign trade totaled US\$381 billion in 2005, representing an annual increase of 8.5%. Exports and imports rose to US\$198.44 billion and US\$182.62 billion, respectively; these figures, both of which were record highs, represented an annual increase of 8.8% and 8.3%, respectively. Taiwan's trade surplus grew to US\$15.82 billion, up 16.2% from 2004 (Table 1-3-2).

The export item that posted the highest growth in 2005 was optical instruments, exports of which grew by 19.9%. Electronics products (Taiwan's single most important export item) were in second place, with an export growth rate of 12.8%. The export growth rates for iron and steel and iron and steel products, and for machinery, were 10.0% and 6.8%, respectively. Among import items, the highest growth was for imports of crude oil, which rose by 38.9%. Organic chemicals were in second place, with an import growth rate of 12.4%. Imports of electronics products (the single largest import item) rose by 7.9%. The import growth rates for machinery, and for iron and steel and iron and steel products, were 2.2% and 2.0%, respectively.

Table 1-3-2 Taiwan's Foreign Trade Performance, 2001-2005

Unit: US\$ billion; %

Indicator Year	Total Foreign Trade (Imports + Exports)		Exports		Imports		Trade Surplus or Deficit	
	Amount	Annual Growth Rate	Amount	Annual Growth Rate	Amount	Annual Growth Rate	Amount	Annual Growth Rate
2001	234.28	-20.0	126.31	-16.9	107.97	-23.3	18.34	63.5
2002	248.56	6.1	135.32	7.1	113.24	4.9	22.07	20.3
2003	278.61	12.1	150.60	11.3	128.01	13.0	22.59	2.4
2004	351.13	26.0	182.37	21.1	168.76	31.8	13.61	-39.7
2005	381.05	8.5	198.44	8.8	182.62	8.3	15.82	16.2

Source: Department of Statistics, Ministry of Finance, May 8, 2006.



7. The Importance of China, Hong Kong and South Korea as Trading Partners Increases

Taiwan's trade with its major trading partners continued to expand in 2005; exports to the ASEAN member nations, China, Hong Kong and Japan all grew more rapidly than the overall export growth rate. Exports to Central and South America and to the Middle East (which account for less than 2.5% of Taiwan's total exports) rose by over 10%. However, Taiwan's exports to the US grew by only 1.4%, and exports to Europe actually declined, by 0.8%. Although imports from the US and from Africa displayed negative growth, there was positive growth in imports from all other regions. Imports from the Middle East grew by nearly 40%, and imports from China and Hong Kong and from South Korea rose by over 10%. The rapid increase in imports from the Middle East was mainly due to the dramatic rise in oil prices.

8. Taiwanese Investment in China Slows in 2005

According to statistics compiled by the Investment Commission, Ministry of Economic Affairs, in 2005 a total of 1,297 applications for permission to invest in China were submitted by Taiwanese companies and businesspeople; this figure represented a decrease of 35.28% compared to 2004. The total value of approved investment came to US\$6,006,953,000, a 13.45% down on 2004. Statistics published by China's Ministry of Commerce indicate that 3,907 Taiwanese investment projects were approved by the Chinese government in 2005, representing a decline of 2.3% compared to 2004. Total agreed investment rose by 11.31% to US\$10.36 billion, but the total value of investment actually implemented fell by 30.9% to US\$2,152 million. Whereas in the 1990s Taiwan was China's second largest source of foreign investment, Taiwan has now fallen back to seventh place. Not only has the gap between South Korea (in fourth place) and Taiwan increased, but Taiwanese investment in China is now surpassed by the remaining two Asian Dragons (Singapore and Hong Kong) as well.

Investment in electronics and electrical appliance manufacturing accounts for 39.89% of all Taiwanese investment in China, followed by metallurgy (10.73%), precision machinery manufacturing (6.21%), chemical manufacturing (6.05%),

and machinery manufacturing (5.24%). Between them, these five industries account for 68.12% of all Taiwanese investment in China. In 2005, although Taiwanese investment in China in the precision machinery industry rose by 21.3% and investment in the machinery manufacturing industry rose by 92.3%, the other three industries all saw a decline in investment in the range of 13% to 21%.

9. Taiwan's Economic Growth Rate is Expected to Increase in 2006

In late February 2006, the Directorate General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, revised its economic growth rate forecast for Taiwan in 2006 upwards to 4.25%, while the Polaris Research Institute revised its forecast for 2006 upwards from 4.18% to 4.30%. It is not only Taiwanese government agencies and research institutes that are optimistic about the prospects for economic growth in Taiwan in 2006; the forecasts produced by overseas institutions are even higher. On March 15, 2006, Deutsche Bank announced its latest forecasts for economic growth in the Asia region; the bank's forecast for economic growth in Taiwan in 2006 was revised upwards by 0.5 percentage points to 5%; in comparison, the DGBAS revised its forecast upwards only to 4.31% in May 2006.

10. Uncertainty Factors Affecting Taiwan's Economy

The four main uncertainty factors affecting Taiwan's economic performance are natural disasters, oil price fluctuations, changes in the international economic and trade environment, and political upheavals.

(1) Natural Disasters

In 2005, a series of typhoons and the accompanying heavy rains caused extensive landslides, damage to crops and the deterioration of water quality in Taiwan. The major earthquake and tsunami that hit South Asia and the severe hurricanes in the southern US also caused extensive loss of life and damage to property, demonstrating mankind's weakness in the face of natural disasters. The threat from avian influenza (bird flu) is now also causing widespread concern. In the case of



epidemics such as Severe Acute Respiratory Syndrome (SARS) and bird flu, because it is impossible to predict with any accuracy how long the epidemic will last or how far it will spread, it is very difficult to forecast the impact that it will have on the economy. What Taiwan and other countries should be doing is to take preventive measures to minimize the risk of infection, and to educate their citizens in how to respond to such epidemics. If this can be achieved, then the impact of any epidemics of this kind can hopefully be kept to a minimum.

(2) Oil Price Fluctuations

Taiwan imports almost all of its crude oil from overseas; the price of oil is thus a matter of great concern for everyone in Taiwan. Recently, the upward pressure on prices has mainly been due to increases in the prices of fruit and vegetables after typhoons (which damage the crops); the impact of oil price fluctuations on the consumer price index has so far been relatively limited. However, this is mainly due to government price controls on the price of electricity and public transport. If the price of oil continues to rise, and remains high for an extended period, then a continuation of these price controls will have a severe negative impact on the industries concerned, while also increasing the government's financial burden.

(3) Changes in the External Economic Environment

2005 saw a pronounced fall in Taiwan's trade surplus. Although this was partly due to an increase in imports (due to higher oil prices, and increased importation of expensive transportation equipment, including aircraft and rolling stock for the new High Speed Railway), export growth was also lower than in 2004. The main factors behind this reduced export growth included the slowdown in the global economy as a whole, China's successful development of upstream industries (which has reduced its demand for exports), South Korean companies' aggressive development of the China market, and Taiwan's exclusion from regional free trade initiatives. China-related factors are the most significant here. There is widespread fear that Taiwan risks becoming marginalized, and many people feel that the government should be doing more to improve relations with China, and to develop a new international mindset. Nevertheless, China's impressive growth performance hides a number of latent problems. Taiwanese companies and

businesspeople who are considering investing in China need to consider the risk that the Chinese economy may collapse at some point in the future; anyone investing in China should be prepared for this possibility.

(4) The Impact of Political Upheavals in Taiwan

Ideally, politics should provide support for the economy. In Taiwan, however, the intense hostility between the ruling and opposition parties has created a situation where political problems are holding the economy back. If an improvement could be achieved in this area, the future for the Taiwanese economy would become much brighter.



Chapter 2

An Overview of SME Development

During the first half of 2005, the downturn in the global economy and the ongoing relocation of the Taiwanese manufacturing industry's production capacity offshore had a severe negative impact on both production and exports of Taiwan. However, during the second half of the year, demand for consumer electronics products in international markets started to pick up again, and with the government speeding up its implementation of public construction projects and more jobs being created, there was a significant increase in manufacturing output and exports. As a result, Taiwan was able to post a whole-year economic growth rate of 4.09% in 2005.

How have Taiwan's small and medium enterprises (SMEs) fared in this economic climate? The analysis presented in this chapter is based on business tax data compiled by the Tax Data Center, Ministry of Finance, and on the *Monthly Bulletin of Manpower Statistics* published by Directorate General of Budget, Accounting and Statistics (DGBAS). Detailed statistical tables for each indicator are presented in the Appendix. Sections I to V of this chapter provide a description of the key changes in the indicators, examine how Taiwan's SMEs have developed, analyze the structure of the SME sector, and consider the role that SMEs play in the economy as a whole.

Unless otherwise noted, the following points apply to the statistics presented in this chapter:

1. Indicators studied: The main indicators used in this chapter are the number of enterprises, number of employed persons, number of paid employees, total sales value, domestic sales value and export sales value.
2. Industry classification: In 2003, the classification of industries was revised according to the ROC Standard Industry Classification, 7th Revision. When comparing data for different years, the changes in the classification system

must be taken into account.

3. Definition of SMEs: According to the latest version of the Definition of SMEs, revised in May 2000, enterprises in the manufacturing, construction and mining and quarrying sector with paid-in capital of less than NT\$80 million or less than 200 regular employees are classed as SMEs. For other industries, those enterprises that had annual operating revenue of less than NT\$100 million in the previous year or that have fewer than 50 regular employees are classed as SMEs.
4. Data related to the number of enterprises and operational data are based on paid-in capital or revenue as defined by the relevant (revised) criteria. For the number of employed persons and the number of paid employees, the definition of SMEs is based on the number of regular employees.
5. “Newly-established enterprises” are defined as those that have been in business for less than one year.

I The Status of SMEs in Taiwan

This section reviews the major indicators for Taiwanese business enterprises in 2005 and the development of Taiwanese enterprises as a whole and of SMEs in recent years, so as to clarify the role that SMEs have played in Taiwan’s economy.

1. Operational Performance in 2005

For Taiwanese enterprises as a whole (both large enterprises and SMEs), 2005 saw positive growth in terms of the number of enterprises, the number of employed persons, the number of paid employees, and sales performance. Sales growth was particularly impressive, although the rate of growth of domestic sales was higher than that of export sales (8.81% compared to 1.62%). This picture of positive growth applied to both large enterprises and SMEs. SMEs displayed especially high growth in terms of the number of enterprises and export sales, while larger enterprises displayed higher growth in terms of the number of employed persons, number of paid employees, and domestic sales (Table 2-1-1).

**Table 2-1-1 Enterprise Performance in 2005 – by Size**

Units: enterprises; thousand persons; NT\$ million; %

Indicator \ Enterprise Size	All Enterprises	Large Enterprises	SMEs
No. of enterprises	1,253,694	27,599	1,226,095
Share	100.00	2.20	97.80
Annual growth rate	4.10	0.88	4.17
No. of employed persons	9,942*	1,333	7,648
Share	100.00	13.41	76.93
Annual growth rate	1.59	7.66	1.26
No. of paid employees	7,336*	1,327	5,047
Share	100.00	18.09	68.80
Annual growth rate	2.87	7.50	2.94
Total sales value	33,941,857	23,941,637	10,000,220
Share	100.00	70.54	29.46
Annual growth rate	6.89	8.68	2.81
Domestic sales value	25,310,936	16,829,539	8,481,397
Share	100.00	66.49	33.51
Annual growth rate	8.81	12.32	2.45
Export sales value	8,630,921	7,112,098	1,518,823
Share	100.00	82.40	17.60
Annual growth rate	1.62	0.96	4.86

Note: The figure marked * represents the total number of employed persons in Taiwan, including 961,000 government employees.

Sources: 1. Ministry of Finance Tax Data Center, VAT data for 2005.

2. DGBAS, *Monthly Bulletin of Manpower Statistics*, 2005.

2. Overview of Business Enterprise Development in Recent Years

An examination of the performance of Taiwanese business enterprises over the past five years shows that, in 2001, with the bursting of the dot-com bubble and the impact of the September 11th terrorist attacks in the US, the overall business environment for Taiwanese enterprises was poor. Although the number of enterprises in Taiwan did rise slightly in 2001, by 0.64%, total sales, domestic sales and export sales all declined by nearly 8% compared to 2000. What was unusual was that the number of employed persons and the number of paid employees also fell, by 1.09% and 0.22% respectively. 2002 saw Taiwan's accession to the World Trade Organization (WTO) and an upturn in the global economy. The operational performance of Taiwanese business enterprises improved, and there was positive growth for all indicators; the highest growth (11.30%) was in export sales. The number of employed persons and the number of paid employees began to climb again. Although business performance in the first

half of 2003 was affected by the US invasion of Iraq and the SARS epidemic, the global economy grew strongly during the second half of the year. In whole-year terms, Taiwanese enterprises' export sales declined slightly in 2003, but there was significant growth in all other indicators. The strong performance of the global economy in the first half of 2004 was followed by a slowdown in the second half of the year. Taiwan, however, experienced more rapid growth in terms of the number of employed persons and the number of paid employees than it had in several years, and the 15% rise in export sales was the highest increase since 2000. In 2005, the situation in Taiwan was reversed, however, with low growth in the first half of the year followed by an upturn in the second half. For the year as a whole, economic growth remained strong, with significant new job creation and a continuing improvement in overall business performance. Domestic sales growth outpaced export sales growth (Table 2-1-2).

Table 2-1-2 Overview of Enterprise Development in Taiwan, 2001 – 2005

Units: enterprises; thousand persons; NT\$ million; %

Indicator \ Year	2001	2002	2003	2004	2005
No. of enterprises	1,098,185	1,130,525	1,171,780	1,204,343	1,253,694
Annual growth rate	0.64	2.94	3.65	1.57	4.10
No. of employed persons	9,383	9,454	9,573	9,786	9,942
Annual growth rate	-1.09	0.76	1.26	2.23	1.59
No. of paid employees	6,727	6,771	6,898	7,131	7,336
Annual growth rate	-0.22	0.66	1.88	3.38	2.87
Total sales value	24,108,790	25,395,635	27,670,606	31,755,313	33,941,857
Annual growth rate	-7.67	5.34	8.96	10.45	6.89
Domestic sales value	17,812,606	18,387,558	20,337,864	23,262,158	25,310,936
Annual growth rate	-7.57	3.23	10.61	8.80	8.81
Export sales value	6,296,729	7,008,076	7,332,742	8,493,156	8,630,921
Annual growth rate	-7.95	11.30	4.63	15.00	1.62

Note: Data for 2004 onwards include Lienchiang County.

Sources: 1. Ministry of Finance Tax Data Center, VAT data, consecutive years.

2. DGBAS, *Monthly Bulletin of Manpower Statistics*, consecutive years.

3. Overview of SME Development in Recent Years

Data on the performance of Taiwan's SMEs in the last five years is presented in Table 2-1-3 below:

(1) Number of Enterprises

The number of SMEs in Taiwan has continued to grow, and the rate of increase has in fact climbed higher. The 4.17% growth rate recorded in 2005 was the



largest increase for several years. SMEs continue to account for more than 97% of all enterprises in Taiwan.

Table 2-1-3 Overview of SME Development, 2001 – 2005

Units: enterprises; thousand persons; NT\$ million; %

Indicator \ Year	2001	2002	2003	2004	2005
No. of enterprises	1,078,162	1,104,706	1,147,200	1,176,986	1,226,095
Share	98.18	97.72	97.83	97.73	97.80
Annual growth rate	0.73	2.46	3.77	2.60	4.17
No. of employed persons	7,288	7,361	7,425	7,553	7,648
Share	77.67	77.86	77.56	77.18	76.93
Annual growth rate	-1.58	1.00	0.87	1.72	1.26
No. of paid employees	4,636	4,682	4,754	4,903	5,047
Share	68.93	69.15	68.92	68.74	68.80
Annual growth rate	-0.59	0.99	1.54	3.13	2.94
Total sales value	6,841,565	7,495,287	8,708,904	9,726,721	10,000,220
Share	28.38	29.51	31.47	30.63	29.46
Annual growth rate	-9.58	9.56	16.17	11.69	2.81
Domestic sales value	5,541,613	6,144,404	7,381,065	8,278,347	8,481,397
Share	31.11	33.42	36.29	35.59	33.51
Annual growth rate	-10.57	10.88	20.10	12.16	2.45
Export sales value	1,300,385	1,350,884	1,327,839	1,448,374	1,518,823
Share	20.65	19.28	18.11	16.91	17.60
Annual growth rate	-5.08	3.88	-1.71	9.08	4.86

Notes: 1. The "share" figures represent the percentage of the total for all enterprises for that item held by SMEs. Annual growth rates are expressed as percentages of the previous year's figure.

2. Data for 2004 onwards include Lienchiang County.

Sources: 1. Ministry of Finance Tax Data Center, VAT data, consecutive years.

2. DGBAS, *Monthly Bulletin of Manpower Statistics*, consecutive years.

(2) Number of Employed Persons and Number of Paid Employees

Surprisingly, 2001 saw negative growth in both the number of employed persons working in SMEs and the number of paid employees. In 2004, the growth rates for the number of employed persons and the number of paid employees were the highest for several years, at 1.72% and 3.13% respectively; the number of employed persons continued to climb in 2005, rising by 1.26%. The SME sector's shares of the total number of employed persons and the total number of paid employees peaked in 2002, at 77.86% and 69.15%, respectively; since then, both percentages have fallen steadily.

(3) Sales

2001 was the worst year for SMEs' in terms of sales performance, with both domestic sales and export sales falling dramatically compared to 2000. Double-digit domestic sales growth was recorded in 2002 and 2003, but it slowed

in 2004. Although domestic sales grew rapidly, in 2003 the SME sector experienced negative growth in export sales. Export sales picked up again in 2004 and 2005.

The data presented above reflect the dramatic changes that have taken place in the business environment for Taiwan's SMEs in the last five years. In 2001, Taiwan experienced negative economic growth; while the number of SMEs continued to grow slightly, all other indicators exhibited negative growth. In 2002, the state of the economy (both in Taiwan and worldwide) began to improve. Since 2002, all SME indicators have displayed positive growth, except for a 1.71% decline in export sales in 2003.

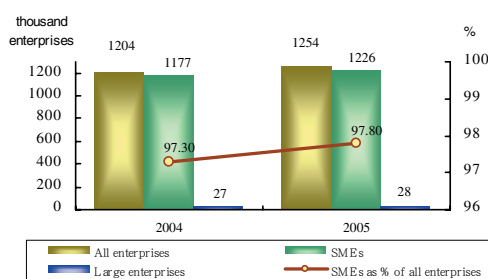
II The Structure of the SME Sector

The following section examines the structure of Taiwan's SMEs in terms of enterprise size, sector, enterprise age, form of organization, industry, regional and county/city distribution, etc.

1. Number of Enterprises – by Enterprise Size

In 2005 there were a total of 1,254,000 business enterprises in Taiwan, representing an increase of 49,000 (4.10%) compared to 2004. These enterprises included 1,226,000 SMEs; this total was 49,000 (4.17%) up on 2004. The SMEs' share of all enterprises rose from 97.30% in 2004 to 97.80% in 2005. There were some 28,000 large enterprises, representing an annual increase of 0.88%; large enterprises accounted for 2.20% of all enterprises in Taiwan (Figure 2-2-1).

Figure 2-2-1 The Number of Enterprises in Taiwan in 2004 and 2005



Source: Ministry of Finance Tax Data Center, VAT data, consecutive years.



2. Number of Enterprises – by Sector

For several decades now, the importance attached to the service sector within Taiwan's industrial structure has been growing. Of the 1,254,000 enterprises in Taiwan in 2005, 1,015,000 (80.92%) were in the service sector, 2,288,000 (18.19%) were in the manufacturing sector, and 11,000 (0.89%) were in agriculture. Of the 1,226,000 SMEs, 80.98% were in the service sector, this figure representing an increase of 4.34 percentage points compared to 2004. Some 222,000 SMEs (18.11% of all SMEs) were in the manufacturing sector; this figure representing an annual increase of 3.47%, and 11,000 SMEs (0.91% of all SMEs) were in the agricultural sector, this figure representing an annual increase of 3.08%. The service sector accounted for a similarly large share of large enterprises; in 2005, 78.47% of large enterprises in Taiwan were in the service sector, with 21.40% in the manufacturing sector, and 0.13% in the agricultural sector (Table 2-2-1).

Table 2-2-1 The Number of Enterprises in 2004 and 2005 – by Sector

Units: enterprises; %

Enterprise Size Year and Sector		All Enterprises		Large Enterprises		SMEs	
		No. of enterprises	Share	No. of enterprises	Share	No. of enterprises	Share
2004	Total	1,204,343	100.00	27,357	100.00	1,176,986	100.00
	Agriculture	10,802	0.90	35	0.13	10,767	0.91
	Manufacturing	220,627	18.32	5,975	21.84	214,652	18.24
	Services	972,914	80.78	21,347	78.03	951,567	80.85
2005	Total	1,253,694	100.00	26,262	100.00	1,226,095	100.00
	Agriculture	11,135	0.89	36	0.13	11,099	0.91
	Manufacturing	228,012	18.19	5,907	21.40	222,105	18.11
	Services	1,014,547	80.92	21,656	78.47	992,891	80.98

Note: The Agricultural sector includes arable farming, forestry, fisheries and pastoral farming. The Manufacturing sector includes mining and quarrying, manufacturing industry, the water, electricity and gas industry, and the construction industry. The Services sector includes wholesaling and retailing, the hotel and restaurant industry, the transportation, warehousing and communications industry, the finance and insurance industry, the real estate and leasing industry, the specialist, scientific and technical services industry, the educational services industry, the medical, healthcare and social services industry, the cultural, sporting and leisure services industry, and other service industries.

Source: Ministry of Finance Tax Data Center, VAT data for 2004 and 2005.

It can be seen from the above data that, among both large enterprises and SMEs, the service sector accounted for by far the largest share of enterprises in 2005. Of the 1,015,000 enterprises in the service sector, 993,000 (97.87%) were SMEs. Service sector SMEs thus make up the largest element in Taiwan's

enterprise structure.

3. Number of Enterprises –by Enterprise Age

There are significant disparities between SMEs and large enterprises in terms of enterprise age. As can be seen from Table 2-2-2, in 2005, 26.78% of SMEs had been in existence for less than three years, while 10.22% had been in existence for less than one year. On the other hand, 61.66% of SMEs had been in business for over five years, and 41.83% had been in existence for more than ten years. Among large enterprises, 79.98% had been in existence for over five years, and 57.18% had been in business for over ten years; only 1.28% of large enterprises had been in existence for less than one year (Table 2-2-2). It can thus be seen that, while many Taiwanese SMEs have been able to remain in business for many years, there is also plenty of opportunity for new entrants to establish themselves.

Table 2-2-2 The Number of Enterprises in 2005 –by Enterprise Age

Units: enterprises; %

Enterprise Size Enterprise Age	All Enterprises		Large Enterprises		SMEs	
	No. of enterprises	Share	No. of enterprises	Share	No. of enterprises	Share
Total	1,253,694	100.00	27,599	100.00	1,226,095	100.00
Less than 1 year	125,667	10.02	354	1.28	125,313	10.22
1~2 years	108,989	8.69	970	3.51	108,019	8.81
2~3 years	96,365	7.69	1,332	4.83	95,033	7.75
3~4 years	79,583	6.35	1,464	5.30	78,119	6.37
4~5 years	65,055	5.19	1,406	5.09	63,649	5.19
5~10 years	249,414	19.89	6,291	22.79	243,123	19.83
10~20 years	298,662	23.82	8,917	32.31	289,745	23.63
Over 20 years	229,959	18.34	6,865	24.87	223,094	18.20

Source: Ministry of Finance Tax Data Center, VAT data for 2005.

4. Number of Enterprises in 2005 –by Organization Type

Among SMEs, the three most widespread organizational types in 2005 were, in order: the sole proprietorship, the limited corporation, and the corporation limited by shares. Sole proprietorships accounted for 58.51% of all SMEs, limited corporations for 27.37%, and corporations limited by shares for 9.41%. There is a



pronounced difference between large enterprises and SMEs in terms of the most common enterprise types. Among large enterprises, corporations limited by shares account for 61.93% of the total, limited corporations for 21.96% and branch offices for 8.32%; these three forms of organization combined account for 92.21% of all large enterprises in Taiwan (Table 2-2-3).

Table 2-2-3 The Number of Enterprises in 2005 –by Form of Organization

Units: enterprises; %

Enterprise Size Form of Organization	All Enterprises		Large Enterprises		SMEs	
	No. of enterprises	Share	No. of enterprises	Share	No. of enterprises	Share
Total	1,253,694	100.00	27,599	100.00	1,226,095	100.00
Corporation limited by shares	132,512	10.57	17,091	61.93	115,421	9.41
Limited corporation	341,695	27.26	6,061	21.96	335,634	27.37
Unlimited corporation	63	0.01	2	0.01	61	0.00
Unlimited corporation with limited liability shareholders	20	0.00	0	0.00	20	0.00
Partnership	17,793	1.42	48	0.17	17,745	1.45
Sole proprietorship	717,516	57.23	144	0.52	717,372	58.51
Foreign company	3,149	0.25	600	2.17	2,549	0.21
Representative office of foreign company	148	0.01	25	0.09	123	0.01
Branch office	25,517	2.04	2,297	8.32	23,220	1.89
Others	15,281	1.22	1,331	4.82	13,950	1.14

Source: Ministry of Finance Tax Data Center, VAT data for 2005.

5. Number of Enterprises –by Industry

For all enterprises (including both large enterprises and SMEs), the three individual industries that accounted for the largest shares of the total number of enterprises were: wholesaling and retailing, with 53.16% of the total, manufacturing, with 11.05%, and the hotel and restaurant industry, with 8.16%. Among SMEs, the largest share of enterprises was held by the wholesaling and retailing industry, with 652,000 enterprises (53.14% of the total), followed by manufacturing industry, with 134,000 enterprises (11.94%) and the hotel and restaurant industry, with 102,000 (8.33%) (Table 2-2-4). The industries with the largest shares of large enterprises were: wholesaling and retailing (53.73%), manufacturing (15.75%) and finance and insurance (8.58%) (See Appendix Table A-1).

Not only did the wholesaling and retailing industry account for 53% of all SMEs in Taiwan in 2005, it also had the highest growth rate in terms of the number of new enterprises.

In comparison with the situation in 2004, although overall the number of SMEs rose by 4.17%, as can be seen from Table 2-2-4, there were three industries in which the number of SMEs actually fell. The most dramatic decline was in the transportation, warehousing and communications industry, where the number of SMEs fell by approximately 4,500 (10.88%).

Table 2-2-4 The Number of SMEs in 2004 and 2005 – by Industry

Units: enterprises; %

Industry \ Year	2004 (A)	2005 (B)	Share	(B)-(A)	Annual growth rate
Total	1,176,986	1,226,095	100.00	49,109	4.17
Agriculture, forestry, fisheries and animal husbandry	10,767	11,099	0.91	332	3.08
Mining and quarrying	1,405	1,410	0.11	5	0.36
Manufacturing	133,107	134,172	10.94	1,065	0.80
Water, electricity and gas	546	522	0.04	-24	-4.40
Construction	79,594	86,001	7.01	6,407	8.05
Wholesaling and retailing	626,724	651,590	53.14	24,866	3.97
Hotel and restaurant industry	91,959	102,096	8.33	10,137	11.02
Transportation, warehousing and communications	41,401	36,898	3.01	-4,503	-10.88
Finance and insurance	10,932	11,263	0.92	331	3.03
Real estate and leasing	24,323	25,827	2.11	1,504	6.18
Specialist, scientific and technical services	45,167	46,352	3.78	1,185	2.62
Educational services	457	430	0.04	-27	-5.91
Medical, healthcare and social services	375	375	0.03	0	0.00
Cultural, sporting and leisure services	27,993	28,779	2.35	786	2.81
Other services	82,236	89,281	7.28	7,045	8.57

Source: Ministry of Finance Tax Data Center, VAT data for 2004 and 2005.

6. Geographical Distribution of Enterprises

In 2005, 46.62% of all enterprises in Taiwan were located in Northern Taiwan, 25.93% were located in Southern Taiwan, and 24.04% were located in Central Taiwan. The main concentration of large enterprises is found in Northern Taiwan; 65.14% of large enterprises are found in this region, compared to 18.13% in



Southern Taiwan and 15.88% in Central Taiwan (Table 2-2-5).

For SMEs, regional distribution in 2005 was less skewed than it was for large enterprises. Nevertheless, the Northern Taiwan region still had the largest concentration of SMEs, with 46.21% of the total; the Southern Region had 26.10% and the Central Region had 24.23%.

Table 2-2-5 Geographical Distribution of SMEs in Taiwan in 2005

Unit: enterprises; %

Enterprise Size Region	All Enterprises		Large Enterprises		SMEs	
	No. of enterprises	Share	No. of enterprises	Share	No. of enterprises	Share
Total	1,253,694	100.00	27,599	100.00	1,226,095	100.00
Northern Taiwan	584,508	46.62	17,977	65.14	566,531	46.21
Central Taiwan	301,423	24.04	4,384	15.88	297,039	24.23
Southern Taiwan	325,068	25.93	5,004	18.13	320,064	26.10
Eastern Taiwan	31,695	2.53	206	0.75	31,489	2.57
Fukien Province	11,000	0.88	28	0.10	10,972	0.89

Note: Northern Taiwan includes Taipei City, Taipei County, Keelung City, Ilan County, Taoyuan County, Hsinchu City and Hsinchu County. Central Taiwan includes Taichung City, Taichung County, Miaoli County, Changhua County, Nantou County and Yunlin County. Southern Taiwan includes Chiayi City, Chiayi County, Tainan City, Tainan County, Kaohsiung City, Kaohsiung County, Pingtung County and Penghu County. Eastern Taiwan includes Hualien County and Taitung County. Fukien Province includes Kinmen County and Lienchiang County.

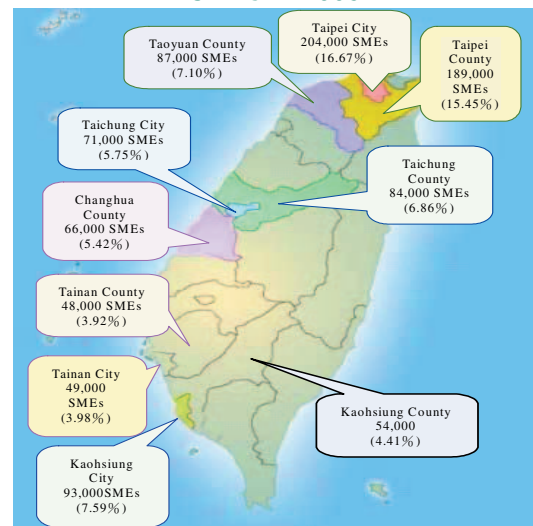
Source: Ministry of Finance Tax Data Center, VAT data for 2005.

7. Counties and Cities with the Largest Number of Enterprises

In 2005, Taipei City had more SMEs than any other county or city in Taiwan, with 204,000 (16.67% of all SMEs). Taipei County was in second place, with 189,000 (15.45%), followed by Kaohsiung City with 93,000 (7.59%) (Figure 2-2-2).

As can be seen from Figure 2-2-2, the counties and cities with the most SMEs are mainly the major metropolitan districts of western

Figure 2-2-2 Counties and Cities with the Largest Number of SMEs in 2005



Source: Ministry of Finance Tax Data Center, VAT data, consecutive years.

Taiwan and their satellite counties and cities.

III Employment in the SME Sector

With steady growth in both the Taiwanese economy and the global economy as a whole, the employment situation in Taiwan continued to improve steadily over the course of 2005. An overview of employment – in terms of the number of employed persons and the number of paid employees – is presented below.

1. Number of Employed Persons

(1) Number of Employed Persons – by Size of Enterprise

The average number of employed persons in Taiwan in 2005 was 9,942,000, representing an increase of 156,000 (1.59%) over 2004. This total included 961,000 government employees, accounting for 9.67% of all employed persons. A total of 1,333,000 employed persons were working in large enterprises; they accounted for 13.41% of all employed persons in Taiwan. The number of employed persons working in large enterprises increased by 95,000 (7.67%) compared to 2004. As many as 7,648,000 employed persons were working in SMEs; they accounted for 76.93% of all employed persons in Taiwan. The number of employed persons working in SMEs increased by 95,000 (1.26%) compared to 2004. The SMEs' share of all employed persons in Taiwan has now been falling for three consecutive years (Figure 2-3-1).

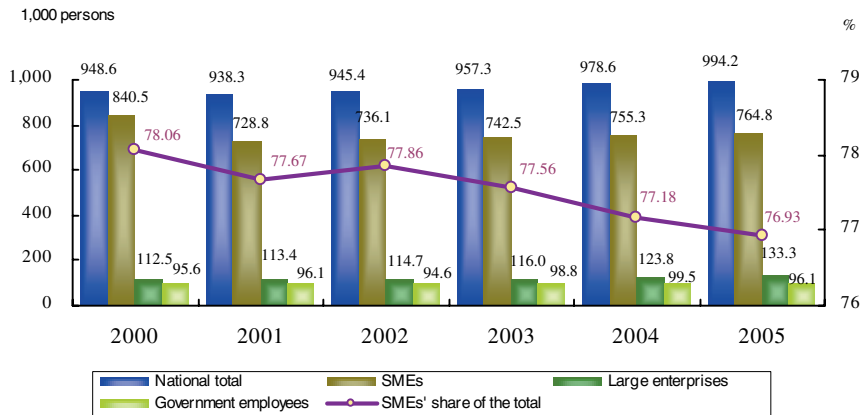
(2) Number of Employed Persons – by Industry

In 2005, manufacturing industry accounted for the largest share of employed persons in Taiwan, with 27.42% of the total; there were a total of 2,272,600 employed persons working in manufacturing enterprises, representing an increase of 55,000 (2.04%) compared to 2004. The wholesale and retail sector accounted for the next highest share of employed persons, with 17.37%; there were 1,727,000 employed persons working in wholesale and retail enterprises. The construction industry was in third place, with 791,000 employed persons (7.96% of the total). The industries accounting for the largest shares of employed persons working in



large enterprises were: manufacturing (44.79% of the total), finance and insurance (12.68%), and the medical, healthcare and social services industry (8.79%) (Appendix Table A-4).

Figure 2-3-1 Number of Employed Persons in Taiwan, 2000-2005



Source: DGBAS, *Monthly Bulletin of Manpower Statistics*.

Manufacturing industry accounted for the largest share of those employed persons working for SMEs, with 2,726,000 employed persons (27.42% of the total). This figure represented an increase of 0.20% compared to 2004. The second largest share was held by the wholesaling and retailing industry, with 1,618,000 employed persons (21.16% of the total); this figure was 0.18% down on 2004. The construction industry was in third place, with 771,000 employed persons (10.07%). With the housing market starting to pick up again, the number of employed persons working in the construction industry rose by 58,000 (8.07%) compared to 2004, a larger increase than in any other industry (Table 2-3-1).

A comparison of the number of employed persons working in SMEs in individual industries in 2005 with the situation in 2004 shows that the three industries with the largest absolute increase in the number of employed persons working in SMEs were manufacturing, the hotel and restaurant industry and the specialist, scientific and technical services industry. In percentage terms, the water, electricity and gas industry posted the highest increase (12.76%). Four industries experienced a decline in the number of employed persons working in SMEs in that industry. These four industries were, in order: mining and quarrying; agriculture,

forestry and fisheries; transportation, warehousing and communications; wholesaling and retailing (Table 2-3-1).

Table 2-3-1 The Number of Employed Persons Working in SMEs in 2004 and 2005-by Industry

Units: thousand persons; %

Industry \ Year	2004 (A)	2005 (B)	Share	(B)-(A)	Annual Growth Rate
Total	7,553	7,648	100.00	95	1.26
Agriculture, forestry, fisheries and animal husbandry	635	584	7.64	-51	-8.03
Mining and quarrying	6	5	0.07	-1	-8.74
Manufacturing	2,095	2,099	27.45	4	0.20
Water, electricity and gas	2	2	0.03	0	12.76
Construction	713	771	10.07	58	8.07
Wholesaling and retailing	1,621	1,618	21.16	-3	-0.18
Hotel and restaurant industry	578	604	7.90	26	4.54
Transportation, warehousing and communications	321	316	4.13	-5	-1.65
Finance and insurance	199	211	2.76	12	6.12
Real estate and leasing	67	72	0.95	5	7.98
Specialist, scientific and technical services	241	263	3.43	22	8.95
Educational services	171	178	2.33	7	4.11
Medical, healthcare and social services	141	146	1.90	5	3.22
Cultural, sporting and leisure services	130	132	1.73	2	1.72
Other service industries	632	646	8.44	14	2.20

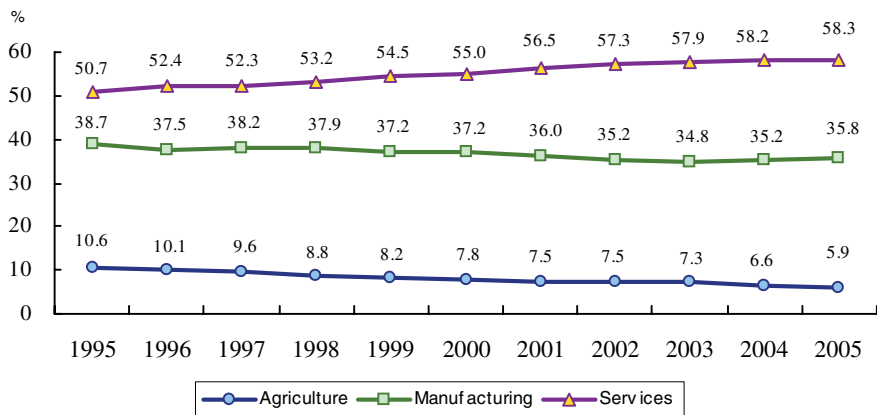
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*.

(3) Change in the Number of Employed Persons Working in SMEs in Taiwan in the Last Ten Years –by Sector

An examination of the changes in the share of all employed persons in Taiwan held by each sector over the period from 1995–2005 shows that, by 1995, the service sector already accounted for more than half of the employed persons in Taiwan, with 50.7%, compared to 38.7% for the manufacturing sector. From then onwards, the service sector's share continued to rise, and by 2005 the disparity between the service sector and the manufacturing sector had grown to 22.5 percentage points. Agriculture's share of all employed persons had declined by 4.7 percentage points, falling from 10.6% in 1995 to 5.9% in 2005 (Figure 2-3-2).



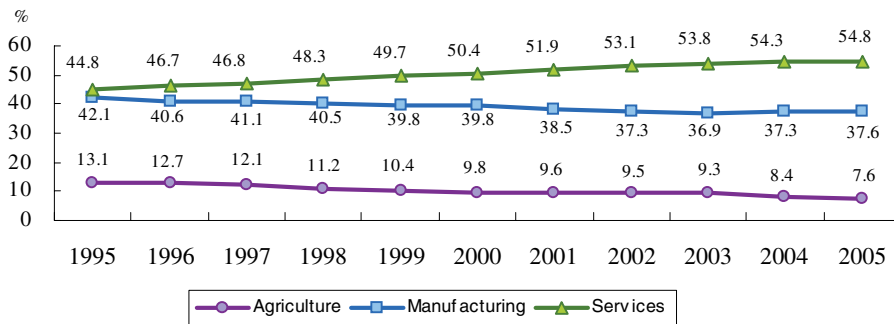
Figure 2-3-2 Individual Sectors' Share of the Total Number of Employed Persons in Taiwan, 1995-2005



Source: DGBAS, *Monthly Bulletin of Manpower Statistics*.

As regards the situation with SMEs, in 1995 the service sector accounted for 44.8% of all employed persons working for SMEs, while the manufacturing sector accounted for 42.1%. The disparity between the two sectors was thus only 2.7 percentage points. However, the service sector's share has been rising gradually. Since 2000, when the service sector's share stood at 50.4%, the service sector's share has risen to 54.8%, while the manufacturing sector's share has fallen to 37.6%, a difference of 17 percentage points. The agricultural sector's share fell by 5.5 percentage points over the 11-year period from 1995 to 2005 (Figure 2-3-3).

Figure 2-3-3 Individual Sectors' Share of the Total Number of Employed Persons in Taiwan Working in SMEs, 1995-2005



Source: DGBAS, *Monthly Bulletin of Manpower Statistics*.

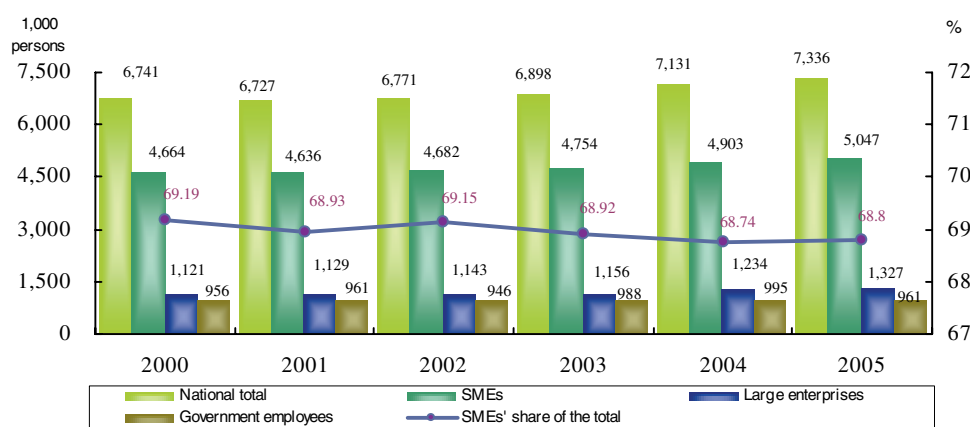
It can be seen from the data summarized above that, both for those employed persons working in SMEs and for employed persons as a whole, there has been a gradual shift toward employment in the service sector. However, with the upturn in the economy that began in 2004, there has been a significant increase in the number of people working in manufacturing and in the construction industry. As a result, the manufacturing sector's share of all employed persons has started to rise again, climbing from 36.9% in 2003 to 37.6% in 2005.

2. Number of Paid Employees

(1) Number of Paid Employees – by Size of Enterprise

In 2005, the annual average for the number of paid employees in Taiwan (including government employees) was 7,336,000. This figure represented an increase of 205,000 (2.87%) over 2004. There were 5,047,000 paid employees working for SMEs, up 144,000 (2.94%) from 2004; SMEs' share of all paid employees rose slightly, from 68.74% in 2004 to 68.80% in 2005. The number of paid employees working in large enterprises rose by 93,000 (7.50%) to 1,327,000 (18.09% of all paid employees) (Table 2-1-1 and Figure 2-3-4).

Figure 2-3-4 Number of Paid Employees in Taiwan, 2000-2005



Source: DGBAS, Monthly Bulletin of Manpower Statistics, Taiwan Area (consecutive years).



(2) Number of Paid Employees – by Industry

The manufacturing sector held the largest share of Taiwan's paid employees in 2005, with 2,444,000 paid employees (33.32% of the total). The wholesaling and retailing industry was in second place, with 932,000 (12.70%), followed by the construction industry with 662,000 (9.02%). Among large enterprises, the industries with the largest number of paid employees were manufacturing (with 44.84% of the total), finance and banking (12.74%), and medical, healthcare and social services (8.74%) (Appendix Table A-5).

In 2005, there were 1,818,000 paid employees working in SMEs in manufacturing industry, accounting for 36.02% of all paid employees in Taiwan; this figure represented an increase of 12,000 (0.66%) over 2004. The industry with the next largest number of paid employees was the wholesaling and retailing industry, with 824,000 (16.33% of the total); the number of paid employees in this industry had risen by 12,000 (1.48%) compared to 2004. The construction industry was in third place, with 642,000 paid employees (12.72% of the total); the number of paid employees in the construction industry had increased by 52,000 (8.81%) compared to 2004 (Appendix Table A-5).

In 2005, both the Taiwanese economy and the global economy as a whole continued to grow steadily. Continued implementation by the government of a number of measures to boost employment – including the Care Industry Development Program, the Six-star Plan for Healthy Communities, the Employability Enhancement Plan, the Indigenous Peoples Employment and Retraining Guidance Plan and the Diversified Employment Development Plan – gave a significant boost to job creation. There was only one industry – the cultural, sporting and leisure services industry – where the number of paid employees working in SMEs declined (Appendix Table A-5).

IV SME Sales Performance

1. Total Sales, Domestic Sales and Export Sales

In 2005, Taiwanese business enterprises posted total sales of NT\$33,941.9 billion,

representing an increase of NT\$2,186.5 billion (6.89%) 2004. Domestic sales totaled NT\$25,310.9 billion, representing an increase of NT\$248.8 billion (8.81%), and exports totaled NT\$8,630.9 billion, representing an increase of NT\$137.8 billion (1.62%) (Table 2-4-1).

Table 2-4-1 Total Sales, Domestic Sales and Export Sales in 2004 and 2005 –by Size

Unit: NT\$ million; %, percentage points

Year/Size	Item	Total Sales Value	Domestic Sales Value	Export Sales Value	Total	Domestic Sales Share	Export Sales Share
2004	All enterprises	31,755,313	23,262,158	8,493,156	100.00	73.25	26.75
	Large enterprises	22,028,592	14,983,810	7,044,782	100.00	68.02	31.98
	SMEs	9,726,721	8,278,347	1,448,374	100.00	85.11	14.89
2005	All enterprises	33,941,857	25,310,936	8,630,921	100.00	74.57	25.43
	Large enterprises	23,941,637	16,829,539	7,112,098	100.00	70.29	29.71
	SMEs	10,000,220	8,481,397	1,518,823	100.00	84.81	15.19
Increase in 2005 compared to 2004		Growth Rate (%)			Change in Percentage Points		
All enterprises		6.89	8.81	1.62	—	1.32	-1.32
Large enterprises		8.68	12.32	0.96	—	2.27	-2.27
SMEs		2.81	2.45	4.86	—	-0.30	0.30

Source: Ministry of Finance Tax Data Center, VAT data for 2004 and 2005.

Domestic sales accounted for 74.57% of total sales in 2005, while export sales accounted for 25.43%. The domestic sales ratio for SMEs, at 84.81%, was 14.52 percentage points higher than that for large enterprises (70.29%). Taiwan's SMEs are thus more oriented towards the domestic market than its large enterprises.

2. SME Sales Performance –by Sector

With sales totaling NT\$5.2 trillion, the service sector accounted for 51.65% of Taiwanese SMEs' total sales in 2005. The manufacturing sector was in second place with NT\$4.8 trillion (48.20%), while agriculture posted total sales of NT\$14.25 billion (0.14%). As regards domestic sales, SMEs in the service sector achieved domestic sales totaling NT\$4.7 trillion (55.49%), while the figures for manufacturing and agriculture were NT\$3.8 trillion (44.37%) and NT\$12.07 billion (0.14%), respectively. Export sales for SMEs in the service sector totaled NT\$460 billion, accounting for 30.25% of total SME export sales; the figures for SMEs in the manufacturing and agricultural sectors were NT\$1.6 trillion (69.61%) and NT\$2.19 billion (0.14%), respectively (Table 2-4-2).

**Table 2-4-2 SME Sales Performance in 2004 and 2005 –by Sector**

Units: NT\$ million; %; percentage points

Year/Sector		Total Sales		Domestic Sales		Export Sales	
		Value	Share	Value	Share	Value	Share
2004	Total	9,726,721	100.00	8,278,347	100.00	1,448,374	100.00
	Agriculture	13,520	0.14	11,489	0.14	2,031	0.14
	Manufacturing	4,720,920	48.54	3,746,860	45.26	974,060	67.25
	Services	4,992,281	51.33	4,519,998	54.60	472,283	32.61
2005	Total	10,000,220	100.00	8,481,397	100.00	1,518,823	100.00
	Agriculture	14,252	0.14	12,065	0.14	2,186	0.14
	Manufacturing	4,820,391	48.20	3,763,211	44.37	1,057,180	69.61
	Services	5,165,577	51.65	4,706,120	55.49	459,457	30.25
Comparison between 2005 and 2004		Annual growth rate	Percentage point change	Annual growth rate	Percentage point change	Annual growth rate	Percentage point change
Agriculture		5.41	0.00	5.01	0.00	7.67	0.00
Manufacturing		2.11	-0.33	0.44	-0.89	8.53	2.35
Services		3.47	0.33	4.12	0.89	-2.72	-2.36

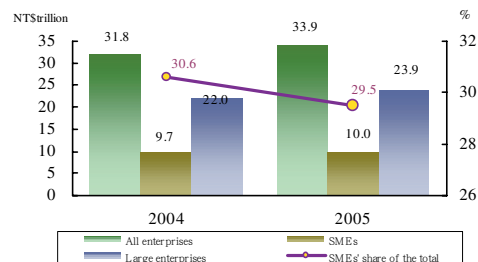
Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

In comparison with 2004, the service sector's share of total sales and domestic sales for all SMEs rose by 3.47% and 4.12% respectively, but its share of total SME export sales fell by 2.72%. The manufacturing sector's share of total sales and domestic sales for all SMEs fell by 0.33% and 0.89% respectively, but its share of total SME export sales increased by 2.35%.

3. Total Sales

(1) Total Sales –by Enterprise Size

In 2005, Taiwan's large enterprises posted total sales of NT\$23,941.6 billion, accounting for 70.54% of the total sales for all Taiwanese enterprises. This figure represented an increase of NT\$1,913 billion (8.68%) over 2004. SMEs posted total sales of NT\$10 trillion, representing an increase of NT\$273.5 billion (2.81%) over 2004. The SMEs' share of total sales for all enterprises fell from 30.60% in 2004 in 29.46% in 2005 (Figure 2-4-1).

Figure 2-4-1 Business Enterprises' Total Sales in 2004 and 2005

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

(2) SMEs' Total Sales – by Industry

The industry that accounted for the largest share of Taiwanese SMEs' total sales in 2005 was the wholesaling and retailing sector, with total sales of NT\$3,795.1 billion (37.95% of the total for SMEs in all industries); this figure represented an increase of 4.23% compared to 2004. Manufacturing industry accounted for the second largest share, with total sales of NT\$3,675.1 billion (36.75% of the total for all industries), representing an increase of 1.46%. The construction industry was in third place, with total sales of NT\$1,093.9 billion (10.94%), representing an increase of 3.92%. These three industries combined accounted for 85.64% of total SME sales in 2005 (Table 2-4-3).

Table 2-4-3 SMEs' Total Sales in 2004 and 2005 – by Industry

Units: NT\$ million; %

Industry \ Year	2004 (A)	2005 (B)			
			Share of Total	(B)-(A)	Annual Growth Rate
Total	9,726,721	10,000,220	100.00	273,498	2.81
Agriculture, forestry, fisheries and animal husbandry	13,520	14,252	0.14	732	5.41
Mining and quarrying	38,893	43,591	0.44	4,698	12.08
Manufacturing	3,622,241	3,675,142	36.75	52,901	1.46
Water, electricity and gas	7,095	7,724	0.08	629	8.86
Construction	1,052,691	1,093,934	10.94	41,243	3.92
Wholesaling and retailing	3,641,139	3,795,076	37.95	153,937	4.23
Hotel and restaurant industry	195,217	206,783	2.07	11,566	5.92
Transportation, warehousing and communications	338,263	307,469	3.07	-30,794	-9.10
Finance and insurance	176,253	172,332	1.72	-3,921	-2.22
Real estate and leasing	141,163	157,060	1.57	15,897	11.26
Specialist, scientific and technical services	230,372	238,978	2.39	8,605	3.74
Educational services	1,860	1,757	0.02	-103	-5.52
Medical, healthcare and social services	1,353	1,264	0.01	-89	-6.59
Cultural, sporting and leisure services	81,049	81,880	0.82	831	1.03
Other service industries	185,613	202,979	2.03	17,365	9.36

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

By comparison with 2004, SMEs' total sales grew by 2.81% in 2005. The highest sales growth was in the wholesaling and retailing industry, where total sales grew by NT\$153.9 billion; in absolute terms, the largest increases were in the mining and quarrying industry and the real estate and leasing industry. Four industries saw a decline in total sales by SMEs: transportation, warehousing and



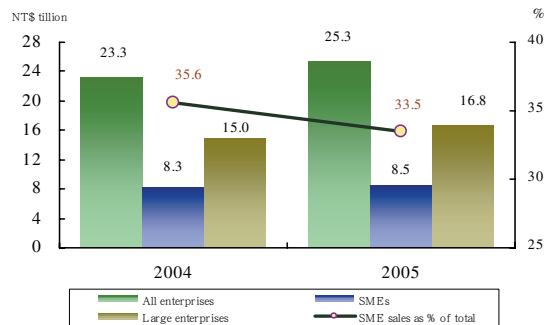
communications; medical, healthcare and social services; educational services; and finance and insurance (Table 2-4-3).

4. Domestic Sales

(1) Domestic Sales – by Enterprise Size

In 2005, Taiwan's large enterprises posted domestic sales of NT\$16,829.5 billion, accounting for 66.49% of total domestic sales for all Taiwanese enterprises. This figure represented an increase of NT\$1,845.7 billion (12.32%) over 2004. Taiwan's SMEs posted total sales of NT\$8,481.4 billion (33.51% of total domestic sales), representing an increase of NT\$203 billion (2.45%) (Table 2-2-1 and Figure 2-4-2).

Figure 2-4-2 Taiwanese Enterprises' Domestic Sales in 2004 and 2005



Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

(2) SMEs' Domestic Sales – by Industry

The wholesale and retail sector accounted for the largest share of Taiwanese SMEs' total domestic sales in 2005, with combined domestic sales of NT\$3,377.9 billion (39.83% of the total); this figure represented an increase of 4.80% compared to 2004 (Appendix Table A-2).

5. Export Sales

(1) Export Sales – by Enterprise Size

In 2005, Taiwan's large enterprises posted total export sales of NT\$7,112.1 billion, representing an increase of NT\$67.3 billion (0.96%) over 2004. Taiwan's SMEs achieved total export sales of NT\$1,518.8 billion, representing an increase of NT\$70.4 billion (4.86%). Large enterprises accounted for 82.40% of the country's

total exports, while the SMEs' share rose slightly from 17.05% in 2004 to 17.60% in 2005 (Figure 2-4-3 and Appendix Table A-2).

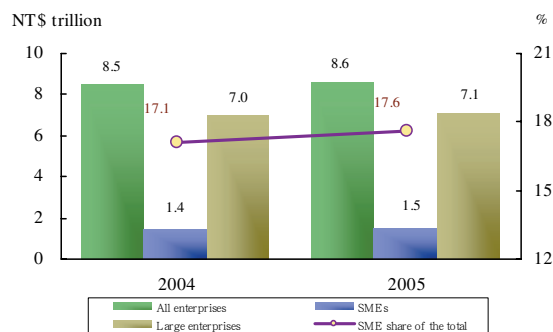
(2) SMEs' Export Sales – by Industry

In 2005, manufacturing industry accounted for the largest share of Taiwanese SMEs' total export sales, with combined export sales of NT\$1,042.7 billion, or 68.65% of the total. This figure represented an increase of NT\$84.8 billion (8.85%) over 2004. The wholesaling and retailing industry accounted for the second largest share, with total export sales of NT\$417.2 billion (27.47% of the total), representing a decrease of NT\$600 million (0.15%). The transportation, warehousing and communications industry ranked third, with total export sales of NT\$26.5 billion (1.75%), representing a decrease of NT\$10.5 billion (28.32%). Between them, manufacturing industry and the wholesaling and retailing industry accounted for 96.12% of Taiwanese SMEs' total exports. Apart from these two industries and the transportation, warehousing and communications industry, no other industry accounted for more than 1% of total exports (Table 2-4-4).

In comparison with the situation in 2004, four industries—agriculture, forestry and fisheries, manufacturing, finance and insurance, and “other service industries” – achieved an increase in export sales in 2005; the other 11 industries all experienced a decline in export sales.

To summarize, in 2005 domestic sales accounted for 84.81% of Taiwanese SMEs' total sales, while export sales accounted for 15.50%; there was thus a 69.62 percentage point gap between domestic sales and export sales. By contrast, for large enterprises, domestic sales accounted for 70.29% of total sales, while export sales accounted for 29.71%, giving a disparity of only 40.59 percentage points. There is thus a clear tendency for SMEs to focus on the domestic market to a

Figure 2-4-3 Taiwanese Enterprises' Export Sales, 2004 and 2005



Source: Ministry of Finance Tax Data Center, VAT data, consecutive years.



greater extent than large enterprises do. SMEs' export sales are heavily concentrated in manufacturing industry (68.65% of the total) and the wholesaling and retailing industry (27.47%); between them, these two industries account for 96.12% of total SME export sales.

Table 2-4-4 SMEs' Export Sales in 2004 and 2005 – by Industry

Units: NT\$ million; %

Industry \ Year	2004 A	2005 B			
			Share of Total	(B)-(A)	Annual Growth Rate
Total	1,448,374	1,518,823	100.00	70,449	4.86
Agriculture, forestry, fisheries and animal husbandry	2,031	2,186	0.14	156	7.67
Mining and quarrying	463	440	0.03	-23	-4.88
Manufacturing	957,873	1,042,667	68.65	84,795	8.85
Water, electricity and gas	177	100	0.01	-77	-43.29
Construction	15,548	13,972	0.92	-1,576	-10.14
Wholesaling and retailing	417,806	417,182	27.47	-624	-0.15
Hotel and restaurant industry	1,817	818	0.05	-999	-54.96
Transportation, warehousing and communications	36,999	26,520	1.75	-10,479	-28.32
Finance and insurance	308	339	0.02	31	10.20
Real estate and leasing	779	757	0.05	-23	-2.92
Specialist, scientific and technical services	12,036	11,138	0.73	-898	-7.46
Educational services	16	5	–	-11	-67.06
Medical, healthcare and social services	8	2	–	-6	-76.37
Cultural, sporting and leisure services	735	651	0.04	-83	-11.34
Other service industries	1,779	2,045	0.13	266	14.95

Source: Ministry of Finance Tax Data Center, VAT data for 2004 and 2005.

V Newly-established Enterprises

This section examines the status of newly-established enterprises in Taiwan – including the number of newly-established enterprises, their total sales, domestic sales and export sales – by enterprise size and industry.

1. Overview of Newly-established Enterprises – by Enterprise Size

The status of newly-established enterprises in Taiwan in 2005 – by enterprise

size –is outlined below (Table 2-5-1 and Figure 2-5-1).

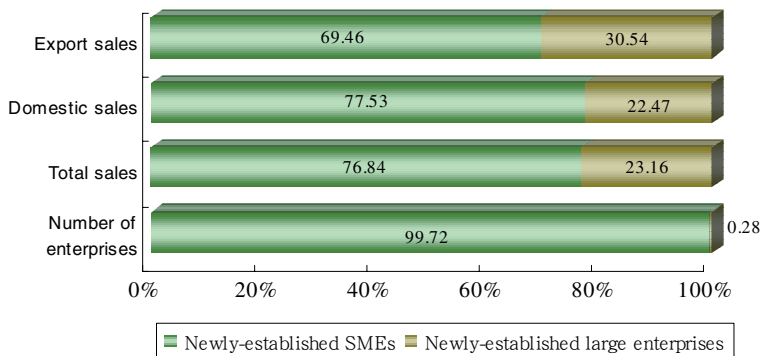
Table 2-5-1 Domestic Sales and Export Sales of Newly-established Enterprises in 2005 –by Size

Units: NT\$ million; %

Size \ Item	Total Sales Value	Domestic Sales Value	Export Sales Value	Total	Domestic Sales Ratio	Export Sales Ratio
All enterprises	361,323	330,457	30,866	100.00	91.46	8.54
Share of total	100.00	100.00	100.00			
Large enterprises	83,692	74,264	9,428	100.00	88.74	11.26
Share of total	23.16	22.47	30.54			
SMEs	277,631	256,192	21,438	100.00	92.28	7.72
Share of total	76.84	77.53	69.46			

Source: Ministry of Finance Tax Data Center, VAT data for 2005.

Figure 2-5-1 Newly-established Enterprises in 2005 – by Size



Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

- (1) There were 126,000 newly-established enterprises, of which 354 were large enterprises, accounting for 0.28% of all newly-established enterprises; 125,000 of the newly-established enterprises were SMEs, accounting for 99.72% of all newly-established enterprises.
- (2) Newly-established enterprises posted total sales of NT\$361.32 billion in 2005. Newly-established large enterprises accounted for NT\$83.69 billion of this figure (23.16% of the total), while newly-established SMEs accounted for NT\$277.63 billion (76.84%).



- (3) Newly-established enterprises posted domestic sales totaling NT\$330.46 billion. Newly-established large enterprises accounted for NT\$74.26 billion of this figure (22.47% of the total), while newly-established SMEs accounted for NT\$256.19 billion (77.53% of the total).
- (4) Newly-established enterprises posted export sales totaling NT\$30.87 billion. Newly-established large enterprises accounted for NT\$9.43 billion (30.54% of the total), while newly-established SMEs accounted for NT\$21.44 billion (69.46% of the total).

2. Ratio of Domestic Sales to Export Sales among Newly-established Enterprises

The difference between the domestic sales performance and export sales performance of newly-established enterprises in 2005 was dramatic. Domestic sales accounted for 91.46% of newly-established enterprises' total sales, while export sales accounted for 8.54%. These figures reflect the fact that newly-established enterprises are heavily oriented towards the domestic market. The disparity is even more pronounced among SMEs; for newly-established SMEs, domestic sales accounted for 92.28% of total sales, while export sales accounted for 7.72%. Among newly-established large enterprises, the figures were 88.74% and 11.26% (Table 2-5-1).

3. Comparison of Newly-established SMEs with SMEs as a Whole

Examination of the data for newly-established SMEs as a percentage of all SMEs for the last five years shows that, in 2005, newly-established SMEs accounted for 10.22% of all SMEs, the highest figure for five years (the 2002 figure of 8.28% was the lowest). The share of SMEs' total sales and domestic sales accounted for by newly-established SMEs reached their highest levels in 2003 of 3.39% and 3.61%, respectively. The share of total SME export sales held by newly-established SMEs has been falling steadily for several years, declining to just 1.41% in 2005 (Table 2-5-2).

Table 2-5-2 Comparison of Newly-established SMEs with SMEs as a Whole, 2001 – 2005

Units: enterprises; NT\$ million; %

Indicator \ Year		2001	2002	2003	2004	2005
No. of enterprises	All SMEs	1,078,162	1,104,706	1,147,200	1,176,986	1,226,095
	Newly-established SMEs	94,803	91,435	111,566	109,883	125,313
	Newly-established SMEs as % of all SMEs	8.79	8.28	9.73	9.34	10.22
Total sales value	All SMEs	6,841,565	7,495,287	8,708,904	9,726,721	10,000,220
	Newly-established SMEs	231,363	247,292	295,501	271,468	277,631
	Newly-established SMEs as % of all SMEs	3.38	3.30	3.39	2.79	2.78
Domestic sales value	All SMEs	5,541,613	6,144,404	7,381,065	8,278,347	8,481,397
	Newly-established SMEs	190,003	204,968	266,765	242,473	256,192
	Newly-established SMEs as % of all SMEs	3.43	3.34	3.61	2.93	3.02
Export sales value	All SMEs	1,300,385	1,350,884	1,327,839	1,448,374	1,518,823
	Newly-established SMEs	41,384	42,324	28,736	28,995	21,438
	Newly-established SMEs as % of all SMEs	3.18	3.13	2.16	2.00	1.41

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

4. Newly-established SMEs – by Industry

In 2006, the wholesaling and retailing sector accounted for the largest number of newly-established SMEs, at 60,000 (48.59% of all newly-established enterprises). The hotel and restaurant industry was in second place, with 16.53% of the total. In terms of the total sales achieved by newly-established SMEs, the wholesaling and retailing industry was in first place, with NT\$146.9 billion, accounting for 52.92% of the total for all industries, while the manufacturing industry was in second place with NT\$39.6 billion (14.28%). As regards the domestic sales value achieved by newly-established SMEs, the wholesaling and retailing industry again ranked first, NT\$136.7 billion (53.37% of the total), followed by the construction industry with NT\$36.8 billion (14.35%). As for export sales, here the manufacturing industry was in first place, with NT\$10.7 billion (49.99% of the total for all newly-established SMEs), and the wholesaling and retailing sector was in second place, with NT\$10.2 billion (47.53%). These two industries combined accounted for 97.52% of total export sales by newly-established SMEs; there were five industries in which newly-established SMEs made no contribution to export sales whatever (Table 2-5-3).

**Table 2-5-3 Overview of Newly-established SMEs in 2005 –by Industry**

Units: enterprises; NT\$ million; %

Industry	Indicator	No. of Enterprises		Total Sales Value		Domestic Sales Value		Export Sales Value	
		Share		Share		Share		Share	
Total		125,313	100.00	277,631	100.00	256,192	100.00	21,438	100.00
Agriculture, forestry, fisheries and animal husbandry		380	0.30	302	0.11	265	0.10	37	0.17
Mining and quarrying		118	0.09	1,144	0.41	1,144	0.45	–	–
Manufacturing		5,723	4.57	39,646	14.28	28,929	11.29	10,718	49.99
Water, electricity and gas		15	0.01	23	0.01	23	0.01	–	–
Construction		11,209	8.94	36,875	13.28	36,771	14.35	103	0.48
Wholesaling and retailing		60,889	48.59	146,912	52.92	136,721	53.37	10,190	47.53
Hotel and restaurant industry		20,715	16.53	15,955	5.75	15,955	6.23	–	–
Transportation, warehousing and communications		1,136	0.91	4,822	1.74	4,636	1.81	186	0.87
Finance and insurance		839	0.67	2,347	0.85	2,344	0.91	3	0.02
Real estate and leasing		3,741	2.99	7,236	2.61	7,204	2.81	33	0.15
Specialist, scientific and technical services		5,740	4.58	8,980	3.23	8,890	3.47	90	0.42
Educational services		74	0.06	125	0.05	125	0.05	–	–
Medical, healthcare and social services		32	0.03	51	0.02	51	0.02	–	–
Cultural, sporting and leisure services		3,709	2.96	3,530	1.27	3,520	1.37	11	0.05
Other service industries		10,993	8.77	9,681	3.49	9,615	3.75	67	0.31

Source: Ministry of Finance Tax Data Center, VAT data for 2005.

To summarize, SMEs accounted for the vast majority (99.72%) of new enterprises established in 2005. Domestic sales held a much larger share of newly-established SMEs' total sales than export sales. Newly-established SMEs accounted for only 1.41% of total SME export sales, and almost all of this was in two industries: manufacturing, and wholesaling and retailing.

VI International Comparison

This section presents an international comparison of key SME indicators, covering 15 countries and regions, including Taiwan, Japan, Canada, Hong Kong, South Korea, Thailand, New Zealand, Russia, the UK and the USA. Different countries define SMEs differently, and in some cases data for the years covered by the comparison are not available; readers should be aware of these limitations when examining the data.

1. Definition of SMEs

Of the 15 countries and regions covered by the comparison, Canada and Mexico

have the broadest definition of SMEs; in these two countries, any enterprise with 500 or fewer employees is classed as an SME. New Zealand has the most stringent criteria, setting the cut-off point for SME status as 19 employees. In Japan, the cut-off point is set at 300 employees, although this is reduced for 100 employees for firms in the wholesale and service sectors, and to 50 employees for firms in the retail sector. In South Korea, for most industries those firms with 300 or fewer employees are classed as SMEs, although a cut-off point of 200 employees applies in seedling transplantation firms and in the broadcasting sector, and a cut-off point of 100 employees applies to some other industries. The UK defines SMEs as enterprises with 250 or fewer employees, while Russia has no clear definition of what constitutes an SME. In Hong Kong, enterprises in the manufacturing sector with 100 or fewer employees are classed as SMEs, while for firms in the non-manufacturing sector the cutoff point is 50 employees (Table 2-6-1). Taiwan uses two different standards for determining whether a firm should be classed as an SME or not; one system is based on the number of employed persons working for the firm, while the other is based on annual sales revenue or capitalization. If the number of employed persons is used, then SMEs are defined as enterprises with 200 or fewer employees in the manufacturing, construction and mining and quarrying industries, and as enterprises with 50 or fewer employees in all other industries. If sales revenue or capitalization is used, then SMEs are defined as enterprises with paid-in capital of less than NT\$80 million in the manufacturing, construction, and mining and quarrying industries, and as enterprises with annual turnover of less than NT\$100 million in other industries. For the purposes of this comparison, the data for Taiwan uses the definition of SMEs based on annual sales revenue and paid-in capital, except with regard to the number of employed persons.

2. SME Development

(1) Number of Enterprises

In absolute terms, the US has the largest number of SMEs; in 2003, there were 24.15 million SMEs in the US, accounting for more than 99% of all enterprises in the US. Russia and Japan were in second and third place, with 8.73 million SMEs



Table 2-6-1 The Definitions of SMEs Used in Different Countries and Regions

Country/Region	Industry	No. of Employees		Annual Sales Revenue	Capitalization	Other
Taiwan	Manufacturing, construction, and mining and quarrying	200	or		NT\$80 million	
	Other industries	50	or	NT\$100 million		
Australia		200				
Canada		500				
Hong Kong	Manufacturing sector	100				
	Non-manufacturing sector	50				
Japan	Other	300	or		300 million Yen	Applies to sole proprietorships with 300 or fewer employees.
	Wholesale	100	or		100 million Yen	
	Service sector	100	or		50 million Yen	
	Retail	50	or		50 million Yen	
Malaysia	Manufacturing	150	or		25 million Ringgit	
	Services	50	or		5 million Ringgit	
Mexico		500				
New Zealand		19				
Philippines		200	or		60 million Pesos (total assets)	
Russia						No clear definition
Singapore	Services	200				
	Manufacturing					Fixed assets worth 15 million Singapore Dollars or less
South Korea	Manufacturing	300	or		8 billion Won	
	Mining, construction and transportation	300	or		3 billion Won	
	Large wholesalers, hotels, and information processing companies	300	or		30 billion Won	
	Seedling cultivation, broadcasting, fisheries and energy	200	or	20 billion Won		
	Wholesaling, telemarketing, leasing, communications equipment sales and entertainment	100	or	10 billion Won		
	Other			5 billion Won		
Thailand	Manufacturing and services	200	or		200 million Baht	
	Wholesaling	50	or		100 million Baht	
	Retailing	30	or		60 million Baht	
UK		250				
USA	Manufacturing	500				Average annual operating revenue of less than US\$6 million
	Wholesaling	100				Average annual operating revenue of less than US\$6 million
	Retailing					Average annual operating revenue of less than US\$6 million
	Services					Average annual operating revenue of less than US\$6 million
	Construction					Average annual operating revenue of less than US\$6 million

Sources: Taiwan: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

Australia: Department of Industry, Tourism and Resources, www.industry.gov.au.

Canada: Department of Industry, strategis.ic.gc.ca.

Hong Kong: Support and consultation centre of SMEs, www.sme.gcn.gov.hk.

Japan: Small and Medium Enterprise Agency, www.chusho.meti.go.jp.

Malaysia: Small and Medium Industries Development Corporation, www.smidec.gov.my.

Mexico: *OECD Small and Medium Enterprise Outlook 2002*.

New Zealand: Statistics New Zealand, www2.stats.govt.nz/.

Philippines: National Statistics Office, www.census.gov.ph.

Russia: Russian SME Resource Centre, docs.rcsme.ru.

Singapore: Ministry of Trade and Industry, www.mti.gov.sg.
South Korea: Small and Medium Business Administration, www.smba.go.kr.
Thailand: Office of SMEs Promotion.
UK: Department of Trade and Industry, www.sbs.gov.uk.
USA: Office of Advocacy, Small Business Administration, www.sba.gov/advo.

(2003) and 5.64 million SMEs (2004), respectively. In all 15 countries and regions, SMEs accounted for a very high percentage of all enterprises. The percentage exceeded 90% in all 15 countries and regions, and in 7 cases it exceeded 97%. It can thus be seen that SMEs play a vital role in the economic structure of almost every country. In 2005, Taiwan had 1.21 million SMEs in the non-agricultural sector, accounting for 97.80% of all enterprises; these figures show that in Taiwan, too, SMEs are very important to the economy.

(2) Employment

If SMEs in the agricultural sector are excluded, the US ranks highest in terms of SME employment, with 76.46 million people working in SMEs. Japan and Russia are in second and third place, with 41.24 million (2004) and 39.96 million (2003), respectively. In every country except New Zealand, more than 50% of all employed persons are working in SMEs; the percentage is particularly high in South Korea (86.66% in 2003). It can thus be seen that, in the vast majority of countries and regions, SMEs provide more than half of all employment. In Taiwan's case, there are 7.06 million people working in SMEs, representing 75.54% of all employed persons in the country; this percentage is exceeded only by Japan and South Korea.

(3) Sales

In Taiwan, in 2005, SMEs accounted for 29.45% of the total sales for all enterprises; this figure was very close to that for the US in 2002 (31%). Apart from Singapore (where SMEs account for 75.68% of total sales in an economy that is dominated by the service sector), the country where SMEs account for the largest share of total sales is the UK (58.16% of total sales), followed by Russia (53.78% in 2003) and Japan (48.2% in 2004). In only three countries – Singapore, the UK and Russia – do SMEs account for more than 50% of total sales; in this respect, the importance of large enterprises significantly exceeds that of SMEs in most countries and regions.



(4) Export Sales

The country where SME export sales account for the largest share of total export sales for all enterprises is Australia, with a figure of 51% in 2000. South Korea was in second place with 39.06% (2004); the percentage for the US is 28.6% (2004). In Taiwan, in 2005, SMEs accounted for 17.60% of total export sales value. This figure represented a slight increase after several years in which the percentage had fallen steadily. The role played by SMEs in this respect in Taiwan has changed in recent years; whereas in the past SMEs exported finished goods directly themselves, they are now positioning themselves more as suppliers of components to large enterprises in Taiwan.

(5) New SMEs and Closing Down SMEs

The number of new enterprises being established and the number of enterprises going out of business are important indicators of the overall health of an economy. If the number of new enterprises being set up is significantly larger than the number of enterprises going out of business, this indicates that the economy is growing strongly. Examination of the number of newly-established SMEs and the number of SMEs going out of business can also help to indicate how flexibly SMEs are responding to changing economic circumstances.

As can be seen from Table 2-6-2, in none of the 15 countries and regions covered by the international comparison does the newly-established SMEs' share of all SMEs exceed 20%. The percentage is highest in New Zealand, at 18.2% (2003), but New Zealand also has a very high percentage (13.5%) of SMEs going out of business each year. As a result, the growth rate in the number of SMEs in New Zealand is just under 5%; New Zealanders' strong entrepreneurial spirit is in many cases not enough to overcome the challenges imposed by the market. In both the US and the UK, in 2002 and 2003 the number of new SMEs being established was roughly equal to the number of SMEs going out of business, creating a situation of zero growth. Canada experienced some slight growth in the number of SMEs in 2003; newly-established SMEs accounted for 10.5% of all SMEs, while those SMEs going out of business in that year accounted for 9.7% of the total, giving a growth rate of 0.8%. In Japan in 2002, the number of SMEs going out of business was higher than the number of new SMEs being established, reflecting

the continuing decline in Japan's economic vitality. In South Korea, newly-established SMEs accounted for 1.5% of all SMEs in 2000, while in Taiwan in 2005 the percentage was 9.9%; unfortunately, data on the number of SMEs going out of business is not available for either country. In the past, the number of new SMEs established in Taiwan each year normally exceeded the number of SMEs going out of business, but the collection of data on the number of firms going out of business was suspended in 2003. Many countries lack adequate data on the number of SMEs being established and going out of business, making it difficult to achieve meaningful international comparisons.

Table 2-6-2 International Comparison of SMEs

Units: million enterprises; million persons; %

Country/ Region	Item	Non-agricultural Sector SMEs				SMEs' Share of Total Sales	SMEs' Share of Export Sales	Newly-Established SMEs as % of All SMEs	SMEs that Have Gone Out of Business as % of All SMEs
		No. of SMEs	Share of All Enterprises	No. of Employed Persons	Share of All Enterprises				
Taiwan ²	(2005)	1.21	97.80	7.06	75.54	29.45	17.60	9.9	NA
Australia ³	(2001)	1.10	96.00	3.30	47.00	NA	51.00 (2000)	4.3 (2000)	8.0 (2000)
Canada	(2004)	2.14*	91.44*	6.61	64.10	NA	35.06 (2002)	10.5 (2003)	9.7 (2003)
Hong Kong	(2005)	0.27	98.00	1.18	50.00	NA	NA	NA	NA
Japan	(2004)	5.64	98.94	41.24	79.56	48.20 (2002)	NA	2.7 (2002)	3.2 (2002)
Malaysia	(2001)	0.21	96.11	0.38 (manufacturing) (2003)	32.50 (manuf- acturing) (2003)	NA	NA	NA	NA
Mexico	(2001)	2.84	99.60	NA	64.00	NA	21.00 (1996)	NA	NA
New Zealand	(2004)	0.31	92.47	0.70	36.08	33.20 (2001)	NA	18.2 (2003)	13.5 (2003)
Philippines*	(2001)	0.80	99.60	4.10	70.00	NA	NA	NA	NA
Russia ⁶	251 persons (2003)	8.44	94.35	32.05	48.81	46.89	NA	NA	NA
	500 persons	8.73	97.57	39.96	60.86	53.78	NA	NA	NA
Singapore ⁷	(2003)	0.1346	99.67	0.6561	69.10	75.68	NA	NA	NA
South Korea	(2003)	2.95	99.81	10.38	86.66	NA	39.06 (2004)	1.5 (2000)	NA
Thailand	(2003)	0.83 (2005)	99.70 (2005)	5.57	60.69	47.91	NA	NA	NA
UK	(2004)	4.11	95.97	13.50	61.38	58.16	NA	4.8 (2002)	4.9 (2002)
USA ⁹	(2003)	24.15	99.83	76.46	58.00	31.00 (2002)	28.60 (2004)	12.66 (2002)	12.06 (2002)

Notes: 1. The percentages given represent the figures for SMEs as a percentage of all enterprises.

2. Details of the definitions of SMEs used in Taiwan are given in Appendix 1.

3. Small businesses account for the bulk of Australian SMEs.

4. * indicates that the data include the agricultural sector.



5. In Japan, SMEs are defined as follows: enterprises in the mining, manufacturing, transportation and construction industries with less than 300 employees; enterprises in the wholesaling industry with less than 100 employees; enterprises in the retail industry and services industries with less than 50 employees.
6. Russia has no clear definition of SMEs. For the purpose of international comparison, Russian enterprises are grouped into those with less than 251 employees and those with less than 500.
7. Mainly service sector.
8. As of 2005, Thailand defined SMEs as those enterprises with less than 500 employees.
9. In the USA, SMEs are defined as those enterprises with less than 500 employees.

Sources: Taiwan: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

Australia: Department of Industry, Tourism and Resources, www.industry.gov.au.

Canada: Department of Industry, strategis.ic.gc.ca.

Hong Kong: Support and consultation centre for SMEs, www.sme.gcn.gov.hk.

Japan: Statistics Bureau, www.stat.go.jp.

Malaysia: Small and Medium Industries Development Corporation, www.smidec.gov.my.

Mexico: *OECD Small and Medium Enterprise Outlook 2002*.

New Zealand: Statistics New Zealand, www2.stats.govt.nz.

Philippines: National Statistics Office, www.census.gov.ph.

Russia: Russian SME Resource Centre, docs.rcsme.ru.

Singapore: Ministry of Trade and Industry, www.mti.gov.sg.

South Korea: Small and Medium Business Administration, www.smba.go.kr.

Thailand: Office of SMEs Promotion.

UK: Department of Trade and Industry, www.sbs.gov.uk.

USA: Office of Advocacy, Small Business Administration, www.sba.gov/advo.



Chapter 3

Financial Status of SMEs

The overview of the financial status of SMEs presented in the first two sections of this chapter is based on data supplied by the Tax Data Center of the Ministry of Finance. As these data are derived from business income tax returns, there is a one-year time lag as compared to the data presented in the other chapters. In other words, the data in Sections I and II are for the year 2004 rather than 2005. Section III analyzes the sources of funds for the manufacturing sector and the reasons for the difficulty in acquiring funds. Section IV examines the interaction between banks and SMEs based on changes in the statistical data.

Due to the varying sources of data, the definition of SMEs used in different sections of this chapter also varies. In Section I and Section II, which use business income tax data compiled by the Ministry of Finance Tax Data Center, the definition of SMEs used is the revised definition announced by the Ministry of Economic Affairs in May 2000: firms in the mining and quarrying, manufacturing and construction industries that have paid-in capital of NT\$80 million or less, and firms in other industries that have annual sales revenue of NT\$100 million or less. The industry categories used in Section II have been revised according to the ROC Standard Industry Classification Version 7. The data in Section III are taken from the Status Survey Report on the Domestic Investment of Manufacturing Industry published by the Statistics Department, Ministry of Economic Affairs, according to which large enterprises are firms with 200 or more employees, medium enterprises are firms with more than 100 but less than 200 employees, and small enterprises are firms with less than 100 employees. The data in Section IV are taken from the Summary of Financial Statistics published by the Financial Supervisory Commission, Executive Yuan, and from the Central Bank's International Balance of Payments Tables; the definitions of SMEs used are the same as those used in Sections I and II.

More than 600,000 enterprises filed business income tax returns in 2004. After deducting those enterprises that did not provide complete data, where it was unclear as to which industry the enterprise belonged, or where the declared data were inconsistent, we were left with the financial data for 307,354 enterprises, of which 291,293 (94.77%) were SMEs. 129,562 of the SMEs (44.48% of the total) were in the wholesaling or retailing industry, 75,032 (25.76%) were in manufacturing, and 33,054 (11.35%) were in the construction industry.

Overall, the financial situation of business enterprises in Taiwan in 2004 showed an improvement over 2003. Examination of the profit and loss data for the whole sample shows that 200,233 enterprises recorded a profit in 2004, compared to 190,573 in 2003. 34.85% of enterprises did not make a profit in 2004, down from 36.22% in 2003. The percentage of large enterprises that did not make a profit was 20.20%, compared to 23.04% in 2003; 35.66% of SMEs failed to make a profit in 2004, down from 36.90% in 2003.

I Overall Financial Status of SMEs

In this section, consolidated balance sheet data (where the figures for each account in the balance sheet are converted into percentages of total assets) are used to examine the fund utilization and funding sources of large enterprises and SMEs; consolidated data are also used to examine enterprise profit/loss status.

1. Analysis of Fund Utilization by SMEs

(1) A Small Increase in Current Assets

As can be seen from Table 3-1-1, in 2004, the current assets of large enterprises (as a percentage of their total assets) rose by 7.92 percentage points compared to 2003, while for SMEs the increase was 1.25 percentage points. SMEs' accounts receivable fell by 0.18 percentage points, while their inventories rose by 0.64 percentage points. These figures suggest that SMEs are beginning to adopt less conservative business strategies.



(2) A Significant Drop in Funds and Long-term Investments

For large enterprises, the share of total assets held by funds and long-term investments fell by 7.01 percentage points in 2004 compared to 2003. Clearly, the downturn in the global economy in the second half of 2004 led large enterprises to become more cautious about capital expenditure, as they had in 2002. The situation with SMEs was similar, although the decline was smaller, at 0.82 percentage points.

Table 3-1-1 Consolidated Financial Data for Taiwanese Enterprises, 2002 – 2004

Unit: %

Item	Size/ Year	Large Enterprises			SMEs		
		2002	2003	2004	2002	2003	2004
Current assets		64.10	58.48	66.40	56.04	58.76	60.01
Cash		26.51	26.97	27.78	14.67	15.61	16.15
Accounts receivable		29.16	22.54	29.93	16.04	17.17	16.99
Inventories		5.28	5.92	5.67	21.81	22.59	23.23
Advance payments		0.51	0.54	0.51	1.68	1.60	1.59
Other current assets		2.64	2.50	2.50	1.84	1.80	2.05
Funds and long-term investments		19.81	23.63	16.62	13.38	10.43	9.61
Fixed assets		12.03	13.89	13.08	27.16	27.70	27.39
Land and buildings		6.44	7.40	6.83	16.20	16.91	17.01
Machinery		4.65	5.16	5.13	8.94	8.59	8.42
Other fixed assets		0.94	1.33	1.12	2.02	2.21	1.95
Intangible and other assets		4.07	4.01	3.91	3.42	3.11	2.99
Total assets = Liabilities + Net worth		100.00	100.00	100.00	100.00	100.00	100.00
Liabilities		80.73	78.47	79.76	66.33	66.67	67.41
Current liabilities		61.76	57.14	59.91	58.95	59.37	60.45
Short-term loans		43.20	41.45	42.69	17.27	15.60	15.52
Accounts payable		12.26	8.39	8.79	14.93	16.35	16.70
Income received in advance		2.29	2.39	2.22	4.64	4.87	5.40
Other current liabilities		4.01	4.91	6.21	22.11	22.55	22.83
Long-term liabilities		12.97	14.42	12.86	5.31	4.94	5.10
Long-term loans repayable		3.98	3.84	3.42	4.54	4.54	4.69
Other long-term liabilities		8.99	10.59	9.44	0.77	0.39	0.41
Other liabilities		6.01	6.91	6.99	2.07	2.36	1.85
Net worth		19.27	21.53	20.24	33.67	33.34	32.59
Stockholders' equity		14.46	15.42	14.20	41.17	40.40	38.33
Reserves and operating surplus		4.81	6.11	6.04	-7.51	-7.07	-5.74

Source: Ministry of Finance, Business income tax return data.

(3) A Fall in Fixed Assets for Both Large Enterprises and SMEs

For SMEs, the share of total assets held by fixed assets has been more or less the same for the past three years; it was 27.39% in 2004, representing a fall of 0.31 percentage points compared to 2003. The share held by land and buildings rose slightly, while the share held by machinery fell. These figures suggest that, although the economy had started to recover in 2003, SMEs – which tend to have only limited financial resources – have retained a very cautious attitude towards land ownership, and are still reluctant to invest in new machinery, hence the slight decline in machinery's share of total assets.

2. Analysis of SME Funding Sources

Overall, there was little change in the funding sources for SMEs in 2004 as compared to 2003. With no clear sign of an economic upturn, enterprises have continued to struggle, with no significant improvement in profitability.

(1) An Increase in Both Current Liabilities and Long-term Debt

The Taiwan economy began its downturn in the second half of 2000. The SMEs' overall debt ratio shot up in 1999, and again in 2000, rising to 55.64% and 65.43% respectively; there was no significant improvement until 2004. The current liabilities ratio for SMEs in 2004 was 60.45%, representing an increase of 1.08 percentage points compared to 2003; the long-term liabilities ratio also rose, by 0.16 percentage points. These changes in SMEs' debt ratios were similarly to those posted by large enterprises. Examining the source of funding for SMEs and large enterprises can reveal the attitude of lenders – particularly banks – towards enterprises of different sizes. The small size and low earnings of most SMEs – coupled with the fact that many SMEs have moved production offshore – make banks cautious about lending to them, particularly in the case of short-term loans. As a result, SMEs have come to rely more on trade financing, and the shares of total assets held by accounts receivable and accounts payable continued to increase in 2004.



(2) Reserves and Surplus Still Negative

There was some improvement in the operational performance of Taiwan's SMEs in 2004. Of the just over 290,000 SMEs for which data were available, 35.66% failed to make a profit, down from 36.90% in 2003. However, with the accumulated loss recorded on the balance sheet still higher than the accumulated surplus, reserves and operating surplus remained negative (although there has been some improvement). This situation, which has continued since 2000, reflects the widespread practice of SME owners undertaking overseas investment under their own names and engaging in "triangular trade" with Hong Kong and China, as a result of which many of those SMEs that continue to operate in Taiwan are not being run with long-term growth in mind, and may show a loss on their books.

3. Analysis of SME Profit and Loss

(1) A Fall in the Operating Cost Ratio

In 2004, SMEs' operating costs amounted to 81.02% of their net operating income (Table 3-1-2), down 0.07 percentage points from 2003. The SMEs' gross profit margin has remained stable over the past three years, at over 18%; in 2004, it stood at 18.98%. The business climate for large enterprises has remained consistently poor since 2002; for large enterprises, operating costs as a percentage of net operating income stood at 90.57% in 2000, 94.26% in 2001, 94.60% in 2002, 94.45% in 2003, and 94.52% in 2004. By 2004, the large enterprises' gross profit margin had fallen to 5.49%. These figures reflect the fact that Taiwan's SMEs are mostly operating in niche markets where price competition is less intense; SMEs are thus able to maintain respectable profit margins even during an economic downturn.

(2) SMEs' Operating Expenses Ratio Rises, and is Still Higher than that of Large Enterprises

Operating expenses are expenses arising from operations, including salaries, rentals, advertising, depreciation, insurance, etc. In 2004, the operating expenses

of Taiwan's SMEs amounted to 18.17% of net operating income, representing an increase of 0.11 percentage points compared to 2003, and much higher than the ratio for large enterprises (3.96%). Whether because of contractual requirements or because of the accounting methods used, it is more difficult for SMEs to pare down their rental expenses, depreciation and salaries as compared to large enterprises (particularly those in the hi-tech sector, and those involved in ODM or OEM production). In addition, it is more difficult for SMEs to achieve economies of scale. As a result, SMEs' operating expenses (as a percentage of net operating income) tend to be much higher than those of large enterprises.

Table 3-1-2 Profit and Loss of Taiwanese Enterprises, 2002–2004

Unit: %

Item \ Year	Large Enterprises			SMEs		
	2002	2003	2004	2002	2003	2004
Net operating income	100.00	100.00	100.00	100.00	100.00	100.00
Less: Operating costs	94.60	94.45	94.52	81.40	81.03	81.02
Gross operating profit	5.40	5.55	5.49	18.60	18.97	18.98
Less: Operating expenses	4.89	4.32	3.96	18.38	18.06	18.17
Net operating profit	0.52	1.23	1.52	0.22	0.91	0.81
Plus: Non-operating profit	0.71	0.73	0.67	1.62	1.33	1.31
Less: Interest expenses	0.42	0.38	0.38	0.93	0.92	0.77
Less: Other non-operating expenses	0.39	0.31	0.23	1.15	0.87	0.60
Profit (loss)	0.41	1.26	1.59	-0.24	0.45	0.75

Source: Ministry of Finance, Business income tax return data.

(3) Erosion of Net Operating Profit by High Operating Expenses

Operating costs and unusually high operating expenses combined amounted to 99.19% of the net operating income of Taiwan's SMEs in 2004, giving a net profit margin ratio of just 0.81%. SMEs have much higher gross operating profit than large enterprises, but because they lack the bargaining power that large enterprises enjoy and cannot achieve the same economies of scale, their operating expenses account for a very high percentage of net operating income. High gross profit margins are thus eroded by high operating costs, resulting in net profit performance inferior to that of large enterprises.

(4) Positive Current Profit/Loss



Although the SMEs' gross profit margin rose slightly in 2004, the rise in operating expenses caused the SMEs' net profit margin to fall from 0.91% in 2003 to 0.81% in 2004. Non-operating income and non-operating expenses (including interest payments) both fell, giving a net profit margin after tax of 0.75%.

4. Analysis of SMEs' Financial Ratios

(1) Current Ratio, Quick Ratio and Inventory Ratio Remain Flat

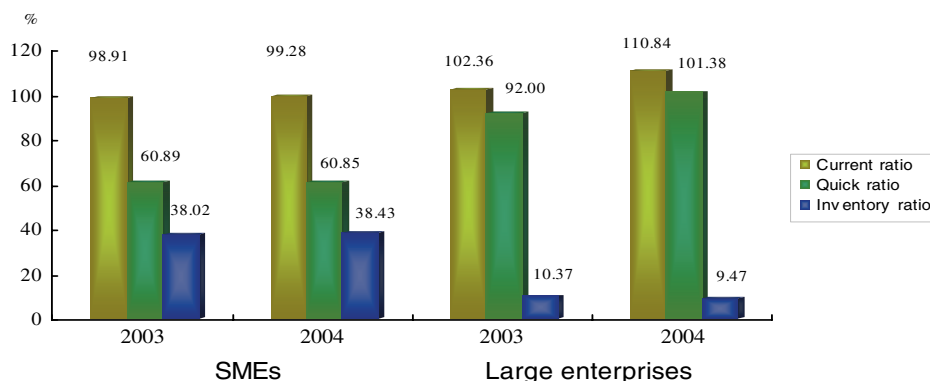
The current ratio of Taiwan's SMEs rose by 0.37 percentage points in 2004 (Figure 3-1-1), while the quick ratio fell by 0.04 percentage points and the inventory ratio rose by 0.41 percentage points. Large enterprises displayed different changes in the quick ratio and inventory ratio, reflecting the different industries that large enterprises are in. For example, if large enterprises are unable to keep short-term debt within reasonable limits, their repayment ability will suffer. The large enterprises' current ratio rose by 8.48 percentage points in 2004, and the quick ratio rose by 9.38 percentage points; these figures reflected an improvement in large enterprises' repayment ability compared to 2003. The large enterprises' inventory ratio fell from 10.37% in 2003 to 9.47% in 2004; with global demand starting to rise again, large enterprises are running down their inventory to meet production and sales needs.

(2) A Rise in the Debt-to-Net Worth Ratio and a Slight Fall in the Long-term Fund Ratio

In 2004, the debt-to-net worth ratio of Taiwan's SMEs was 206.82%, representing an increase of 6.84 percentage points over 2003. For large enterprises, the ratio had risen by 29.46 percentage points, from 364.57% in 2003 to 394.03% in 2004. In the last few years, banks have become less willing to extend loans; as a result, large enterprises have turned from the money market to the capital markets for financing. Owing to their superior debt repayment ability, large enterprises tend to have a much higher debt ratio than SMEs. The debt-to-net worth ratio is a measure of the long-term solvency of an enterprise; an increase in this ratio indicates a decline in the enterprise's ability to meet its obligations to creditors. The SMEs'

long-term fund ratio fell slightly, declining to 137.65%. This was inferior to the long-term fund ratio of large enterprises (253.20%), but still within the acceptable range (Figure 3-1-2).

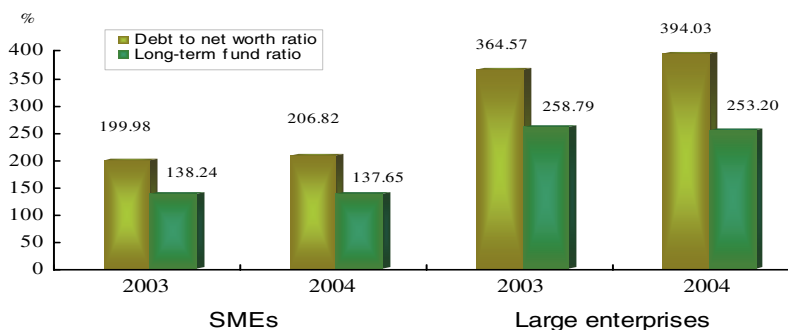
Figure 3-1-1 Short-term Liquidity of Taiwanese Enterprises, 2003 and 2004



Notes: 1. Current ratio = current assets ÷ current liabilities × 100% (reference value = 200; ideally, the ratio should be higher than the reference value).
 2. Quick ratio = (current assets – inventories) ÷ current liabilities × 100% (reference value = 100; ideally, the ratio should be higher than the reference value).
 3. Inventory ratio = inventories ÷ current liabilities × 100% (reference value = 100; ideally, the ratio should be higher than the reference value).

Source: Ministry of Finance, Business income tax return data.

Figure 3-1-2 Long-term Stability of Enterprises in 2003 and 2004



Notes: 1. Debt to net worth ratio = debt ÷ net worth × 100% (reference value = 100; ideally, the ratio should be below the reference value).
 2. Long-term fund ratio = (equity + long-term debt) ÷ fixed assets × 100% (reference value = 100; ideally, the ratio should be higher than the reference value).

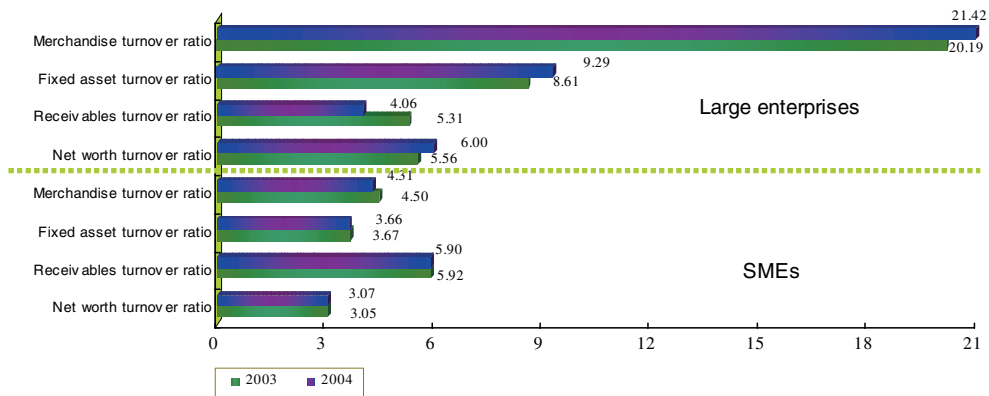
Source: Ministry of Finance, Business income tax return data.

(3) Some Turnover Ratios Rise While Others Fall



The operational performance of an enterprise depends on the effective utilization of its assets. The level of turnover reflects the extent to which assets are being effectively utilized, the company's credit policy and its inventory policy. Receivables turnover can be used to measure the operating capability of an enterprise; a high ratio suggests better operating capability, the efficient collection of receivables and the absence of idle or excess inventory. Looking at the data for 2004, it can be seen that the receivables turnover of SMEs fell slightly to 5.90 turns, down from 5.92 turns in 2003 (Figure 3-1-3). The merchandise turnover ratio also fell, dropping from 4.50 turns in 2003 to 4.31 turns in 2004.

Figure 3-1-3 Operating Capability of Enterprises in 2003 and 2004



- Notes: 1. Merchandise turnover ratio = net sales / inventories.
 2. Fixed asset turnover ratio = net sales / fixed assets.
 3. Receivables turnover ratio = net sales / receivables.
 4. Net worth turnover ratio = net sales / net worth.

Source: Ministry of Finance, Business income tax return data.

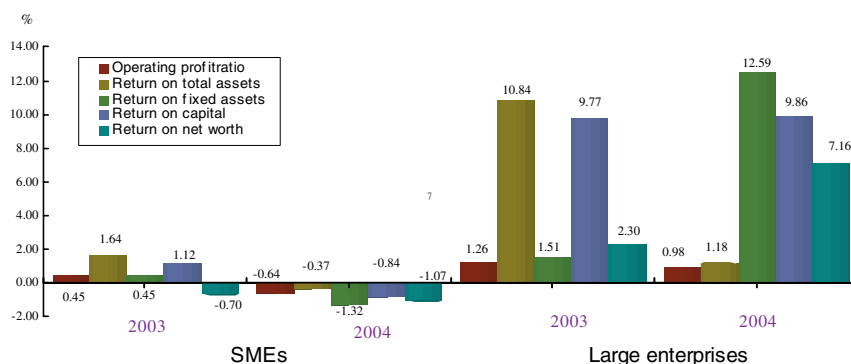
The net worth turnover ratio and fixed asset turnover ratio are used to evaluate how efficiently own capital and fixed assets are used; higher ratios mean that the enterprise is able to make more effective use of its own capital and fixed assets. In 2004, the fixed asset turnover of Taiwan's SMEs fell slightly, from 3.67 turns in 2003 to 3.66 turns in 2004, while net worth turnover rose from 3.05 turns to 3.07 turns. The SMEs' ability to make effective use of their fixed assets and own capital thus remained roughly the same.

(4) Profitability Indicators All Positive

Profitability can be observed from an enterprise's ability to use its funds and capital to generate profit. Taiwan's economic growth rate in 2004 was significantly higher than in 2003, reflecting the changes that had begun in 2001 (the economic growth rate was -2.2% in 2001, 4.3% in 2002, 3.4% in 2003, and 6.1% in 2004).

With domestic demand rising again, SMEs were able to see a profit in 2003 after two consecutive years of loss in 2001 and 2002; the situation improved still further in 2004. SMEs' profitability indicators in 2004 were as follows: the operating profit ratio was 0.75%; the return on total assets was 2.75%; the return on fixed assets was 0.75%; the return on capital was 1.97%; and the return on net worth was 2.31% (Figure 3-1-4).

Figure 3-1-4 Profitability of Enterprises in 2003 and 2004



Notes: 1. Operating profit ratio = current profit / net operating income.

2. Return on fixed assets = current profit / fixed assets.

3. Return on total assets = current profit / total assets.

4. Return on capital = current profit / profit.

5. Return on net worth = current profit / net worth.

Source: Ministry of Finance, Business income tax return data.

II Financial Analysis by Industry

The breakdown by industry of the 307,354 enterprises for which comprehensive financial data are available is shown in Table 3-2-1. Of the 291,293 SMEs, 103,877 (35.66%) failed to make a profit. The industries where the percentage of SMEs failing to make a profit was higher than the overall average of 35.66% included: the educational services industry (61.26%), the hotel and restaurant



industry (60.56%), the cultural, sporting and leisure service industry (56.27%), the medical, healthcare and social services industry (55.88%), the professional, scientific and technical services industry (50.36%), the finance and insurance industry (49.03%), the real estate and leasing industry (46.45%), the wholesaling and retailing industry (41.87%), the water, electricity and gas industry (40.94%), and ‘other service industries’ (36.20%).

Table 3-2-1 Financial Status of Enterprises in 2004 –by Industry

Units: enterprises; %

Industry \ Size	SMEs		Large Enterprises	
	No. of Enterprises	% Failing to Make a Profit	No. of Enterprises	% Failing to Make a Profit
Total	291,293 (103,877)	35.66	16,061 (3,244)	20.20
Agriculture, forestry, fisheries and animal husbandry	1,062 (254)	23.92	40 (5)	12.50
Mining and quarrying	337 (64)	18.99	4 (2)	50.00
Manufacturing	75,032 (15,498)	20.66	2,127 (555)	26.09
Water, electricity and gas	149 (61)	40.94	35 (6)	17.14
Construction	33,054 (9,508)	28.77	1,051 (334)	31.78
Wholesaling and retailing	129,562 (54,249)	41.87	9,201 (1,485)	16.14
Hotel and restaurant industry	7,587 (4,595)	60.56	229 (53)	23.14
Transportation, warehousing and communications	8,837 (2,974)	33.65	693 (96)	13.85
Finance and insurance	3,551 (1,741)	49.03	1,082 (352)	32.53
Real estate and leasing	6,607 (3,069)	46.45	638 (184)	28.84
Professional, scientific and technical services	13,046 (6,570)	50.36	479 (85)	17.75
Educational services	191 (117)	61.26	7 (2)	28.57
Medical, healthcare and social services	68 (38)	55.88	–	–
Cultural, sporting and leisure services	3,581 (2,015)	56.27	270 (58)	21.48
Other service industries	8,629 (3,124)	36.20	205 (27)	13.17

Note: Figures in parentheses are the number of enterprises failing to make a profit.

Source: Ministry of Finance, Business income tax return data.

1. Overall Financial Analysis by Industry

The 2004 consolidated balance sheets of SMEs and large enterprises by industry are shown in Table 3-2-2; the 2004 profit and loss structure by industry is shown in Table 3-2-3; and the consolidated financial ratios by industry are presented in Table 3-2-4. As can be seen from the figures in these tables, considerable disparities exist between the financial structures of different industries; these are summarized below.

Table 3-2-2 SMEs' Consolidated Balance Sheet in 2004 –by Indus try

Unit: %

Industry Item	Agriculture, forestry, fisheries and animal husbandry	Mining and quarrying	Manufacturing	Water, electricity and gas	Construction	Wholesale and retailing	Hotel and restaurant	Transportation, warehousing and communications	Finance and insurance	Real estate and leasing	Professional, scientific and technical services	Educational services	Medical, health-care and social services	Cultural, sporting and leisure services	Other services
Current assets	46.60	41.40	61.20	43.31	86.79	73.61	33.91	54.20	34.82	36.48	54.49	36.95	82.59	26.24	56.01
Cash	13.11	11.79	13.49	22.17	14.07	18.17	11.50	24.01	27.66	7.96	25.96	24.75	28.07	9.56	27.83
Accounts receivable	8.60	15.86	22.33	11.02	21.88	20.64	6.38	21.72	4.15	3.16	15.06	2.65	47.42	7.13	13.93
Inventories	7.79	9.73	22.88	8.59	45.32	30.81	11.90	2.99	1.38	21.22	6.74	7.57	3.12	6.32	7.74
Advance payments	14.02	1.65	1.37	0.71	1.52	1.96	2.59	2.87	0.29	1.28	2.77	0.60	0.57	1.96	3.44
Other current assets	3.07	2.38	1.14	0.82	4.01	2.04	1.55	2.61	1.35	2.87	3.95	1.39	3.40	1.26	3.06
Funds and long-term investments	1.46	1.15	1.45	3.96	1.06	5.45	5.43	5.51	56.14	11.24	15.59	13.34	–	3.72	5.52
Fixed assets	48.99	51.36	35.56	50.66	9.40	18.55	54.36	34.84	7.23	46.14	22.91	38.62	13.63	63.65	32.24
Land and buildings	10.60	26.65	18.91	22.90	3.93	11.67	35.54	11.53	6.54	39.95	14.41	11.48	1.21	48.36	18.27
Machinery	30.72	21.02	14.64	16.65	4.99	5.81	12.27	21.51	0.41	1.77	6.14	3.16	10.21	8.01	11.41
Other fixed assets	7.68	3.69	2.01	11.11	0.48	1.07	6.55	1.80	0.28	4.41	2.36	23.98	2.21	7.28	2.56
Intangible and other assets	2.95	6.09	1.79	2.07	2.76	2.39	6.30	5.45	1.80	6.15	7.02	11.09	3.78	6.39	6.23
Total assets = liabilities + net worth	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Liabilities	66.73	64.42	69.24	46.20	77.68	70.50	84.62	42.41	40.70	74.39	58.46	30.04	58.44	84.66	52.35
Current liabilities	57.04	57.62	62.81	43.50	75.41	65.33	70.86	36.64	37.81	57.10	53.00	25.88	57.28	57.47	45.12
Short-term loans repayable	15.62	11.57	18.67	11.35	8.93	13.89	16.64	8.54	14.14	21.72	9.06	9.37	2.48	13.36	7.51
Accounts payable	11.74	15.32	21.05	14.54	16.96	20.33	14.13	12.00	7.15	7.64	15.83	2.62	13.31	10.98	13.54
Income received in advance	1.36	0.28	1.65	0.75	34.92	1.41	0.68	0.45	0.21	2.78	5.61	0.38	–	2.04	2.55
Other	28.32	30.46	21.44	16.86	14.60	29.70	39.42	15.65	16.31	24.96	22.50	13.51	41.49	31.10	21.52
Long-term liabilities	7.50	5.86	5.28	1.77	1.40	3.97	11.84	3.21	1.62	12.84	3.47	3.29	0.80	10.94	4.99
Long-term loans repayable	7.46	3.31	4.87	1.77	1.29	3.53	10.71	2.76	1.46	11.97	3.34	2.56	–	10.33	4.83
Other long-term liabilities	0.04	2.54	0.40	–	0.11	0.45	1.13	0.45	0.16	0.87	0.13	0.73	0.80	0.60	0.16
Other liabilities	2.19	0.95	1.15	0.93	0.87	1.20	1.91	2.56	1.27	4.46	2.00	0.87	0.37	16.25	2.24
Net worth	33.27	35.58	30.76	53.80	22.32	29.50	15.38	57.59	59.30	25.61	41.54	69.96	41.56	15.34	47.65
Stockholders' equity	41.09	29.97	28.83	60.37	26.93	45.23	46.19	71.37	52.06	30.76	70.46	73.16	59.70	42.02	69.06
Reserves and operating surplus	-7.82	5.61	1.94	-6.57	-4.60	-15.73	-30.81	-13.78	7.24	-5.16	-28.92	-3.20	-18.14	-26.68	-21.41

Source: Ministry of Finance, business income tax return data.



**Table 3-2-3 Large Enterprises' Consolidated Balance Sheet in 2004
–by Industry**

Unit: %

Industry	Agriculture, forestry, fisheries and animal husbandry	Mining and quarrying	Manufacturing	Water, electricity and gas	Construction	Wholesaling and retailing	Hotel and restaurant	Transportation, warehousing and communications	Finance and insurance	Real estate and leasing	Professional, scientific and technical services	Educational services	Medical, health-care and social services	Cultural, sporting and leisure services	Other services
Item															
Current assets	49.83	41.64	42.78	13.56	79.56	56.59	18.12	32.82	74.79	41.33	58.13	62.05	–	23.17	40.76
Cash	10.41	24.61	9.96	3.57	9.26	12.15	9.03	16.69	35.48	7.94	21.42	46.61	–	9.45	13.97
Accounts payable	10.18	13.52	16.54	4.97	16.11	25.62	4.97	9.99	36.13	5.67	18.08	14.29	–	7.44	10.26
Inventories	10.35	0.32	13.34	2.52	48.48	15.28	2.32	1.22	0.52	24.31	14.44	–	–	2.32	5.79
Advance payments	16.43	0.21	1.22	0.62	1.73	1.64	1.20	0.68	0.12	1.10	1.51	0.94	–	1.56	1.36
Other current asset	2.47	2.98	1.73	1.87	3.99	1.90	0.61	4.23	2.54	2.32	2.69	0.21	–	2.41	9.37
Fund and Long-term investment	15.34	31.03	9.35	3.17	4.92	6.48	5.65	25.63	19.77	10.36	17.85	30.42	–	8.38	20.79
Fixed assets	22.97	27.11	43.60	80.72	10.13	33.07	66.73	36.08	2.06	40.15	19.41	4.48	–	59.72	28.86
Land and buildings	12.76	19.25	18.04	9.54	6.64	18.81	53.00	12.69	1.78	23.33	11.28	0.29	–	35.04	17.29
Machinery	7.74	1.22	23.66	69.18	3.10	12.42	5.61	19.46	0.17	5.26	6.59	3.96	–	11.09	10.65
Other fixed assets	2.47	6.64	1.91	2.00	0.39	1.84	8.13	3.94	0.11	11.56	1.54	0.23	–	13.60	0.92
Intangible and other assets	11.86	0.22	4.26	2.55	5.40	3.87	9.49	5.46	3.38	8.16	4.61	3.04	–	8.72	9.59
Total assets = liabilities + net worth	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	–	100.00	100.00
Liabilities	60.63	36.37	51.60	55.70	78.66	66.71	61.97	42.00	88.68	68.32	54.66	48.26	–	61.18	69.89
Current liabilities	52.55	21.40	33.91	15.65	73.23	54.17	39.41	22.96	67.17	45.10	47.03	40.76	–	37.65	42.17
Short-term loans repayable	19.76	12.92	14.05	5.91	12.24	17.62	16.74	6.48	55.69	22.97	5.93	0.73	–	13.01	6.58
Accounts payable	15.56	8.26	14.45	6.13	16.35	26.48	13.60	11.79	5.05	7.48	19.05	13.59	–	13.28	11.40
Income received in advance	7.47	0.02	1.37	1.06	40.67	1.99	0.95	0.87	0.12	4.16	15.13	18.73	–	4.71	20.20
Others	9.76	0.20	4.05	2.55	3.97	8.09	8.12	3.81	6.31	10.49	6.93	7.71	–	6.66	4.00
Long-term liabilities	5.22	7.84	14.38	38.74	2.52	10.71	16.81	14.60	12.84	17.58	5.58	–	–	12.58	25.69
Long-term loans repayable	4.75	7.84	9.41	24.58	2.27	7.90	15.16	8.64	0.78	15.07	4.43	–	–	9.73	15.53
Other long-term liabilities	0.47	–	4.97	14.16	0.25	2.81	1.65	5.96	12.06	2.51	1.15	–	–	2.85	10.16
Other liabilities	2.87	7.13	3.32	1.31	2.91	1.83	5.76	4.44	8.67	5.65	2.05	7.50	–	10.95	2.03
Net worth	39.37	63.63	48.40	44.30	21.34	33.29	38.03	58.00	11.32	31.68	45.34	51.74	–	38.82	30.11
Stockholders' equity	24.55	53.31	32.07	32.55	23.56	26.40	34.32	39.07	7.43	18.22	33.32	42.81	–	35.20	24.19
Reserves and operating surplus	14.81	10.32	16.33	11.75	-2.22	6.89	3.71	18.92	3.89	13.46	12.01	8.93	–	3.61	5.92

Source: Ministry of Finance, Business income tax return data.

(1) Among SMEs, the Construction Industry Had the Highest Current Asset Ratio, While the Cultural, Sporting and Leisure Services Industry Had the Lowest

As in 2003, the construction industry had the highest current assets ratio in 2004, of 86.79%. Current assets account for the vast majority of the assets of construction firms, with inventory being a particularly significant item. After inventory is sold and converted into cash, the enterprises will continue to pour in cash to increase inventory if they feel that a reasonable return can be made. As shown in Table 3-2-2, inventory accounts for 45.32% of current assets in the construction industry. This might be related to the ongoing slump in the real estate market, which has made it difficult for construction companies to move their inventory.

As in 2003, the lowest ratio of current assets to total assets in 2004 was found in the cultural, sporting and leisure services industry, where the ratio was only 26.24%, far lower than the average for all industries. This has to do with the nature of the industry in question. As the cultural, sporting and leisure services industry mainly provides the types of services where payment is normally made in cash, enterprises in this industry tend to have a lower level of accounts receivable. In addition, services are converted into cash immediately on provision; there is no accumulation of inventory.

(2) The Cultural, Sporting and Leisure Services Industry Posted the Highest Fixed Asset Ratio, While the Finance and Insurance Industry Had the Lowest

The situation regarding the fixed assets ratio of Taiwan's SMEs is the mirror image of the situation regarding the current assets ratio. In 2004, the cultural, sporting and leisure services industry had the highest fixed assets ratio, of 63.65%. The finance and insurance industry had the lowest fixed assets ratio, of 7.23%, while the construction industry had the second lowest such ratio, of 9.40%.

(3) The Cultural, Sporting and Leisure Services Industry and the Hotel and Restaurant Industry both Had Debt Ratios in Excess of 80%



The debt ratio in most industries has remained at around 50% - 60%. However, in 2004 the cultural, sporting and leisure services industry had a debt ratio of 84.66%, the hotel and restaurant industry had a debt ratio of 84.62%, and the construction industry had a debt ratio of 77.68%. The construction industry had the highest current liabilities ratio, of 75.41%; its ratio of current assets to total assets was also very high, of 86.79%. These figures reflect the nature of the construction industry, which “relies on cash to generate cash.” In the construction industry, income received in advance accounts for more than 30% of current liabilities. This is because of the widespread practice in the construction industry of collecting advance payments from the sale of pre-sold housing products and for construction work. Along with the receipt of advance payments, there is usually a contractual requirement that the work be completed on schedule; construction companies thus run the risk of incurring huge penalties if they fail to monitor the progress of their work properly.

After the construction industry, the hotel and restaurant industry had the second highest current liabilities ratio, at 70.86%. This reflects the changes in consumer spending patterns, which have created a situation where enterprises in this industry tend to have inadequate current ratios. It may well be that the high ratio of “other liabilities” is also related to the nature of this industry. With a current assets ratio of 33.91%, the hotel and restaurant industry is clearly suffering from an excessive reliance on short-term borrowing to pay for long-term debt. Companies in this industry need to pay more attention to working capital management to keep credit risk to a minimum.

(4) Apart from the Finance and Insurance Industry, Mining and Quarrying Industry and Manufacturing Industry, All Other Industries Had Negative Reserves and Surpluses

In 2004, 35.66% of Taiwan’s SMEs failed to make a profit. With the exception of the finance and insurance industry, mining and quarrying industry and manufacturing industry, which were able to keep their reserves and surpluses in positive territory, all other industries posted negative reserves and surpluses. Seven industries had losses in excess of 10%: the hotel and restaurant industry (-30.81%), the professional, scientific and technical services industry (-28.92%), the cultural, sporting and leisure services

industry (-26.68%), “other service industries” (-21.41%), the medical, healthcare and social services industry (-18.14%), the wholesaling and retailing industry (-15.73%), and the transportation, warehousing and communications industry (-13.78%).

(5) Reasonable Gross Profit Levels, but Poor Cost Control and Disappointing Profits

An examination of the profit and loss structure of Taiwan’s SMEs in 2004 (Table 3-2-3) shows that, of the 15 industry categories, there were only six – agriculture, forestry and fisheries, mining and quarrying, manufacturing, construction, transportation, warehousing and communications, and medical, healthcare and social services – in which SMEs (as a whole) made a profit. All other industries posted a loss. Around half of the industries had a gross profit margin of less than 30%; only the educational services industry achieved a gross profit margin in excess of 50% (59.80%). Only SMEs in agriculture, forestry and fisheries, the hotel and restaurant industry, and the educational services industry had lower gross profit margins than large enterprises in the same industry. SMEs in the other 12 industries all performed better than their large-sized counterparts in terms of gross profit margin, reflecting the tendency for SMEs to focus on niche markets. However, despite their impressive performance in terms of gross profit margins, the SMEs’ ability to keep operating expenses and costs under control was far inferior to that of the large enterprises. As a result, there were only six industries in which SMEs displayed a positive net operating profit and positive earnings after deducting operating expenses.

2. Financial Ratios by Industry

The indicators used in this section are the same as those in Section I, but they have been recalculated to provide financial ratios for examining the changes in the financial status of enterprises in each industry (Table 3-2-4).



Table 3-2-4 Profit and Loss Structure in 2004 –by Industry

Unit: %

Item \ Industry	Agriculture, forestry, fisheries and animal husbandry	Mining and quarrying	Manufacturing	Water, electricity and gas	Construction	Wholesaling and Retailing	Hotel and restaurant	Transportation, warehousing and communications	Finance and insurance	Real estate and leasing	Professional, scientific and technical services	Educational services	Medical, healthcare and social services	Cultural, sporting and leisure services	Other services
SMEs															
Net operating income	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Less: Operating costs	85.90	77.48	84.00	76.38	86.13	80.58	59.16	67.67	71.27	71.91	53.08	40.20	56.01	60.10	55.56
Gross operating profit	14.10	22.52	16.00	23.62	13.87	19.42	40.84	32.33	28.73	28.09	46.92	59.80	44.00	39.90	44.44
Less: Operating expenses	12.79	17.34	13.58	27.77	11.37	20.53	45.65	31.76	27.65	29.05	51.51	76.47	43.68	47.75	45.96
Net operating profit	1.31	5.18	2.42	-4.15	2.51	-1.11	-4.82	0.57	1.08	-0.97	-4.59	-16.67	0.32	-7.85	-1.52
Plus: Non-operating income	1.79	1.13	0.94	4.16	0.54	1.45	1.78	1.99	6.06	7.50	2.51	11.01	1.03	3.43	1.45
Less: Interest expenses	0.94	0.45	0.49	0.29	0.35	0.56	1.27	0.93	8.56	7.70	1.51	6.95	0.05	3.62	0.92
Less: Other non-operating expenses	0.91	0.34	0.57	1.08	0.31	0.42	0.71	0.56	2.69	5.56	0.61	3.85	0.38	2.13	0.41
Current profit (loss)	1.25	5.52	2.30	-1.35	2.39	-0.64	-5.02	1.07	-4.11	-6.73	-4.20	-16.46	0.92	-10.17	-1.40
Large enterprises															
Net operating income	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00	-	100.00	100.00
Less: Operating costs	84.03	84.47	84.24	79.27	93.89	86.47	55.95	77.21	98.25	81.93	69.54	38.54	-	62.77	71.27
Gross operating profit	15.97	15.53	15.77	20.73	6.11	13.53	44.05	22.79	1.75	18.07	30.46	61.46	-	37.23	28.73
Less: Operating expenses	9.79	18.65	7.76	3.54	4.35	11.52	38.77	13.67	1.40	10.59	22.38	57.09	-	30.20	22.36
Net operating profit	6.19	-3.13	8.00	17.19	1.76	2.01	5.28	9.12	0.34	7.48	8.08	4.37	-	7.03	6.38
Plus: Non-operating profit	2.71	6.51	1.72	1.07	1.50	1.22	1.95	2.30	0.36	2.51	1.29	0.58	-	3.84	2.57
Less: Interest expenses	0.88	1.85	1.31	0.76	0.96	0.68	1.61	1.00	0.16	2.17	1.34	0.04	-	1.93	1.01
Less: Other non-operating expenses	1.08	3.63	0.92	4.59	0.67	0.42	2.04	0.79	0.04	2.52	0.51	0.07	-	1.61	1.29
Current profit (loss)	6.94	-2.09	7.50	12.92	1.63	2.14	3.59	9.63	0.51	5.31	7.51	4.83	-	7.33	6.65

Source: Ministry of Finance, Business income tax return data.

With the upturn in the domestic economy progressing only slowly, short-term solvency (debt repayment ability) deteriorated in most industries. As can be seen from Table 3-2-5, eight industries had a current ratio below 100% in 2004. As regards the quick ratio, four industries had a quick ratio in excess of 100%: the educational services industry (113.52%), transportation, warehousing and communications industry (139.68%), medical, healthcare and social services industry (138.75%) and “other service industries” (124.13%). Most other industries had a quick ratio of less than 80%, indicating a relatively poor ability to convert assets into cash to meet repayment obligations.

The short-term solvency of the hotel and restaurant industry and the cultural, sporting and leisure services industry need to be watched. These two industries ranked the lowest in terms of both their current and quick ratios; the hotel and

restaurant industry had a current ratio of 47.89% and a quick ratio of 31.09% in 2004, while the ratios for the cultural, sporting and leisure services industry were 45.66% and 34.65%, respectively.

Table 3-2-5 Financial Ratios for Individual Industries in 2004

<div>Industry</div> <div>Item</div>		Unit: %													
		Agriculture, forestry, fisheries and animal husbandry	Mining and quarrying	Manufacturing	Water, electricity and gas	Construction	Wholesaling and retailing	Hotel and restaurant	Transportation, warehousing and communications	Finance and insurance	Real estate and leasing	Professional, scientific and technical services	Educational services	Medical, health-care and social services	Cultural, sporting and leisure services
SMEs															
Current ratio	81.68	71.84	97.44	98.24	115.16	112.65	47.89	147.83	92.11	63.89	102.83	142.78	144.19	45.66	124.13
Quick ratio	68.02	54.96	61.02	78.75	55.03	65.50	31.09	139.68	88.47	26.73	90.10	113.52	138.75	34.65	106.97
Inventory ratio	13.66	16.88	36.42	19.49	60.13	47.15	16.80	8.15	3.64	37.16	12.73	29.26	5.44	11.01	17.16
Debt-to-net worth ratio	200.54	181.09	225.06	85.87	347.98	239.03	550.03	73.63	68.63	290.53	140.71	42.94	140.63	551.77	109.87
Long-term fund ratio	83.22	80.67	101.35	111.17	252.23	180.49	50.05	174.65	842.28	83.33	196.43	189.67	310.79	41.28	163.27
Net worth ratio	2.51	3.88	4.31	0.98	4.83	4.75	6.19	1.50	0.19	0.53	1.64	0.21	1.79	2.71	2.13
Receivables turnover	9.71	8.70	5.94	4.83	4.93	6.79	14.92	3.99	2.76	4.32	4.52	5.44	1.57	5.83	7.28
Fixed asset turnover	1.70	2.69	3.73	1.05	11.47	7.56	1.75	2.49	1.59	0.30	2.97	0.37	5.45	0.65	3.15
Merchandise turnover	10.72	14.18	5.8	6.2	2.38	4.55	8.00	29.01	8.34	0.64	10.09	1.90	23.83	6.57	13.10
Operating profit ratio	1.25	5.52	2.3	-1.35	2.39	-0.64	-5.02	1.07	-4.11	-6.73	-4.20	-16.46	0.92	-10.17	-1.40
Return on total assets	2.13	14.82	8.59	-1.42	27.37	-4.87	-8.79	2.66	-6.52	-1.99	-12.47	-6.13	4.99	-6.64	-4.41
Return on fixed assets	1.04	7.61	3.05	-0.71	2.57	-0.90	-4.78	0.93	-0.47	-0.92	-2.86	-2.37	0.68	-4.23	-1.42
Return on capital	2.54	25.41	10.59	-1.17	9.56	-2.00	-10.35	1.30	-0.91	-2.99	-4.06	-3.24	1.14	-10.06	-2.06
Return on net worth	3.14	21.40	9.92	-1.32	11.53	-3.06	-31.09	1.61	-0.80	-3.59	-6.88	-3.39	1.64	-27.56	-2.98
Large Enterprises															
Current ratio	94.84	194.57	126.16	86.64	108.64	104.47	45.96	142.96	111.35	91.64	123.61	152.23	–	61.55	96.65
Quick ratio	75.15	193.06	86.82	70.52	42.44	76.26	40.08	137.64	110.58	37.74	92.91	152.23	–	55.39	82.93
Inventory ratio	19.69	1.51	39.34	16.12	66.20	28.22	5.89	5.33	0.78	53.90	30.70	–	–	6.15	13.72
Debt-to-net worth ratio	154.02	57.17	106.63	125.74	368.64	200.42	162.97	72.42	783.13	215.69	120.56	93.27	–	157.61	232.14
Long-term fund ratio	194.14	263.65	143.98	102.87	235.50	133.05	82.21	201.19	1173.42	122.67	262.31	154.36	–	86.06	193.36
Net worth turnover	2.35	0.25	1.92	0.77	2.52	5.37	1.61	1.31	11.54	1.10	2.03	4.04	–	1.42	2.33
Receivables turnover	9.10	1.17	5.61	6.89	3.34	6.97	12.30	7.59	3.62	6.18	5.09	14.63	–	7.39	6.82
Fixed asset turnover	4.03	0.58	2.13	0.42	5.31	5.40	0.92	2.10	63.45	0.87	4.74	46.63	–	0.92	2.43
Merchandise turnover	8.95	49.11	6.96	13.58	1.11	11.69	26.32	61.97	250.89	1.44	6.37	–	–	23.73	12.10
Operating profit ratio	6.94	-2.09	7.50	12.92	1.63	2.14	3.59	9.63	0.50	5.31	7.51	4.83	–	7.33	6.65
Return on total assets	27.98	-1.22	15.96	5.49	8.66	11.55	3.29	20.23	32.04	4.63	35.60	225.32	–	6.75	16.15
Return on fixed assets	6.43	-0.33	6.96	4.43	0.88	3.82	2.19	7.30	0.66	1.86	6.91	10.10	–	4.03	4.66
Return on capital	26.17	-0.62	21.70	13.61	3.73	14.46	6.39	18.68	8.88	10.20	20.74	23.59	–	11.45	19.26
Return on net worth	16.33	-0.52	14.38	10.00	4.11	11.47	5.76	12.59	5.83	5.87	15.24	19.52	–	10.38	15.48

Source: Ministry of Finance, Business income tax return data.



After shrinking by 2.2% in 2001, Taiwan's economy began to grow again in 2002, with a growth rate of 4.3%. Growth continued into 2003 (3.4%) and 2004 (6.1%), and a growth rate of 4.1% was achieved in 2005, suggesting that the recovery was proceeding smoothly. The financial ratios for Taiwan's SMEs in 2004 thus continued to improve, as they had done in 2003.

III Sources of Funding for Manufacturing Industry and Reasons for Experiencing Difficulty in Acquiring Funds

1. Main Sources of Funds for Operations or Investment

Taiwan has robust financial and capital markets that offer a wide variety of funding sources for businesses. Aside from companies' own funds and borrowing from private lenders, bank loans and the issuance of bills and notes, bonds or shares have become important funding sources for Taiwanese enterprises. According to the 2005 Survey of Domestic Investment by Manufacturing Industry, published by the Statistics Department, Ministry of Economic Affairs, more than 70% of Taiwanese manufacturers (both large enterprises and SMEs) make use of loans from domestic banks to provide funding for operations and investments. 36.76% make use of cash capital increments, and 28.63% use their retained earnings or capital surplus (Table 3-3-1).

In 2004, 38.58% of large enterprises and 14.81% of medium-sized enterprises obtained funding from the issuance of commercial paper, depository receipts and corporate bonds, compared to 22.89% and 13.61%, respectively, in 2003. In 2004, 0.74% of funding from friends and relatives, and from revolving credit associations was made by large enterprises; 6.18% of funding from friends and relatives, and from revolving credit associations was obtained by medium-sized enterprises; the corresponding figures for 2003 were 1.44% in the case of large enterprises, and 11.56% in the case of medium-sized enterprises. The importance of direct financing to medium and large enterprises is thus increasing, while their percentages of loans from friends and relatives and from traditional revolving

credit associations have fallen. As for small-size enterprises, 35.01% of funding was from friends or relatives and from revolving credit associations in 2004. Taiwanese small-sized enterprises are thus still heavily dependent on personal relationships when it comes to securing funding, and as a result have a much weaker financial leveraging ability than large or medium-sized enterprises.

Table 3-3-1 Sources of Funds for the Operations or Investments of Manufacturers in 2005

Unit: %

Source of Funds \ Enterprise Size	Total	Large Enterprises	Medium-sized Enterprises	SMEs
Cash capital increment	36.76	36.47	44.44	36.30
Issuing corporate bonds	5.59	17.44	3.70	0.55
Issuing commercial paper or depository receipts	7.70	21.14	11.11	1.57
Retained earnings or capital surplus	28.63	44.71	32.72	21.29
Revolving credit association	7.58	0.11	0.62	11.36
Borrowing from domestic banks	75.62	75.05	77.78	75.70
Borrowing from foreign banks	6.20	14.69	6.17	2.49
Borrowing from credit cooperatives or farmers' and fishermen's associations	3.64	0.53	1.23	5.17
Borrowing from friends and relatives	16.10	0.63	5.56	23.65
Other	6.57	7.19	4.94	6.42

Note: Large enterprises are those with 200 or more employees; medium-sized enterprises are those with 100–199 employees; and small enterprises are those with less than 100 employees.

Source: Statistics Department, Ministry of Economic Affairs, *Survey of Domestic Investment by Manufacturing Industry*, October 2005.

2. Major Difficulties Encountered by Manufacturers in the Acquisition of Funds

According to the 2005 Survey of Domestic Investment by Manufacturing Industry published by the Statistics Department, Ministry of Economic Affairs, 34.73% of small enterprises in the manufacturing sector felt that they were having difficulty in securing funds; 31.48% of medium-sized enterprises felt the same (Table 3-3-2).

Regardless of the size of the enterprise, the top three reasons given by manufacturing enterprises as to why they had been experiencing difficulty in securing funds were: the introduction of more rigorous loan application procedures by banks (52.99%), followed by tighter bank lending policy due to a downturn in the industry to which the enterprise belonged (45.59%), and high interest rates



(44.48%). The fourth most common reason was an inability to furnish adequate collateral (37.69%); other reasons given included banks being unable to process loan requests fast enough (15.81%), and low stock prices making it difficult to implement a public or private offering (8.31%). Only 7.70% of manufacturing enterprises reported problems due to the complexity of the procedures for implementing cash capital increments or issuing bonds (Table 3-3-2).

Table 3-3-2 Reasons Given by Manufacturers for Experiencing Difficulty in Securing Funding, 2005

Unit: %

Item	Enterprise Scale	Total	Large Enterprises	Medium Enterprises	Small Enterprises
Experienced difficulty in acquiring funds?					
No		69.84	80.55	68.52	65.27
Yes		30.16	19.45	31.48	34.73
Reasons given for having difficulty in acquiring funds					
Banks have tightened up lending policy due to the downturn in the economy		52.99	45.11	56.86	54.65
Interest rates on loans too high		44.48	33.70	35.29	47.74
Unable to furnish adequate collateral		37.69	25.54	23.53	41.62
Banks have tightened up lending policy due to a downturn in the industry to which the enterprise belongs		45.59	51.09	50.98	43.88
Low share prices made it difficult to implement a public or private offering		8.31	29.89	9.80	2.93
Banks unable to process loan requests fast enough		15.81	12.50	13.73	16.76
Procedures for cash capital increments and bond issuance are too complicated		7.70	25.54	3.92	3.59
Unable to secure venture capital funding		12.77	4.35	9.80	15.03
Other		2.94	4.89	5.88	2.26

Notes: 1. Large enterprises are firms with 200 or more employees; medium-sized enterprises are firms with 100–199 employees; and small enterprises are firms with less than 100 employees.

2. Respondents were allowed to list more than one reason.

Source: Statistics Department, Ministry of Economic Affairs, *Survey of Domestic Investment by Manufacturing Industry*, October 2005.

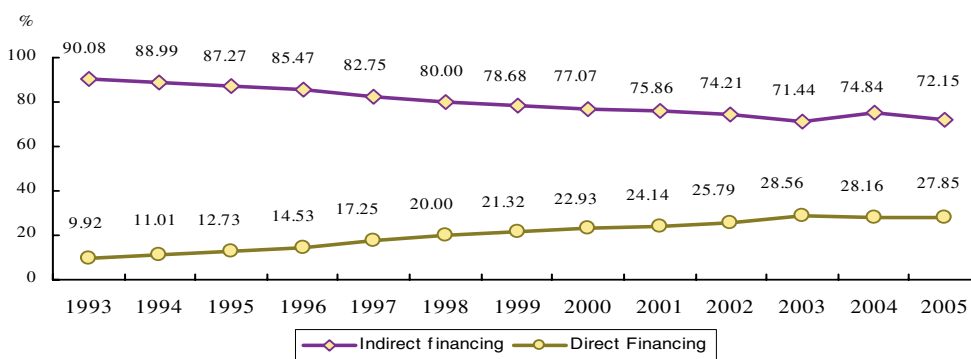
In 2004, the government continued to implement a number of measures to help SMEs to secure working capital. These measures included: expanding the services provided by the SME Troubleshooting Center, helping innovative SMEs to acquire working capital, helping SMEs to improve their accounting systems and to secure financing, introducing new low-interest loan programs (as well as continuing to implement existing programs), and strengthening the capabilities of the Small and Medium Enterprise Credit Guarantee Fund. The Central Bank also continued to implement its loose monetary policy, and lowered the discount rate to steer the market towards lower rates. With the upturn in the economy as a whole in

2004, the difficulties encountered by manufacturing enterprises with regard to securing funds should gradually have been alleviated.

IV Financial Institutions and SME Financing

Financing is the lifeline of an enterprise, and this is particularly true for SMEs, which tend to have inadequate funds. Ready access to funds and efficient fund management are among the keys to the successful operation of SMEs. For a business enterprise, the sources of funding include internal funds and external financing. Internal funds include primarily the earnings and reserve of the enterprise, with the amount of funds available depending on its operational performance. External financing includes private loans, trade credit, bank loans, and the issuance of securities in the financial markets. With the rapid development of Taiwan's capital markets, direct financing's share of total financing has been increasing, reaching 28.16% by the end of 2004(although this was followed by a slight decline in 2005, where it fell to 27.85%). The growth of direct financing has helped to broaden the range of financing channels available to Taiwan's SMEs. The share of total financing held by indirect financing (loans and investments) was 74.84% at the end of 2004 and 72.15% at the end of 2005. As a percentage of total financing from banks and financial markets, bank loans had fallen to 64.61% by the end of 2005 (Figures 3-4-1 and 3-4-2).

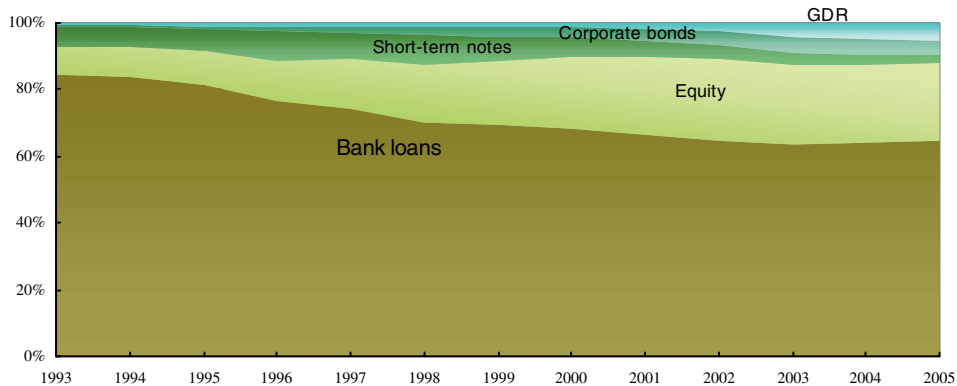
Figure 3-4-1 Share of Total Financing Held by Direct and Indirect Financing, 1993-2005



Source: Central Bank, ROC.



Figure 3-4-2 Business Financing Channels, 1993-2005



Source: Central Bank, ROC.

In light of the fact that bank loans remain the most important financing source for SMEs, there is clearly a need for further structural change in the relationship between banks and SMEs.

1. Seven Leading Banks Provided a Particularly Large Amount of Financing to SMEs

Taiwan Cooperative Bank has consistently been the single largest lender in the SME loan market (for the purposes of this section, “loans outstanding” includes overdue loans). As of the end of 2005, Taiwan Cooperative Bank’s outstanding loans to SMEs totaled NT\$617.7 billion, representing an increase of NT\$26.1 billion compared to the end of 2004, and giving the Bank market share of 20.82% in the SME segment. First Commercial Bank was in second place, with loans totaling NT\$258.2 billion, giving market share of 8.7% (Table 3-4-1).

Hua Nan Commercial Bank, Chang Hwa Commercial Bank, the Land Bank of Taiwan and the Bank of Taiwan have in the past maintained consistently high market share in the SME loan market. Banks whose outstanding loans to SMEs had fallen as of the end of 2005 included, in descending order: Taiwan Business Bank (a decline of NT\$18.5 billion), Chang Hwa Commercial Bank (a decline of NT\$5.2 billion), Hualien Business Bank (a decline of approximately NT\$4.2

billion), and Taitung Business Bank (a decline of NT\$1.8 billion). E. Sun Commercial Bank and Taiwan Cooperative Bank increased their outstanding loans to SMEs by NT\$23.1 billion and NT\$26.1 billion, respectively. It can thus be seen that different banks have adopted different lending policies in response to the changing economic climate.

Table 3-4-1 Top 10 Banks by Amount of Loans to SMEs, End of 2005

Units: NT\$ million; %

Bank	Loans Outstanding	Market Share	Loans to SMEs as a % of Total Loans
Total	1,982,004	66.80	66.79
Taiwan Cooperative Bank	617,722	20.82	48.50
First Commercial Bank	258,246	8.70	32.08
Taiwan Business Bank	235,206	7.93	32.82
Hua Nan Commercial Bank	223,840	7.54	24.74
Chang Hwa Commercial Bank	158,752	5.35	20.35
Land Bank of Taiwan	130,565	4.40	9.76
Bank of Taiwan	117,998	3.98	9.29
International Commercial Bank of China	91,016	3.07	19.06
Tainan Business Bank	74,502	2.51	66.32
Chiao Tung Bank	74,157	2.50	18.51

Source: Bureau of Monetary Affairs, *Statistics of Banking Business*, February 2006.

2. Specialized “SME Banks” Had a Higher Percentage of Loans Extended to SMEs

Taiwan now has only four specialized “SME banks.” In accordance with the policy objectives that lay behind their establishment, loans to SMEs have always accounted for a high percentage of the loans granted by these banks. Of the ten banks with the highest percentage of loans going to SMEs, in the past the top three have always been specialist SME banks (Taiwan Cooperative Bank ranked fourth in 2005) (Table 3-4-2). However, while Taiwan Business Bank and Tainan Business Bank have a relatively high amount of loans outstanding, the total of outstanding loans for the other two specialist SME banks is significantly lower than that of a conventional commercial bank; as a result, the amount of funding assistance that they are able to provide to SMEs is, in absolute terms, somewhat limited.



Table 3-4-2 Top 10 Banks by the Percentage of Total Loans to SMEs in 2004 and 2005

Units: NT\$ million; %

Bank	2004		2005	
	Loans to SMEs as a % of Total Loans	Loans Outstanding	Loans to SMEs as a % of Total Loans	Loans Outstanding
Tainan Business Bank*	66.01	74,779	66.32	74,502
Hualien Business Bank*	60.24	11,905	64.36	7,698
Taitung Business Bank*	60.03	24,707	60.08	22,911
Taiwan Cooperative Bank	47.13	591,646	48.50	617,722
Taiwan Business Bank*	35.40	253,702	32.82	235,206
First Commercial Bank	32.02	242,694	32.08	258,246
Shanghai Commercial and Savings Bank	31.74	59,611	30.95	60,091
Bowa Bank	21.26	30,015	28.83	34,091
EnTie Commercial Bank	20.30	39,460	28.03	58,649
Taichung Commercial Bank	18.53	33,729	22.10	39,985

Note: * denotes a specialized SME bank.

Source: Bureau of Monetary Affairs, *Statistics of Banking Business*, February 2006.

3. High Market Concentration in the Provision of Loans to SMEs by Regular Banks

As of the end of 2005, there were 45 domestic banks (including 4 specialized SME banks) and 36 foreign banks operating in Taiwan. Outstanding loans to SMEs totaled NT\$2.97 trillion, representing an increase of NT\$200 billion over 2004. The top 10 banks in terms of outstanding loans to SMEs (including the 7 banks referred to above) had a combined market share of 66.32%, indicating a high level of market concentration. Foreign banks' outstanding loans to SMEs totaled NT\$23.4 billion, giving them a combined market share of just 0.79%, which was roughly the same as in the previous year.

4. A Significant Increase in Outstanding Loans to SMEs by Banking Subsidiaries of Financial Holding Companies

In response to the development of the financial markets, the diversification of the demand for financial services, and the government's desire to expand the scale of the financial sector, improve its operational performance and enhance the international competitiveness of the industry as a whole, the Financial Holding

Company Law was approved by the Legislative Yuan and signed into law by the President on July 9, 2001, taking effect on November 1, 2001. So far, a total of 14 financial holding companies have been established. As of the end of 2005, 13 banking subsidiaries of financial holding companies plus the China Development Industrial Bank had a combined total of NT\$1,018.7 billion in loans outstanding to SMEs (accounting for 34.33% of all loans outstanding to SMEs), representing an increase of NT\$153 billion (17.23%) compared to 2004 (Table 3-4-3). There has thus been a significant increase in the provision of loans to SMEs by these banks.

Table 3-4-3 Outstanding Loans to SMEs by the Banking Subsidiaries of Financial Holding Companies in 2004 and 2005

Unit: NT\$ million; %

Bank	2004		2005			
	Outstanding Loans to SMEs	Loans to SMEs as % of Total Loans	Outstanding Loans to SMEs	Loans to SMEs as % of Total Loans	Increase in Loans to SMEs	Annual Growth Rate
Total	820,116	29.58	1,018,721	34.33	153,067	17.23
First Commercial Bank	242,694	32.02	258,246	32.08	15,552	6.41
Hua Nan Commercial Bank	203,072	24.14	223,840	24.74	20,768	10.23
International Commercial Bank of China	72,218	16.61	91,016	19.06	18,798	26.03
Chiao Tung Bank	63,962	16.18	74,157	18.51	10,195	15.94
Chinatrust Commercial Bank	46,714	6.84	56,782	7.37	10,068	21.58
Taipei Fubon Commercial Bank	59,235	13.75	58,655	10.94	-580	-0.98
Cathay United Bank	55,462	9.95	61,680	10.36	6,218	11.21
E. Sun Commercial Bank	26,339	10.21	49,506	14.24	23,167	87.96
Jih Sun International Bank	18,859	10.38	23,674	12.55	4,815	25.53
Taishin International Bank	18,488	4.09	33,838	6.32	15,350	83.03
Fuhwa Commercial Bank	16,920	9.17	29,946	13.71	13,026	76.99
Shin Kong Commercial Bank	14,983	27.57	22,659	11.00	7,676	51.23
Bank SinoPac	24,449	10.70	31,915	11.85	7,466	30.54
China Development Industrial Bank	2,259	4.27	2,807	4.99	548	24.26

Source: Bureau of Monetary Affairs, *Statistics of Banking Business*, February 2006.

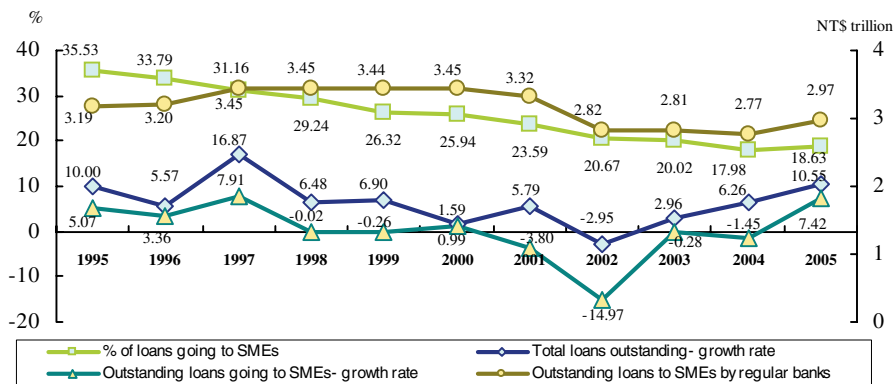
5. Total Bank Loans to SMEs Increased Compared to the End of 2004

In order to conform to the requirements of the government's "2-5-8 Financial Reform Program," which required banks to reduce their non-performing loan ratios to 5% and maintain a minimum capital adequacy ratio of 8% before the end of 2003, banks have been working vigorously to clean up their NPL portfolio by



being more aggressive in payment collection, selling off non-performing assets and writing off bad debts. According to statistics compiled by the Bureau of Monetary Affairs, Financial Supervisory Commission, domestic banks wrote off a total of NT\$208.8 billion in bad debts in 2005, as compared with NT\$413.8 billion in 2002, NT\$236.8 billion in 2003, and NT\$162.2 billion in 2004. As of the end of 2005, the total outstanding loans of Taiwan's regular domestic banks were up 7.42% year-on-year (Figure 3-4-3), with outstanding loans to SMEs having risen by 7.22%, from NT\$2.77 trillion to NT\$2.97 trillion. The SMEs' share of total outstanding bank loans had increased by 0.65 percentage points, from 17.98% to 18.63%.

Figure 3-4-3 Changes in Bank Loans to SMEs by Regular Banks



Note: "Total loans outstanding" was calculated using the following formula: regular banks' outstanding loans to SMEs (including overdue loans) divided by loans to SMEs as a percentage of total loans.

Source: Bureau of Monetary Affairs, Financial Supervisory Commission, Executive Yuan, *Statistics of Banking Business*, consecutive years.

Banks have traditionally been less willing to extend loans to SMEs due to their sometimes questionable financial health. However, with the economic climate improving and with the government having injected more funds into the SME Credit Guarantee Fund in the last few years to help SMEs overcome the difficulties that they experience as a result of their inability to provide sufficient collateral, banks have now become more willing to lend money to SMEs. The "Credit Guarantee Utilization Rate" of the SME Credit Guarantee Fund (i.e., financing to SMEs through the provision of credit guarantees as a percentage of

total loans outstanding to SMEs) rose from 15.04% at the end of 2004 to 18.10% at the end of 2005. In an era of declining profit margins, banks now generate only meager profits from loans to large corporations, and are gradually shifting the main focus of their business operations towards SME financing.

While the data presented above are based on direct loans to SMEs, many SME owners also secure personal loans in their own name that are used for business purposes. These personal loans are not classed as loans to SMEs, but in reality they do constitute a form of SME financing.

6. Banks' Outstanding Loans to SMEs Have Risen, Both in Absolute Terms and as a Percentage of Total Bank Loans

In 2005, banks' outstanding loans to SMEs totaled NT\$2.97 trillion; loans to SMEs accounted for 18.63% of banks' total outstanding loans. Both of these figures represented an increase compared to 2004. This growth may be related to the Financial Supervisory Commission's Plan for Increasing Loans to SMEs by Domestic Banks, the implementation of which began in July 2005. The Plan's objective was to achieve an increase of at least NT\$200 billion in outstanding bank loans to SMEs over the period from the end of June 2005 to the end of June 2006. Following on from the introduction of a new definition of "overdue loans" by the Financial Supervisory Commission in July 2005, the NPL ratio fell to 2.24% by the end of 2005 (the NPL ratio had stood at 3.8% in late 2003, and in the first quarter of 2002 had reached an all-time high of 11.74%). With the total amount of non-performing loans falling to NT\$370.5 billion (down from NT\$1,676.5 billion in the first quarter of 2002), it was clear that the overall health of Taiwan's banking system was gradually improving, putting banks in a better position to meet SMEs' funding needs.

7. A Slight Rise in the Cost of Financing in 2005

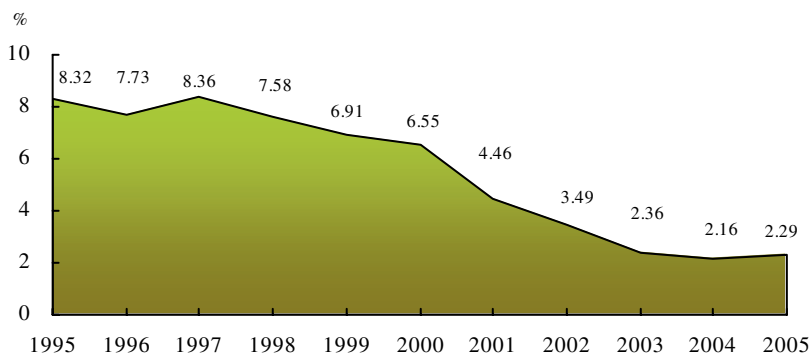
The Central Bank has maintained an easy monetary policy since the end of 2000, and has cut the discount rate 15 times to bring market rates down and help cut the cost of funding for business enterprises. The Central Bank has also urged banks to



implement the new prime rate system for loans to facilitate downward adjustments in interest rates. In a letter to domestic banks in June 2003, the Central Bank asked the banks to step up their SME loan business and to take on more SME credit guarantee business, and indicated that it would be monitoring the banks' operations in this area on a monthly basis. As of the end of 2005, loans extended to SMEs by domestic banks through the SME Credit Guarantee Fund amounted to NT\$372.8 billion, representing a year-on-year increase of 12.09%.

Central Bank data show that the average interest rate on new loans extended by the Bank of Taiwan, Taiwan Cooperative Bank and the three leading commercial banks had fallen steadily from 8.73% in 1994 to 2.16% in 2004, before rising again to 2.29% in 2005 (Figure 3-4-4). Although the Central Bank data were not broken down by enterprise size, it is clear from Figure 3-4-3 that, for Taiwan's SMEs, the cost of bank loans had been falling until 2004, but then began to increase slightly after the Central Bank starting raising the discount rate in late 2004. As of the end of 2005, the Central Bank had raised the discount rate five times, for a cumulative increase of 0.525 percentage points.

Figure 3-4-4 Average Interest Rates on New Loans Extended by Five Leading Banks, 1995-2005



Note: The interest rates shown in the table are a weighted average of the interest rates in each month of the year.

Source: Central Bank of ROC.



Chapter 4

The Current Status of SMEs' Labor Utilization

With the impact of rising oil prices and a series of natural disasters in various parts of the world, the performance of the global economy in 2005 was less impressive than in 2004. Nevertheless, it did continue to grow, and unemployment in Taiwan continued to fall, as it had done in the previous two years. This chapter will examine the current status of labor utilization among Taiwan's SMEs, focusing on manpower resources, working conditions, the government's labor policy, and SMEs' own manpower cultivation efforts.

In this chapter, enterprise size is defined according to the number of employees. Enterprises in the mining and quarrying industry, manufacturing industry and construction industry with less than 200 employees, and enterprises in other industries with less than 50 employees, are classed as SMEs. However, in some cases limited availability of data makes it impossible to use this classification system; in such cases, SMEs are defined as enterprises with less than 100 employees. This is pointed out in the text where appropriate.

I Labor Usage in SMEs

In 2005, Taiwan's total available workforce amounted to 10,370,000 persons, of which 9,942,000 were working and 428,000 were unemployed. Of those in work, 7,336,000 fell under the category of paid employees. The labor force participation rate was 57.78%, and the average unemployment rate was 4.13%.

Both the available workforce and the number of people in work rose in 2005 compared to 2004. With the government expanding the implementation of its job creation initiatives, the number of people unemployed fell by 26,000 compared to 2004; the labor market as a whole was thus in a healthier state in 2005 than it had been in the previous year. The following sections examine labor utilization in Taiwan's

SMEs in 2005.

1. An Increase of Nearly 95,000 in the Number of People Working in SMEs

In 2005, the number of employed persons working in SMEs in Taiwan stood at 7,648,000, representing an increase of 95,000 (Table 4-1-1) over 2004. However, as a percentage of all those in work, the number of people working in SMEs fell to 76.92%, because the number of people working in large enterprises rose by 7.67% while the number of people working in SMEs increased by only 1.26%.

Table 4-1-1 Characteristics of Employed Persons in Taiwan in 2004 and 2005

Units: thousand persons; %

Item	2004			2005		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total No. of Persons (Share of Total)	7,553 (77.18)	1,238 (12.65)	995 (10.17)	7,648 (76.92)	1,333 (13.41)	961 (9.67)
Age	100.00	100.00	100.00	100.00	100.00	100.00
15~24	10.66	11.42	4.21	10.02	10.32	4.16
25~40	45.65	59.52	43.33	45.23	59.64	43.27
41~55	35.39	26.40	45.80	36.20	27.25	46.06
56~65	6.67	2.46	6.46	6.95	2.61	6.26
65 or over	1.62	0.20	0.21	1.60	0.18	0.25
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	59.27	53.35	54.53	59.10	53.66	53.80
Female	40.73	46.65	45.47	40.90	46.34	46.20
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	1.06	0.12	0.15	0.75	0.06	0.05
Self-taught	0.29	0.03	0.04	0.22	0.01	0.06
Primary school	15.73	3.02	4.54	15.07	2.74	3.59
Junior high school	19.50	6.30	4.73	19.20	5.44	4.13
Senior high school	9.58	6.90	7.44	9.40	6.48	6.99
Senior vocational school	29.56	24.89	16.88	29.53	23.81	16.27
Junior college	14.72	26.01	24.47	14.97	26.07	24.08
University	8.51	24.25	32.68	9.60	25.77	34.12
Master's	0.98	7.03	7.29	1.19	8.16	8.61
Ph.D.	0.06	1.47	1.78	0.08	1.44	2.10

Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan, *Monthly Bulletin of Manpower Statistics*, 2004—2005.

SME employees were mostly aged between 25 and 55, while in large enterprises the level of age group concentration was even more pronounced. As regards the breakdown of SME employees by sex and education, there was little difference between the 2005 data and those for 2004. In both years, men accounted for a larger



share of SME employees than women, and those educated to junior college, senior vocational school, junior high school or primary school level continued to account for the bulk of SME employees. Among those working for large enterprises, the disparity between the number of male workers and the number of female workers was less pronounced; most employees of large enterprises were educated to senior vocational school, senior high school, junior college or university level. The last few years have seen an increase in the average level of education of employees in both the SME and large enterprise sectors; the general trend is for the majority of workers in both SMEs and large enterprises to be educated to junior college or university level.

2. A 2.94% Increase in the Number of Paid Employees Working for SMEs

The total number of paid employees working for SMEs in 2005 was 5,047,000, representing a 2.94% increase compared to 2004. The percentage of all paid employees who were working for SMEs rose from 68.75% in 2004 to 68.80% in 2005 (Table 4-1-2). Paid employees accounted for just under 66% of all persons working in SMEs, compared to more than 99% in the case of large enterprises. For both employed persons and paid employees, SMEs display a heavy concentration in the 25 – 55 age range. Male employees account for just over 56% of all paid employees working in SMEs, which is slightly lower than the equivalent figure for employed persons. The percentage of paid employees educated to senior vocational school, senior high school, junior college, university or Master's level is higher than it is for employed persons as a whole.

3. There Are Around 498,000 SME Employers

The number of SME employers in Taiwan fell by more than 8,000 in 2005, declining from 507,000 to 498,000. The decrease was most pronounced among those aged 25–40. The women's share of SME employers increased slightly compared to 2004, rising to 17.42%, although in absolute terms the number of female SME employers fell slightly. The long-term trend in women's share of SME employers is an upward one, reflecting a gradual increase in the level of enthusiasm for entrepreneurial activity among women (Table 4-1-3). Nevertheless, there is still a pronounced disparity between the percentage of SME employers that are men and the percentage that are women.

Table 4-1-2 Characteristics of Paid Employees in 2004 and 2005

Units: thousand persons; %

Item	2004			2005		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total No. of Persons (Share of Total)	4,903 (68.75)	1,234 (17.31)	994 (13.94)	5,047 (68.80)	1,327 (18.10)	961 (13.10)
Age	100.00	100.00	100.00	100.00	100.00	100.00
15~24	14.96	11.45	4.21	13.90	10.34	4.16
25~40	53.16	59.67	43.33	52.73	59.85	43.27
41~55	28.60	26.30	45.80	29.76	27.12	46.06
56~65	3.01	2.40	6.46	3.35	2.53	6.26
65 or over	0.27	0.17	0.21	0.26	0.16	0.25
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	56.32	53.25	54.53	56.38	53.55	53.80
Female	43.68	46.75	45.47	43.62	46.45	46.20
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	0.38	0.12	0.15	0.25	0.06	0.05
Self-taught	0.11	0.03	0.04	0.08	0.01	0.06
Primary school	10.56	3.01	4.54	10.19	2.74	3.59
Junior high school	18.38	6.28	4.73	18.10	5.44	4.13
Senior high school	9.40	6.89	7.44	9.09	6.46	6.99
Senior vocational school	31.77	24.94	16.88	31.43	23.81	16.27
Junior college	17.66	26.05	24.47	17.60	26.09	24.08
University	10.41	24.21	32.68	11.71	25.79	34.12
Master's	1.26	7.02	7.29	1.46	8.16	8.61
Ph.D.	0.07	1.47	1.78	0.08	1.44	2.10

Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

The number of large enterprise employers increased by approximately 890 in 2005. The percentage of large enterprise employers who were female fell by just under 1.23 percentage points. SME employers tend to be younger than large enterprise employees, and have a slightly lower average level of education.

4. More than Half of Those Working in SMEs in Hi-tech and Knowledge-intensive Industries Are Aged 40 or Younger

Data for 2005 indicate that approximately 2.45 million people in Taiwan were working in the hi-tech and knowledge industries as defined by the OECD, representing an increase of nearly 100,000 compared to 2004. Of these 2.45 million people, over 1.38 million were working in SMEs, up 56,000 from 2004. 56% of the employed persons working in SMEs in hi-tech or knowledge-intensive industries were in the 25 – 40 age group, and the majority of them were male. In large enterprises, on the other hand, women were in the majority. The average level of education of those

**Table 4-1-3 Characteristics of Employers in 2004 and 2005**

Units: thousand persons; %

Item	2004		2005	
	SMEs	Large Enterprises	SMEs	Large Enterprises
Total No. of Persons (Share of Total)	506.74 (99.3)	3.56 (0.7)	498.32 (99.11)	4.45 (0.89)
Age	100.00	100.00	100.00	100.00
15~24	0.60	—	0.38	—
25~40	33.02	9.87	31.92	4.19
41~55	55.51	58.74	55.97	64.66
56~65	9.11	20.88	10.13	25.98
65 or over	1.76	10.51	1.60	5.17
Sex	100.00	100.00	100.00	100.00
Male	82.79	88.94	82.58	90.17
Female	17.21	11.06	17.42	9.83
Education	100.00	100.00	100.00	100.00
Illiterate	0.06	—	0.08	—
Self-taught	0.08	—	0.06	—
Primary school	11.19	5.06	10.04	3.53
Junior high school	17.48	13.39	15.77	7.05
Senior high school	11.75	11.44	11.30	12.44
Senior vocational school	26.97	6.75	28.35	17.85
Junior college	17.15	13.51	17.92	23.35
University	13.46	38.63	14.03	24.80
Master's	1.57	10.07	2.15	8.87
Ph.D.	0.28	1.14	0.29	2.11

Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

working in large enterprises in hi-tech and knowledge-intensive industries was higher than those working in SMEs (Table 4-1-4).

The number of people employed in the hi-tech and knowledge-intensive industries has gradually increased, reflecting the growing strength and importance of these industries. However, the number of people working in SMEs in the hi-tech and knowledge-intensive industries grew by only 4.18% in 2005, compared to 9.86% for large enterprises. As a result, SMEs' share of all employed persons working in hi-tech and knowledge-intensive industries fell in 2005.

5. A Rise in the Percentage of Older Self-employed Persons

The self-employed either work alone or as part of a partnership; they may be assisted by persons who are working without pay, but do not have any paid employees. Self-employed persons can thus all be classed as SMEs. In 2005, there were 1,438,000 self-employed people in Taiwan, representing a decrease of approximately 20,000 compared to 2004. This decline may have been due to the upturn in the economy,

Table 4-1-4 Characteristics of Those Working in Hi-tech and Knowledge-intensive Industries in 2004 and 2005

Units: thousand persons; %

Item	2004			2005		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total No. of Persons (Share of total)	1,331.38 (56.63)	567.85 (24.15)	451.98 (19.22)	1,387.01 (56.45)	623.85 (25.39)	446.33 (18.16)
Age	100.00	100.00	100.00	100.00	100.00	100.00
15~24	12.30	10.33	5.88	11.77	8.81	5.96
25~40	56.73	61.56	47.50	56.63	61.39	47.70
41~55	27.64	25.42	41.72	27.98	27.11	41.81
56~65	2.95	2.49	4.79	3.23	2.52	4.38
65 or over	0.38	0.21	0.11	0.39	0.17	0.14
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	53.17	47.80	41.28	52.70	48.22	40.41
Female	46.83	52.20	58.72	47.30	51.78	59.59
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	0.08	0.07	0.06	0.07	0.01	0.01
Self-taught	0.02	0.01	0.05	0.01	0.01	0.06
Primary school	4.58	1.58	2.07	3.97	1.27	1.72
Junior high school	8.61	3.73	2.66	8.31	3.06	2.30
Senior high school	7.49	4.54	4.43	6.95	4.45	3.85
Senior vocational school	27.89	18.83	9.94	27.27	18.07	9.06
Junior college	26.90	28.52	18.49	26.37	28.30	17.49
University	21.08	30.04	48.97	23.08	30.69	49.60
Master's	3.12	9.80	10.21	3.68	11.46	12.15
Ph.D.	0.22	2.88	3.13	0.29	2.68	3.75

Source: Directorate General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

which made it easier to find work, thereby causing the number of people wishing to start their own business to fall (Table 4-1-5). As with SME employers, the percentage of self-employed persons who are women has been rising steadily in the past few years, indicating an increase in entrepreneurial activity among women. In absolute terms, the number of female self-employed persons increased in 2005, while the number of male self-employed persons declined by around 25,000. The potential for a further increase in female entrepreneurial activity (whether in the form of self-employment, or in the form of establishing SMEs that hire other workers) appears to be quite pronounced.

6. The Number of People Employed in SMEs in Important New Emerging Industries Rose by about 20,000 in 2005

In 2005, a total of 1.12 million people were employed in the “important new emerging industries” (chemical material manufacturing; chemical products manufacturing; electrical machinery and electronics manufacturing, repair and distribution; transpor-

**Table 4-1-5 Characteristics of Self-employed Persons in 2004 and 2005**

Units: thousand persons; %

Item	Year	2004	2005
Total no. of persons		1,458	1,438
Age		100.00	100.00
15~24		1.11	1.09
25~40		27.73	26.67
41~55		49.14	49.66
56~65		16.55	16.93
65 or over		5.46	5.65
Sex		100.00	100.00
Male		77.18	76.54
Female		22.82	23.46
Education		100.00	100.00
Illiterate		2.44	1.84
Self-taught		0.79	0.66
Primary school		30.74	29.89
Junior high school		23.67	23.72
Senior high school		9.56	9.81
Senior vocational school		22.41	22.66
Junior college		7.09	7.69
University		3.02	3.33
Master's		0.25	0.39
Ph.D.		0.01	0.02

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

tation vehicle manufacturing; precision machinery manufacturing, repair and distribution) (Table 4-1-6). This figure represents an increase of over 50,000 compared to 2004. However, the number of people working in SMEs in these industries rose by only around 1,000, and SMEs' share of all persons working in important new emerging industries fell by 2.64 percentage points; by contrast, the number of people working in large enterprises in important new emerging industries increased by over 46,000. It can thus be seen that large enterprises are gradually expanding into this sector, while SMEs are lagging behind. The characteristics of those employed persons working in important new emerging industries showed little change, although there was a slight decline in women's share of employment within this sector, both in SMEs and in large enterprises.

7. SMEs Dominate the Cultural and Creative Industries

The scope of the "cultural and creative industries," as defined in the government's Challenge 2008 National Development Plan, includes 13 individual industries: visual arts; music and performing arts; the cultural display industry; the handicrafts industry; the film industry; the broadcasting industry; the publishing industry; the advertising

Table 4-1-6 Characteristics of Those Working in Important Emerging Industries in 2004 and 2005

Units: thousand persons; %

Item	2004			2005		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total no. of persons (Share of total)	672.22 (62.65)	393.92 (36.71)	6.89 (0.64)	673.47 (60.01)	440.42 (39.25)	8.29 (0.74)
Age	100.00	100.00	100.00	100.00	100.00	100.00
15~24	14.37	15.22	3.48	13.36	13.46	3.50
25~40	57.65	63.87	23.66	58.26	65.94	21.86
41~55	25.43	19.81	68.80	25.84	19.72	68.72
56~65	2.29	1.05	4.06	2.29	0.83	5.92
65 or over	0.26	0.06	—	0.24	0.05	—
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	55.37	56.31	93.18	55.73	57.72	83.84
Female	44.63	43.69	6.82	44.27	42.28	16.16
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	0.15	0.03	—	0.09	0.01	—
Self-taught	0.04	0.02	—	—	—	—
Primary school	6.71	2.44	1.60	6.37	1.95	1.81
Junior high school	13.12	6.57	7.55	12.70	5.66	5.07
Senior high school	8.83	7.37	8.85	8.57	6.80	7.00
Senior vocational school	31.64	30.18	30.33	30.95	29.53	30.04
Junior college	22.76	25.32	22.93	22.40	24.74	22.32
University	13.81	20.31	22.35	15.64	22.06	26.06
Master's	2.73	7.35	4.79	3.03	8.70	6.76
Ph.D.	0.21	0.40	1.74	0.25	0.57	0.97

Note: The "important emerging industries" include: chemical materials manufacturing; chemical products manufacturing; electrical machinery and electronics manufacturing, repair and distribution; transportation vehicle manufacturing; precision machinery manufacturing, repair and distribution.

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

industry; the design industry; the digital leisure and entertainment industry; the designer brand fashion industry; the innovative lifestyles industry; and the architectural design industry. Due to the limitations of the available data, the following analysis is confined to the artistic and sporting services industry, the film industry, the broadcasting industry, the publishing industry, the advertising industry, the design services industry, the building and construction services industry, and the leisure services industry.

Looking at the data for 2004 and 2005, one can see that the number of people working in the cultural and creative industries stood at 279,000 in 2004 and 292,000 in 2005 (Table 4-1-7). In 2005, there were just over 220,000 people working in SMEs in the cultural and creative industries, representing an increase of over 11,000 on 2004.

It may be that the government's promotional efforts have succeeded in attracting more people to enter the cultural and creative industries.



Table 4-1-7 Characteristics of Those Working in the Cultural and Creative Industries in 2004 and 2005

Units: thousand persons; %

Item	2004			2005		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total no. of persons (Share of total)	213.91 (76.73)	59.45 (21.33)	5.41 (1.94)	225.72 (77.32)	59.81 (20.49)	6.39 (2.19)
Industry	100.00	100.00	100.00	100.00	100.00	100.00
Artistic and sporting services	11.94	9.93	39.29	12.08	10.61	32.82
Film industry	2.37	1.34	—	1.65	1.63	—
Broadcasting	5.92	31.25	11.06	4.71	32.26	11.73
Publishing	10.12	29.10	1.08	10.54	27.76	2.43
Advertising	18.87	3.03	—	19.72	2.60	1.30
Design services	9.34	4.82	—	10.75	7.36	—
Building and construction services	11.35	8.42	8.31	11.36	8.53	6.60
Leisure services	30.09	12.11	40.27	29.19	9.25	45.12
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	54.15	55.62	63.44	52.59	53.79	56.64
Female	45.85	44.38	36.56	47.41	46.21	43.36
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	0.07	0.09	—	0.08	0.09	—
Self-taught	0.05	—	—	0.02	—	1.07
Primary school	5.33	4.05	11.98	4.86	2.30	6.02
Junior high school	10.85	4.72	7.27	11.29	4.34	8.47
Senior high school	9.51	7.35	9.70	9.26	7.09	8.99
Senior vocational school	31.00	23.91	21.26	30.11	18.33	20.64
Junior college	22.30	22.61	23.02	21.33	25.49	23.72
University	17.72	28.23	19.23	19.07	32.27	19.78
Master's	3.00	8.40	7.54	3.83	9.36	9.96
Ph.D.	0.17	0.64	—	0.15	0.73	1.35

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

8. The Number of Unemployed Persons Who Previously Worked in SMEs Continues to Fall

Compared to 2004, both the unemployment rate and the absolute number of unemployed people in Taiwan fell in 2005. The number of unemployed who had previously worked in SMEs declined from 313,000 in 2004 to 286,000 in 2005, while the number of unemployed who had previously worked in large enterprises increased from 33,000 to 35,000 (Table 4-1-8). These changes may be related to the government's implementation of the SME Manpower Assistance Program.

9. A Decline in the Number of SME Employees Changing Jobs

The number of SME employees changing jobs fell by 63,000 in 2005 compared to the

Table 4-1-8 Characteristics of the Unemployed in 2004 and 2005

Units: thousand persons; %

Year/ Enterprise Size Item	2004			2005		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total no. of persons (Share of total)	312.58 (68.82)	32.93 (7.25)	108.71 (23.93)	286.11 (66.82)	34.73 (8.11)	107.33 (25.07)
Age	100.00	100.00	100.00	100.00	100.00	100.00
15~24	17.45	17.53	55.17	17.14	17.78	52.63
25~40	48.39	51.90	29.85	49.87	53.11	32.48
41~55	30.45	27.57	12.22	29.12	26.98	11.88
56~65	3.70	3.01	2.76	3.75	2.13	3.01
65 or over	0.02	—	—	0.12	—	0.01
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	631.66	55.18	56.96	63.51	52.93	55.11
Female	33.45	44.82	43.04	36.49	47.07	44.89
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	0.30	—	0.10	0.20	—	0.13
Self-taught	0.09	0.03	0.11	0.10	—	0.04
Primary school	12.33	5.88	5.35	10.15	3.89	4.41
Junior high school	23.48	12.50	8.18	22.32	9.28	8.64
Senior high school	9.37	9.09	8.71	9.60	9.70	9.08
Senior vocational school	32.96	29.42	26.98	33.15	27.21	24.60
Junior college	13.75	23.89	17.80	14.59	24.02	16.50
University	7.21	16.76	27.77	9.19	22.83	33.08
Master's	0.48	2.32	4.85	0.72	3.08	3.28
Ph.D.	0.04	0.12	0.14	—	—	0.25

Note: The enterprise types given in the table are those in which the unemployed worked before becoming unemployed.

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

previous year. There was an increase in the number of SME employees going to work for other SMEs, while the number of SME employees going to work for large enterprises remained more or less unchanged (although there was a slight increase in percentage terms). Whether in absolute terms or percentage terms, the number of SME employees going to work for the government was the lowest for several years (Table 4-1-9).

Table 4-1-9 Choice of New Employer by Former SME Employees

Unit: thousand persons; %

Year	Total	Going to Work for Another SME		Going to Work for a Large Enterprise		Going to Work for the Government	
		No. of Persons	Share of Total	No. of Persons	Share of Total	No. of Persons	Share of Total
1998	485	426	87.99	46	9.94	13	2.07
1999	504	448	88.85	44	8.75	12	2.40
2000	490	427	87.14	53	10.82	10	2.04
2001	485	429	88.45	39	8.04	17	3.51
2002	441	394	89.34	32	7.26	15	3.40
2003	455	405	89.01	36	7.91	14	3.08
2004	501	433	86.32	43	8.62	25	5.05
2005	438	394	89.95	36	8.22	8	1.83

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, consecutive years.



10. The SME Manpower Assistance Program is Helping Enterprises to Find the Workers They Need

In accordance with the provisions of the Provisional Regulations Governing the Public Works Employment Program, on June 18, 2003 the Executive Yuan began implementation of the SME Manpower Assistance Program, with the aim of helping Taiwan's SMEs to recover from the economic downturn as quickly. For every unemployed person that they hired, SMEs could receive a government subsidy amounting to NT\$10,000 per month per new employee, up to a maximum period of 12 months. A total budget of NT\$3.3 billion was allocated for this program. Due to the fact that the type of manpower for which SMEs have the greatest need is medium and high-end manpower, rather than unemployed manual workers, the middle-aged and members of disadvantaged groups, the qualifications for obtaining subsidies under the SME Manpower Assistance Program were subsequently relaxed so that the subsidies were available for the recruitment of unemployed persons (and young people looking for their first job) aged 18 – 65, rather than 30 – 65 as originally specified. However, in the case of employees aged 18 – 30, the subsidy was available for only six months. Implementation of the SME Manpower Assistance Program was terminated on July 17, 2005. During the period from June 18, 2003 to July 17, 2005, a total of 14,885 enterprises applied for subsidies for 65,056 individuals; 13,558 enterprises (59,762 individuals) had their applications approved. The total amount of subsidies paid out was NT\$2.78 billion (Table 4-1-10), representing 92.66% of the budget allocated to the project. As of May 2005, 64% of the individuals recruited under the scheme were still working for the enterprises in question.

11. A Slight Increase in the Number of Foreign Laborers Employed by SMEs

To reduce competition for jobs between foreign laborers and domestic workers, in 2001 the Council of Labor Affairs began to implement a new policy of restricting the number of foreign laborers allowed into Taiwan. It was hoped that the adoption of this policy would help to reduce the unemployment rate. Subsequently, both the number of foreign laborer approvals and the number of foreign laborers actually in Taiwan fell steadily. The number of approvals in 2005 was 2,063 down on 2004. While the number of approvals for foreign laborers to work for SMEs rose by 1,618 (Table 4-1-11), the number of approvals for large enterprises fell by 3,681; the number of

Table 4-1-10 Awarding of Subsidies for Recruiting Unemployed Workers

Item		Units: enterprises ; persons ; NT\$ million	
Application for subsidy		No. of enterprises	14,885
		No. of individuals	65,056
Approval of application		No. of enterprises	13,558
		No. of individuals	59,762
Reporting of employment status		No. of enterprises	13,558
		No. of individuals	59,762
Interviews	Enterprise fills out waiver form	No. of individuals	12,122
	Telephone interview	No. of enterprises	25,260
		No. of phone calls	56,605
	On-site interviews	No. of individuals	69,516
		No. of enterprises	16,085
		No. of visits	16,811
		No. of individuals	57,718
Awarding of subsidies		No. of cases	20,292
		No. of individuals	69,134
		Amount	2,780

Source: SME Association.

foreign laborers actually working in Taiwan rose by 1,195 in the case of SMEs and fell by 569 in the case of large enterprises. As a result, the SMEs' share of the total number of foreign laborers increased slightly.

Table 4-1-11 Number of Foreign Laborers Employed by Large Enterprises and SMEs, 2002 – 2005

		Units: persons; %			
Enterprise Size		Foreign Laborer Approvals		No. of Foreign Laborers Actually in Taiwan	
Year		SMEs	Large Enterprises	SMEs	Large Enterprises
2002		85,965 (42.30)	117,270 (57.70)	76,846 (42.68)	103,192 (57.32)
2003		83,322 (42.37)	113,316 (57.63)	75,824 (43.04)	100,332 (56.96)
2004		81,996 (41.13)	117,350 (58.87)	75,224 (41.82)	104,654 (58.18)
2005		83,614 (42.38)	113,669 (57.62)	76,419 (42.25)	104,085 (57.75)

Notes: 1. Includes only foreign laborers employed by manufacturing and construction firms.

2. SMEs are defined as firms with less than 200 employees.

3. Figures in parentheses are percentages of the total.

Source: Bureau of Employment and Vocational Training, Council of Labor Affairs, Executive Yuan.

II Labor Conditions in SMEs

1. In the Hotel and Restaurant Industry, SMEs Have Higher Salary Levels than Large Enterprises



With the economy starting to pick up again, average salaries have risen at many SMEs. In the mining and quarrying industry, SME salaries in 2005 were significantly lower than in 2004; several other industries also saw a decline in average salaries, but not as severe as in the mining and quarrying industry. Among large enterprises, the only industries where average salaries increased were the water, electricity and gas industry, the finance and insurance industry, the educational services industry, and the cultural, sporting and leisure services industry; all other industries saw a decline in average salaries (Table 4-2-1).

Table 4-2-1 Average Monthly Salary in 2004 and 2005 –by Industry

Unit: NT\$ thousand

Enterprise Size Industry	SMEs		Large Enterprises		Government Employees	
	2004	2005	2004	2005	2004	2005
Agriculture, forestry, fisheries and animal husbandry	16.79	19.13	31.27	29.51	36.15	35.23
Mining and quarrying	40.64	33.43	–	–	25.04	41.82
Manufacturing	32.24	32.65	37.54	37.37	49.45	51.29
Water, electricity and gas	35.11	33.11	40.97	52.48	54.22	54.24
Construction	34.31	35.46	49.60	42.33	37.70	47.29
Wholesaling and retailing	33.90	34.34	39.03	36.92	39.54	40.61
Hotel and restaurant industry	29.03	29.89	31.57	27.65	25.00	25.50
Transportation, warehousing and communications	35.28	35.32	48.08	45.75	49.59	51.70
Finance and insurance	38.84	39.45	43.32	45.04	50.83	51.84
Real estate and leasing	36.32	34.26	41.68	36.06	34.94	35.16
Professional, scientific and technical services	40.09	39.05	52.31	47.72	41.50	44.35
Educational services	30.87	29.65	46.43	51.39	45.78	47.13
Medical, healthcare and social services	44.00	44.82	46.49	46.95	46.65	48.69
Cultural, sporting and leisure service s	29.35	31.55	38.47	40.59	34.38	38.35
Other service industries	29.63	29.35	31.16	30.94	30.68	99.70

Source: DGBAS, *Taiwan Region Manpower and Employment Survey*, 2004 and 2005.

2. A Slight Fall in Personnel Costs' Share of Total Costs in 2004

An enterprise's operating expenses include wages, rental, travel expenses, advertising, water, electricity and gas bills, postal costs, insurance premiums, entertainment expenses, and training costs etc. Personnel expenses account for a significant share of operating expenses. Among SMEs, this share is highest in the medical, healthcare and social services industry, where it was 56.88% in 2005 (Table 4-2-2), and lowest in the mining and quarrying industry (15.84%). In most other industries, personnel expenses account for around 40% of total operating expenses. Among large enterprises, it is once again the medical, healthcare and social services industry that has the highest

percentage, with the real estate and leasing industry having the lowest (19.82%).

Table 4-2-2 Personnel Costs as a Percentage of Operating Costs and Operating Expenses in 2004

Unit: %

Industry	Enterprise Size	Personnel Costs as a Percentage of Operating Expenses		Personnel Costs as a Percentage of Operating Costs	
		SMEs	Large Enterprises	SMEs	Large Enterprises
Agriculture, forestry, fisheries and animal husbandry		34.27	41.65	4.44	4.34
Mining and quarrying		15.84	39.87	2.90	7.21
Manufacturing		38.67	26.84	5.38	2.26
Water, electricity and gas		37.59	36.03	10.02	1.54
Construction		50.61	42.74	5.90	1.89
Wholesaling and retailing		48.16	35.08	9.77	4.12
Hotel and restaurant industry		44.58	38.54	19.42	15.78
Transportation, warehousing and communications		45.19	40.82	14.43	6.14
Finance and insurance		43.96	44.01	12.29	0.62
Real estate and leasing		39.61	19.82	11.40	2.27
Professional, scientific and technical services		49.02	44.87	24.14	10.93
Educational services		45.78	81.73	30.00	48.79
Medical, healthcare and social services		56.88	44.65	24.92	19.77
Cultural, sporting and leisure services		44.65	32.10	19.77	10.43
Other service industries		54.74	45.86	24.78	10.95

Note: Operating costs include both business costs and operating expenses.

Source: Ministry of Finance Tax Data Center, Business income tax data for 2004.

If business costs are added to operating expenses, then personnel costs' share of total operating costs is significantly lower. For SMEs in 2004, the industry in which personnel costs accounted for the largest share of operating costs was educational services. The difference is more apparent in the manufacturing sector than in the service sector, mainly because manufacturing firms need to purchase raw materials, which account for a large share of operating costs. In the service sector, the expenditure on raw materials is much smaller, hence the disparity in the share of operating costs held by personnel costs.

3. Little Change in the Number of Hours Worked per Week for All Industries

Although the economy grew steadily in 2005, in most industries the average number of hours worked per week was lower than in 2004. In the SME sector, the hotel and restaurant industry has consistently had the longest working hours. Average working hours in the hotel and restaurant industry in 2005 were 50.50 hours, followed by the wholesaling and retailing industry with 48.07 hours (Table 4-2-3).

**Table 4-2-3 Working Hours per Week in 2004 and 2005 –by Industry**

Unit: hours per week

Industry	Enterprise Type	SMEs		Large Enterprises		Government Employees	
		2004	2005	2004	2005	2004	2005
Agriculture, forestry, fisheries and animal husbandry		41.26	41.08	43.27	43.16	40.98	40.86
Mining and quarrying		45.77	44.92	40.00	–	40.48	40.51
Manufacturing		44.41	44.21	43.59	43.70	41.36	40.72
Water, electricity and gas		44.03	44.03	42.71	42.28	40.87	40.60
Construction		41.75	41.53	43.08	42.45	40.71	40.17
Wholesaling and retailing		48.49	48.07	44.78	45.54	42.01	42.51
Hotel and restaurant industry		50.57	50.50	47.01	47.36	49.00	45.30
Transportation, warehousing and communications		46.24	47.15	44.65	43.93	40.29	40.75
Finance and insurance		44.21	44.50	43.44	42.96	41.09	40.23
Real estate and leasing		47.57	47.65	47.76	46.74	41.71	40.25
Professional, scientific and technical services		43.42	42.98	44.44	44.42	40.76	41.05
Educational services		40.49	40.02	37.57	37.90	36.73	36.64
Medical, healthcare and social services		45.56	46.54	43.94	44.76	42.68	41.83
Cultural, sporting and leisure services		47.67	46.83	43.89	44.91	40.24	40.96
Other service industries		47.71	47.99	46.20	46.84	41.97	41.50
Public administration		41.33	43.17	40.00	40.00	41.79	41.63

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

Among workers in the private sector, average working hours declined with age (Table 4-2-4). In the SME sector, those educated to vocational high school level have the longest working hours—nearly 45 hours a week in 2005, although this did represent a slight decrease compared to 2004. For other educational levels, both above and below the vocational high school level, the average number of hours worked each week is lower. In large enterprises, the correlation between a higher educational level and shorter working hours is particularly pronounced.

4. An Increase in Labor Disputes in SMEs

Although the economy grew by 4.1% in 2005, the introduction of the new labor insurance pension system on July 1, 2005 led to many disputes regarding the question of how existing pension funds should be dealt with. In both the large enterprise and SME sectors, 2005 saw a dramatic increase in both the number of labor disputes and the number of workers involved compared to 2004. The number of disputes doubled, while the number of workers involved in labor disputes during the year shot up from 21,000 in 2004 to over 77,000 in 2005 (Table 4-2-5). The implementation of the new labor insurance pension system has clearly had a severe impact on SMEs.

Table 4-2-4 Weekly Working Hours for Employees in the Private Sector in 2004 and 2005

Unit: hours per week

Enterprise Size		SMEs		Large Enterprises	
Item		2004	2005	2004	2005
Average working hours per week		43.77	43.61	43.66	43.99
Age					
15~24		43.92	44.48	44.06	42.67
25~40		44.40	44.42	44.08	44.25
41~55		43.99	43.84	43.82	44.45
56~65		42.91	41.94	42.67	43.79
65 or over		41.89	41.76	39.51	42.09
Sex					
Male		44.23	44.29	44.19	44.55
Female		43.32	42.93	43.10	43.38
Education					
Illiterate		41.30	40.64	44.89	46.86
Self-taught		41.29	37.88	45.12	44.00
Primary school		43.28	43.30	44.62	45.58
Junior high school		44.36	44.68	45.19	45.45
Senior high school		45.40	44.93	44.73	44.43
Senior vocational school		45.23	44.92	44.62	43.93
Junior college		44.11	43.85	43.01	43.90
University		42.63	42.96	42.16	43.38
Master's		41.25	41.00	41.83	41.58
Ph.D.		39.43	40.35	39.75	41.21

Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004 and 2005.

Table 4-2-5 Number of Labor Disputes and Number of Persons Involved, 1998 – 2005

Units: persons; %

Year	Size	Disputes Registered with the Government			Disputes Registered with Private Arbitration Organizations		
	Total	Large Enterprises	SMEs	Total	Large Enterprises	SMEs	
No. of labor disputes							
1998	4,043	813(20.11)	3,230(79.89)	95	3(3.16)	92(96.84)	
1999	5,806	1,087(18.72)	4,719(81.28)	54	4(7.41)	50(92.59)	
2000	6,579	1,242(18.88)	5,337(81.12)	1,447	211(14.58)	1,236(85.42)	
2001	7,405	1,238(16.72)	6,167(83.28)	3,550	532(14.99)	3,018(85.01)	
2002	7,768	1,428(18.38)	6,340(81.62)	4,625	683(14.77)	3,942(85.23)	
2003	4,546	724(15.93)	3,822(84.07)	5,323	740(13.90)	4,583(86.10)	
2004	4,327	844(19.51)	3,483(80.49)	4,784	741(15.49)	4,043(84.51)	
2005	8,173	1,680(20.56)	6,493(79.44)	6,083	910(14.96)	5,173(85.04)	
No. of persons involved							
1998	103,206	96,548(93.55)	6,658(6.45)	362	192(53.04)	170(46.96)	
1999	30,363	20,780(68.44)	9,583(31.56)	77	6(7.79)	71(92.21)	
2000	53,790	41,931(77.95)	11,859(22.05)	2,753	877(31.86)	1,876(68.14)	
2001	51,961	37,272(71.73)	14,689(28.27)	4,975	1,707(25.55)	4,975(74.45)	
2002	89,242	74,813(83.83)	14,429(16.17)	8,278	2,879(34.78)	5,399(65.22)	
2003	17,012	8,385(49.29)	8,627(50.71)	8,019	1,865(23.26)	6,154(76.74)	
2004	21,038	13,541(64.37)	7,497(35.64)	6,271	1,234(19.68)	5,037(80.32)	
2005	77,642	63,390(81.64)	14,252(18.36)	7,902	1,151(14.57)	6,751(85.43)	

Notes: 1. Firms with under 100 employees are classified as SMEs; all other firms are classified as large enterprises.

2. Figures in parentheses are percentages of the total number of disputes or persons.

Source: Statistics Department, Council of Labor Affairs, Executive Yuan.



III Manpower Cultivation in SMEs

1. A Significant Increase in SME Participation in Professional Training in 2004

With the upturn in the economy, the number of people participating in professional training increased by 24,000 in 2004 (Table 4-3-1). There were unprecedentedly high increases among both public and private enterprises with 200 or more employees (an increase of 43,000) and those with less than 200 employees (30,000). Clearly, enterprises are seeking to strengthen the quality of their human resources. However, in the “Other” segment, there was a decrease of almost 50,000 in the number of people participating in professional training, possibly because training programs for this sector were squeezed out by the high demand for training for public and private enterprises.

Table 4-3-1 Number of Employees Participating in Professional Training, 1997–2004

Unit: instances of training

Year	Item	Total Instances of Participation in Professional Training	Employees of Public or Private Companies/Agencies with Less Than 200 Employees	Employees of Public or Private Companies/Agencies with 200 or More Employees	Other
1997		631,764	133,977	413,479	84,308
1998		623,495	139,376	392,753	91,366
1999		669,561	113,038	429,880	126,643
2000		757,670	155,153	464,555	137,962
2001		759,142	163,698	442,490	152,954
2002		738,580	160,498	399,128	178,954
2003		859,308	145,503	499,079	214,726
2004		883,921	175,682	541,872	166,367

Notes: 1. The category “public or private companies/agencies with 200 or more employees” includes training organized by public and private companies and agencies with 200 or more employees or staff.

2. The category “public or private companies/agencies with less than 200 employees” includes training organized by public and private companies and agencies with less than 200 employees or staff; it also includes training provided by training facilities attached to universities, foundations, public training institutions, etc.

3. The “other” category includes “cultivation training” provided by government training institutions and by training facilities attached to universities, foundations, public training institutions, etc.

Source: Bureau of Employment and Vocational Training, Council of Labor Affairs.

2. Training Integration to Provide the Manpower that Enterprises Need

In order to bring down the unemployment rate, which had been rising steadily, and to help business enterprises secure the manpower that they needed, in the second half of

2001 the government began to implement the “Plan for Promoting the Integration of Training and Placement for the Unemployed.” The aim of this plan was to match up job-seekers with enterprises’ manpower needs. It was anticipated that the implementation of this plan would help to cultivate the types of manpower that enterprises need, help enterprises to maintain a steady supply of new employees, and help the unemployed to find work.

In 2004, 77 enterprises participated in the program, and a total of 3,841 people received training. Of these, 99.05% were hired on completion of their training. Training integration of this kind has an important intermediary role to play, bridging the gap between employers and job-seekers (Table 4-3-2). However, with the upturn in the economy, although the number of enterprises participating in the scheme has risen, the number of people undergoing training has fallen dramatically. One of the main reasons for this situation is that, in order to protect the interests of SMEs, in 2004 the government placed a cap of NT\$1 million on the total funding assistance that any enterprise could receive under this program. As a result, most of the firms that have been accepted for participation in the program are SMEs, where the number of persons undergoing training tends to be smaller.

Table 4-3-2 Results of Training Integration, 2001 – 2004

Units: enterprises; persons; %

Year \ Item	No. of Enterprises Involved	No. of Trainees Hired	Percentage of Trainees Hired
2001	18	1,508	95.99
2002	85	12,253	99.58
2003	64	11,548	99.59
2004	77	3,841	99.05

Note: Implementation of this project began in the second half of 2001.

Source: Bureau of Employment and Vocational Training, Council of Labor Affairs, Executive Yuan.

3. Enterprise Spending on Professional Training Remains Low

As a rule, wages account for a higher share of SMEs’ total operating expenses and operating costs than they do for large enterprises. However, when it comes to expenditure on training, there is no direct correlation between training expenses as a percentage of total operating costs or operating expenses and the size of the enterprise. For SMEs in the agriculture, forestry, fisheries and animal husbandry industry, the wholesaling and retailing industry, the hotel and restaurant industry, and the cultural,



sporting and leisure services industry, on average, training expenses' share of total operating costs is lower than it is among large enterprises in these industries. However, for SMEs in other sectors, the share of total operating costs is higher than it is among large enterprises (Table 4-3-3). On the other hand, if one considers training expenses as a percentage of operating expenses rather than operating costs, then the percentage is lower for SMEs than for large enterprises in almost all industries.

Table 4-3-3 Expenditure on Training as a Percentage of Operating Costs and Operating Expenses in 2004

Unit: %

Enterprise Size Industry	SMEs		Large Enterprises	
	Expenditure on Training as a Percentage of Operating Costs	Expenditure on Training as a Percentage of Operating Expenses	Expenditure on Training as a Percentage of Operating Costs	Expenditure on Training as a Percentage of Operating Expenses
Agriculture, forestry, fisheries and animal husbandry	0.14	1.15	0.04	0.45
Mining and quarrying	0.04	0.23	–	–
Manufacturing	0.16	1.15	0.15	1.84
Water, electricity and gas	0.31	1.16	0.04	1.07
Construction	0.12	1.05	0.09	2.03
Wholesaling and retailing	0.17	0.84	0.23	1.96
Hotel and restaurant industry	0.25	0.57	0.46	1.14
Transportation, warehousing and communications	0.37	1.16	0.29	1.94
Finance and insurance	1.76	6.32	0.04	3.02
Real estate and leasing	0.21	0.73	0.13	1.18
Professional, scientific and technical services	1.28	2.60	1.21	4.98
Educational services	1.41	2.16	0.39	0.66
Medical, healthcare and social services	0.96	2.19	0.29	0.65
Cultural, sporting and leisure services	0.29	0.65	0.66	2.04
Other service industries	0.42	0.93	0.92	3.86

Source: Ministry of Finance Tax Data Center, Business income tax data for 2004.

4. Enterprises' Implementing Professional Training to Improve Working Efficiency

In a survey, the main reasons given by SMEs for implementing professional training, were in order: to improve working efficiency; to meet employees' individual needs; to upgrade employee capabilities; to satisfy organizational development needs; to cultivate managerial talent; and to boost employee morale. It can thus be seen that the main motivation for implementing such training is to enhance working efficiency and to meet employees' own individual career development needs (Table 4-3-4).

Table 4-3-4 SMEs' Motivation for Implementing Professional Training in 2005

Units: No. of enterprises; %

Ranking	Motivation	No. of Enterprises Reporting this Motivation	No. of Enterprises Reporting this Motivation as % of the Total
1	To improve working efficiency	87	22.5
2	To meet employees' individual needs	78	20.2
3	To upgrade employee capabilities	61	15.8
4	To satisfy organizational development needs	59	15.3
5	To cultivate managerial talent	54	14.0
6	To boost employee morale	47	12.2
Total		386	100.0

Source: College of Management, Tunghai University, *SME Training Needs in Central Taiwan – Analysis of Survey Results*, December 2005.

5. Personnel on Overseas Assignments Required Training on the Management of Local Staff and Legal and Regulatory Issues

Survey results showed that the areas where business enterprises felt that personnel who would be sent on overseas assignments required training the most included “management of local staff” (19.6% of enterprises), “understanding of local laws and regulations” (18.5%), and “understanding of the local market” (17.1%). Clearly, enterprises feel that personnel on overseas assignments need to have an in-depth understanding of the local environment in which they will be operating, including the legal and regulatory environment, the management of local staff, and the local market (Table 4-3-5). The situation in the manufacturing sector was more or less the same as for the survey population as a whole. For enterprises in the service sector, however, the most important area was “understanding of the local market,” followed by “management of local personnel” and “understanding of local laws and regulations.” A comparison with the results of the 2001 and 2003 surveys showed a consistent emphasis on these three areas in all sectors.

6. Cultivating Managers' Administrative Capabilities Is the Most Important Issue for Business Enterprises

The area that business enterprises in Taiwan felt to be most important in the cultivation of managers was “administrative capabilities” (including production, marketing, human resources, finance and R&D), which received a weighted average rating of 3.83. In second place was “interpersonal relations” (communication and coordination skills, leadership, ability to motivate, employee relations, conflict



Table 4-3-5 Areas Felt to Be Most Important in the Training of Personnel to Be Sent on Overseas Assignments, in 2001, 2003 and 2005

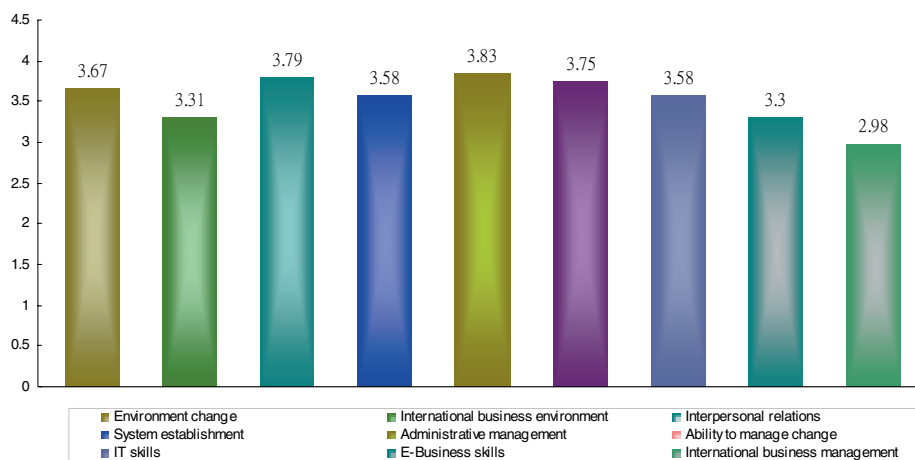
Unit: %

Areas Where Personnel to be Sent on Overseas Assignment Most Require Training	2001	2003	2005
Transnational corporate culture	5.7	2.3	4.6
Management of local staff	17.8	16.4	19.6
Language abilities	9.9	6.3	10.0
Understanding of the local market	15.0	10.5	17.1
Understanding of local laws and regulations	22.8	28.6	18.5
Industry-specific knowledge	13.1	5.9	8.5
Ability to communicate effectively with local government officials	10.5	3.2	8.5
Managerial expertise	–	10.9	–
No special training needed	2.2	3.2	3.9
Other	3.0	12.7	9.3
Total	100.0	100.0	100.0

Source: College of Business, National Chengchi University, *Survey of Enterprise Needs in 2005*, December 2005.

management and teamwork), with 3.79, followed by “ability to manage change” (including the ability to deal with changes in organizational structure, promoting the development of the “learning organization,” corporate restructuring, knowledge management, forward-looking leadership, value management, etc.), with 3.75. “Ability to manage environmental change” (including the globalization of the business environment, changes in the regulatory environment, the development and adoption of new technologies, etc.) was in fourth place, with 3.67 (Figure 4-3-1).

Figure 4-3-1 Weightings of Importance of Particular Manager Cultivation Areas



Source: College of Business, National Chengchi University, *Survey of Enterprises Needs in 2005*, December 2005.

7. Most Enterprises Have Failed to Establish Incentive Systems to Encourage Employees to Participate in In-Service Training

The results obtained in National Chengchi University's survey of SME needs showed that, of 926 enterprises included in the survey, 76.8% had failed to establish an incentive system to encourage employee participation in in-service training. Only 260 enterprises (21.6% of the total) had established such a system. In both the manufacturing sector and the service sector, over 75% of enterprises had failed to establish an incentive system (Table 4-3-6).

Table 4-3-6 Establishment of Incentive Systems to Encourage Employee Participation in In-service Training

Units: enterprises; %

Does Your Enterprise Have an Incentive System in Place?	No. of Enterprises (Share of total)	No. of Manufacturing Enterprises (Share of total)	No. of Service Sector Enterprises (Share of total)
Yes	260(21.6)	127(21.0)	133(21.6)
No / Don't need one	926(76.8)	466(77.2)	460(76.8)
Refused to answer / Don't know	20(1.7)	11(1.8)	9(1.7)
Total	1,206(100.0)	604(100.0)	602(100.0)

Source: College of Business, National Chengchi University, *Survey of Enterprise Needs in 2005*, December 2005.

Among those enterprises that had established an incentive system, the most common method of encouraging employee participation was to pay part of the training cost for the employee; 64.6% of enterprises with an incentive system used this method (Table 4-3-7). 31.2% made participation in in-service training one of the criteria for promotion; only a handful of enterprises offered salary hikes or bonuses to employees who participated in in-service training.

Table 4-3-7 Incentive Methods Used by Business Enterprises to Encourage In-service Training

Units: enterprises; %

Incentive Method	No. of Enterprises (Share of total)	No. of Manufacturing Enterprises (Share of total)	No. of Service Sector Enterprises (Share of total)
Paying part of training fee	203(64.6)	100(62.1)	103(67.3)
Making participation in training one of the criteria for promotion	98(31.2)	53(32.9)	45(29.4)
Salary hike or bonus	9(2.9)	5(3.1)	4(2.6)
Not sure	4(1.3)	3(1.9)	1(0.7)
Total	314(100.0)	161(100.0)	153(100.0)

Source: College of Business, National Chengchi University, *Survey of Enterprise Needs in 2005*, December 2005.



Chapter 5

The Current State of SME Trade and Overseas Investment Activity

Today, SMEs in Taiwan are faced with the impact of globalization, regional integration and the changes in the cross-strait trading environment. Although SMEs are handicapped to some extent by their limited financial resources and limited manpower, the emergence of the Internet and the development of new marketing techniques have helped SMEs to strengthen their marketing capabilities, thereby facilitating expansion into overseas markets. 2005 saw several visits to China by leading Taiwanese politicians, and a gradual strengthening of cross-strait economic and trade links between Taiwan and China. On July 21, 2005, the Chinese government announced that the Yuan would be revalued by 2% against the US dollar, and that in future it would be pegged to a basket of currencies rather than just the dollar; it was anticipated that this decision would have a significant impact on investment in China by Taiwanese companies.

Over the years, the flexibility of Taiwan's SMEs and their ability to respond rapidly to changes in the market have been one of the key factors behind Taiwan's continuing economic development. SMEs made a particularly important contribution to the exports that fueled Taiwan's growth. However, the picture presented by SME exports is often an opaque one; determining just how much is being exported to which markets can be a very challenging task. This chapter uses Ministry of Finance import/export data combined with business income tax data to provide an overview of the current state of SME export trade activity.

With the growth in cross-strait trade and investment between Taiwan and China, both government agencies and private-sector research institutes have been stepping up their research and analysis of cross-strait links. The results

obtained by the Investment Commission, Ministry of Economic Affairs, in its Survey of Investment in China showed that there was a tendency for Taiwanese enterprises in different industries to form industry clusters in various parts of China, and that this clustering effect had improved the profitability of Taiwanese firms' China operations. In accordance with the needs of globalization and internationalization, the localization implemented by the overseas subsidiaries of Taiwanese companies has emphasized the optimization of production strategies. According to the results of the Survey on Overseas Investment by Manufacturing Industry in Taiwan conducted by the Ministry of Economic Affairs, in 2004 large enterprises displayed more enthusiasm for overseas investment than SMEs did. Among the key factors motivating Taiwanese enterprises to invest overseas, the availability of abundant cheap labor was no longer as important as it had been two years previously. Most Taiwanese investment overseas continued to take the form of wholly-owned subsidiaries; there was a significant increase in joint ventures with foreign companies as compared to joint ventures with other Taiwanese companies. Those Taiwanese enterprises that were making a profit in their overseas operations generally attributed their performance to strong demand in the local market, while those that were making a loss mostly blamed intense competition within the industry.

In order to gain a clearer picture of the current state of SME investment in overseas markets, this chapter presents an overview of the key trends in overseas investment in recent years, including overseas investment by SMEs, the current state of Taiwanese SME investment in China, and the factors affecting the profitability of Taiwanese SMEs' overseas operations. Recommendations as to the areas on which SMEs should be focusing in their overseas investment activities are also presented.

I Overview of Taiwan's Imports and Exports

The import and export statistics presented in this section are based on Ministry of Finance customs data. The original customs data were not broken down by enterprise size, and so export sales figures from Ministry of Finance business



income tax data are used to supplement them.

1. Imports and Exports

According to Ministry of Finance statistics, in 2005 Taiwan's imports and exports totaled NT\$12.25 trillion, representing an increase of 4.25% compared to 2004. Exports totaled NT\$6.37 trillion (52.03% of the total), while imports came to NT\$5.88 trillion (47.97%). The annual rates of increase for exports and imports were 4.55% and 3.90%, respectively. Manufactured products have consistently accounted for 98.5% or more of Taiwan's total exports; in 2005, the products of heavy industry and of the chemical industry together accounted for 80.2% of total exports. The raw materials for agricultural and industrial use in turn account for the bulk of Taiwan's imports. Raw materials' share of total imports stood at 72.4% in 2005, with capital goods holding a 19.0% share and consumer goods an 8.6% share. Hong Kong and China was Taiwan's most important export market in 2005, taking 39.2% of all Taiwanese exports, followed by the US with 14.7%. The main source of imports was Japan (25.2% of total imports), followed by the US (11.6%).

2. SME Export Sales

As there are no official data on export sales by enterprise size, for the purposes of this chapter the export sales figures from the Ministry of Finance Tax Data Center's business income tax collection data have been used to gain some idea of what percentage of Taiwan's exports are accounted for by SMEs. According to these data, Taiwanese enterprises' export sales totaled NT\$8.6 trillion in 2005, with large enterprises accounting for NT\$7.1 trillion of this (82.40% of the total). The SMEs' share stood at NT\$1.5 trillion (17.60% of the total). Total export sales for all enterprises grew by only 1.62% in 2005, compared to a growth rate of 15.81% in 2004. For large enterprises, the growth rates were 17.29% in 2004, and just 0.95% in 2005; the equivalent figures for SMEs were 9.11% in 2004 and 4.85% in 2005 (Table 5-1-1).

Table 5-1-1 Taiwanese Enterprises Export Sales, 2003 –2005

Units: NT\$ million; %

Year	Total Export	Export by large enterprises	Export by SMEs
Export sales (NT\$ millions)			
2003	7,332,745	6,004,906	1,327,839
2004	8,491,702	7,042,909	1,448,794
2005	8,629,131	7,110,068	1,519,063
Share of total export sales (%)			
2003	100.00	81.89	18.11
2004	100.00	82.94	17.06
2005	100.00	82.40	17.60
Export sales annual growth rate (%)			
2004	15.81	17.29	9.11
2005	1.62	0.95	4.85

Source: Ministry of Finance Tax Data Center business income tax collection data.

II Trends in Overseas Investment by SMEs

1. Approved Overseas Investment

(1) The Scale of Approved Overseas Investment

According to the statistics on approved overseas investment compiled by the Investment Commission, Ministry of Economic Affairs, the annual total of approved overseas investment excluding in China peaked in 2000 at US\$5,077.06 million, after which it began to fall, dropping to US\$2,447.45 million by 2005; the latter figure represented a decrease of US\$934.57 million (27.63%) compared to 2004. There was negative growth in investment in the US, Japan, Hong Kong, Singapore, Malaysia and Australasia, but approved investment in Thailand, Indonesia, the Philippines and Europe grew strongly (Table 5-2-1).

Table 5-2-1 Approved Overseas Investment –by Region

Units: US\$ million; %

Year	Total	USA	Japan	Hong Kong	Singapore	Thailand	Malaysia	Indonesia	Philippines	Vietnam	Europe	Australasia	Other
2001	4391.65	1092.75	169.03	94.90	378.30	16.29	45.52	6.12	46.20	30.91	45.59	62.84	2403.20
2002	3370.05	577.78	23.55	167.06	25.76	5.96	31.96	9.16	82.83	55.19	123.42	192.64	2074.72
2003	3968.59	466.64	100.37	641.29	26.40	48.99	50.22	12.75	2.37	157.37	77.44	63.25	2321.51
2004	3382.02	557.04	149.33	139.70	822.23	8.66	35.48	2.45	2.39	95.13	62.10	142.63	1364.89
2005	2447.45	314.64	42.55	107.56	97.70	20.27	28.20	9.12	14.94	93.93	299.42	85.60	1333.53
2005 Annual Growth Rate	-27.63	-43.52	-71.50	-23.01	-88.12	133.93	-20.52	272.80	524.20	-1.26	382.13	-39.98	-2.30

Source: Investment Commission, Ministry of Economic Affairs, *Approved Overseas Investment Statistics*.



(2) Approved Investment in China

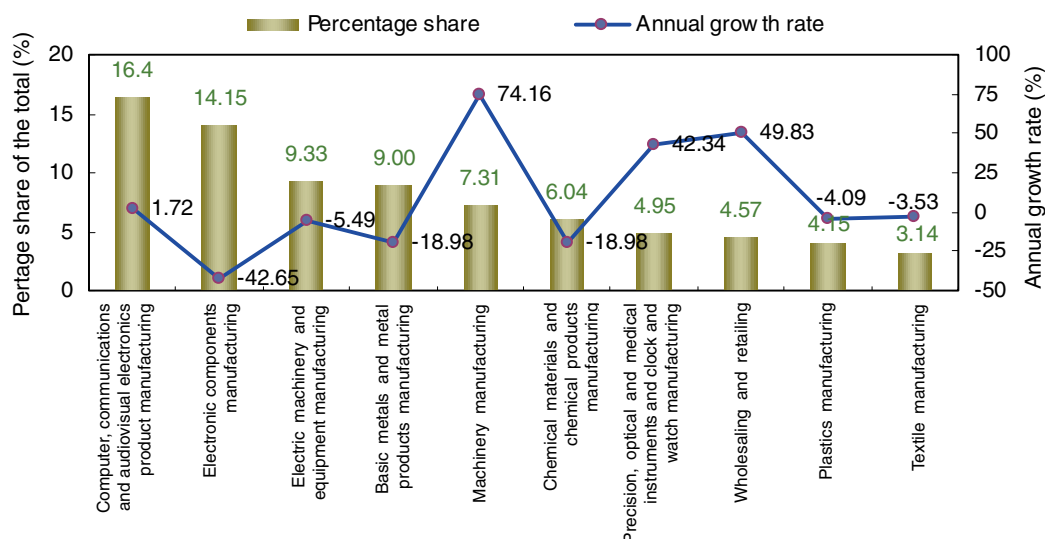
Statistics on approved investment in China compiled by the Investment Commission, Ministry of Economic Affairs, show that approved Taiwanese investment in China peaked in 2003 at US\$7,698.78 million, after which it began to fall. In 2005, approved investment in China totaled US\$6,006.95 million, representing a decrease of 13.45% compared to 2004. Three industries – the computer, communications and audiovisual electronics product manufacturing industry, the electronic component manufacturing industry, and the electrical machinery and equipment manufacturing and repair industry – have consistently accounted for the largest share of Taiwanese investment in China (39.88% in 2005). Industries where investment in China grew in 2005 included: the computer, communications and audiovisual electronics product manufacturing industry; the machinery manufacturing industry; the precision, optical and medical instruments and clock and watch manufacturing industry; and the wholesaling and retailing industry. Industries that saw negative growth in investment in China included: the electronic component manufacturing industry; the electrical machinery and equipment manufacturing and repair industry; the basic metals and metal products manufacturing industry; the chemical materials and chemical products manufacturing industry; the plastics manufacturing industry; and the textile industry (Figure 5-2-1).

2. Overseas Investment – Business Strategies

In line with the changes that have taken place in localization strategies, there has been a shift in the overall business strategies of Taiwanese companies with respect to their overseas operations, with a move away from defensive investment towards aggressive market development. In their 2006 paper, “Localization of Taiwanese Enterprises’ Overseas Operations,” Meng-chun Liu and Yu-chun Lin use data from the Investment Commission’s Survey of Overseas Investment (consecutive years) and Survey of Investment in China to analyze the localization of Taiwanese firms’ overseas operations. They point out that the process of localization can be examined from four angles: market orientation, local sourcing of materials and components, recruitment of local personnel, and localization of technology. An increase in these indicators shows that the Taiwanese companies in question are

becoming more dependent on the local market.

Figure 5-2-1 Approved Investment in China –by Industry



Source: Investment Commission, Ministry of Economic Affairs, Approved Investment in China Statistics.

(1) Market Orientation

For Taiwanese companies investing overseas, market orientation can take one of three forms: manufacturing goods for sale in the local market, manufacturing goods for shipment back to Taiwan, or manufacturing goods for export to a third country. Survey results show that 60% - 70% of Taiwanese firms investing overseas are producing goods for sale in the local market (40% - 50% in the case of firms investing in China), while only around 10% are producing goods for shipment back to Taiwan (just over 20% in China). Those Taiwanese companies that have invested in advanced nations are usually aiming to develop the local market; those that have invested in developing nations (other than China) are usually focusing either on developing the local market or on export sales to a third country.

(2) Local Sourcing

When it comes to purchasing production machinery, raw materials, components



and semi-finished products, Taiwanese companies investing overseas have the option of purchasing these items locally, shipping them over from Taiwan or importing them from a third country. Survey results show that, for Taiwanese companies as a whole, Taiwanese suppliers and imports from third countries are the most important sources of materials, etc. Taiwanese companies that have invested in advanced nations rely heavily on local sourcing (over 60% of the total). While companies that have invested in China do import a substantial share of the materials they need from Taiwan, they now rely even more heavily on local sourcing. This reflects the formation of industry clusters in China that integrate upstream and downstream manufacturers, and which make it easier for Taiwanese manufacturers to source the components and semi-finished products they need from other Taiwanese firms in China.

(3) Local Recruitment

Most of the Taiwanese companies investing in China are manufacturing firms that need to recruit large numbers of unskilled and semi-skilled workers. Companies investing in other parts of the world are more likely to be service sector firms with a greater demand for managerial and technical personnel. This is reflected in the fact that, whereas Taiwanese personnel account for 8% of the total workforce of the Chinese operations of Taiwanese companies, for overseas investment as a whole (including both China and other parts of the world) the figure is 15%. The last few years have seen a significant increase in the number of Taiwanese technical and R&D personnel working in Taiwanese companies' China operations, particularly in the electronics component industry; this trend reflects the rapid expansion of production capacity by Taiwanese component makers, who need Taiwanese technicians to ensure that their production lines operate smoothly.

(4) Localization of Technology

For the overseas operations of Taiwanese companies as a whole, the main sources of technology for the overseas operation are the parent company in Taiwan and the overseas operation's own R&D activity. In the case of companies investing in China, the main sources are the parent company in Taiwan, the operation's own

R&D activity, and technology supplied by a joint venture partner; the share held by local R&D activity is increasing. The availability of local R&D resources has a major impact on Taiwanese firms' localization strategies. Those companies investing in advanced nations often collaborate with local research institutes, universities and technology consulting firms, whereas collaboration on technology by Taiwanese firms investing in China is more likely to be with their customers, materials suppliers, or the "center" company in a center-satellite system.

3. Overseas Investment by Manufacturing Firms

The best source of data for examining overseas investment in terms of enterprise size is still the Survey on Overseas Investment by Manufacturing Industry published by the Ministry of Economic Affairs. However, this data source is based on the previous year's investment activities, i.e., the 2005 survey results are based on 2004 data. The following sections will examine the changes in overseas investment by Taiwanese manufacturing industry in terms of regional distribution, enterprise size (based on the size of the parent company in Taiwan), business areas invested in, motivation for investment and profitability.

(1) Regional Distribution

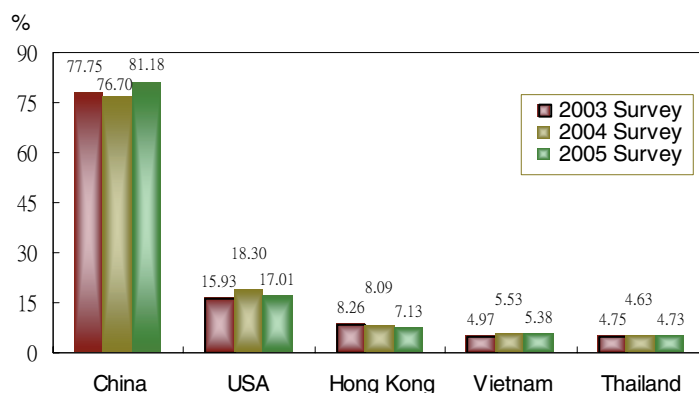
As regards the regions in which Taiwanese enterprises invest, China's huge domestic market and enormous business opportunities have made it the most popular target for Taiwanese investment. Over the last three years, the percentage of Taiwanese manufacturing enterprises investing in China has risen from 77.75% to 81.18%. The USA is the second most popular investment target; the share of manufacturing enterprises investing there has risen from 15.93% to 17.01% over the same period. No other region has exceeded 10% at any point in the last three years (Figure 5-2-2).

(2) Enterprise Size

The percentage of small enterprises investing in China rose from 79.25% in 2003 to 81.22% in 2005. For large enterprises, it increased from 75.72% in 2003 to 82.58% in 2005. As regards investment in other regions, the overall level of in-



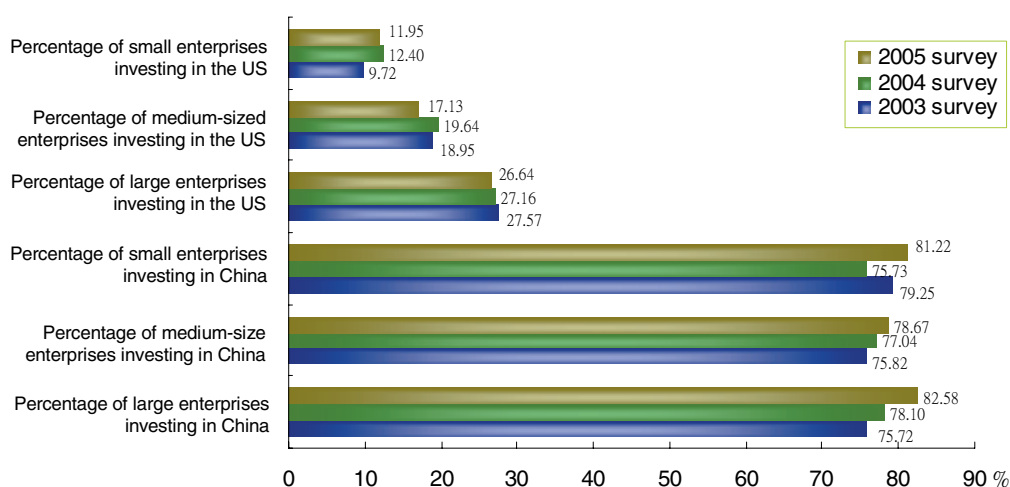
Figure 5-2-2 Percentage of Taiwanese Manufacturing Enterprises Investing in Individual Regions (Top Five)



Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan, 2003-2005*.

vestment in the US remains high, although the percentage of small enterprises investing in the US has increased slightly, from 9.72% in 2003 down to 11.95% in 2005 (Figure 5-2-3).

Figure 5-2-3 Percentage of Taiwanese Enterprises Invested in US and China –by Size

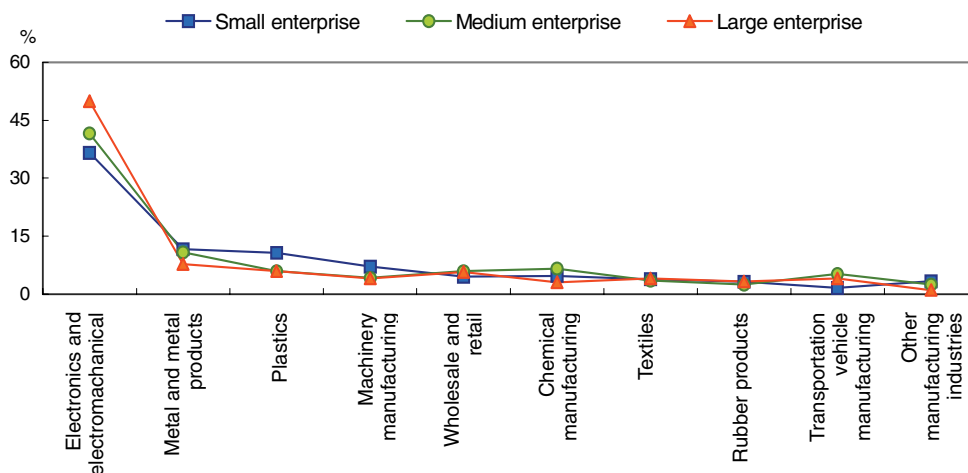


Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan, 2005*.

(3) Business Areas Invested in

Most Taiwanese manufacturing enterprises that invest overseas do so in the same industry; where companies do invest in industries different from that of the parent company in Taiwan, the industry in question is usually a related one. The industries in which Taiwanese companies have been most likely to invest in the last three years are the electronics and electromechanical engineering industry, the metals and metal products industry, and the plastics industry. In 2005, the percentage of companies in these industries investing overseas were 41.27%, 10.40% and 8.53%, respectively. The most rapid growth in overseas investment was found in the wholesale and retail industry, in fifth place; the percentage of enterprises in this industry investing overseas rose from 2.11% in 2003 survey to 5.08% in 2005 survey. Overseas investment by large enterprises in the last three years has mainly been in the electronics and electromechanical engineering industry. Industries in which medium-sized enterprises have been investing more aggressively than small or large enterprises include the chemical industry and the transportation vehicle manufacturing industry; industries where small enterprises have been investing more aggressively include the plastics industry and the machinery manufacturing industry (Figure 5-2-4).

Figure 5-2-4 Main Business Areas in Which Taiwanese Enterprises Invested Overseas in 2005 Survey –by Size



Note: The electronics and electromechanical industry includes the computer, communications and audiovisual electronics industry, the electronic components industry and the electric power machinery industry.

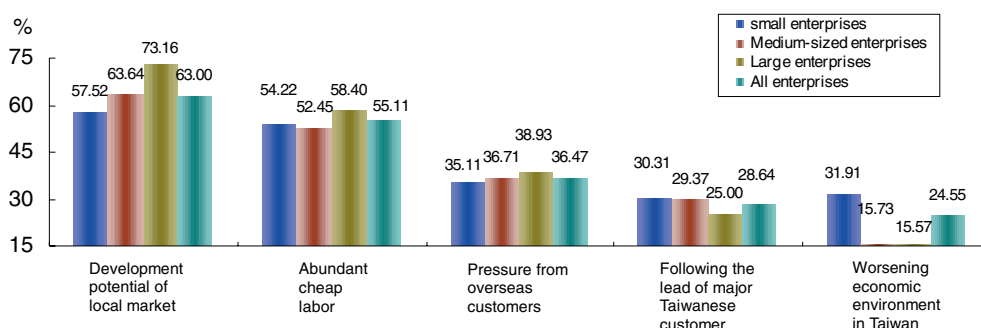
Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry*, 2005.



(4) Motivation for Overseas Investment

According to the 2005 survey results, “local market has high development potential” was the main motivation for manufacturing firms to invest overseas, with 63% of enterprises reporting this as a motivating factor. This was the main motivation for large, medium and small enterprises, although it was a particularly important factor for large enterprises. “Access to an abundant supply of cheap labor” was the second most important factor (55.11% of enterprises), although this was clearly a less important issue for small and medium-sized enterprises than it had been in the past (Figure 5-2-5).

Figure 5-2-5 Percentage of Enterprises Reporting Particular Factors Motivating Overseas Investment in 2005 Survey



Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry*, 2005.

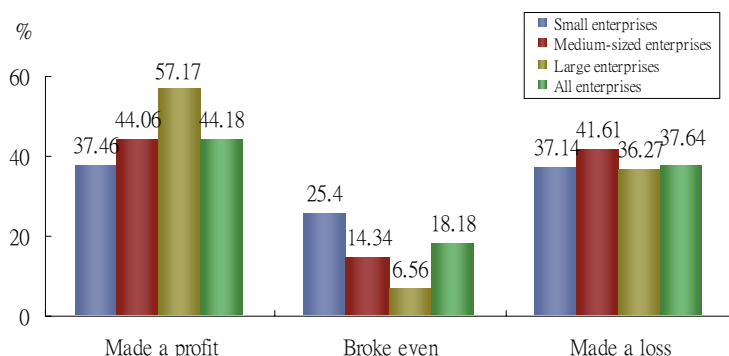
The major changes in motivation for investing overseas that have been seen over the last three years are as follows. The percentage of large enterprises that have invested overseas in response to requests from an overseas customer has risen from 34.77% in 2003 to 38.93% in 2005, while the percentage of large enterprises for which the investment incentives offered by the government in the country in which they are investing are an important motivation fell from 14.20% in 2003 to 10.04% in 2005. Among medium-sized enterprises, the share of enterprises that had invested overseas because an important Taiwanese customer had relocated its production operations overseas rose from 22.88% in 2003 to 29.37% in 2005; the percentage for whom investment incentives offered by the local government were an important factor fell from 11.76% to 7.34%. For small enterprises, the percentage for which access to a large pool of cheap labor was important fell from

66.23% in 2003 to 54.22% in 2005, while the percentage that had invested overseas because an important customer had done so rose from 27.64% to 30.31% over the same period. The share of small enterprises for which the ready availability of land for factory construction was a key issue fell from 18.02% in 2003 to 13.55% in 2005.

(5) Profitability of Overseas Operations

44.18% of manufacturing enterprises reported that their overseas operations made a profit in 2004; 18.18% broke even, and 37.64% made a loss. In 2003, more than 70% of large and medium-sized enterprises had made a profit in their overseas operations; in 2004, only 57.17% of large enterprises did so, and for medium-sized enterprises the percentage fell to 44.06%, with 41.61% of medium-sized enterprises making a loss. As for small enterprises, 2002 saw a third of small enterprises making a profit, another third breaking even and another third making a loss. In 2003, 47.60% made a profit; in 2004, 37% made a profit, 37% made a loss, and 25.40% broke even (Figure 5-2-6).

Figure 5-2-6 Profitability of Enterprises' Most Important Overseas Operations in 2005 Survey –by Size



Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry*, 2005.

III SME Investment in China

81.18% of overseas investment by Taiwanese enterprises is concentrated in China. This section uses original data from the Ministry of Economic Affairs' 2004 Survey on Overseas Investment by Manufacturing Industry to examine the current

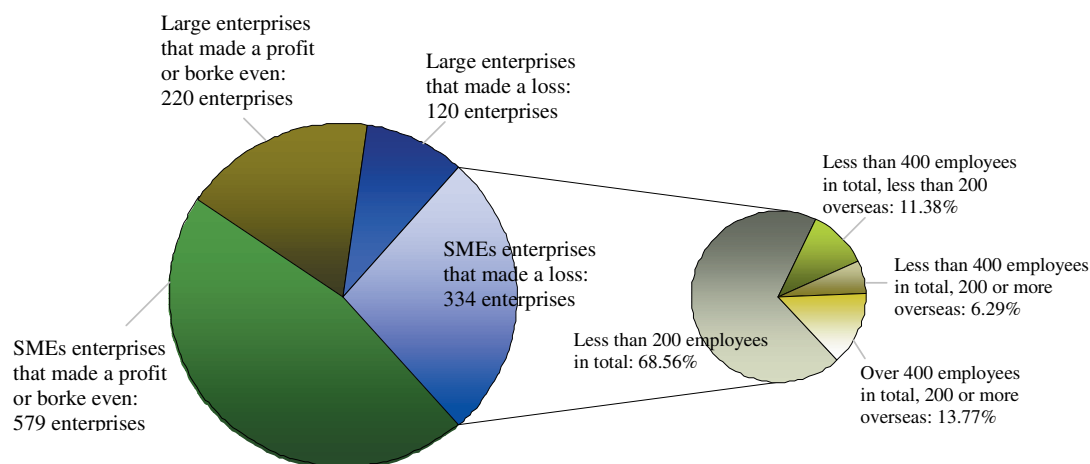


state of Taiwanese investment in China in terms of enterprise size, profitability, etc.

1. Characteristics of Manufacturing Firms Investing in China

According to the original data from the 2004 Survey on Overseas Investment by Manufacturing Industry, out of a sample of 1,253 Taiwanese manufacturing enterprises whose main overseas operation was located in China, 913 (72.87% of the total) were classed as SMEs (having less than 200 employees at home); there were 340 large enterprises (27.13% of the total). 799 enterprises (63.77% of the total) either made a profit or broke even in 2004, with 454 (36.23%) making a loss. Of the 334 enterprises where the Taiwan parent company was an SME and which made a loss, 68.56% had less than 200 employees in total (counting both the domestic and overseas operations); of the SMEs that made a profit or broke even, 57.86% had less than 200 employees in total, while 21.59% had 400 or more employees (Figure 5-3-1).

Figure 5-3-1 Profitability of the Main China Operations of Taiwanese Enterprises in 2004 –by Size



Note: Sample size is 1253 enterprises.

Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan, 2005*.

(1) Year in Which Investment in China Commenced

Out of 1,253 Taiwanese enterprises whose main overseas operation was in China in 2004, 34.64% began to invest there in 2001 or after; of these enterprises, 72.58% were SMEs and 27.27% were large enterprises. A total of 63.77% of these enterprises made a profit or broke even in 2004; 36.23% made a loss. On average, among those enterprises that began to invest in China during the periods 1992–1994, 1995–1997 or 1998–2000, the share of all enterprises making a profit or breaking even was around 7 percentage points higher than the share that made a loss; among those that began to invest in China in 2001 or after, the share of all enterprises that were making a loss was 2.72 percentage points higher than the share that was making a profit (Table 5-3-1).

Table 5-3-1 Profit or Loss of Main Overseas Operation in China in 2004 – by the Year in Which Investment in China Began

Units: enterprises; %

Year	Total			Made a Loss			Made a Profit or Broke Even		
	Subtotal	SMEs	Large Enterprises	Subtotal	SMEs	Large Enterprises	Subtotal	SMEs	Large Enterprises
Sample Size (enterprises)	1,253	913	340	454	334	120	799	579	220
1986 or earlier	0.40	0.55	—	0.22	0.30	—	0.50	0.69	—
1987 - 1991	5.91	6.35	4.71	3.96	4.49	2.50	7.01	7.43	5.91
1992 - 1994	15.96	15.22	17.94	11.67	11.68	11.67	18.40	17.27	21.36
1995 - 1997	18.75	18.73	18.82	15.42	15.87	14.17	20.65	20.38	21.36
1998 - 2000	24.34	24.64	23.53	24.67	24.25	25.83	24.16	24.87	22.27
2001 or later	34.64	34.50	35.00	44.05	43.41	45.83	29.29	29.36	29.09

Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan*, 2005.

(2) Main Business Area of the Taiwan Parent Company

Of the Taiwanese enterprises whose main overseas operation was located in China in 2004, 60.18% were involved in processing operations that fell under the category of heavy industry; 24.90% were involved in light industry processing operations. Of those whose China operation was making a profit or breaking even, 57.70% were involved in heavy industry processing operations, suggesting that other business areas may offer slightly higher earnings potential. Of those enterprises whose China operation was making a loss, 64.54% were involved in



heavy industry processing operations; 74.74% of these firms were SMEs and 25.26% were large enterprises (Table 5-3-2).

Table 5-3-2 Profit or Loss of Main Overseas Operation in China in 2004 – by Main Business Areas in Taiwan

Units: enterprises; %

Main Business Area	Total			Made a Loss			Made a Profit or Broke Even		
	Subtotal	SMEs	Large Enterprises	Subtotal	SMEs	Large Enterprises	Subtotal	SMEs	Large Enterprises
Sample Size (enterprises)	1,253	913	340	454	334	120	799	579	220
Processing (heavy industry)	60.18	59.69	61.47	64.54	65.57	61.67	57.70	56.30	61.36
Processing (light industry)	24.90	26.83	19.71	21.81	24.25	15.00	26.66	28.32	22.27
Materials (heavy industry)	7.66	6.79	10.00	5.95	4.19	10.83	8.64	8.29	9.55
Materials (light industry)	7.26	6.68	8.82	7.71	5.99	12.50	7.01	7.08	6.82

Note: Business areas are ranked in order of the percentage of all enterprises.

Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan*, 2005.

(3) Main Business Areas in China

Of those Taiwanese enterprises whose main overseas operation was in China in 2004, 39.27% of the Taiwanese parent companies were in the electronics industry, 26.42% were in the metals and machinery industry, 19.39% were in the chemical industry and 14.92% were in the consumer goods manufacturing industry. It was noticeable that a high percentage (9.66%) of the China operations of these companies were in the service sector. The three industries that accounted for the largest share of the China operations of Taiwanese companies whose main overseas operation was in China were the IT and electronics component industry (35.76%), the metal and machinery industry (21.31%) and the chemical industry (20.27%) (Table 5-3-3).

2. Business Strategy in the China Operation

(1) Form of Organization

In 2004, 69.59% of the China operations of Taiwanese enterprises whose main overseas operation was in China took the form of wholly-owned subsidiaries. 9.10% were joint ventures with foreign companies, and 8.38% were collaborative ventures with other Taiwanese firms. Among those enterprises that were making a

**Table 5-3-3 Profit or Loss of Main Overseas Operation in China in 2004
– by Industries Invested in China**

Units: enterprises; %

Industry	Total			Made a Loss			Made a Profit or Broke Even		
	Subtotal	SMEs	Large Enterprises	Subtotal	SMEs	Large Enterprises	Subtotal	SMEs	Large Enterprises
Sample Size (enterprises)	1,253	913	340	454	334	120	799	579	220
By industries of parent company									
IT and electronics	39.27	37.46	44.12	43.83	44.31	42.50	36.67	33.51	45.00
Metals and machinery	26.42	28.37	21.18	24.23	24.85	22.50	27.66	30.40	20.45
Chemical industry	19.39	19.28	19.71	17.18	16.77	18.33	20.65	20.73	20.45
Consumer goods	14.92	14.90	15.00	14.76	14.07	16.67	15.02	15.37	14.09
By industries invested in China									
IT and electronics	35.76	33.29	42.36	38.10	37.72	39.17	34.42	30.73	44.10
Metals and machinery	21.31	23.00	16.76	19.82	20.06	19.17	22.14	24.70	15.45
Chemical industry	20.27	20.93	18.51	17.40	17.08	18.33	21.91	23.14	18.64
Consumer goods	10.70	10.74	10.59	11.44	11.09	12.50	10.27	10.53	9.54
Service sector	9.66	9.76	9.40	11.01	12.28	7.50	8.89	8.29	10.44
Construction	2.00	1.86	2.35	1.98	1.50	3.33	2.00	2.07	1.82
Mining and quarrying	0.24	0.33	—	0.22	0.30	—	0.25	0.35	—
Agriculture, forestry, fisheries and animal husbandry	0.08	0.11	—	—	—	—	0.13	0.17	—

Note: Business areas are ranked in order of the percentage of all enterprises.

Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan*, 2005.

loss in their China operations, in the case of SMEs, 70.26% of the China operations were wholly-owned subsidiaries, 9.58% were collaborative ventures with other Taiwanese firms, and 7.78% were joint ventures with foreign companies; by contrast, among large enterprises, 13.33% of the China operations were joint ventures with foreign companies.

(2) Business Type

In 2004, 65.84% of the China operations of Taiwanese enterprises whose main overseas operation was in China were mainly engaged in the manufacturing and sale of own-brand products; this was the main business area both for those China operations that were making a profit or breaking even, and for those that were making a loss. 38.47% were mainly involved in OEM production, and 14.76% were mainly engaged in ODM. Among those China operations that were making a loss, 62.57% were engaged in the manufacturing and sale of own-brand products; most of these were companies where the Taiwan parent company had less than 200 employees. 40.72% were mainly involved in ODM production; here, 30.88% of the China operations had 200 or more employees.



(3) Technology Sources

For 88.43% of the China operations of Taiwanese enterprises whose main overseas operation was in China in 2004, the Taiwan parent company was the main source of technology. The Taiwan parent company was the main technology source both for loss-making China operations and those that were making a profit or breaking even. Among large enterprises, the percentage was even higher, at over 90%. At 21.95%, the overseas operation undertook its own R&D activities; in 13.57% of cases, technology was supplied by a partner company.

(4) Marketing Methods

Of those Taiwanese companies whose main overseas operation was in China in 2004, 62.89% had the China operation handle at least part of its own marketing, while in 55.55% the Taiwan parent company had at least partial responsibility for the China operation's marketing activities. These were the most common marketing strategies for both loss-making enterprises and those that were making a profit or breaking even, and for both large enterprises and SMEs. The strategy of having a local (Chinese) company handle marketing was used by 17.64% of enterprises. Among those enterprises where the China operation was making a loss, 56.59% gave the Taiwan parent company at least partial responsibility for the China operation's marketing activities, while 56.29% gave the China operation some control over its own marketing. In 71.28% of these enterprises, the total number of employees (including both those in Taiwan and those in overseas operations) was less than 200.

3. Problems Experienced When Investing in China and Areas Where Assistance Is Needed

(1) Reasons Why Companies Make a Loss in Their China Operations

In 2004, of those Taiwanese enterprises whose main overseas operation was in China and which were making a loss in that operation, the main reason given for making a loss was "fierce competition in the local market" (55.51% of enterprises), followed by "the rising cost of raw materials" (43.39%) and "cost of investing in China is very high, or are currently engaged in constructing a production facility"

(29.96%).

Of the enterprises whose China operations were making a loss, in 26.43% of cases the Taiwan parent company was a large enterprise, with 73.57% being SMEs. For large enterprises, besides intense competition from other companies in China, the high cost of investing in China and/or the fact that they were still building a factory was a major factor. For SMEs, the rising cost of raw materials was the biggest single factor. This was particularly true for those SMEs with more than 400 employees in their Taiwan and China operations combined; 73.91% of these enterprises reported that the rising cost of raw materials was the main reason why they were making a loss (Table 5-3-4).

Table 5-3-4 Reasons for Failing to Make a Profit of Taiwanese Enterprises Whose Main Overseas Operation Was in China in 2004

Unit: enterprises; %

Item	Total	Taiwan Parent Company is a Large Enterprise	Taiwan Parent Company is a SME				
			Subtotal	Less than 200 employees in total	Less than 400 employees in total, with less than 200 overseas	Less than 400 employees in total, with 200 or more overseas	400 or more employees in total, with 200 or more overseas
Sample size (enterprises)	454	120	334	229	38	21	46
Fierce competition in the local market	55.51	53.33	56.29	55.46	52.63	66.67	58.70
Rising cost of raw materials	43.39	30.00	48.20	42.79	42.11	61.90	73.91
High cost of investing in China / currently building a factory	29.96	34.17	28.44	27.51	36.84	28.57	26.09
Inadequate marketing network	20.04	19.17	20.36	23.14	18.42	19.05	8.70
Depressed state of the local economy	13.00	7.50	14.97	14.85	18.42	14.29	13.04

Note: Enterprises could give more than one reason.

Source: Ministry of Economic Affairs, *Survey on Overseas Investment by Manufacturing Industry in Taiwan*, 2005.

(2) Difficulties Encountered by the China Operations of Taiwanese Enterprises

Among those Taiwanese SMEs whose main overseas operation was in China in 2004 and that were making a loss in their China operation, 56.89% reported that fierce market competition was one of the main problems that they were experiencing in China. The next most commonly reported problem was cash flow problems (39.82%), followed by inefficient local government authorities in China



(29.34%). In the case of enterprises where the parent company in Taiwan was in the metals and machinery industry, 32.84% felt that the unstable political and economic situation in China was a major issue, while those in the IT and electronics industry and the consumer goods manufacturing industry were particularly unhappy about the onerous restrictions placed on domestic sales in the China market (28.57% and 27.03%, respectively). Major problems for companies in the chemical industry include the rising cost of labor in China (33.33% of enterprises) and the need to spend heavily on entertainment and related expenses (also 33.33%).

(3) Types of Assistance and Guidance that SMEs Would Like to See the Government Provide

Of those Taiwanese SMEs whose main overseas operation was in China and where that China operation was making a loss, the type of government assistance guidance that SMEs wished to see provided was for the government to arrange the signing of investment protection guarantees and to take steps to eliminate double taxation; 59.88% of SMEs felt that this was important. The next most widely desired assistance was help with financing and insurance (55.39% of SMEs). Among SMEs where the Taiwan parent company was in the metals and machinery industry, IT and electronics industry or consumer goods industry, the types of assistance desired were more or less the same as for SMEs as a whole. However, enterprises in the chemical industry felt that help with financing and insurance was the most important type of assistance that the government could provide (57.89% of SMEs).

IV Areas That SMEs Need to Focus on in Their Overseas Investment Activities

With the impact of economic globalization becoming more and more obvious, the global economy as a whole is gradually entering an era of intense competition and wafer-thin profit margins. The economic environment in Taiwan is often described as “one low and two highs”: a low economic growth rate, high levels of competition, and high unemployment. Under these circumstances, innovation has

become the key factor that Taiwan needs to focus on in order to maintain its international competitiveness. Innovation should not be confined to industrial activities; if it can be extended to the whole of society, so that a “multiplier effect” is created, then this will create new opportunities for Taiwan’s economy. Regardless of whether companies are investing in China or in other parts of the world, they need to leverage their own strengths in innovation and R&D so as to create new ideas and new capabilities. Whether this involves industrial upgrading or transformation, the aim should be to enhance the level of value added created through the effective utilization of both tangible and intangible assets, and to develop new marketing strategies, thereby securing more room for growth and building up more extensive marketing networks.

(1) Blue Ocean Strategy

Taiwanese enterprises that are making a loss in their overseas operations attribute this mainly to intense competition in the local market; enterprises also rated “intense competition” as the key problem that they faced in overseas markets. The book *Blue Ocean Strategy* by W. Chen Kim and Renée Mauborgne offers business enterprises a whole new model of strategic thinking, one which focuses on finding ways to create value, change the cost structure, develop value-added products, create new demand and overcome organizational obstacles.

(2) Recruiting and Integrating Talented Individuals with Global Vision

In their 2006 paper “Localization of Taiwanese Enterprises’ Overseas Operations,” Meng-chun Liu and Yu-chun Lin point out that, in both the hi-tech sector and traditional industries, overseas investment by Taiwanese companies is largely confined to China. They suggest that this is mainly because Taiwanese firms lack the ability to integrate global resources and international talent. With regard to manpower cultivation (in both the private and public sectors, and both short-term and long-term) and the recruitment of international talent, there is a clear need for more aggressive planning, promotion and implementation that takes into account both the needs of industry and the changes taking place in enterprise manpower structure.



(3) Careful Monitoring of Political and Economic Developments in Overseas Markets

In October 2005, the Chinese government announced the Eleventh Five-year Plan for Economic and Social Development. The main emphasis in the Eleventh Five-year Plan will be on leveraging science and technology to stimulate social and economic development. At the same time, the Plan aims to be human-centered, covering areas such as employment, education, public health and public safety. In order to promote industrial upgrading and improve the investment environment in China, the Chinese government is placing particular emphasis on the importance of innovation and R&D, and has planned a series of measures and promotional campaigns, including efforts to strengthen China's own innovation capability (thereby reducing its dependence on other countries), to encourage the establishment of new R&D facilities, and to develop the energy sector and new types of service industries. As the process of economic reform progresses, China is hoping to gradually transform itself from "factory to the world" into the world's biggest market, so that companies from all over the world will continue to invest there. Despite the rising purchasing power of the Chinese people, the market opening resulting from China's accession to the WTO, and the business opportunities created by the 2008 Beijing Olympics and the Shanghai Exposition, there are also many potential problems, including the fierce competition in the Chinese domestic market, rising labor costs, high oil prices and exchange rate fluctuations. Taiwanese companies that are planning to invest in China will need to take all of these factors into account.

(4) Emphasis on Risk Management

One point emphasized in the collected papers from the Conference on Risk Management in China organized by the Taiwan Electrical and Electronic Manufacturers' Association is that, in order to avoid becoming excessively dependent on China, Taiwanese firms should develop "alternative markets." By developing new markets, Taiwanese companies can spread risk and maintain flexibility; they should be thinking in global terms, rather than concentrating all of their investment in a single market. Maintaining a sound financial structure is also important; firms of consultants can help companies to adjust their financial

planning and familiarize themselves with the tax laws in the countries that they are investing in. This in turn will contribute to improved risk management, enabling firms to keep business risk to a minimum.

(5) Promoting the Development of Autonomous Industry Standards

Promoting the Development of Cross-Strait Industry Standards to Stimulate Industrial Upgrading in Taiwan points out the following requirements for the development of autonomous industry standards: the country in question must already possess a reasonably high level of technology and R&D; the country must have a large domestic market, and strong R&D and manufacturing capabilities; the companies promoting the establishment of standards must occupy a leading position within the industry supply chain; the industry standards that are promoted must be acceptable to customers in international markets. In the case of the hi-tech sector, Taiwan has already established a solid foundation in this area, while the position that China holds within the international value chain has been rising steadily in recent years. However, both Taiwan and China are at a relatively low level within the global innovation network, due to their past positioning as providers of ODM and OEM services, and the impact of the “patent trap.” Given the course that the development of regional markets can be expected to take in the future, Taiwanese companies should be looking for opportunities to develop autonomous industry standards.



Chapter 6

Challenges and Opportunities for Taiwan's Traditional Manufacturing Industries – A Case Study of the Textile Industry

How should one define the term “traditional industries?” According to the definition used by Taiwan’s Ministry of Economic Affairs, traditional manufacturing industries include chemical materials, chemical products, petroleum and coal products, rubber products, plastic products, basic metals, metal products, food products, tobacco products, textiles, garment and apparel manufacturing, leather and fur garments, wood and bamboo products, furniture and furnishings, paper pulp and paper products, printing, non-metallic minerals, and “other industries.” Under Taiwan’s current industrial development strategy, companies in non-traditional industries seem to find it easier to benefit from government assistance and incentive programs; as a result, firms in many industries are trying to reposition themselves as *not* belonging to a traditional industry. Given the current economic climate, it can be very difficult for companies in traditional industries to stay in business. In the past, the textile industry earned more foreign exchange for Taiwan than any other industry. However, in the last couple of years, it has fallen back to around the same level as the electronics industry and the communications industry. What are the problems affecting Taiwan’s traditional industries, and what strategies can companies in these industries adopt that will help them to grow and thrive? This chapter focuses on the textile industry as an example of the issues affecting Taiwan’s traditional industries. It begins with an overview of the development of Taiwan’s textile industry and the formation of textile industry clusters, before going on to describe the obstacles that have been retarding the growth of individual segments within the textile industry, and to identify the key factors affecting the industry’s development. The chapter ends

with some suggestions as to how the industry can escape from its current predicament. As there are many similarities between the pattern of development displayed by individual traditional industries, it is anticipated that the content of this chapter should have relevance to other traditional industries, too.

I Overview of Textile Industry Development

In the early years of textile industry development in Taiwan, the availability of workers who were prepared to work hard for low wages helped the industry to grow rapidly. Initially, Taiwan imported a wide range of natural and man-made fibers to use in fabric and garment manufacturing. Over time, the industry reoriented itself away from the domestic market towards producing for export. By the early 1980s, with the increase in production capacity for nylon and polyester fiber and other types of man-made fiber, and with the development of downstream industries (including weaving, dyeing and finishing), the man-made fiber industry was driving the growth of the textile industry as a whole. Taiwan's small size rendered it unsuitable for the development of natural fiber production; at the same time, Taiwan's petrochemical industry was sufficiently large to be able to purchase the most advanced man-made fiber production equipment. After more than two decades of steady growth, Taiwan had established itself as one of the world's leading producers of man-made fiber.

By the 1990s, the main focus of the Taiwanese textile industry's export business had shifted to industrial textiles (characterized by low unit price, a wide range of textile types, and high washability); fabric accounted for the largest share of total exports. The general feeling among textile manufacturers was that Taiwan should concentrate on developing capital-intensive man-made fiber production, which did not require the purchase of large areas of land. Large amounts of money continued to be invested in both upstream and downstream production right up until 1999.

However, by 1998, the global economy was experiencing an oversupply of textile products, and the value of Taiwan's textile exports began to fall. Customs data indicate that around half of the fiber, yarn, fabric and garments that are exported from Taiwan to Hong Kong are then transshipped to China. While



exports of garments continue to grow, exports of fiber, yarn, fabric and apparel have all fallen off. Exports of fiber have decreased by more than 50%, mainly because of the dramatic increase in man-made fiber production capacity in China; as China becomes increasingly self-sufficient in fiber, Taiwan's exports of polyester fiber to China have fallen off. Furthermore, although the high investment levels of the past gave Taiwan some of the world's lowest production costs, they also led to a severe problem with overcapacity. With the investment environment in Taiwan becoming increasingly unattractive, in the last few years Taiwanese textile manufacturers have been setting up production facilities overseas, not only in China but also in Southeast Asia and Central America. Whereas in the past a comprehensive textile industry supply chain existed in Taiwan, this supply chain is now undergoing pronounced structural change.

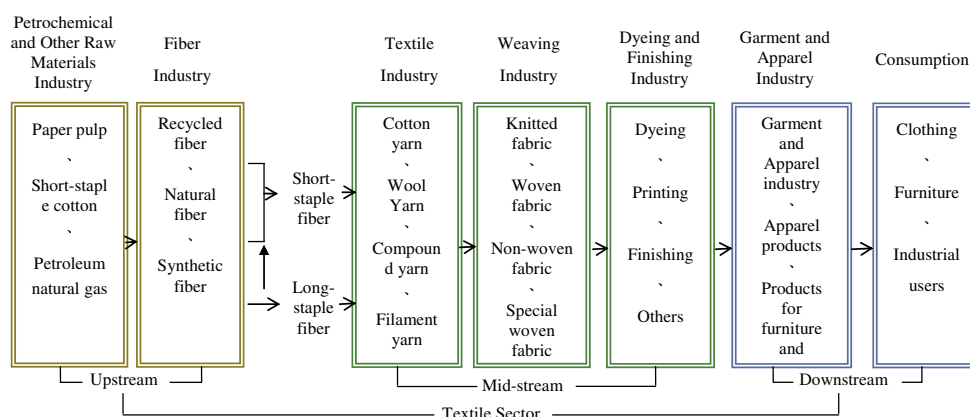
By the early 1990s, the Taiwanese textile industry had evolved from labor-intensive garment and apparel manufacturing into an industry with a comprehensive, well-integrated supply chain. The industry's products included not only traditional yarn, fabric, man-made fiber and garment products but also non-woven fabric for special purposes, industrial fabric, and fabric for use in construction and furniture manufacturing; the level of diversification that the industry had achieved was highly impressive (Figure 6-1-1).

II The Problems Facing Individual Textile Industry Clusters

Over the years, a number of distinct textile industry clusters have developed in Taiwan. They include a dyeing and finishing cluster in the Tayuan and Kuanyin townships of Taoyuan County, woven fabric industry clusters in Homei, Changhua County and in Tainan County; a hosiery industry cluster in Shetou, Changhua County; a towel-making cluster in Huwei, Yunlin County, and a knitwear industry cluster in Touliu, Yunlin County. Today, as a result of the changes taking place in the wider business environment, all of these textile industry clusters are faced with serious challenges. In order to help the clusters to overcome their difficulties, during the period September–October 2005 the Industrial Development Bureau sent teams of officials to visit all of the clusters and meet with textile

manufacturers. The main problems reported by the textile manufacturers during these meetings are outlined below.

Figure 6-1-1 The Linkages between Textile Sector Sub-industries



Source: Ministry of Economic Affairs, *ROC Textile Industry Yearbook*, 1996.

1. The Dyeing and Finishing Industry – Tayuan and Kuanyin Townships in Taoyuan County

(1) Problems with Wastewater Emissions and Inconsistent Regulatory Enforcement

79.5% of the wastewater emitted by factories in the Tayuan Industrial Park derives from dyeing and finishing firms. Paragraph 2, Article 44 of the Regulations Governing Industrial Wastewater Pollution Prevention Measures and Wastewater Management stipulates that the wastewater emission standards for the dyeing and finishing industry should apply to the entire Tayuan Industrial Park, and the Environmental Protection Administration has agreed to this. However, the Taoyuan County Government's Bureau of Environmental Protection has not given its agreement, putting the factories in the area in a difficult situation. It was suggested that the Industrial Development Bureau should ask the Bureau of Environmental Protection to handle this matter in accordance with the relevant Environmental Protection Administration regulations and with the provisions of Paragraph 2, Article 44 of the Regulations Governing Industrial Wastewater



Pollution Prevention Measures and Wastewater Management.

(2) Hard to Recruit Enough Workers

Dyeing and finishing firms often find it difficult to recruit all the workers they need. The high temperatures and high humidity in dyeing and finishing plants make working conditions unpleasant; as a result, few Taiwanese are willing to work in these plants. Members of Taiwan's indigenous peoples are less bothered by the working conditions, but tend to take too much time off work. Companies that try to recruit foreign laborers find that the number of foreign laborers they can hire is limited, the maximum contract term is too short, and it can be difficult to secure approval for extending the contracts of existing foreign workers; the quotas for foreign laborers have been falling steady for several years. This severe labor shortage has caused the industry's production capacity to shrink.

(3) The Unreliable Water Supply

The Greater Taoyuan region has experienced several severe water shortages in the last few years. Whenever a typhoon brings heavy rain to Taiwan's mountains, soil erosion causes the silt level in the Shihmen Reservoir to rise. On several occasions this has forced the government to introduce water rationing, and in some cases has led to the water supply being cut off altogether. This has made it very difficult for dyeing and finishing firms to maintain normal operations. Suggested solutions to this problem include strengthening the Industrial Park Administration water storage system, installing additional temporary pumping stations at the Shihmen Reservoir dam, and establishing more electricity substations in the Lungtan district.

2. The Woven Fabric Industry – Homei Township in Changhua County, and Tainan County

- (1) Heavy business tax burden: The textile industry has been in a depressed state for many years now. Woven fabric producers have suggested that the Ministry of Finance should exempt textile manufacturers from business tax, as they did with the financial sector some years ago when it was in difficulty.

- (2) Inadequate R&D funding: Woven fabric manufacturers wish that the government could provide more funding support for R&D activity, along the lines of the subsidies provided for 3G mobile phone handset R&D.
- (3) Woven fabric makers are saddled with an aging workforce, and a significant percentage of their managers have been poached by Chinese companies, as a result of which much of their technology has fallen into the hands of competitors. Woven fabric manufacturers would like the government to provide more assistance with manpower cultivation.
- (4) Shortage of foreign laborers: Woven fabric makers are suffering from a labor shortage similar to that affecting the dyeing and finishing industry, and for similar reasons.
- (5) Taiwanese woven fabric manufacturers do not possess the comprehensive range of production equipment that their Chinese competitors do; as a result, they are unable to provide a comprehensive range of services to customers. Manufacturers believe that more government assistance with market development would help them to overcome this problem.
- (6) Those manufacturers whose factories are built on land zoned as agricultural land are unable to operate legally. Manufacturers hope that the government will change the law to allow them to register these existing factories so that they can operate as lawful business enterprises.

3. The Hosiery Industry – Shetou Township in Changhua

(1) Under-capitalization and Difficulty in Securing Financing

The hosiery manufacturers in Shetou Township, Changhua County have been trying to replace their outdated production equipment. However, they generally do not have the necessary funds, and have found it hard to secure loans from Taiwanese banks. Hosiery manufacturers wish that the government would provide low-interest loans to enable them to purchase new production equipment. The Industrial Development Bureau of the Ministry of Economic Affairs has intervened on behalf of the hosiery manufacturers. Besides suggesting that they try



to secure loans through the SME Credit Guarantee Fund, it has also asked the specialist SME banks to send representatives to Shetou to discuss the hosiery manufacturers' problems with them face to face. The Bureau has drawn up a Financing Plan to Assist Textile Manufacturers in the Purchase of New Production Equipment, and has asked the Executive Yuan Development Fund to provide funding for the project.

(2) Problems Relating to Factory Registration

Some of the hosiery manufacturers in the Shetou district of Changhua County are enterprises whose business premises were established in the business owner's own home, in accordance with the government policy of the time which encouraged entrepreneurs to "turn your living room into a factory." These enterprises have never been able to secure business registration, and as a result have become "underground factories." This has a negative impact on their corporate image; buying land to establish a new factory is not a realistic option for them because land zoned as industrial land is not readily available in the Shetou area. Most of these manufacturers hope that the government could "grandfather" their factories to legalize their operations, or else establish a "hosiery manufacturing industrial park" in the Shetou area where they could set up new plants. Unfortunately, changing the law to grandfather the underground factories would take a long time. The Industrial Development Bureau has asked Changhua County Government's Bureau of Redevelopment to help with this matter, and has asked hosiery makers to try to find land in the Shetou district that could be zoned as an industrial district; the Bureau would then help them with the formalities of setting up a dedicated hosiery manufacturing park.

(3) Labor Shortages

Hosiery manufacturers are experiencing the same kind of labor shortages as firms in the dyeing and finishing industry. Young people are generally not interested in working in the hosiery manufacturing industry, so most manufacturers hope that the government will increase the quotas for foreign laborer recruitment, and that it will abolish the requirement that local Taiwanese workers must account for at least 85% of the workforce.

(4) Outdated Technology

Several hosiery manufacturers pointed out that the production machinery they are using is often outdated, that they cannot recruit the skilled workers they need, and that the small size of most hosiery manufacturers makes it difficult for them to upgrade their technology. They suggested two ways in which these problems could be overcome. Firstly, the government could arrange a manpower cultivation program. The Industrial Development Bureau could commission the Taiwan Textile Research Institute, the Taiwan Textile Federation or the Union Chemical Laboratories of the Industrial Technology Research Institute to formulate a manpower cultivation plan designed to meet the needs of the hosiery manufacturing industry. After consultation with the Taiwan Hosiery Manufacturers' Association, a budget could be allocated to implement the plan in the Shetou district. Secondly, the Industrial Development Bureau could establish a dedicated textile industry service team, which would work together with the Taiwan Textile Federation, the Union Chemical Laboratories and the Taiwan External Trade Development Council (TAITRA) to provide guidance services to hosiery manufacturers. The Industrial Development Bureau (including the Industry Guidance Center) could also collaborate with the Department of Industrial Technology, Ministry of Economic Affairs, and with the Small and Medium Enterprise Administration to provide the relevant services and guidance resources.

(5) Failure to Conform with Environmental Protection Standards

Like dyeing and finishing, hosiery manufacturing involves the production of large quantities of wastewater, and the Environmental Protection Administration often has to impose fines on hosiery makers. Manufacturers hope that the government can assist them with wastewater processing and emissions.

4. The Towel Industry – Huwei Township in Yunlin County

- (1) Dumping by Chinese towel exporters: With the accession of both Taiwan and China to the WTO, Chinese towel manufacturers have been able to engage in dumping – selling their towels in Taiwan at very low prices to build market share. Taiwanese towel makers are now unable to find a market for their



products, and their capacity utilization ratios have fallen dramatically. Towel makers have already submitted an application for import relief to the International Trade Commission, Ministry of Economic Affairs.

- (2) Imported towels that are falsely labeled as “Made in Taiwan” are flooding the market: Towel manufacturers hope that the Customs and the Commerce Department, Ministry of Economic Affairs, can take more effective action against towel imports that have a declared value far lower than the real value of the goods or that bear false or misleading country of origin labeling. They suggest that all imported towels should be required to have a country of origin label stitched on to the towel, to prevent abuses, and that government agencies and the armed forces should purchase only domestically-produced towels. Manufacturers also want the government to help them with the promotion of their specially designed “Made in Taiwan” towels.
- (3) The small size of most towel makers means that they have limited R&D and marketing capabilities; this makes it difficult for them to upgrade their technology or develop new markets. Manufacturers hope that the government can provide assistance (including funding assistance) with product design, packaging and printing.
- (4) Due to the fact that the majority of towel makers are small or medium-sized enterprises, they find it difficult to secure financing. Towel manufacturers hope that the government can help them to overcome this problem, for example through the provision of special low-interest loans.
- (5) Those factories built on land zoned as agricultural land are forced to operate illegally. Manufacturers hope that the government will grandfather these factories so that they can obtain factory registration.

5. The Knitted Fabric and Woolen Garment Industry

- (1) The government has already relaxed the restrictions that previously prevented the shipment of Chinese yarn to Taiwan for knitting before re-export to China for use in garment production (for the US market). However, companies still have to submit separate applications for each shipment, and the approval

process can take five days, making it difficult to meet customers' demands for rapid delivery.

- (2) The requirement that foreign laborers must be paid at least the minimum wage makes it difficult for Taiwanese manufacturers to compete effectively against foreign firms. Manufacturers hope that the government will allow foreign laborers' wages to be determined by the market.
- (3) Woolen garments bearing falsified country of origin labels are flooding the Taiwanese domestic market; this is having a severe negative impact on the operational performance of Taiwanese manufacturers.

III The Key Factors Affecting the Development of the Taiwanese Textile Industry

This section will examine the key issues affecting the development of the Taiwanese textile industry, focusing on inputs outputs and marketing.

1. Inputs

(1) The Question of Foreign Laborers

Currently, the textile industry in Taiwan is finding it difficult to recruit not only Taiwanese workers but also foreign laborers; the labor shortage in the textile-manufacturing sector as a whole is now quite severe. The yarn-making industry has around 600 fewer workers than it needs, the woven fabric industry is 3,500 short, and the dyeing and finishing industry needs another 1,500 workers. The labor shortage has already forced one large manufacturer to close a 50,000-spool yarn factory, and has led another leading manufacturer to relocate a yarn factory to Vietnam. Around 5,000 looms are lying idle because of a shortage of workers to operate them. The dyeing and finishing industry is also moving production overseas because of the labor shortage in Taiwan; most of the downstream garment makers shifted production overseas some time ago.

The Council of Labor Affairs' policy with regard to the recruitment of foreign laborers is as follows: (1) Recruitment of a limited number of foreign laborers may



be permitted in the case of domestic industries that are experiencing a labor shortage. (2) In accordance with the consensus reached by the Economic Development Advisory Conference, foreign laborer recruitment policy should have as its ultimate goal the creation of more jobs for Taiwanese citizens; the quotas for foreign laborers will therefore continue to be reduced.

Today, domestic (Taiwanese) workers are generally unwilling to work night shifts in textile factories or to undertake work that requires working under high-temperature conditions; employers thus have no option but to recruit foreign laborers. The restrictions outlined above have made it very difficult for many textile manufacturers to recruit the foreign laborers that they need, particularly since the Council of Labor Affairs requires companies to recruit a specified number of domestic workers first before they can begin recruiting foreign laborers; the restrictions relating to capitalization and the value of production equipment and factory buildings also make it harder for textile manufacturers to recruit the workers they need. The labor shortage often makes it impossible for companies to maintain normal operation, effectively forcing them to close the factory down and move production overseas. When the factory is closed, the domestic workers employed on the day shift lose their jobs too. As textile manufacturers see it, it is not a case of foreign laborers causing Taiwanese workers to lose their jobs, as academics in the field of labor studies have suggested, but rather a case of “one foreign laborer can help to create six jobs for Taiwanese workers.”

(2) A Shortage of High-end Human Talent

The general trend in the Taiwanese textile industry today is towards capital-intensive, technology-intensive operations. However, because most people in Taiwan think of the textile industry as being very much a traditional industry, young people are generally not interested in working in textile manufacturing firms. The electronics sector is soaking up all the available talent (and most of the available funding sources, too).

Influenced by prejudice that society as a whole displays towards the textile industry, few young people are willing to study textile manufacturing technology. Unable to attract students, textile science departments at Taiwanese universities

have been repositioning themselves as departments of polymer science, etc., further reducing the supply of high-end human talent available to the industry.

2. Outputs

(1) The Abolition of Textile Quotas

High oil prices have caused the prices of the textile industry's raw materials to rise. At the same time, the abolition of quotas in the downstream textile industry has led to fierce price competition throughout the world. The domino effect resulting from these developments has squeezed profit margins in the Taiwanese man-made fiber industry, weakened the competitiveness of filament yarn makers and prevented woven fabric manufacturers from raising prices to reflect higher production costs. Downstream, the garment industry is being forced to develop a comprehensive global production network.

(2) Disruption of the Supply Chain

The comprehensive supply chain that Taiwan's textile sector enjoyed in the past has weakened in recent years. Rising production costs have forced the downstream garment industry to relocate most of its production facilities overseas. At the same time, branded clothing vendors have been putting pressure on woven fabric makers to move their factories overseas to supply the vendors from close at hand. With the woven fabric industry shifting production overseas, the dyeing and finishing industry and the filament yarn makers are finding themselves under pressure to relocate production, too.

(3) Textile Industry Clusters Working to Upgrade Themselves

The main textile industry clusters in Taiwan today include: (1) Dyeing and finishing – Tayuan and Kuanyin townships in Taoyuan County; (2) Hosiery – Shetou Township in Changhua County; (3) Towel making – Huwei Township in Yunlin County; (4) Woolen garments – Toulieu City in Yunlin County; (5) Industrial textiles (including industrial fabric, packaging materials and shoe materials) – Changhua County (particularly Homei Township); (6) Short-fiber yarn – Tainan County. The lack of a clear government policy for encouraging the



development of textile industry clusters has tended to reduce the impact of the clustering effect. In the advanced nations, the formation of large, regional textile industry clusters has played a major role in stimulating collaboration between the textile industry and universities, and in encouraging international collaboration and exchange; it has also contributed to the development of niche products, centers of excellence and ongoing innovation. Textile makers in Tainan County have already established a hi-tech textile R&D alliance, which provides a model for the development and upgrading of textile industry clusters throughout Taiwan.

3. Marketing

(1) Obstacles to Successful Development of International Markets

Every segment of the Taiwanese textile industry – including fiber manufacturing, fabric production and garment and apparel manufacturing – has been affected by dumping. In particular, the last few years have seen a rapid expansion of Chinese textile manufacturers' production capacity as they seek to grow their market share in major international markets. Buyers of yarn, fabric, garments and accessories are now far more likely to go to Shanghai to source products than they are to come to Taiwan. At the same time, Taiwanese textile manufacturers need to be more aggressive in developing not only their traditional European and North American markets, but also the emerging markets of South Asia.

Despite the impact of dumping by Chinese manufacturers, Taiwan is doing relatively little to develop sales of those textile products in which it still possesses competitive advantage, such as functional textiles and industrial textiles. Efforts to provide certification for, and promote sales of, functional and industrial textiles are currently largely confined to a handful of foundations that have to fund such activities themselves. Funding from the Trade Promotion Fund has been provided for the promotion of domestic and export sales by the Taiwan Textile Federation, but the amounts involved have been too small for significant results to be achieved. Beginning in 2005, the Taipei International Textile & Apparel Show has been repositioned as a functional textile trade show; however, development of export markets by Taiwanese textile makers is still not focusing on functional textiles to the extent that it should.

(2) Anti-dumping

Man-made fiber production has been at the heart of the Taiwanese textile industry's development. Taiwanese manufacturers of fiber, filament yarn and long-fiber yarns have acquired a high reputation for stable quality and competitive prices. In the last few years, however, several countries – including China – have brought anti-dumping actions against Taiwanese man-made fiber producers. Over the last ten years, the US, the EU, Japan, Turkey, India and Indonesia have all brought anti-dumping actions against Taiwan's synthetic fiber makers, and Taiwanese fabric manufacturers have had anti-dumping actions brought against them by Turkey, India, Poland and Argentina. In all, there have been 39 actions brought against Taiwan in the last decade, with actions brought by India against polyester fiber manufacturers accounting for the largest share. In the case of anti-dumping actions brought by the EU or the US, if the ruling goes against the Taiwanese manufacturers, then the companies concerned have to undergo annual review, periodic review and sunset review procedures.

IV The Way Forward for the Textile Industry

Today, the Taiwanese textile industry as a whole is in serious difficulty. The main problems affecting the industry are the abolition of textile quotas and the competition from low-priced Chinese textiles. In the upstream segment of the industry, the annual production value of the man-made fiber sub-industry has fallen dramatically. Taiwan produces little natural fiber; man-made fiber – particularly polyester fiber – accounts for over 80% of the raw material used in the Taiwanese textile industry. In the last few years, Chinese manufacturers have been expanding their polyester fiber production capacity, and they are now able to undercut Taiwanese fiber makers on price, hence the decline in Taiwan's polyester fiber production value. With the labor-intensive garment and apparel industries moving production overseas, demand for fabric, yarn and man-made fiber has fallen off; this in turn has affected the higher value-added segments of the textile industry, such as dyeing and finishing. The most serious problem is that most Taiwanese textile firms are still focusing on traditional contract manufacturing and trying to compete on price. Unable to compete effectively against other countries with lower production costs, the volume of orders received is falling steadily.



Given these difficult circumstances, what can the Taiwanese textile industry do to recover the kind of prosperity that it enjoyed in the past? This section examines some of the strategies adopted by leading textile makers, and puts forward some suggestions as to how the textile sector can grow and develop in the future.

1. Strategies for the Post-quota Era

The different segments of the Taiwanese textile industry have adopted different strategies in response to the ending of the international textile quota system. In the upstream segment, companies have been investing heavily in new equipment; demand for labor is lower in this segment than it is downstream, so there is less incentive to relocate production away from Taiwan. Further downstream, Taiwan's woven fabric manufacturers have tended to cluster together, and have developed extensive marketing networks to develop individual regional markets. The downstream garment manufacturers' production facilities are more widely distributed. They have tended to locate factories in regions with lower production costs, while keeping their operational headquarters in Taiwan; their Taiwan operations are usually responsible for design, R&D, order processing, production scheduling and customer service. As the process of economic globalization continues, garment makers have been setting up new factories in countries where they will be exempt from import duty and quota restrictions (Figure 6-4-1).

In the new, post-quota international environment, the textile industry is likely to become polarized. On the one hand, there will be the petrochemical groups and other major business groups that can produce their own raw materials, but there will also be a large number of small and medium enterprises in the downstream segments that are working to differentiate themselves from one another. The companies that will find it most difficult to adjust to the new environment will be the medium-sized companies in the "mid-stream" segment.

Taiwan's larger textile manufacturers have already succeeded in building up an impressive supply chain. For example, the Formosa Plastics Group is developing its operations in Vietnam and China, and has built a vertically integrated supply chain that has stimulated the development of industry clusters. Carnival Industrial Corporation is transforming itself into a clothing distributor,

and Tainan Spinning Co., Ltd. is actively developing the China market. Given the limited resources available to them, small and medium enterprises in the textile sector have no choice but to specialize. One strategy open to the smaller firms is to form strategic alliances. Companies that have adopted this type of strategy include Chiang Sheng, which has positioned itself as a specialist dyeing and finishing firm, and Lea Lea, Newwide and Eclat, which have been working to integrate fabric production and garment manufacturing. The following sections will examine the strategies adopted by Makalot Industrial Co., Ltd. and by Tainan Spinning Co., Ltd. to deal with the challenges of the post-quota era.

(1) Makalot Industrial Co., Ltd.

a. Development of a global network

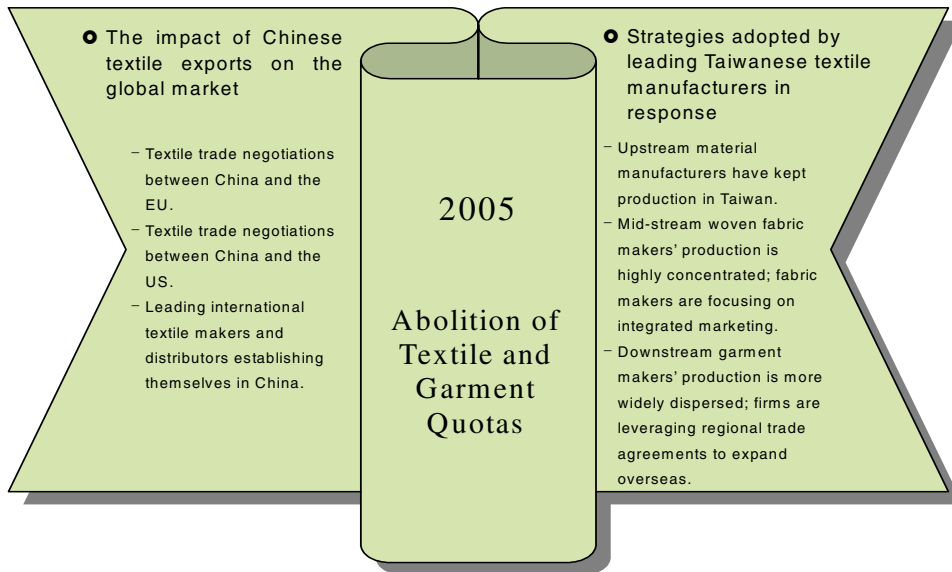
Makalot Industrial Co., Ltd. has been in existence for 15 years. In its early days as a contract manufacturer of garment products, Makalot was able to maintain earnings per share of over NT\$5 for several years in a row. According to Makalot's strategic planning, 2004–2005 was “global expansion year,” and 2005–2006 was “brand development year.” Makalot currently has operations in 13 countries, including Taiwan, Cambodia, Indonesia, Vietnam, China, El Salvador and Bangladesh. The company's strategy emphasizes the concentration of production and product specialization; four production locations – China, Indonesia, Vietnam and Cambodia – now account for over 90% of total production. By relocating production of shirts and baby clothes to two new factories in Cambodia, Makalot has been able to achieve a 15–20% increase in operational efficiency for these product items. However, following the conclusion of the textile trade talks between China and the US, Makalot has cancelled its plans for further investment in Cambodia, and will now be investing in China instead.

b. Brand management

Makalot has been developing own-brand ladies' clothing production for the China market. The company now has around 170 outlets in China, handling both own-brand sales and agency operations. Makalot has also been working to build up its ODM capabilities in the functional sportswear segment.



Figure 6-4-1 Strategies Adopted by Leading Taiwanese Textile Manufacturers Following the Abolition of the Quota System in 2005



Source: Taiwan Textile Research Institute.

(2) Tainan Spinning Co., Ltd.

a. Global production network

Tainan Spinning Co., Ltd. has production locations in Taiwan, Cambodia, Indonesia, Jordan and China. The company's global logistics center is located in Taiwan. An Enterprise Resource Planning (ERP) system is used to integrate global resources; Tainan Spinning has made the ability to react promptly to changes in market demand its core capability.

b. Brand management

Tainan Spinning markets its products in China's major metropolitan areas under the "Tonywear" brand, and in smaller regional cities under the "Emely" brand. Tonywear was listed on the Hong Kong stock market in 2006. In Taiwan, Tainan Spinning sells its products under the "Georgia" brand, and also acts as agent for Newman products. In the future, Tainan Spinning plans to introduce the Georgia brand into the China market. Tainan Spinning believes that service is the key to

successful brand operation, and that the best way to improve service quality is to develop standard operating procedures.

c. The future

Tainan Spinning is planning to reposition itself as a distributor. Rather than running its own outlets directly, it will focus on brand management and marketing.

2. A New Business Philosophy for Textile Manufacturers

Textile industry insiders anticipate a wave of mergers between garment brands and distributors in the near future. To survive, textile manufacturers will need to focus on enhancing their competitiveness (including cost, quality, delivery time and technology). The development of global networks and the formation of strategic alliances with other companies will both have an important role to play in this respect, and textile firms will need to strengthen their ability to recruit legal affairs, tax planning and marketing talent. When collaborating with leading international brands, textile firms will also need to pay more attention to environmental protection and workers' rights issues.

Part Two

Special Topics on SMEs





Chapter 7

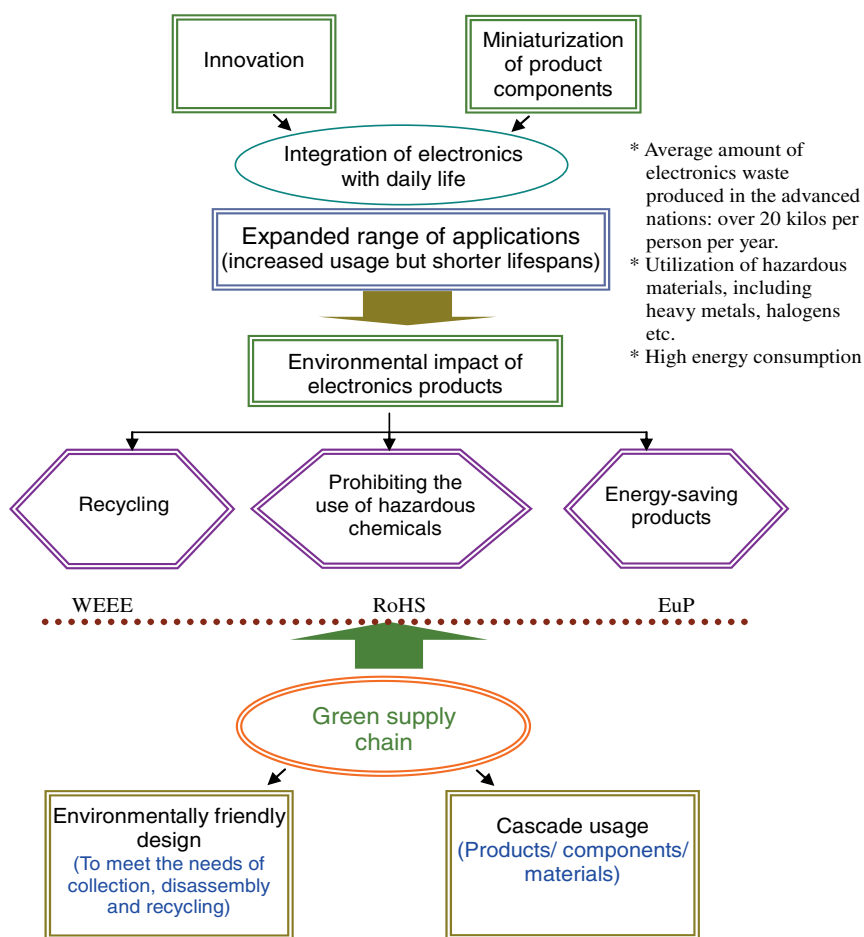
European Union's New Environmental Protection Directives and Their Impact to Taiwan's SMEs

With product lifespans becoming increasingly shorter, the volume of electrical and electronic waste being produced worldwide is growing steadily. Several measures have been introduced to try to curb the continued growth of electronic waste, with the European Union (EU) being the most active in this regard; as far back as 1992, the EU had introduced the Integrated Product Policy (IPP) based on the Extended Producer Responsibility (EPR) principle, the aim of which was to leverage the product lifespan concept to improve products' environmental performance, thereby contributing to the development of more environmentally-friendly "green" products.

The first country in the EU to begin implementation of the EPR concept was Germany, which had for many years been experiencing problems due to limited landfill capacity. Research showed that packaging materials accounted for a very high percentage of the waste being produced in Germany – around 30% by weight and around 50% by volume. Germany's Environment Ministry therefore proposed that manufacturers should be made responsible for recycling the materials used to package their products. In 1991, the German government promulgated the Packaging Ordinance, which made manufacturers responsible for the recycling of their own packaging materials; this requirement was incorporated into the Dual System Deutschland (DSD) that had been introduced in 1990. Subsequently, the EU introduced the Packaging and Packaging Waste directive (1994), the End of Life Vehicle (ELV) directive (2000), the Restriction of Hazardous Substance (RoHS) directive (2003), the Waste Electrical and Electronic Equipment (WEEE)

directive (2003), and the Eco-design Requirement for Energy Using Products (EuP) directive (2003). The scope of application of these directives included virtually all electrical and electronic products. As the EuP, RoHS and WEEE directives all had clear targets and implementation objectives, and as they were all closely linked to international trade, they have had more of an impact than any of the other EU directives. Figure 7-0-1 shows how these directives have affected the development of the electrical and electronics industries, and the kinds of pressure that they have brought to bear.

Figure 7-0-1 Major Trends in the Electronics Industry and the Impact of Environmental Protection Requirements



Source: Yang, Chih-hsing (2004), "The EU's Environmental Directives Regarding Electrical and Electronic Waste, and the Impact on Taiwanese Industry," *Sustainable Industrial Development Bimonthly*.



In its examination of the impact of the EU's environmental directives, this chapter seeks to achieve the following three goals. First, it examines the implementation architecture for the WEEE and RoHS directives within the EU. Secondly, it explores the impact that the implementation of these directives has had on SMEs in Taiwan. Thirdly, it puts forward suggestions as to the strategies and methods that Taiwanese SMEs should adopt in response, in light of the policy tools and guidance measures that are already being employed by the Taiwanese government.

I The Key Provisions of the EU's Environmental Directives

According to Taiwanese Customs data, trade between the EU and Taiwan amounted to US\$39.4 billion in 2005. Taiwan's imports from the EU totaled US\$17.4 billion, representing an annual growth rate of 4.5%; Taiwan's exports to the EU totaled US\$22 billion, representing a decrease of 1.3% compared to the previous year. The largest product category among Taiwan's exports to the EU was portable digital data processing devices; exports of this type of product to the EU fell by 59.1% in 2005. The largest increase in exports to the EU (96.5%) was posted by Thin-Film Transistor Liquid Crystal Display (TFT-LCD) panels, the third largest product category. On the import side, all products displayed negative import growth (with the exception of aircraft and other aerospace equipment, where imports from the EU rose by 150.6%, and "other pharmaceuticals", where they rose by 3.2%).

The EU is currently Taiwan's fifth largest trading partner, accounting for 11.9% of Taiwan's total trade. On May 1, 2004, the EU's membership expanded from 15 nations to 25; with Romania and Bulgaria due to join within the next two years, the EU member nations' combined GDP and combined trading volume will both continue to rise. Trade with the EU is thus one of the most important factors affecting Taiwan's economic development. On July 1, 2006, the EU began to restrict the importation of six categories of hazardous chemicals into the EU; this is bound to have a negative impact on Taiwan's exports to the EU. The following sections will examine the key provisions of the three main EU environmental

directives.

1. The WEEE Directive

The Waste Electrical and Electronic Equipment (WEEE) directive was approved by the EU in February 2003, and was given the formal designation of EU Directive 2002/96/EC of the European Parliament. The main contents of the directive include electrical and electronic product classification, collection, recovery and processing, as well as regulations governing the provision of user information. The WEEE directive covers over 100 individual products in 10 major product categories. Its main objective is to raise the recovery rate for electrical and electronic equipment (EEE), so as to achieve the following objectives: (1) Reduce the production of EEE waste; (2) Avoid the need to dump large quantities of EEE waste in landfill sites; and (3) Raise the recycling rate, thereby mitigating the negative impact that EEE products have on the environment. In accordance with the WEEE directive's provisions, all producers and importers/vendors must conform to the following requirements, in line with the relevant recovery indicators, the level of financial pressure and the relevant operational procedures, in accordance with the recovery systems that are in place in individual EU member nations.

(1) Recovery Targets

In line with the provisions of the WEEE directive, the recovery systems in individual EU member nations will require producers to arrange practicable recovery operations and to collaborate on relevant logistical and support services. Under most circumstances, producers will need to collaborate with other companies in arranging recovery systems, although they may establish their own independent system if they wish. It is clearly stipulated that, by December 31, 2006, all member nations must raise the average quantity of EEE waste recovered per inhabitant each year to at least 4kg (achieving this goal is the "joint responsibility" of all manufacturers and importers/vendors). The recovery and recycling targets that individual manufacturers are expected to achieve are shown in Table 7-1-1. Recovery rates are based on the average weight of the category of equipment in question. The WEEE directive includes clear definitions of the



“reuse rate,” “recycling rate” and “recovery rate”; these are given in Table 7-1-2 below.

Table 7-1-1 Product Recovery Targets

Item	Reuse and Recycling Rate	Recovery Rate
WEEE Directive product categories 1 and 10	75%	80%
WEEE Directive product categories 3 and 4	65%	75%
WEEE Directive product categories 2, 5, 6, 7 and 9	50%	70%
Gas discharge light bulbs	–	80%

Source: EU Directive 2002/96/EC.

Table 7-1-2 WEEE Definition of Reuse, Recycling and Recovery

Text
<p>“Reuse”</p> <p>Reuse means any operation by which WEEE or components thereof are used for the same purpose for which they were conceived, including the continued use of the equipment or components thereof which are returned to collection points, distributors, recyclers or manufacturers.</p>
<p>“Recycling”</p> <p>Recycling means the reprocessing in a production process of the waste materials for the original purpose or for other purposes, but excluding energy recovery which means the use of combustible waste as a means of generating energy through direct incineration with or without other waste but with recovery of the heat.</p>
<p>“Recovery”</p> <p>Recovery means any of the applicable operations provided for in Annex IIB to Directive 75/442/EEC, i.e.:</p> <ul style="list-style-type: none"> – R1 : Use principally as a fuel or other means to generate energy – R2 : Solvent reclamation/regeneration – R3 : Recycling/reclamation of organic substances which are not used as solvents (including composting and other biological transformation processes) – R4 : Recycling/reclamation of metals and metal compounds – R5 : Recycling/reclamation of other inorganic materials – R6 : Regeneration of acids or bases – R7 : Recovery of components used for pollution abatement – R8 : Recovery of components from catalysts – R9 : Oil re-refining or other reuses of oil – R10 : Land treatment resulting in benefit to agriculture or ecological improvement – R11 : Use of wastes obtained from any of the operations numbered R 1 to R 10 – R12 : Exchange of wastes for submission to any of the operations numbered R 1 to R 11 – R13 : Storage of wastes pending any of the operations numbered R 1 to R 12 (excluding temporary storage, pending collection, on the site where it is produced)

Source: EU Directive 2002/96/EC.

(2) Financial Pressure

As regards the financial burden on producers, not only will manufacturers be responsible for the recovery of waste from electrical and electronic equipment sold after August 13, 2005, they will also be required to bear a financial burden relating to “historic waste” produced before that date:

- a. Current producers will be required to bear a share of the cost proportionate to their market share.
- b. Until 2011, producers will be allowed to pass the cost on to consumers (provided that consumers are notified to this effect); in the case of large electrical appliances, producers will be allowed to pass on the financial burden to consumers until 2013.
- c. All expenditure in this area must be made on genuine recovery operations.

(3) Operational Principles

Beginning on August 13, 2005, when the products of “branded vendors” (including both producers and importers) enter the European market, they will be required to conform to the following principles:

- a. Possession of an independent financial system: Each producer will be required to provide a financial system for the recovery of waste from the producer’s products (this may require registration with individual national governments).
- b. Each producer will be required to provide financial guarantees with respect to future waste recovery before their products are launched in the European market.
- c. Producers will not be permitted to use direct costs to support recycling operations.

Comparison of the WEEE recovery situation in different EU member nations shows how important it is for governments to pay due attention to the competitiveness of the recovery system as a whole when designing it and promoting its implementation. It is particularly important to ensure the equitable



distribution of operating expenses, to ensure that costs are not passed on to other in the form of externalities, and to ensure that excessively high indirect costs do not become a problem. The general view in the electrical and electronics industry in Europe is that it is necessary to have at least one recovery system per country. Given the importance of free competition and the need for effective implementation, it is likely that, eventually, many countries will have two or more recovery systems in competition with one another. Regardless of what form the systems take, the most difficult technical challenge affecting overall system operation will be deciding how to apportion expenses in an efficient and equitable manner between producers.

2. The RoHS Directive

The “Restriction on the use of certain Hazardous Substances in electronic equipment” (RoHS) directive was issued to accompany the WEEE directive. The directive, which was formulated to control the use of six substances – lead, cadmium, mercury, hexavalent chromium, polybrominated biphenyl (PBB) and polybrominated diphenyl ether (PBDE) – in electrical and electronic products, was scheduled to come into effect on July 1, 2006. Beginning on that date, electrical and electronic products sold in the EU will not be permitted to contain more than agreed levels of these six substances. Electrical and electronic products that do not conform to these requirements will not be permitted to go on sale within the EU. Exceptions will be made only in a limited number of cases where no alternative technology is available (Table 7-1-3).

The short-term goal of the RoHS directive is to restrict the usage of the six substances covered by the directive in electrical and electronic products by July 1, 2006. Every EU member nation will be required to draw up national legislation to ensure proper monitoring of the control of these substances, and to implement the necessary auditing and management systems. The key factor affecting RoHS management is the fact that the controlled substances are added gradually to the product at different stages in the production process; control of these substances must therefore incorporate supply chain management, so as to restrict and monitor the use of the substances in question at every stage.

Table 7-1-3 Exceptions to the RoHS Directive's Prohibition of the Use of Four Heavy Metals

Heavy Metal	Lead	Cadmium	Mercury	Hexavalent Chromium
Special Exemptions	<ol style="list-style-type: none"> 1. Lead used in protective equipment for radiation or X-rays. 2. Lead in cathode ray tubes, glass light bulbs or fluorescent tubes. 3. Lead as an alloying element in steel containing up to 0.3% lead by weight, aluminum containing up to 0.4% lead by weight, and copper containing up to 4% lead by weight. 4. Lead in electronic ceramic parts. 	<ol style="list-style-type: none"> 1. Cadmium oxide used on the surface of selenium batteries. 2. Purified cadmium used for corrosion prevention in specified products. 	<ol style="list-style-type: none"> 1. Mercury in compact fluorescent lamps not exceeding 5mg per lamp. 2. Mercury in straight fluorescent lamps where the halophosphate level does not exceed 10 mg. 3. Mercury in laboratory facilities. 	<ol style="list-style-type: none"> 1. Hexavalent chromium as an anti-corrosion agent in the carbon steel cooling system in absorption refrigerators.
General Exemption	Use of heavy metals in hollow cathode tubes and other heavy metal measuring devices classed as atomic absorption spectrophotometers			

Source: Yang, Chih-hsing (2004), "Operation and Management of the Green Supply Chain," *Sustainable Industrial Development Bimonthly*.

RoHS is a harmonization directive, intended to ensure uniformity between the control systems adopted in individual EU member nations; the differences between these systems will thus be relatively small. However, RoHS does not include detailed provisions regarding inspection or auditing. In the short term, ODM and OEM providers will need to focus on conforming to the inspection, testing and certification requirements imposed on them by the leading international vendors in order to conform to the provisions of RoHS.

3. The Draft EuP Directive – Key Points

A draft Eco-Design of End Use Equipment directive was submitted in October 2002, followed in August 2003 by the Eco-design Requirement for Energy Using Products (EuP), which has since completed its second reading in the European Parliament. The aim of the EuP directive is to ensure that manufacturers think in terms of the entire product lifecycle when considering environmental issues, using quantification methods to establish an ecological profile for each product. Manufacturers will also be required to use product lifecycle evaluation to identify possible alternative technologies, thereby improving their products' environmental performance and developing more environmentally-friendly products. The



directive proposes several methods for examining product lifestyle considerations; an overview of these methods is presented below.

(1) Product Lifecycle

Examination of the product lifecycle should cover raw material extraction, manufacturing, packaging, transportation, installation, maintenance, use and final disposal. The appraisal items include:

- a. Consumption of materials, energy and resources.
- b. Air, water and soil pollution due to emissions.
- c. Noise, vibration, radiation and electromagnetic effects.
- d. Waste production.
- e. Feasibility of product recovery in accordance with the EU 2002/96/EC (WEEE) directive.

(2) Concrete Appraisal Operations

With regard to the environmental considerations listed above, the following parameters can be used for concrete appraisal operations:

- a. Product weight and size.
- b. The amount of recycling material used.
- c. Total energy consumption for the whole of the product lifecycle.
- d. Avoidance of the use of substances that may be harmful to the environment, in accordance with the provisions of the EU 2002/95/EC (RoHS) directive.
- e. Designing products for easy recovery. Factors to be considered would include: the quantity of materials and components used; utilization of standard components; appraisal of the time required for disassembly; special tools required for disassembly; materials and component labeling (e.g., ISO labeling in the case of plastic components); the use of easily recoverable materials;

hazardous substances and components can be easily separated, etc.

- f. Elimination of components that impede recovery.
- g. Waste material production forecasts (including hazardous waste).
- h. Air pollutant emissions (e.g., materials harmful to the ozone layer, acidic materials, heavy metals, suspended particles, etc.).
- i. Water pollutant emissions (e.g., heavy metals, and materials that have a negative impact on the oxygen balance in the water).

II Implementation of the EU's WEEE and RoHS Directives

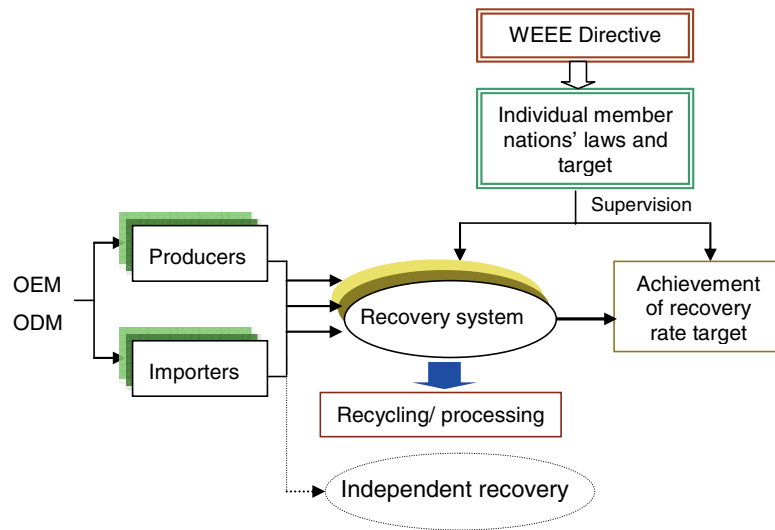
This section analyses the framework that is currently being used for WEEE and RoHS implementation within the EU.

1. WEEE Implementation

Figure 7-2-1 shows the overall structure of the recovery management systems that individual EU member nations have been implementing. The laws and regulations that individual national governments have been enacting in line with the requirements of the WEEE directive focus on two main areas: monitoring the operations of the recovery systems that individual producers have established, and auditing the achievement of recovery targets. The basic responsibility of vendors (i.e. producers and importers) is to either join one of the joint recovery systems established by other vendors, or to establish their own recovery system (due to the need to achieve economies of scale, it is unlikely that many vendors will choose the latter option). It is not yet clear what kind of requirements and pressure will be imposed on OEM/ODM providers in the upstream segment, or on component suppliers even further upstream.



Figure 7-2-1 EU Member Nations' Framework for WEEE Implementation



Source: Yang, Chih-hsing (2005), "EU WEEE Directive and Conditions for Recovery," *Journal of Environmental Engineering Association*.

There are several areas in which consensus has already been reached between the individual EU member nations with regard to the establishment of recovery systems in accordance with the requirements of the WEEE directive. These include:

- Vendors should form one or more funds or alliances for the joint operation of the recovery or recycling system; the government would be responsible for supervising the activities of the funds or alliances.
- Consumers should be provided with a variety of recovery channels (including refuse collection sites, vendor's outlets, recycling stations etc.); full use should be made of the existing municipal refuse collection systems.
- Funds would be able to apportion a range of different types of visible fees for recovery, recycling and processing. However, the apportionment of such fees with respect to individual consumers and companies should be transparent (with proper auditing) and fair (with all companies being treated equally).
- The recycling and processing market should be based on free competition, not an oligopoly or monopoly.

(1) Examples of EU Recovery Systems

When recovery systems are being established in individual EU member nations, besides conforming to the principles outlined above, the financial operations of the recovery systems also need to be planned in such a way as to be fair, transparent and appropriate. Many EU member nations have been operating their own recovery systems for years; furthermore, there are significant differences between the relevant laws and regulations in the different member nations, leading to considerable variation in WEEE planning and implementation. The following section examines and compares two important examples of recovery system establishment within the EU: the NVMP (or “Dutch Take-back and Recycling System”) in the Netherlands, and the HDE (Hauptverband des Deutschen Einzelhandels) in Germany (Table 7-2-1).

Table 7-2-1 Examples of the Main Types of WEEE Recovery System Adopted in the EU

Characteristics	NVMP (Netherlands)	HDE (Germany)
Basic philosophy	A sound framework that is not excessively detailed	A comprehensive framework and open systems
Financial responsibility	Pay as you go	Deposit-type system
Appointment of recovery providers	Selection by the system as a whole using open tender	Appointed by individual companies
Fee payment	Fees paid directly by the system	Companies instruct the system to make payment on their behalf in accordance with the terms of their contract with the recovery provider
Responsibility for recovery cost	Shared among companies in the same industry	Individual companies bear the responsibility separately

Source: Yang, Chih-hsing (2004), “The EU’s Environmental Directives Regarding Electrical and Electronic Waste, and the Impact on Taiwanese Industry,” *Sustainable Industrial Development Bimonthly*.

a. Underlying philosophy

The Dutch government’s policy with regard to resource reuse has been to establish a basic framework but to refrain from prescribing detailed implementation methods; the aim is to ensure that recovery systems function as efficiently as possible. By contrast, the German government feels that the framework for recovery system operation needs to be comprehensive and detailed, and that efforts should be made to ensure that the system remains an open one, rather than developing along oligopolistic or monopolistic lines.

**b. Financial responsibilities of vendors**

During the period 1992–1996, a very successful WEEE recovery pilot program was implemented in the Netherlands. As a result, the Dutch government has a clear understanding as to what level of fees should be charged for the recovery of different categories of waste, etc. The Netherlands' NVMP system has therefore been made a “pay-as-you-go” system, i.e., once a vendor has paid the appropriate fee for the type of product in question, the responsibility is passed on to the recovery system; the NVMP bears all risk relating to recovery operations, financial management and fee rate fluctuations. In Germany, on the other hand, the HDE apportions responsibility for meeting recovery targets among the individual vendors. This represents a kind of deposit system; not only do vendors have to pay a set amount of money over to the recovery system, they also have to obtain bank guarantees to cover any additional fees that may need to be paid.

c. Recovery service provider operations and payment

Partly in order to simplify system operation and partly to allow for the small size of the Dutch domestic market (and the resulting difficulty in achieving economies of scale), in the Netherlands the recovery service providers are chosen on a unified basis by NVMP through open tender; the recovery system has full responsibility for fee calculation and payment operations. In Germany, where the HDE places great emphasis on clarifying the responsibilities of individual companies, each company must sign its own contract with a recovery service provider. The vendor specifies to where the waste will be shipped; once processing has been completed according to the control sheet, the vendor notifies the HDE system to perform payment. The recovery system thus serves as an agent for the parties concerned (with respect to payment and collection), while also performing a monitoring and auditing role.

A consensus is beginning to emerge among the EU member nations with regard to the details of WEEE recovery implementation. Firstly, with regard to the allocation of responsibility for “historical waste,” there is now general agreement that, in principle, responsibility for this waste should be shared among manufacturers and importers according to their current market share. The operation of this system may even be extended to cover responsibility deriving

from functional alternatives, for example by making DVD player vendors responsible for video tape recorder/player waste. At the same time, in order to strengthen consumer awareness of the importance of WEEE recovery (and to indirectly promote acceptance of the concept of Extended Producer Responsibility), most countries in the EU are now requiring vendors to list “visible fees” for waste recovery clearly on the bills that are presented to consumers. Over the period 2005–2011, the burden of these fees will gradually be shifted onto the retailers, i.e. they will be converted from an “external fee” into an “internal fee.”

(2) Current Status of Waste Recovery System Establishment among Individual EU Member Nations

The systems and operational models currently being used by individual EU member nations with respect to WEEE are roughly as shown in Figure 7-2-2 below. The individual member nations can be divided into four broad categories for purposes of comparison.

a. Those countries with large populations and markets

The systems adopted in these countries have a greater impact due to the nations’ large size. The five leading EU member nations are ranked below in order of their achievements in WEEE system establishment:

- (a) The UK: Although the UK’s waste recovery system is not yet complete, the UK has been more proactive than any other EU member nation in terms of the enactment of the necessary legislation and the promotion of waste recovery measures. All local waste recovery facilities will be linked together in an integrated network; a total of 85 facilities are already operational. Retailers provide free recovery service for electronic and electrical products; producers are under an obligation to collect WEEE from the retailers. The most important single WEEE recovery system in the UK is the Industry Council for Electronic Equipment Recycling (ICER); once the necessary legislation is in place, the ICER may be given full responsibility for all WEEE recovery operations within the UK.
- (b) Germany: Germany has had a comprehensive waste recovery system in place for over 10 years; as a result, it has already achieved a great deal in terms of



enacting WEEE legislation and getting waste recovery systems operational. Germany's advantages include the fact that the market for electronic and electrical equipment is already more or less saturated, and the existence of a relatively highly-developed WEEE recovery industry.

- (c) France: The development of WEEE recovery operations in France has followed a similar timetable to that in Germany. However, France has been stricter than other EU member nations in terms of the restrictions imposed on imported products. Currently, the organization responsible for WEEE recovery is SCRELEC, which was originally set up to handle the recovery of waste batteries. Once the relevant legislation has been enacted, SCRELEC is expected to take over responsibility for all WEEE recovery operations. On the basis of the pilot projects implemented by SCRELEC and the French Ministry of the Environment (ADEME) in 2002, it is estimated that the WEEE recovery rate in France will be in the region of 2.6 kilos per person per year.
- (d) Italy: The situation with regard to WEEE recovery system establishment in Italy is somewhat chaotic, making it difficult to give an accurate timetable for system establishment.
- (e) Spain: Spain's central government has yet to introduce any special initiatives with regard to WEEE recovery implementation; in the past, local government authorities have always been more active in this regard than the central government.

b. The Scandinavian nations, the Netherlands and Belgium

These countries can be thought of as the "environmentally advanced nations" of Europe. In most of these countries, the establishment of WEEE recovery legislation is already well advanced, so implementation of WEEE recovery systems should be a relatively straightforward business. Most of these countries are following the "Dutch model," encouraging the establishment of multiple WEEE recovery alliances in order to reduce the risk of monopoly formation.

c. Southern European countries

These countries have yet to establish much in the way of waste recovery systems,

and are likely to lag behind other EU member nations in terms of both the enactment of legislation and WEEE recovery system implementation.

d. Eastern European countries

In the past, the level of electronic and electrical equipment usage in these countries was relatively low; furthermore, the environmental protection infrastructure in these countries is seriously under-developed. It will be some years before most of these countries are able to establish recovery systems in accordance with the requirements of the WEEE directive.

2. Implementation of the RoHS Directive

In accordance with the requirements of the RoHS directive, individual EU member nations have been establishing their own national legislation to ensure that restricted substances are properly controlled, and to facilitate the implementation of auditing operations and management systems. Producers and importers of electronic and electrical equipment will be required to conform to these national laws and regulations. The most significant difference between RoHS and WEEE lies in the fact that, with RoHS, the restricted substances accumulate gradually in the product at different stages in the supply chain. Control operations therefore need to cover supply chain system management, providing multi-level control and auditing of the use of the restricted substances in question. Most leading European electromechanical and electronics producers have already completed the necessary technology feasibility studies and materials conversion pilot programs with respect to the restrictions of the six substances in both products and production processes; in most cases, they will be in a position to begin implementing supplier technology auditing and order management by July 2006. It therefore seems certain that the RoHS controls will in fact come into effect on July 1, 2006 as scheduled.

Besides the EU member nations, the impact of this series of EU environmental directives has encouraged leading Japanese and US vendors to adopt “green supply chain” management models too. On February 28, 2006, the Chinese government announced the formulation of legislation intended to ensure that Chinese manufacturers conform to the requirements of RoHS; this new legislation was to come into effect on March 1, 2007. The impact of the RoHS



directive is thus truly global in scope, affecting Japan, North America and even China. The following sections examine the RoHS-related management models adopted in each of these regions.

(1) The Management Models Adopted by Japanese and American Companies

Over the last two years, Japanese electrical and electronics vendors have been conducting extensive audits of all “questionable” substances contained in their products. Several US vendors, including Dell, have begun to require their suppliers to perform chemical substance registration operations. The introduction of the RoHS directive has thus had a knock-on effect, encouraging the formulation of chemical and materials management regulations other than those directly relating to the six substances covered by RoHS. These additional regulations can be divided into two broad categories:

a. Restricted and prohibited categories

Besides the six substances covered by RoHS, there are several other chemical substances the use of which is either prohibited or restricted by national laws or by international environmental conventions. Examples include TBT, Azo dyes and dioxins. In the case of several other substances – particularly those which may cause damage to the ozone layer, such as CFCs, HFCs and PFCs – controls and restrictions have already been imposed on the production processes.

b. Categories where special measures or reporting are required

There are a number of substances where, although the products in question do not have an immediate impact on human health, it is believed that, over the long term, they may cause damage to the environment, natural resources or human health. Anticipating that these substances may become subject to controls in the future, the leading international electrical and electronics products vendors are already requiring their suppliers to monitor, report and register their usage of these substances. The most important substances falling into this category include:

- (a) Substances that may be toxic, or that may themselves produce toxic substances, such as Be, Ba, Ag, etc.

- (b) Substances where recovery would be both feasible and economically viable, so that it would be worth making greater efforts towards recovery of these substances, in order to ensure the efficient utilization of resources; examples would include Cu, Zn, etc.
- (c) Substances where the extraction process involves the consumption of large quantities of resources, and has a major impact on the environment; examples would include Au, Pd, Pt, etc.
- (d) Substances the utilization of which is environmentally unfriendly, and which should therefore be replaced by other, cleaner substances; examples would include Be, Ba, Tn, etc.

The leading Japanese and US vendors have already adopted “green supply chain” management models. In Japan, Sony, NEC, Toshiba and Sharp are all participating in the Japan Green Procurement Survey Standardization Initiative (JGPSSI), while US vendors Apple, Dell, IBM and HP have drawn up an Electronics Industry Code of Conduct (EICC), which makes environmental protection one of the key criteria for selecting suppliers.

(2) Environmental Protection Requirements in China

In 2006, the Chinese government announced the formulation of Chinese national legislation in response to the introduction of RoHS. The Regulations Governing Electronic and Information Product Pollution Control Management (hereinafter referred to as “the Regulations”) will come into effect on March 1, 2007. The scope of the Regulations is slightly different from that of RoHS; the focus of the Regulations is only on electronics and information products, whereas RoHS covers a wider range of 10 product categories. The scope of application of the Regulations and RoHS is compared in Table 7-2-2 below.

III Taiwanese Enterprises’ Response to WEEE and RoHS

As of February 2005, a total of 12 EU member nations – including Greece, the Netherlands, Germany and the Czech Republic – had completed the enactment of



Table 7-2-2 Comparison of China's Regulations Governing Electronic and Information Product Pollution Control Management and the EU's RoHS Directive

Directive	China's Regulations Governing Electronic and Information Product Pollution Control Management	The EU's RoHS Directive
Product Categories Covered	<p>The following products (manufactured using electronics or information technology):</p> <ol style="list-style-type: none"> 1. Radar products 2. Electronic communications products 3. Broadcasting products 4. Computer products 5. Home appliances 6. Electronic measuring instruments 7. Specialist electronics products and electronic components 8. Electronics application products 9. Electronic materials 10. Software products 	<ol style="list-style-type: none"> 1. Large home appliances 2. Small home appliances 3. Information and communications equipment 4. Consumer electronics products 5. Lighting equipment 6. Power tools 7. Toys and leisure and sporting equipment 8. Medical devices 9. Monitoring instruments 10. Automatic vending machines
Individual Items Covered	<ol style="list-style-type: none"> 1. A "List of Products Covered by the Regulations Governing Electronic and Information Product Pollution Control Management" will be compiled, and updated on an annual basis. 2. In the case of products not included in the List, before bringing a new product onto the market, companies will be required to ensure that the product is labeled with the names and quantities of any toxic or harmful substances that it includes, with the product lifespan and with details of the waste that can be recovered from the product, etc. 3. In the case of products included in the List, not only must the manufacturers perform labeling as described in Item 2 above, they must also undergo compulsory product certification (3C Certification) by the relevant national agency, otherwise the product may not be brought onto the market. 	<p>Controls will be implemented according to the list of products included in Appendix B of the WEEE directive (exceptions are made for certain applications for certain materials).</p>
Green Design Considerations	The Regulations include a provision requiring manufacturers to take the needs of Green Design into account at the product design stage.	Green Design is covered by the WEEE directive.

Source: Chang, Chia-yuan (2006), "Taiwanese Companies' Response to China's Green Design Regulations," *Sustainable Industrial Development Bimonthly*.

national legislation in compliance with WEEE. Beginning on August 13, 2005, producers wishing to export electrical or electronic products to the European market were required to register with the EU authorities; the registration number must be used in all transactions involving importation into the EU. In addition, all producers must submit a written guarantee on an annual basis, to ensure final protection for future recovery operations in the event that the producer becomes insolvent. To obtain the documents required for registration, producers will need to make arrangements with banks operating in the EU and with local waste recovery providers in the EU; in all, the application procedures will require at least 6–8 months to complete. In late February 2005, the Industrial Development Bureau,

Ministry of Economic Affairs conducted a survey of Taiwanese electrical and electronics manufacturers that were exporting their products to the European market. The survey results showed that 63% of manufacturers had already begun to implement the necessary measures in response to WEEE, but that 37% had not yet begun to do so. The main reason for this situation is that WEEE is directed largely at branded vendors; from the point of view of Taiwan's ODM/OEM providers and upstream component suppliers, the requirements imposed by WEEE in terms of waste recovery obligations are (so far at least) very limited.

According to another survey conducted by the Industrial Development Bureau, Ministry of Economic Affairs, the implementation of the EU's RoHS directive will affect approximately 34,533 Taiwanese manufacturers of home appliances, ICT equipment, consumer electronics products, electrical and electronic tools, medical devices, monitoring instruments etc.; the total production value affected by RoHS will be in the region of NT\$244.6 billion. If one adds in the production of Taiwan-invested companies operating in China, then the total affected production value would increase to around NT\$300–400 billion. The Taiwanese companies affected by RoHS include 972 stock market and OTC-listed companies. Although this figure includes some firms that conformed to the RoHS requirements anyway, along with others that have been making improvements over the last two years in order to conform to RoHS, and others that have closed down the RoHS-affected production lines, there are still around 164 stock market and OTC-listed companies that currently do not conform to the RoHS requirements; RoHS implementation is therefore expected to lead to the cessation of production by production lines with production value totaling nearly NT\$25 billion.

Most Taiwanese electrical and electronic manufacturers are engaged in ODM or OEM production. Compliance with WEEE therefore mainly involves conforming to the "green purchasing" requirements imposed by the leading international vendors, so that firms can remain on the leading vendors' list of approved suppliers. In order to conform to the requirements imposed by the EU and by the international vendors, Taiwanese manufacturers will need to focus on green supply chain technology R&D, green supply chain system establishment, the setting up of certification and verification systems, and the development of standards- and inspection-related technology.



IV The Government's Response to the EU's Environmental Directives

The promotion of both the WEEE and RoHS initiatives focuses on the entire product lifecycle, with the aim of strengthening producer liability. Whether in terms of designing products to facilitate waste recovery or in terms of eliminating the use of toxic materials, companies will need to focus on design, R&D, and making their products more environmentally friendly. As far back as 2000, the Industrial Development Bureau, Ministry of Economic Affairs had begun to provide guidance to Taiwanese companies as to how to develop environmentally-friendly designs for their products and packaging, while at the same time promoting the concept of pollution prevention. The idea was that, right from the initial R&D stage, companies would be focusing on designing their products to be easy to disassemble, facilitate waste recovery, minimize pollution and reduce energy consumption, in accordance with the global trend towards environmentally-friendly products. Subsequently, in 2003, the Industrial Development Bureau began to provide manufacturers with guidance regarding the establishment of “green supply chains,” to help them conform to the requirements of the RoHS directive. So far, eight companies have received guidance of this type; they include TSMC, UMC, Acer, Tatung, Microstar, Gigabyte, Chi Mei and Fuchi Electronics. These companies have been working through their center-satellite systems to build up green supply chains covering both up- and down-stream firms. At the same time, the Bureau is also providing ongoing guidance to help Taiwanese manufacturers develop “clean production” and to improve their environmental management, thereby strengthening overall environmental performance and helping to promote the sustainable development of Taiwanese industry as a whole; at the same time, it was anticipated that these efforts would provide a solid foundation for responding effectively to the implementation of the EU environmental directives.

While continuing to provide guidance to relevant industries, the Ministry of Economic Affairs has also formulated a comprehensive strategy for responding to the WEEE and RoHS directives. The specific measures adopted, and the division of labor for their implementation, are shown in Table 7-4-1 below.

Table 7-4-1 Measures Being Implemented by Individual Departments within the Ministry of Economic Affairs in Response to the Introduction of the EU's Environmental Directives

Response Strategy	Measures	Responsible Agency
Establishment of a Policy Formulation Team and RoHS Service Team	<ol style="list-style-type: none"> 1. The Minister of Economic Affairs will act as Convenor of the Policy Formulation Team, whose members will include the heads of individual government agencies and the chairpersons of industry associations. 2. The RoHS Service Team will make use of outsourcing for plan formulation. 	Industrial Development Bureau Industrial Development Bureau
Formulation of environmental regulations to govern electrical and electronics product manufacturing in Taiwan	<ol style="list-style-type: none"> 1. Collection of information regarding the regulations adopted in other countries. 2. Canvassing of the views of industry, academia and government agencies. 3. Formulation of legislation to restrict the use of harmful substances in Taiwan. 	Bureau of Standards, Metrology and Inspection (BSMI) BSMI BSMI
Overcoming the barriers to entry in the European market	<ol style="list-style-type: none"> 1. Collection of information regarding important trends in the enactment of relevant legislation in EU member nations. 2. Formulation of strategies and measures (for both government and industry) for responding to the key trends in environmental protection. 3. Promotion of Taiwan Green Products image. 4. Provision of assistance for negotiations with individual EU member nations. 	Bureau of Foreign Trade and Industrial Development Bureau Industrial Development Bureau Bureau of Foreign Trade Bureau of Foreign Trade
Development of key technology for green supply chain establishment	<ol style="list-style-type: none"> 1. Helping Taiwanese industry to establish R&D alliances. 2. Development of the information and management tools needed for the development of the Green Supply Chain by Taiwanese industry. 3. Development of new-generation environmentally friendly materials, components and Green Design products. 	Department of Industrial Technology Department of Industrial Technology Department of Industrial Technology
Green Supply Chain establishment	<ol style="list-style-type: none"> 1. Provision of guidance to help Taiwanese industry establish the necessary information and management platforms and supply chains. 2. Leveraging the "center-satellite" system to promote Green Supply Chain establishment. 3. Provision of guidance to help Taiwanese industry to develop environmentally-friendly design, thereby reducing the barriers to entry to the European market. 4. Provision of guidance to help SMEs to upgrade their technology. 5. Participation in the process of formulating environmental legislation. 	Industrial Development Bureau Industrial Development Bureau Industrial Development Bureau Industrial Development Bureau Industrial Development Bureau
Certification and inspection system establishment	<ol style="list-style-type: none"> 1. Collection of information regarding the formulation of inspection and certification standards in other countries. 2. Planning and establishment of a Green Materials and Components certification system for Taiwan. 3. Helping Taiwanese industry to participate in the negotiations related to the technical aspects of international standard formulation. 	BSMI BSMI BSMI
Development of standards and inspection technology	<ol style="list-style-type: none"> 1. Formulation of the necessary inspection standards and methods for Taiwan. 2. Development of substitutes for restricted materials, along with rapid inspection methods. 3. Establishment of reliability inspection methods and technology for substitute components. 	BSMI Department of Industrial Technology Department of Industrial Technology
Publicization and Promotion	<ol style="list-style-type: none"> 1. Helping Taiwanese industry to establish Green Supply Chain alliances. 2. Offering industry associations suggestions and reports regarding strategies that could be adopted in response to the introduction of new environmental controls by the EU. 3. Active publicization work, including the production of promotional films, the establishment of relevant websites, the holding of conferences, etc. 	Industrial Development Bureau Industrial Development Bureau Industrial Development Bureau

Source: Industrial Development Bureau, Ministry of Economic Affairs.



V The Impact of the EU Environmental Directives

Taiwan is one of the world's leading producers of electronic components and electronics products. Taiwan's annual production value for these types of products exceeds US\$100 billion, with more than 80% of this being exported. According to Taiwanese customs statistics, in 2005 the total value of Taiwan's electrical and electronics exports was approximately NT\$540 billion. Around 40% of these exports went to China, 15% went to the US, 13% went to the EU, and 8% went to Japan; the remaining 24% went to other regions.

According to research conducted by the Ministry of Economic Affairs, the introduction of the WEEE and RoHS directives will lead to controls being placed on the importation of approximately 44 Taiwanese electrical and electronic products into the European market; this figure represents approximately half of the total of 81 product categories that are covered by the two directives. Taiwanese exports of the ten major product categories to the EU in 2005 totaled around NT\$20.25 billion (Table 7-5-1); this figure was obtained by calculating the value of direct exports to EU member nations in 2005, using the industry categories specified by the WEEE directive. It can be seen from the table below that nearly 60% of the export value falls under the ICT industry, with just over one-fifth falling under consumer electronics. Toys, leisure and sporting goods account for just over 10%. The other seven categories combined account for only 7% of the total export value.

Examination of Taiwan's exports of products covered by the WEEE directive to individual EU member nations in 2005 (Table 7-5-2) shows that EU member nations fall into three main groups in terms of the volume of electrical and electronics imports from Taiwan. The first group of five countries – Germany, the Netherlands, the UK, Italy and France – are Taiwan's main trading partners in Europe; between them, they account for 67% of all WEEE product exports from Taiwan to the EU. A second group of 10 countries (including Denmark and Finland) accounts for another 29% of the total. The remaining 10 countries (including the Czech Republic and Portugal) account for 4% of Taiwan's total exports to the EU.

Table 7-5-1 The Value of Taiwan's Electrical and Electronics Product Exports to EU Member Nations in 2005

Item	Electrical / Electronics Product Category	Export Value (NT\$ millions)	Share of Total (%)
1	Large home appliances	1,552.51	0.77
2	Small home appliances	4,005.16	1.98
3	Information and communications equipment	117,413.30	57.99
4	Consumer electronics products	44,826.37	22.14
5	Lighting equipment	4,412.30	2.18
6	Power tools (not including large, stationary industrial machinery)	3,886.01	1.92
7	Toys and leisure and sporting equipment	24,468.94	12.09
8	Medical devices (not including implantation-type and infection-related products)	703.26	0.35
9	Monitoring instruments	985.49	0.49
10	Automatic vending machines	216.19	0.11
Total		202,469.53	100

Source: Compiled for the present study from Customs data for 2005.

Table 7-5-2 Taiwanese Exports of Products Covered by the EU's Environmental Directives to Individual EU Member Nations in 2005 –Export Value and Rankings

Ranking (EU Member Nations)	Ranking (Worldwide)	Nation	Value of Taiwanese Exports to this Market (NT\$ millions)
1	5	Germany	41,706.64
2	6	Netherlands	40,686.50
3	7	UK	27,436.79
4	8	Italy	12,912.34
5	9	France	12,736.70
6	17	Denmark	7,654.22
7	18	Finland	7,373.07
8	19	Belgium	7,283.36
9	21	Spain	7,143.02
10	22	Austria	6,999.03
11	23	Luxembourg	5,904.43
12	25	Hungary	4,925.73
13	26	Ireland	4,052.92
14	28	Sweden	3,793.42
15	29	Poland	3,530.90
16	39	Slovakia	1,761.11
17	40	Hungary	1,682.11
18	41	Czech Republic	1,666.97
19	46	Greece	1,162.41
20	53	Lithuania	611.44
21	55	Estonia	516.99
22	59	Slovenia	426.79
23	67	Latvia	258.79
24	77	Cyprus	186.44
25	99	Malta	57.42
Total			202,469.53

Source: Customs export statistics, compiled by the Industrial Technology Research Institute under the ITIS program.



Table 7-5-3 shows the breakdown of the value of exports of products covered by the EU environmental directives to the EU within the 30,000 Taiwanese companies exporting these types of product to the EU. It can be seen that 10 companies account for nearly 46% of total exports of these products to the European market; the top 100 companies account for 73% of the total, and the top 500 companies account for 88% of the total. The remaining 29,500 companies account for only around one-eighth of total Taiwanese exports to the EU (approximately NT\$25 billion).

Table 7-5-3 Shares of Total Taiwanese Exports of Products Covered by the EU Environmental Directives to the European Market in 2005

Cumulative No. of Enterprises	Cumulative Share of Total Exports (%)
10	45.82
50	65.71
100	73.00
200	79.85
300	83.43
400	85.85
500	87.62
30,000	100.00

Source: Customs export statistics, compiled by the Industrial Technology Research Institute under the ITIS program.

The figures presented in Table 7-5-3 show that a handful of large companies account for the lion's share of Taiwan's exports of products covered by the EU environmental directives to the European market. For the most part, the larger Taiwanese companies have already taken the necessary measures in response to the introduction of the EU directives; this is also true of many larger SMEs, which have been pressured into taking the necessary steps by their downstream customers (mainly large Taiwanese enterprises). It can thus be estimated that nearly 90% of Taiwan's production value for the products covered by the EU environmental directives will not now be affected (or will be affected only slightly) by the implementation of these directives. The remaining problems are largely confined to the small companies at the very top of the supply chain. There is a very large number of these small enterprises, with low production value, making it difficult

for the government to provide guidance to them. Unfortunately, if these companies experience problems in complying with the requirements of the EU environmental directives, this may have a knock-on effect on the larger companies downstream. Ideally, those downstream companies that have already completed the necessary preparations for dealing with the EU environmental directives should be helping their upstream suppliers to deal with the challenges that the directives pose, by providing them with information and solutions.

So far, the main focus of attention has been on direct exports of the products covered by the EU directives to the 25 EU member nations, which totaled around NT\$202.5 billion in 2005. However, the impact of the directives is not limited to Europe. The US, Japan and China are all introducing new regulations that are similar to, and in some cases even more rigorous than, the EU directives. Assuming that 100% of Taiwan's electrical and electronic products exports to Japan are required to conform to environmental regulations the same as those applying in the US, and that 50% of exports to the US and to China are required to conform to such regulations (but with exports to other regions not being required to conform to them), then the total production value affected by the directives will increase from NT\$202.5 billion to around NT\$536 billion. This figure does not include the production value of companies established in China by Taiwanese businesspeople. The real impact of the EU's environmental directives could thus be far in excess of NT\$202.5 billion; this is a point that both the government and Taiwanese industry would do well to keep in mind.



Chapter 8

The Contribution of Taiwan's SMEs to the Economy as a Whole

As with so many other things, the pattern of SME development varies from country to country. Nevertheless, one feature that is common to both developed nations and developing nations is that SMEs account for a very large share of economic activity, and have a major impact on the course of economic development. Governments all over the world naturally attach great importance to SME development. The US has its Small Business Administration, Japan has its Small and Medium Enterprise Agency, and the Taiwanese government established the Small and Medium Enterprise Administration in 1981; China has established a Department of Small and Medium-sized Enterprises under the State Council's National Development and Reform Commission.

In the late 1940s and early 1950s, Taiwan experienced severe shortages of resources; living standards were low, and unemployment was high. The government implemented a land reform program, anticipating that agricultural sector development would provide a solid foundation for industrial development. Initially, the government focused on the development of three key industries: electric power, fertilizer production, and textiles. By leveraging the skills of the technical personnel that had accompanied the government when it withdrew from China, and the capital of the businesspeople who had come with them, the government succeeded in speeding up the work of post-war economic reconstruction. In 1953, Taiwan embarked on the first of a series of national economic development plans. By “using agriculture to support industrial development, and using industrial development to support agriculture,” and by making effective use of US aid, the government was able to create the conditions

needed for economic development and stimulate the growth of the private sector.

Import controls were imposed to prevent wastage of foreign exchange, and an import substitution strategy was adopted. A shortage of capital and a lack of experience in the management of large-scale enterprises ensured that, apart from a handful of large state-owned enterprises, the economy was dominated by SMEs; the development of sideline industrial production by farming families also created large numbers of “embryonic” SMEs.

The rapid growth in industrial production helped to stimulate the development of the economy as a whole. As Taiwan’s exports grew, the government adopted a new strategy of “using trade to stimulate economic growth, and leveraging economic growth to stimulate trade.” Taiwan’s SMEs were able to leverage the abundant supply of cheap labor to implement labor-intensive production methods and break into international markets. Rising living standards and an improved business environment led to rapid growth in the number of SMEs, and SMEs came to account for a large share of both exports and overall industrial production. Large numbers of new SMEs were being established every year.

The 1970s saw the disruption of the international financial system, the devaluation of the US dollar, galloping inflation, war in the Middle East and the resulting two oil crises; at the same time, climatic change led to a worldwide grain shortage. With the global economy as a whole in a highly unstable condition, Taiwan’s SMEs found themselves having to deal with an increase in protectionism and with a rapidly changing business environment. Despite these challenges, Taiwan’s SME sector continued to grow during this period; Chi Schive and Ming-wen Hu (1998, see Appendix C for references) view the period from the 1970s through to the mid-1980s as the “golden age” of Taiwan’s SMEs.

From the late 1980s onwards, with the ending of martial law, the introduction of direct presidential elections and the lifting of the restrictions on the establishment of new newspapers, Taiwan developed into a genuinely democratic society. At the same time, major changes were underway in Taiwanese society, including the growth of an active labor movement, increased environmental awareness, and a more concerted effort by disadvantaged groups within society to



ensure that their interests were protected. Society as a whole became more diversified, more tolerant and more open. This process of political and social liberalization was accompanied by rapid economic liberalization, including trade liberalization, the privatization of state enterprises, the opening up of the financial sector, and the lifting of restrictions on overseas investment. During this dramatic transformation of the economic environment, which encouraged Taiwanese industry to upgrade and renew itself, Taiwan's SMEs continued to thrive. The growth of SMEs within the electronics and other hi-tech industries was particularly pronounced. With their flexibility and responsiveness to change, Taiwan's "small but beautiful" SMEs were able to make a major contribution to economic growth.

There are different views among scholars as to the role that SMEs have played in Taiwan's economic development. Galenson (1979) suggested that, by adopting labor-intensive production methods, Taiwan's SMEs had been able to exploit the principle of comparative advantage to develop export markets, thereby making an important contribution to the growth of the economy as a whole. Scitovsky (1986) emphasized the large number of jobs created by SMEs, which prevented unemployment from becoming a serious problem, while also giving Taiwan a relatively equitable income distribution. Hui-lin Wu and Tein-chen Chou (1998) suggested that the employment provided by SMEs facilitated the achievement of other social policy objectives, including the maintenance of social stability, maintaining an equitable distribution of wealth, mitigating the urban-rural divide, etc. Tsung-sheng Yu and Chin-li Wang (2000) pointed out that, besides playing a more important role than large enterprises in job creation, SMEs also made a major contribution towards the development of foreign trade and towards increasing the government's tax revenue. Furthermore, the fact that the Taiwanese economy continued to grow steadily during the periods following the two oil crises of the 1970s and the 1997 Asian currency crisis was due in no small part to the flexibility and responsiveness of Taiwan's SMEs (Schive and Hu, 1999).

The period up until the 1990s saw the publication of a large number of articles and books discussing the role played by SMEs in Taiwan's economic development and the importance of SMEs to the maintenance of steady economic growth. Since then, however, research in this field has tended to focus on individual industries and individual enterprises; relatively few studies have

considered the contribution of the SME sector as a whole to Taiwan's economy. This chapter will examine Taiwanese SMEs' contribution to economic growth in Taiwan during the period from the 1980s onwards, with the aim of clarifying the importance of SMEs and encouraging greater efforts to create an environment conducive to SME growth. Unfortunately, some types of data are not available for earlier periods; in these cases, the earliest available data is used as the basis for comparison.

I The Relative Status of SMEs

The following sections will examine the relative status of Taiwan's SMEs in terms of production value, number of enterprises, annual sales revenue, export value and number of persons employed.

1. The Number of SMEs in Taiwan

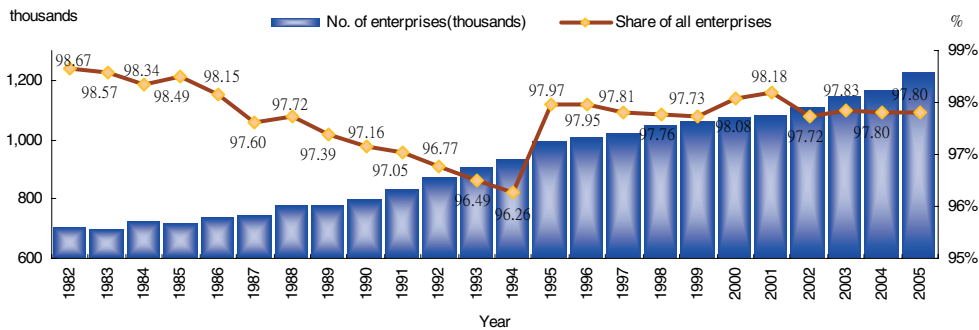
While the repeated changes in the definition of SMEs (Appendix B) complicate the situation, broadly speaking the number of SMEs in Taiwan continued to grow steadily over the period 1982–2005 except for the years 1983 and 1985, when the number of SMEs fell slightly. The general trend was upwards, with the total number of SMEs rising from 701,839 in 1983 to 1,226,095 in 2005. During this period, the share of all enterprises in Taiwan held by SMEs remained roughly the same fluctuating within the narrow band of 96.49% - 98.67% (Figure 8-1-1). In the years 1982–1986, the percentage remained at over 98%, while during the period 1992–1994 it remained below 97%; through the rest of the period 1982–2005 the SMEs' share of all enterprises was consistently higher than 97%. Throughout this period, therefore, SMEs have been the backbone of the Taiwanese economy; without SMEs, the Taiwanese economy as a whole would have been difficult to grow.

It is worth noting that the periods in which the SMEs' share of all enterprises in Taiwan increased generally coincided with the years in which the definition of SMEs was revised. This could be seen in both 1995 and 2000, when a revision of the SME definitions caused the SMEs' share of all enterprises to rise from 96.26% to 97.97% and from 97.73% to 98.08%, respectively. Overall, therefore, the



number of large enterprises in Taiwan has risen faster than the number of SMEs; the general trend has been for business enterprises in Taiwan to get larger and larger.

Figure 8-1-1 The Number of SMEs in Taiwan



Source: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

Despite this trend towards bigger enterprises, very small enterprises have continued to account for a significant share of the total. In 2005, there were nearly 550,000 enterprises with registered capital of NT\$100,000 or less, accounting for 43.80% of all enterprises in Taiwan. Although this figure was significantly lower than in 1991, when it stood at 60.6%, it is still very high.

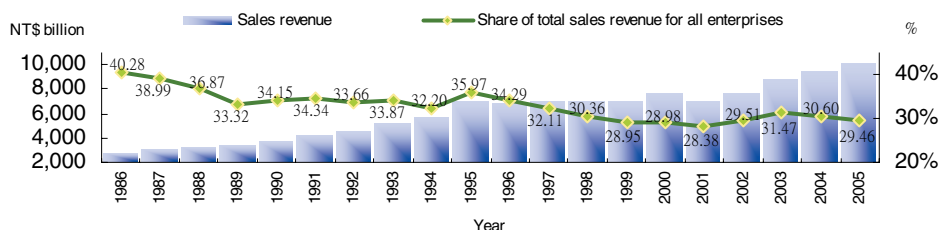
Service sector enterprises account for the largest share of SMEs, with more than 990,000 enterprises in total. The industry with the largest number of SMEs is the wholesaling and retailing industry, with more than 650,000 enterprises (53.14% of the total) in 2005. The second largest number of SMEs is found in the manufacturing sector, although the number of SMEs in this sector has been in decline recently, falling to less than 140,000 by 2005. One point worth noting is that the number of SMEs in the wholesaling and retailing sector (previously known as the ‘commercial’ sector) has been growing steadily for over 20 years, whereas the manufacturing sector has seen a significant increase only in those years when the definition of SMEs was adjusted.

2. Sales Revenue

The number of enterprises and the relative status of SMEs compared to large

enterprises can also be viewed in terms of sales revenue. By 2005, total annual sales revenue for all SMEs in Taiwan exceeded NT\$10 trillion; however, this accounted for only 29.46% of the total sales of all enterprises in Taiwan. In terms of SMEs' share of total sales revenue for all enterprises, the general trend over the past two decades has been downwards. The percentage fell from 40% in 1986 to 32.20% in 1994. Following the adjustment of the SME definitions in 1995, the percentage rose again to 35.97%, but it had fallen back to 28.95% by 1999. The year 2000 saw another relaxation of the SME definitions, causing the SMEs' share of total sales to rise again; it has subsequently fluctuated within the 28% to 32% band (Figure 8-1-2). In 2005, 37.95% of total SME sales derived from the wholesaling and retailing industry, with another 36.75% coming from manufacturing; all other industries combined accounted for only 25.30%. This concentration of sales in the wholesaling and retailing industry and the manufacturing sector was similar to that found in terms of the number of SMEs in each industry.

Figure 8-1-2 Annual Sales Revenue of Taiwan's SMEs



Source: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

It is worth noting that the share of total SME sales held by “traditional” industries has been falling gradually; at the same time, although in absolute terms the combined annual sales of SMEs in service industries, including the transportation, warehousing and communications industry, the professional, scientific and technical services industry, the educational services industry, the medical, healthcare and social services industry, the cultural, sporting and leisure services industry and the “other service industries” segment remain low, their share of total sales has been rising. This reflects the general pattern of diversification in Taiwan’s SME sector, and the growing importance of the service



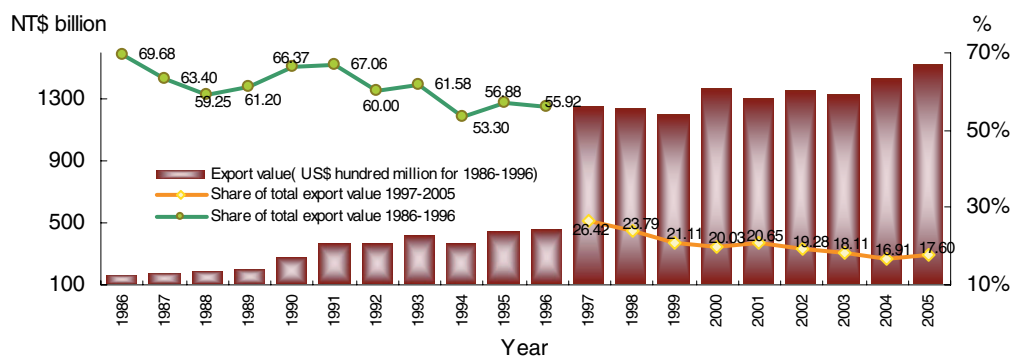
industries.

3. Export Value

Exports have always played a vital role in Taiwan's economic development. In particular, SMEs' contribution to export growth is generally felt to have been one of the most important factors behind Taiwan's "economic miracle." However, the SMEs' share of Taiwan's total exports has been falling. Owing to the limitations of the available data, SME export value for years prior to 1997 has had to be estimated using data for trading companies' export value combined with Customs export data; this data was calculated in US dollars. SME export value for the period since 1997 has been calculated using data from the Ministry of Finance Tax Data Center, which is expressed in NT dollars; as a result, the two sets of data cannot be integrated. Nevertheless, examination of these two sets of data does exhibit a general trend for SME export value to increase in absolute terms, but to decrease as a share of total export value for all enterprises.

Examination of the US dollar data for the years up to 1996 shows that, although in 1986 SME export value totaled only US\$15.5 billion, this figure represented 69.68% of total export value for all enterprises. By 1996, SME export value had risen to US\$45.6 billion in absolute terms, but as a share of the total it had fallen to 55.92% (Figure 8-1-3). The NT dollar data for the period from 1997 onwards gives SMEs a 26.42% share of total sales in 1997, falling to 16.91% by 2004 (although 2005 saw a slight increase, to 17.60%). Overall, it is clear that large enterprises now account for the bulk of Taiwan's exports. This situation is partly due to the moving of production overseas by so many SMEs; at the same time, the mode of collaboration between large enterprises and SMEs appears to be changing.

Taiwan's export data mainly covers trade in physical products; data is not available for trade in services. As far as trade in physical products is concerned, SME export value for the manufacturing sector and for the wholesaling and retailing industry in 2005 totaled NT\$1.04 trillion and NT\$0.42 trillion, respectively; these figures represented 68.65% and 27.47% of total SME export value, giving a total share of 96% for the two industries combined.

Figure 8-1-3 Export Statistics for Taiwan's SMEs

Source: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

4. The Number of Persons Employed by SMEs

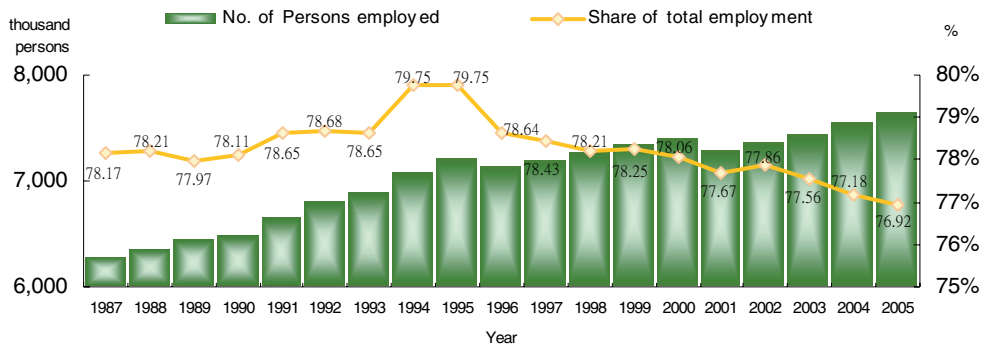
The number of people employed by Taiwan's SMEs has grown steadily over the years, rising from 6.27 million in 1987 to 7.64 million in 2005 (Figure 8-1-4). With only 1.33 million people working in large enterprises in 2005, the number of people employed in SMEs was more than five times as high. The SMEs' share of total employment has remained relatively stable, fluctuating within the 77%–80% band. After reaching 79.75% in 1994, the percentage started to decline; over the period 2002–2005 it fell from 77.86% to 76.92%. Although alterations were made to the SME definitions in 1995 and 2000, these revisions affected only the capitalization and annual sales thresholds; the employee thresholds were not revised. As a result, while revisions to the definitions affected the SMEs' share of the number of enterprises and their share of total sales, they did not affect the SMEs' share of the number of employed persons. The data for the number of persons employed thus presents a reasonably accurate picture of the overall trends in SME employment and the importance of SMEs with respect to job creation.

Although jobs in SMEs are heavily concentrated in the service sector, manufacturing industry accounts for a higher share of SME employment than any other individual industry, with 2.10 million employed persons in 2005 (compared to 1.62 million for the wholesaling and retailing industry). It can thus be seen that, although the number of SMEs in the manufacturing sector is far lower than in the wholesaling and retailing industry, in terms of the number of persons employed,



manufacturing sector SMEs play a very significant role in the economy.

Figure 8-1-4 Number of Persons Employed by Taiwan's SMEs



Source: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

II Taiwanese SMEs' Contribution to the Economy

In order to gain a clearer understanding of the contribution that SMEs make to the economy as a whole in Taiwan, the following sections will examine the role played by SMEs in the creation of added value, promoting economic growth, job creation, boosting the government's tax revenue, smoothing out disparities in regional development, encouraging entrepreneurial activity, and ensuring the maintenance of an effective division of labor within the economy.

1. Creation of Value Added

Gross Domestic Product (GDP) and Gross National Product (GNP) are the measures most commonly used to express economic growth rates. Both GDP and GNP are based on the concept of value added ; the creation of value added can thus be seen as the most important contribution that SMEs make to the economy.

Currently, the Directorate General of Budget, Accounting and Statistics (DGBAS) does not break down Taiwan's GDP and GNP data by enterprise size. This section therefore uses the gross production data (based on the value added concept) from the Industrial and Commercial Census, which is implemented every five years.

In terms of the number of employees, the new SME definitions that were introduced in 2000 define SMEs as enterprises in the manufacturing, construction and mining and quarrying industries with less than 200 employees, and enterprises in other industries with less than 50 employees. On this basis, gross production for SMEs in Taiwan can be estimated at approximately NT\$0.4 trillion in 1981, just under NT\$0.7 trillion in 1986, over NT\$1.5 trillion in 1991, NT\$2.7 trillion in 1996 and NT\$2.9 trillion in 2001 (Table 8-2-1). The SMEs' share of total gross production for all enterprises rose from 37.32% in 1981 to 47.52% in 1996, but then fell back to 41.97% in 2001.

Table 8-2-1 SMEs' Share of Total Gross Production (Value Added) in Individual Industries

Units: NT\$ thousand; %

Industry	1981	1986	1991	1996	2001
Mining	3,672 33.41%	3,672 42.32%	5,618 51.95%	6,765 65.50%	5,404 53.26%
Public utilities	19 0.03%	270 0.28%	490 0.38%	970 0.52%	1,633 0.81%
Manufacturing	193,281 34.35%	394,007 41.01%	710,876 44.12%	1,015,158 44.66%	1,024,737 37.52%
Construction	26,642 51.56%	34,553 57.26%	34,553 57.26%	113,407 66.80%	158,600 60.42%
Wholesaling and retailing					1,015,201
	133,939 91.92%	203,394 81.18%	465,649 77.99%	839,714 78.08%	72,48%
Hotel and restaurant					100,488 68.46%
Transportation, warehousing and communications	17,947 19.72%	28,715 18.08%	63,362 21.68%	110,814 24.63%	125,801 21.45%
Finance and insurance			56,713 14.16%	117,044 15.07%	63,111 7.73%
Real estate and leasing					80,799 73.28%
Professional, scientific and technical services					100,900 57.07%
Medical and healthcare	48,468 24.68%	67,886 27.51%	145,622 52.22%	321,372 56.15%	76,315 30.73%
Cultural, sporting and leisure services					45,233 39.86%
Other service industries					127,784 74.68%
Total	423,967 37.32%	732,497 41.07%	1,561,735 44.74%	2,727,488 47.52%	2,936,296 41.97%

Source: Original data from the *Industrial and Commercial Census*, consecutive years.

The trend that can be seen in the Industrial and Commercial Census appears to go against the trend shown in the sales revenue data, where the SMEs' share of



total sales revenue has been falling steadily. This is partly due to the fact that the Census data represents a snapshot of the situation every five years, and partly due to the fact that inputs of intermediates are not deducted from the sales data, so that this data does not closely reflect value added creation.

As regards the share of SME gross production held by individual industries, the wholesaling and retailing industry has consistently held the largest share, averaging over 70% of the total. The “other service industries” also hold a substantial share. Overall, the SMEs’ share of total gross production is significant in almost all industries.

2. Promoting Economic Growth

Several different views have been put forward regarding the role played by SMEs in bringing about rapid economic growth. Galenson (1979) suggested that, provided that an abundant supply of labor was available, SMEs could leverage labor-intensive production methods to become competitive in international markets, thereby developing new export markets and contributing to the growth of the economy as a whole.

Over the past half a century, despite its small size (36,000km²) and limited natural resources, Taiwan has seen its per capita GNP increase dramatically, from US\$146 in 1951 to US\$15,271 in 2005, as part of an “economic miracle.” A great deal of research has been done on explaining Taiwan’s economic miracle; there is a general consensus that the key factors included industrialization, liberalization and getting an early start compared to other economies in the region. In particular, the increase in exports resulting from rapid industrialization is felt to have been the main driver of economic growth. In regard to the data for the period 1971–2005, the correlation coefficient for the correlation between export value and the economic growth rate is very high, at 0.9803; clearly, there has been an extremely close relationship between export growth and overall economic growth.

In 1982, SMEs accounted for 69.7% of Taiwan’s exports. This figure subsequently declined; the estimate for export value (based on a zero business tax rate) for 1997 gave SMEs a 26.42% share, and by 2005 this had fallen to 17.59%.

Although the SMEs' share of Taiwan's total exports has been falling steadily, with total SME exports running at over NT\$1 trillion, the upstream and downstream linkage effect of SME exports has been significant. In 2003, 2004 and 2005, while SME exports totaled only NT\$1.32 trillion, NT\$1.43 trillion and NT\$1.50 trillion, respectively, the total domestic production value derived from these exports came to NT\$3.35 trillion, NT\$3.64 trillion and NT\$3.87 trillion, respectively (Table 8-2-2). The linkage effect was particularly impressive in the case of the manufacturing sector. Taking 2005 as an example, the export value of SME manufacturing enterprises totaled NT\$1.02 trillion, but the total domestic production value by the linkage effect was NT\$2.44 trillion. The wholesaling and retailing industry also created around NT\$0.54 trillion of production value. In terms of the size of the linkage effect, the largest effect was found in the medical, healthcare and social services industry, followed by the public utilities industry. However, due to the small size of these industries' exports in absolute terms, the overall linkage effect was not significant.

As can be seen from the data presented in Table 8-2-2, although the SMEs' share of total exports has been falling, in absolute terms SME exports continue to grow. Given the close relationship between export performance and economic growth, SMEs are still playing an important role in driving economic growth for the economy as a whole.

3. Job Creation

It is generally held that, in the years following the Second World War, it was the growth of the SME sector that enabled Taiwan to cope with its rapid population growth and the consequent increase in the labor supply without developing a serious unemployment problem. However, in the past little in the way of direct evidence has been presented to support this hypothesis. Of the more comprehensive data sources that have become available recently, the *Manpower Resources Statistics* published by DGBAS shows that, over the period 1987–2005, there was a net increase of 1.38 million in the number of people employed by SMEs (Table 8-2-3). Despite this increase in the absolute number of persons employed, in percentage terms the SMEs' share of employed persons has remained



at around 78%; the rate of increase in job creation in the SME sector has thus been similar to that among large enterprises.

Table 8-2-2 SME Exports and the Overall Economic Benefits Created

Unit: NT\$ million

Industry	SME Export Value			Overall Economic Benefit (Total Production Value)		
	2003	2004	2005	2003	2004	2005
Agriculture	1,847	2,031	2,186	62,727	69,394	75,119
Mining and quarrying	413	463	440	101,877	112,611	121,509
Manufacturing	841,710	936,759	1,021,680	2,034,785	2,251,541	2,438,050
Public utilities	133	177	100	65,370	71,382	76,096
Construction	11,989	144,949	13,689	23,017	26,606	25,762
Wholesaling and retailing	406,002	417,737	416,845	507,970	530,085	537,728
Hotel and restaurant	2,169	1,817	818	10,046	10,259	9,658
Transportation, warehousing and communications	48,217	36,806	26,403	132,029	125,558	118,437
Finance and insurance	216	307	335	131,988	142,709	150,839
Real estate and leasing	809	785	705	36,384	38,313	39,291
Professional, scientific and technical services	11,786	12,004	11,097	154,794	165,383	171,954
Educational services	48	16	5	2,332	2,515	2,680
Medical, healthcare and social services	7	8	2	4,804	5,135	5,332
Cultural, sporting and leisure services	783	730	647	14,103	15,006	15,573
Other service industries	1,706	1,773	2,040	68,335	73,823	78,201
Total	1,323,835	1,426,362	1,496,992	3,350,559	3,640,320	3,866,228

Sources: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years, and estimates compiled for the present study.

During the period 1987–2005, the most pronounced net increase in employment was found among SMEs in the commercial sector and in the social and personal services industry (increases of 865,000 jobs and 765,000 jobs, respectively). In the non-service sector, apart from the construction industry where there was a net increase in SME employment of 246,000 jobs, all other industries experienced a decline in the number of persons employed in SMEs. The decline was most pronounced in the agriculture, forestry, fisheries and animal husbandry industry, where the number of people working in SMEs fell by 626,000; the decrease was around 92,000 in the manufacturing sector, and around 11,000 in the mining and quarrying industry.

Table 8-2-3 The Number of Persons Employed in SMEs in Taiwan

Units: persons; %

Industry	1987	2005	Net Increase in Employment in SMEs	Growth Rate
Total	6,271	7,648	1,377	21.96
Agriculture	1,210	584	-626	-51.74
Mining and quarrying	16	5	-11	-68.75
Manufacturing	2,191	2,099	-92	-4.20
Public utilities	0	2	2	—
Construction	525	771	246	46.86
Commerce	1,357	2,222	865	63.74
Transportation, warehousing and communications	241	316	75	31.12
Finance, insurance and real estate, and business services	131	283	152	116.03
Social and personal services	600	1,365	765	127.50

Source: *White Paper on Small and Medium Enterprises in Taiwan*, 1998 and 2006.

4. Boosting the Government's Tax Revenue

In theory, while there may be a causal relationship between the income tax burden in a given country and corporate earnings, sales revenue and personal income, there should not necessarily be any relationship between the tax burden and the size or form of business organization. However, when investigating the relationship between enterprise size and the effective tax rate, Porcano (1986) found that, while the average effective tax rate for US companies ranged between 6% and 15%, the effective tax rate borne by large enterprises tended to be lower than that borne by small enterprises. Large enterprises have more political clout, and can often influence the legislative process to their own advantage, hence the lower tax burden. It is also easier for large enterprises to employ first-rate tax accountants, which in turn helps them to take advantage of tax breaks and reduce their tax burden still further.

Examination of the business income tax data for 2004 shows that 96.1% of the 676,283 enterprises that submitted business income tax returns in that year were SMEs. The industry with the largest numbers of SMEs submitting business income tax returns was the wholesaling and retailing industry, followed by the manufacturing sector. The total amount of business income tax payable in 2004 was NT\$346,149 million, with the total amount payable by SMEs being



NT\$60,428 million (17.46% of the total), while the amount payable by large enterprises was NT\$285,721 million, or 82.54% of the total (Table 8-2-4). However, after allowing for the tax deductions provided for under the *Statute for Upgrading Industries* and those available for income derived from overseas business operations, the actual amount of business income tax payable by SMEs amounted to NT\$56,906 million, while for large enterprises the figure was NT\$179,930 million; the ratio of tax payable between SMEs and large enterprises changed from 17.46:82.54 to 24.03:75.97. It can thus be seen that SMEs account for around one quarter of all business income tax payable in Taiwan, thereby making a significant contribution to the government's tax revenue.

In 2004, the impact of the tax breaks provided for by the *Statute for Upgrading Industries* and the tax deductions for income from overseas operations reduced the amount of business income tax payable by SMEs by NT\$3,522 million (5.83% of the total), but reduced the amount payable by large enterprises by NT\$105,791 million (37.03% of the total). Large enterprises thus benefit much more from these tax breaks than SMEs do.

On average, the amount of business income tax payable by SMEs amounts to 11.64% of annual sales revenue, compared to 16.74% for large enterprises (Table 8-2-5). If one deducts the tax breaks provided for by the *Statute for Upgrading Industries* and the tax deductions for income from overseas operations, then the amount of business income tax payable equals 11.40% in the case of SMEs and 14.99% in the case of large enterprises. The 1.75 percentage point reduction for large enterprises means that, on average, SMEs are paying twice as much in business income tax for every one NT dollar of sales as large enterprises are required to do. Although in absolute terms the SMEs' contribution to the government's tax revenue is smaller than the large enterprises' contribution, relatively speaking SMEs contribute more.

5. Reducing the Urban-Rural Divide

Taiwan SMEs are heavily concentrated in the northern part of the country. In 2005, Taipei City had the largest number of SMEs: a total of 204,369 enterprises, representing 16.67% of all SMEs in Taiwan. It was followed by Taipei County,

with 189,403 (15.45% of the total), Kaohsiung City with 93,073 (7.59%), Taoyuan County with 87,079 (7.10%), and Taichung County with 84,168 (6.86%). Taipei City and Taipei County thus have significantly more SMEs than any other county or city in Taiwan (Figure 2-2-2).

Table 8-2-4 The Business Income Tax Burden in 2004—by Enterprise Size

Unit: NT\$ million; %

Industry	Business Income Tax Paid		Business Income Tax Paid (after deductions provided for under the Statute for Upgrading Industries and for tax paid on overseas-income)	
	SMEs	Large Enterprises	SMEs	Large Enterprises
Total	60,428 (17.46)	285,721 (82.54)	56,906 (24.03)	179,930 (75.97)
Agriculture, forestry, fisheries and animal husbandry	253 (56.51)	195 (43.49)	251 (59.06)	174 (40.94)
Mining and quarrying	280 (99.74)	1 (0.26)	265 (99.62)	1 (0.38)
Manufacturing	27,898 (12.99)	186,852 (87.01)	24,597 (21.42)	90,217 (78.58)
Public utilities	39 (1.81)	2,097 (98.19)	37 (5.12)	686 (94.88)
Construction	9,753 (68.11)	4,567 (31.89)	9,707 (71.36)	3,895 (28.64)
Wholesaling and retailing	14,281 (23.91)	45,442 (76.09)	14,214 (24.61)	43,548 (75.39)
Hotel and restaurant	803 (37.88)	1,317 (62.12)	802 (39.20)	1,244 (60.80)
Transportation, warehousing and communications	1,841 (13.44)	11,856 (86.56)	1,832 (15.89)	9,699 (84.11)
Finance and insurance	884 (4.56)	18,497 (95.44)	867 (4.56)	18,149 (95.44)
Real estate and leasing	1,224 (30.66)	2,768 (69.34)	1,222 (30.77)	2,750 (69.23)
Professional, scientific and technical services	1,774 (19.54)	7,306 (80.46)	1,727 (25.33)	5,090 (74.67)
Educational services	12 (2.41)	40 (77.59)	12 (24.00)	38 (76.00)
Medical, healthcare and social welfare services	4 (100)	0 (0.00)	4 (100.00)	0 (0.00)
Cultural, sporting and leisure services	381 (0.23)	3,344 (89.77)	380 (10.73)	3,163 (89.27)
Other service industries	1,001 (41.03)	1,439 (58.97)	990 (43.69)	1,276 (56.31)

Note: Figures in parentheses are percentages of the total.

Source: Ministry of Finance Tax Data Center, original business income tax data.

Despite the substantial disparities between the number of SMEs in the individual counties and cities, wholesaling and retailing businesses account for the



largest share of SMEs in all regions. Comparison of the data for 2005 with that for 1998 shows an increase in the number of SMEs in every region except Pingtung County. In percentage terms, Taoyuan County and Hsinchu County displayed the highest growth; the districts with the biggest increase in absolute terms were Taipei County, Taoyuan County and Taipei City, all of which saw the number of SMEs rise by more than 10,000. It can thus be seen that the SME sector has continued to grow strongly in northern Taiwan.

Table 8-2-5 The Tax Burden Per NT\$100 of Sales Revenue in 2004—by Enterprise Size

Unit: %

Industry	Business Income Tax Payable per NT\$100 of Sales Revenue			
	SMEs		Large Enterprises	
	Before Deductions	After Deductions	Before Deductions	After Deductions
Total	11.64	11.40	16.74	14.99
Agriculture, forestry, fisheries and animal husbandry	12.53	12.39	17.76	16.82
Mining and quarrying	14.34	14.09	6.17	6.17
Manufacturing	15.41	14.49	15.34	9.93
Public utilities	12.15	12.02	19.00	15.47
Construction	13.93	13.92	12.02	11.67
Wholesaling and retailing	10.11	9.98	18.75	18.30
Hotel and restaurant	9.63	9.63	17.44	16.68
Transportation, warehousing and communications	11.60	11.59	19.00	18.55
Finance and insurance	4.16	4.12	10.66	10.15
Real estate and leasing	7.77	7.76	10.13	10.07
Professional, scientific and technical services	8.18	8.13	17.81	14.84
Educational services	5.34	5.34	10.98	10.48
Medical, healthcare and social welfare services	5.18	5.18	—	—
Cultural, sporting and leisure services	6.78	6.77	16.94	15.76
Other service industries	9.91	9.87	19.47	17.75

Note: The "Before Deductions" figures are based on the original tax declarations; the "After Deductions" figures factor in the deductions provided for by the *Statute for Upgrading Industries* and the deductions for income tax paid on overseas operations.

Source: Ministry of Finance Tax Data Center, original business income tax data.

As regards average annual sales revenue for SMEs in individual counties and cities, in 2004 the districts with the highest average sales per SME were Taoyuan County, Yunlin County, Tainan County and Kaohsiung County; in all of these districts, average annual sales revenue exceeded NT\$10 million (Table 8-2-6). Taoyuan County, which had had the highest average sales in 1998, had fallen back to second place by 2004, being surpassed by Yunlin County; at 147.61%, the rate

of increase in average sales per SME in Yunlin County over the period 1998–2004 was higher than in any other county or city in Taiwan (Kaohsiung County posted the next highest rate of increase, at just over 55%). Every county and city saw an increase in average annual sales revenue per SME during the period 1998–2004. The fact that the districts with the fastest growth were mostly in central or southern Taiwan suggests that these regions are beginning to catch up with the north in terms of SME performance.

In 1998, Taichung City had the highest average annual household income, at NT\$1,247,000. In 2004, Hsinchu City held the number one spot, with NT\$1,480,000, while Taichung City had fallen back into fifth place; average annual household income in Taichung City was in fact lower in 2004 than it had been in 1998. Other districts where average annual household income had fallen compared to 1998 included Kaohsiung City, Ilan County, Miaoli County, Taichung County, Changhua County, Chiayi City, Pingtung County and Hualien County. Examination of the degree of correlation between the number of SMEs per district and average annual household income shows that, whereas in 1998 the correlation coefficient was 0.6358, by 2004 it had fallen slightly, to 0.5603. As for the correlation between average annual household income and average annual sales revenue per SME, here the correlation coefficient fell from 0.6277 in 1998 to 0.3572 in 2004, a dramatic decline.

6. Encouraging Entrepreneurial Activity

Schatz (1987) suggested that the establishment of new enterprises made an important contribution to job creation, stimulating economic growth, maintaining competitive labor markets and promoting innovation; the setting up of new enterprises helped to ensure that existing enterprises remained responsive to consumer demands, while also constituting the driving force for technology innovation. Newly-established enterprises need to innovate in order to build market share; their establishment thus contributes both to technological innovation and to the growth of the economy as a whole. The role that new enterprises play within the economy reflects the ongoing breakdown and reconstruction of the industrial structure.



Johnson (1986) also suggested that the establishment of new enterprises could act as a catalyst for the rejuvenation of existing enterprises. Regardless of whether new enterprises survived or went out of business, their establishment encouraged existing enterprises to become more efficient and to explore new business opportunities. New enterprises thus injected new vitality into the economy, having an important impact on management innovation, product innovation and service innovation.

Table 8-2-6 The Number of SMEs, Average SME Sales and Average Income Levels in Individual Counties and Cities in Taiwan

Units: NT\$ thousand; enterprises; %

County / City	No. of SMEs			Average Sales Revenue per SME			Average Annual Household Income		
	1998	2004	Growth Rate	1998	2004	Growth Rate	1998	2004	Growth Rate
Taipei City	189,584	199,822	5.40	8,800	9,215	4.73	1,443	1,488	3.15
Kaohsiung City	78,340	87,469	11.65	5,787	7,476	29.19	1,158	1,109	-4.24
Taipei County	154,928	179,682	15.98	9,472	9,871	4.21	1,087	1,110	2.06
Keelung City	17,051	17,574	3.07	3,378	4,680	38.55	999	1,048	4.94
Ilan County	23,630	24,691	4.49	3,522	4,808	36.51	977	875	-10.44
Taoyuan County	65,555	81,420	24.20	9,744	12,337	26.61	1,163	1,203	3.44
Hsinchu City	15,144	21,119	7.07	6,463	7,814	20.90	1,208	1,480	2.55
Hsinchu County	19,724	18,508	22.21	7,112	8,507	19.62	1,113	1,197	7.50
Miaoli County	23,287	24,148	3.70	4,674	6,564	40.45	943	896	-4.99
Taichung City	60,120	65,391	8.77	7,173	8,826	23.05	1,247	1,044	-16.29
Taichung County	71,647	79,280	10.65	8,730	9,608	10.07	994	948	-4.67
Changhua County	57,791	62,959	8.94	7,503	7,530	0.36	951	946	-0.58
Nantou County	20,606	21,802	5.80	4,070	4,910	20.64	876	880	0.43
Yunlin County	24,777	26,235	5.88	5,148	12,746	147.61	782	850	8.63
Chiayi City	14,618	15,716	7.51	4,512	5,616	24.47	1,060	832	-21.44
Chiayi County	17,794	18,383	5.87	4,442	7,532	69.54	707	779	10.07
Tainan City	41,391	46,479	12.29	5,362	6,039	12.64	1,014	1,017	0.36
Tainan County	39,646	45,078	13.70	7,596	10,911	43.64	840	889	5.87
Kaohsiung County	44,460	50,687	14.01	6,524	10,170	55.89	863	880	1.98
Pingtung County	32,160	31,445	-2.22	2,970	3,964	33.49	920	848	-7.81
Penghu County	5,110	5,750	12.52	2,083	2,965	42.31	634	875	37.96
Hualien County	16,642	18,379	10.44	3,515	4,285	21.90	888	858	-3.33
Taitung County	11,104	11,498	3.55	2,143	2,894	35.08	702	756	7.61

Sources: 1. *White Paper on Small and Medium Enterprises in Taiwan*, 1999 and 2005.

2. *Household Income and Expenditure Survey*, 1999 and 2005.

3. Ministry of Finance Tax Data Center, original business income tax data.

On average, in any given year, newly-established enterprises (defined as

those enterprises that have been set up within the past year) account for around 10% of business enterprises in Taiwan. In 2005, there were 123,482 newly-established enterprises in Taiwan, representing 9.85% of all business enterprises in the country. Of these 123,482 enterprises, 123,157 (99.74% of the total) were SMEs; it can thus be seen that newly-established enterprises are almost always SMEs (Table 8-2-7). The wholesaling and retailing industry has consistently accounted for the largest share of newly-established SMEs. In 2005, there were 59,552 newly established wholesaling and retailing SMEs, representing 48.35% of all newly-established SMEs; the next largest group were the newly-established SMEs in the hotel and restaurant industry, which numbered 20,561 (16.69% of the total). While newly-established SMEs account for nearly 10% of all SMEs in any given year, their share of total annual SME sales revenue is much lower, at around 1%; their shares of total export sales and total domestic sales are also very low. Nevertheless, the fact that so many new SMEs are established every year shows that the entrepreneurial drive of Taiwan's citizens remains as strong as ever.

Table 8-2-7 New Enterprise Establishment in Taiwan

Units: enterprises; NT\$ million; %

Year	Newly Established SMEs							
	No. of New Enterprises	New Enterprises as Share of All Enterprises	Annual Sales Value	Annual Sales Value as Share of All Enterprises	Domestic Sales Value	Domestic Sales Value as Share of All Enterprises	Export Sales Value	Export Sales Value as Share of All Enterprises
2000	96,723	8.86	267,649	1.02	228,245	1.18	39,403	0.58
2001	94,803	8.63	231,363	0.96	190,003	1.07	41,384	0.66
2002	91,435	8.09	247,292	0.97	204,968	1.11	42,324	0.60
2003	111,507	9.52	295,370	1.07	266,634	1.31	28,736	0.39
2004	108,235	9.09	260,811	0.85	232,015	1.05	28,797	0.34
2005	123,157	9.82	277,631	0.82	256,192	1.01	21,438	0.25

Source: *White Paper on Small and Medium Enterprises in Taiwan*, consecutive years.

The unsatisfactory operational performance of newly established SMEs should not be allowed to mask the important contribution that they make to job creation. Given that nearly 100,000 new enterprises are established in Taiwan every year, even if all of these enterprises were actually self-employed persons



with no additional employees, this would still represent around 100,000 jobs being created every year. If it is assumed that most of them are micro-enterprises with 5 or fewer employees, then the number of new jobs created could be as high as 400,000 or more. The number of new enterprises established each year thus signifies more than the strength or weakness of the entrepreneurial spirit in Taiwan; it also has an important impact on the solving of major social problems. This is why so much research is done on new enterprise establishment in other countries, and why the member nations of the European Union have formulated plans to encourage entrepreneurial activity (with the aim of reducing unemployment).

To facilitate the establishment of new enterprises, thereby creating wealth and new jobs, countries all over the world have been setting up incubator centers, and building up effective incubation platforms to encourage technology transfer, provide investment opportunities, boost employment and stimulate regional economic development. When newly-established enterprises are first getting off the ground, their small size, limited manpower and inadequate R&D capabilities mean that they need expert guidance and planning assistance if they are to be successful. Incubator centers can help the start-ups located there to overcome the managerial and other obstacles in their way and secure support from other sources, thereby speeding up the process of enterprise growth.

Over the period from July 1996 to the end of 2005, a total of 82 incubator centers were established in Taiwan. Between them, these incubator centers have cultivated more than 2,331 SMEs, in industries that include electronics and IT, 3D animation, communications and biotechnology. The total amount of investment involved was NT\$7,924 million, followed by capital increments totaling NT\$26,259 million. A total of 434 applications were submitted for assistance under the Small Business Innovation Research (SBIR) program, of which 279 (64.28%) were approved, creating NT\$510 million in R&D investment.

On the basis of the available data for incubator centers in specific fields, it can be estimated that total incubator center investment in Taiwan was around NT\$4.30 billion in 2004 and 5.68 billion in 2005 (Table 8-2-8). Linkage effect calculations indicate that the increase in domestic production resulting from this incubator center investment was in the region of NT\$12,393 million in 2004, and

NT\$16,535 million in 2005. Incubator centers created around 2,679 new jobs in 2005, representing 43 new jobs per incubator center.

Table 8-2-8 The Amount of Investment by Enterprises Located in Incubator Centers in Individual Fields

Unit: NT\$ million

Field of Investment	2004	2005
Civil engineering and architecture	10	400
Petrochemical and chemical manufacturing	267	32
Household good production	73	1,048
Biotechnology	982	44
Multimedia and broadcasting	39	113
Materials production	119	211
Distribution and warehousing	5	517
Aerospace	211	45
Education, culture and the arts	69	1,649
IT and electronics	1,525	200
Telecommunications	76	979
Machinery and electromechanical systems	662	92
Environmental protection	41	329
Medical and healthcare	46	2
Tourism and leisure	41	400
Others	137	21
Size of economic benefits created	12,393	16,535
Total	4,301	5,680

Sources: Estimates based on data compiled by the Small and Medium Enterprise Administration, Ministry of Economic Affairs.

7. Strengthening the Division of Labor within Industry

Due to their small size, cash-flow problems and limited manpower, SMEs find it difficult to compete with large enterprises in terms of production and marketing. How do Taiwan's SMEs go about overcoming these weaknesses? Ch'eng-shu Kao (1991) and Chieh-hsuan Ch'en (1994) both suggested that the key factor contributing to the competitiveness of Taiwan's SMEs was the collaborative networks that have been formed between Taiwan's SMEs. These networks go right back to the days when families were encouraged to undertake small-scale industrial production in their own homes, when manufacturers began to outsource production to smaller firms. Most SMEs concentrated on manufacturing, leaving the marketing aspects to Japanese or multinational trading companies and to importers in overseas markets. The networks that took shape thus constituted an



international division of labor.

Unlike large enterprises, which can achieve vertical integration with relative ease, SMEs are obliged to adopt strategies based on collaboration when faced with intense competition and the rapidly changing international market. SMEs make extensive use of outsourcing and collaborative networks; this means that, when examining the achievements of Taiwan's SMEs, rather than considering only the performance of individual enterprises, one needs to focus on the overall "synergy" created in the economy as a whole and society as a whole. Besides collaborating with each other, Taiwan's SMEs often also have longstanding contractual relationships with large enterprises. Through the operation of these subcontracting systems, large enterprises are able to adjust their collaboration with SMEs in line with the changes in the business climate; overall, the relationship between large enterprises and SMEs is a very close one.

Unfortunately, there is little empirical data available to clarify the exact nature of the mutual dependency between large enterprises and SMEs in terms of production and marketing networks. Su-wan Wang and Hui-lin Wu (2000) used data related to the operation of the linkage effect in 1991 and 1996 to examine the utilization of resources by large enterprises and by SMEs. They discovered that large enterprises were able to create more value added than SMEs, and that, for both large enterprises and SMEs, the share of intermediate inputs derived from SMEs had been rising. This suggests that large enterprises were becoming increasingly dependent on SMEs, while, at the same time, the level of mutual dependency among SMEs was also rising. With their importance in the value chain gradually increasing, SMEs are coming to play an ever more important role in the economy as a whole.

III The Challenges Facing Taiwan's SMEs

SMEs have played a vital role in Taiwan's economic development over the past few decades. Besides serving as satellite suppliers for many large enterprises, SMEs have also helped to absorb surplus labor, and have also prevented Taiwan's economy from becoming dominated by a handful of large enterprises, as has happened in some other countries. Many of Taiwan's large enterprises grew out of

SMEs. SMEs can thus be thought of as the bedrock of the Taiwanese economy;

Table 8-2-9 Inputs of Intermediates by Enterprise Size, 1991 and 1996

Units: %; NT\$ million

Year / Enterprise Size		Large Enterprises			SMEs		
		Agriculture	Manufacturing	Services	Agriculture	Manufacturing	Services
1991							
Large enterprises	Agriculture	0	0.00	0.00	0.00	0.00	0.00
	Manufacturing	0	11.27	5.94	12.22	31.54	9.23
	Services	0	1.80	12.00	7.36	5.67	10.88
SMEs	Agriculture	0	1.21	0.03	29.94	2.42	0.05
	Manufacturing	0	13.47	6.24	17.85	40.39	7.63
	Services	0	3.01	14.51	8.77	9.54	14.54
Total		0	30.75	38.71	76.15	89.55	40.33
Total domestic production		0	2,667,395	1,354,420	391,100	3,565,870	2,774,382
1996							
Large enterprises	Agriculture	0	0.00	0.00	0.00	0.00	0.00
	Manufacturing	0	25.22	4.99	10.97	23.67	4.63
	Services	0	4.49	7.94	5.28	5.68	8.73
SMEs	Agriculture	0	3.24	0.03	17.58	3.45	0.01
	Manufacturing	0	24.96	5.31	14.29	31.57	6.31
	Services	0	8.00	11.10	6.38	10.23	12.40
Total		0	65.91	29.37	54.51	74.59	32.09
Total domestic production		0	3,999,010	3,203,566	517,929	4,862,951	3,763,813

Source: Wang, Su-wan and Wu, Hui-lin (2000). "The Impact of Industrial Structural Changes on SMEs," presented at the Conference on Industrial Structural Changes and Economic Development, sponsored by CIER.

their existence has been one of the key factors behind the growth of Taiwan's economy, and it can be anticipated that they will continue to play an important role in Taiwan's economic development in the future.

In the past, for a variety of reasons – including small size, inadequate access to regulatory and market information, and the unwillingness to bear the high costs of legal operation – many Taiwanese SMEs have been operating as illegal enterprises, whether by operating in a district that is not zoned for factory operation, failing to complete company registration, not conforming to the requirements governing possession of a fixed place of business, or failing to register properly for tax purposes. In addition, SMEs have often failed to comply with regulatory requirements related to Labor Insurance, National Health Insurance and the new Labor Insurance pension scheme, and those relating to food



safety and environmental protection. Another major problem facing Taiwan's SMEs is that, although the amount of financing required by most SMEs (particularly micro-enterprises) is not especially high, the funding channels available to them are extremely limited. Often, SMEs do not even try to secure funding from banks or other financial institutions unless they have been unable to obtain loans from friends or relatives. Factors making it difficult for SMEs to secure bank loans include their limited assets, low creditworthiness, the question of whether the SME is legally registered as a business enterprise, low registered capital, the small scale of operations and low earnings.

With the combined impact of a changing industrial structure and ongoing internationalization, there has been a pronounced tendency for enterprises in Taiwan to get larger, and for conglomerates and business groups to form. It is these large enterprises that are now the main drivers of growth for the economy as a whole. The decline in SMEs' share of total exports that can be seen from the data presented above is closely related to changes in the overall business environment both in Taiwan and in the global economy as a whole. Large enterprises have proved more effective at developing international markets; as a result, their share of Taiwan's total exports has risen steadily. At the same time, the movement of production overseas by much of Taiwanese industry has taken with it the complex upstream-downstream relationships that characterized the industrial structure in Taiwan; this too has contributed to the rise in large enterprises' share of exports. There is little reason to assume that SMEs' share of total exports will increase in the future.

With the service sector's share of Taiwan's GDP rising steadily, increasing the creation of value added in the service sector has become the key to stimulating higher economic growth. However, most service sector enterprises in Taiwan are SMEs with limited capabilities; most of these firms have found it difficult to internationalize their operations. In particular, Taiwan needs to upgrade and transform its distribution sector (including wholesaling, retailing and logistics), which has the largest number of SMEs, newly-established enterprises and micro-enterprises, to support the development of the SME sector as a whole.

Besides the SME-specific problems outlined above, Taiwan's SMEs are also

being affected by the changes in the overall business environment, particularly the processes of economic liberalization and globalization. Some of the key issues are discussed below:

1. Competition from Emerging Economies

In the past, Taiwan's SMEs were able to leverage their speed and flexibility, combined with low wages, a favorable exchange rate, and the availability of tax rebates for exportation, etc., to maintain competitive advantage when exporting to international markets. By developing strategic alliances with foreign companies, SMEs were able to create a role for themselves within the international division of labor; as a result, Taiwan's SME sector gradually grew larger and stronger. Recently, however, with the impact of globalization and increased participation in international markets by China and by the nations of Southeast Asia, Taiwan has found itself being supplanted by other countries in the role of contract manufacturer. Simply cutting costs is no longer sufficient for Taiwanese SMEs to sustain their operations over the long term. Even those companies that survive will find it difficult to create significant amounts of value added. Overall, the challenge facing Taiwan's SMEs today is immense.

2. The Impact of International Environmental Protection Legislation

Following the signing of the Agenda 21 agreement at the "Earth Summit" held in Rio de Janeiro in 1992, sustainable development and environmental issues became a major focus of attention for the international community. This led not only to the establishment of new environmental protection conventions at the international level, but also to the tightening up of environmental legislation within Taiwan, resulting in a significant increase in operating costs for business enterprises. There has been a pronounced increase in technical barriers to trade in international markets, with the advanced nations requiring companies wishing to export to their markets to conform to new environmental protection requirements. Taiwanese enterprises have found it difficult to adjust to this new environment, and this has been particularly true of SMEs. Although the impact of the Kyoto Protocol has



been felt mainly by large enterprises with high energy consumption, because of the close linkages between large enterprises and SMEs in Taiwan, the requirements that the government has placed on large enterprises to reduce emissions of greenhouse gases have had a knock-on effect on SMEs. Overall, the impact of environmental legislation has been inescapable, even for SMEs.

3. The Trend Towards Regional Trade Integration

In recent years, besides the implementation of trade liberalization under the World Trade Organization (WTO) framework, a large number of bilateral and regional free trade agreements have been established. Most countries are now members of at least one regional trade organization; the establishment of these agreements helps to stimulate economic and trade interaction. Those countries that are unable to participate in regional trade integration are at risk of becoming marginalized. In the Asia-Pacific region, with the promotion of the ASEAN Free Trade Area (AFTA), ASEAN + 1 (ASEAN plus China) and ASEAN + 3 (ASEAN plus China, Japan and South Korea), regional economic organizations are beginning to take shape that will rival the European Union and NAFTA in size. China has participated actively in the formation of these regional free trade groupings, whereas political obstacles have prevented Taiwan from joining. This situation constitutes a major threat to Taiwan, in both economic and non-economic terms.

IV Strategies Adopted by Taiwan's SMEs in Response to the Changing Business Environment

With large enterprises coming to dominate the economy in Taiwan, and with SMEs' share of total exports falling, the challenges facing Taiwan's SMEs are becoming increasingly severe. The changes in the industrial structure, the diversification of consumer preferences and the rapid pace of change in technology (particularly the development of new communication technologies) have led to more intense competition between Taiwanese enterprises. At the same time, the dawning of the era of e-commerce has forced a rethinking of traditional business strategies, marketing concepts and operational processes. Other major

developments include the appearance in Taiwan of large numbers of mass merchandisers and discount stores, and the shift from a manufacturing-oriented economy to a consumer-oriented economy, where more emphasis is paid to consumer needs, and new types of alliance are being formed between producers, distributors and retailers.

Faced with these changes in the domestic and international environments, SMEs have some serious challenges to overcome. In the 21st century, in which the main drivers of economic growth will be technology development and the process of economic globalization, SMEs that hope to survive and grow will need to focus on the following issues:

1. Knowledge and Innovation Are the Keys to Building Competitive Advantage

To remain competitive in this new century, business enterprises will need to focus on more than just price and production volume; they will also need to emphasize quality, innovation and speed. With the processes of globalization, internationalization and diversification continuing at an unprecedented pace, with product life-spans growing shorter and with dramatic transformations taking place in the industrial structure, many enterprises are gradually losing their competitive advantage. Knowledge has become the most important resource for business operation; amongst the strategic assets available to SMEs, this is by far the most valuable. It is only by accumulating, utilizing and creating knowledge that enterprises can achieve ongoing innovation; knowledge offers Taiwan's SMEs a way out of their current difficulties. In the era of the knowledge economy, innovation will express itself through the differentiation of innovation strategies. Through differentiation, enterprises can strengthen the image that they present to customers, improve their distribution channels, achieve a marketing advantage, lock in customers and build up entry barriers; overall, differentiation is the best way to maintain competitive advantage over the long term.

2. Speed and Differentiation Are the Keys to Success

In the Internet age, consumers are becoming steadily less and less patient, and their



demand for speed and efficiency is rising. In today's era of low profit margins, speed and differentiation can help companies to stand out from the crowd. At Microsoft, Bill Gates has introduced the concept of the Digital Neural System (DNS), emphasizing the need to integrate business functions and leverage digital processes to link thought with action, thereby facilitating up-to-the-minute monitoring of operational status and enabling the company to respond rapidly to changes in the business environment. For the twenty-first century enterprise, speed and differentiation are the keys to success.

3. Balancing the Human Aspects of Business Operation with Technology, and Creating a Win-Win Situation for Industry and the Environment

As we enter the era of the knowledge economy, Taiwan's manufacturing sector has lost many of the advantages that it used to possess. The challenge for Taiwan is to make the transition from the traditional emphasis on manufacturing techniques and develop technology so as to breathe new life into the country's primary and traditional manufacturing industries in an environment where knowledge is the key factor affecting competitiveness. Taiwan needs to leverage the knowledge that its citizens have accumulated in so many fields (including culture and the arts) and apply it successfully to new product development, moving away from traditional modes of production to integrate manufacturing with services and creativity with technology, while at the same time placing due emphasis on environmental protection and sustainability. If this can be achieved, then in the future the development of Taiwanese industry will take on an entirely new aspect.

4. Intense Competition between Brands Is Inevitable

In the past, Taiwan's SMEs beavered away in obscurity to create the Taiwanese economic miracle, as a result of which they won worldwide renown. In the last few years, however, China and the nations of Southeast Asia have been catching up fast, and the "Four Little Dragons" of Asia (Taiwan, Singapore, Hong Kong and South Korea) have lost some of their luster. In the future, while hoping that

Taiwanese business enterprises will build up their innovation and R&D capabilities to create new opportunities for growth, Taiwan will also need to strengthen its links with leading international research institutes as another way of stepping up the marketing of “Made in Taiwan” products. Besides ensuring that high quality standards are maintained, Taiwanese manufacturers will also need to build strong international brands if they are to remain competitive. Taiwanese manufacturers cannot compete with their Chinese counterparts on price, so they should be focusing on differentiating themselves from Chinese products in terms of quality and content, and on strengthening their brand.

The processes of economic globalization and liberalization are speeding up the movement of human talent, capital and technology. In this new environment, the role of the individual enterprise within the economic system has grown increasingly important, while the main tasks for the government are no longer the provision of incentives and subsidies, but rather the creation of a business environment in which enterprises can compete on a level playing field as they strive to cope with the demands for speed, responsiveness to change, innovation and the ability to overcome challenges. Although the SMEs’ share of the total number of enterprises in Taiwan and their share of total sales for all enterprises have fallen, from the point of view of the creation of value added SMEs are just as important as ever. The government has a responsibility to create a business environment based on fair competition and in which the rule of law is maintained, thereby helping SMEs to build competitive advantage. If this can be achieved, then the Taiwanese economy should continue to grow in a sustainable manner. Leveraging the power created by their role within the economy, as well as by information technology, environmental protection, effective governance and the strengthening of civil society, SMEs will be able to expand the scope of their competitiveness to incorporate the “cultural power” derived from culture, the arts and lifestyles. In this way, Taiwan’s SME sector will continue to fulfill the important tasks of new enterprise creation, job creation, stimulating market competition and revitalizing regional economies.

Part Three

Government SME Policies and Prospects





Chapter 9

The Government's SME Policies and Measures

In order to build Taiwan into an ideal environment for SME operation and growth, in accordance with the provisions of the SME Development Statute, the Small and Medium Enterprise Administration (SMEA) of the Ministry of Economic Affairs has been focusing on five key areas in its policy formulation: creating a first-rate environment for SME development; building up SME start-up and incubation platforms; improving the SMEs' IT capabilities; strengthening the overall SME management guidance function; and integrating SME finance and financing mechanisms. SME development strategy has been revised in line with the major economic trends both in Taiwan and in the global economy as a whole, and on the basis of the SMEs' current and future needs. The SMEA has formulated the necessary ancillary measures to enhance the SMEs' competitiveness, facilitate mutual assistance and collaboration between SMEs and promote stable industrial development, thereby helping to give Taiwan SMEs that are truly competitive in international terms.

This chapter will examine the SME guidance policies and measures adopted by the government in 2005 in order to achieve the five goals outlined above in line with the overall policy objectives of "providing comprehensive guidance to SMEs and helping them to innovate and to upgrade themselves."

I Creating a First-rate Environment for SME Development

To ensure that SMEs understand the laws and regulations that affect them, to ensure that their legal rights are protected, and to enhance the SMEs' ability to adapt to changes in the regulatory environment, the SMEA has been actively working to build up a sound legal and regulatory environment conducive to new

enterprise establishment, innovation and growth. The key measures implemented in 2005 were as follows:

1. Strengthening the Legal and Regulatory Environment

As a reflection of its commitment to SME development, in 1991 the government introduced the SME Development Statute. To prevent a situation where SMEs were forced to compete in a disadvantageous legal and regulatory environment, in 2000 an additional clause (Article 12-1) was added to the Statute, stipulating that, whenever government agencies at any level were engaged in drawing up or revising laws or regulations that would affect SMEs, they should take into consideration the special characteristics of SMEs (in terms of size, etc.) so as to facilitate SME compliance with the laws and regulations in question.

(1) Legal and Regulatory Research Projects

The year 2005 saw the completion of three major research projects, including a Study on the Impact of the New Labor Insurance Pension System on SME Management, a Study on the Problems Currently Affecting Transactions between Suppliers and Distributors and the Possible Solutions, and a Study on the Tax Breaks Applicable to SMEs, by focusing on the SME Development Statute and the Statute for Upgrading Industries. These research projects examine the implementation of current laws and regulations and their impact; the conclusions and recommendations will be referred to when formulating SME guidance policy in the future.

(2) Ensuring the Protection of SMEs' Legal Rights

In order to ensure that SMEs' legal rights are protected, seminars and lectures have been held at which experts on legal affairs have been available to answer business owners' questions. In 2005, a total of 10 such seminars and lectures were held throughout Taiwan, with more than 90 questions being answered. On the basis of these questions, representatives of the relevant government agencies and of the SMEs concerned were invited to attend three meetings of the SME Development Promotion Committee, where they were able to discuss the legal and regulatory



problems that SMEs have encountered and attempt to reach a consensus regarding solutions to these problems. The coordination meetings held in 2005 focused on the regulations governing the control of un-denatured ethyl alcohol, permits for trade between Taiwan and China, and contracts for the purchase of natural gas by small-scale manufacturing enterprises for use as fuel.

The meetings of the Legislative Yuan's SME Development Promotion Committee are chaired jointly by Legislators and officials from the SMEA. Representatives of the regulatory authorities concerned and other relevant government agencies were invited to participate in the discussion, as were representatives from the companies that had raised the issues under discussion. The issues discussed during the three Committee meetings held in 2005 included land zoning regulations for non-urban land, the regulations governing the control of un-denatured ethyl alcohol, the regulations governing the provision of guidance for tourist farm operation, and the approval standards for cosmetic products containing pharmaceutical ingredients.

(3) Promoting the Plan for the Establishment of Mechanisms for Analyzing SME Adjustment to New Laws and Regulations

To ensure that, when formulating or revising laws and regulations, government agencies undertake advance analysis of the anticipated cost burden on SMEs and consider any alternative strategies that might serve to lessen the burden on SMEs, while also conforming to the Regulatory Impact Assessment (RIA) proposals being promoted by the Executive Yuan, in 2005 the SMEA began implementation of the Plan for the Establishment of Mechanisms for Analyzing SME Adjustment to New Laws and Regulations, which aims to add cost analysis to the procedures currently used when formulating new laws and regulations. Work items completed in 2005 included the following:

- a. Individual agencies' self-auditing regulations and self-auditing forms for SME related issues.
- b. Standard operating procedures for SME regulatory adjustment analysis, to provide a unified set of procedures for use by all government agencies.

- c. Canvassing the views of experts in various fields to gain a clearer understanding of the regulations that individual ministries and agencies have formulated relating to SME development.

(4) Educating the Business Community about SME Regulatory and Legal Issues, and Provision of Legal Affairs Consulting Services

a. Arranging education and training for SME regulatory and legal affairs

In the last few years, the government has introduced and revised a large number of laws and regulations relating to SME operation. To encourage SMEs to develop an appropriate attitude towards legal affairs, efforts have been made to provide education and training with regard to legal and regulatory issues. Provision of legal and regulatory education and training for SMEs in 2005 focused on the most common legal problems experienced by SMEs, and on the impact of new legislation; SME honorary instructors and legal experts were invited to explain relevant laws and regulations and discuss case studies.

b. Strengthening the functions of the SME legal affairs inquiries website

The SME Legal Affairs Inquiries Website (<http://law.moeasmea.gov.tw>), which operates in conjunction with the SME Honorary Attorneys scheme, was set up to help SMEs deal with various types of legal problems and queries.

A new version of the SME Legal Affairs Inquiries Website was brought online in 2005, providing a more comprehensive range of content and information, and adding a mechanism for immediate online response to inquiries to meet enterprises' needs.

c. Promotion of the SME honorary attorneys system

A dual-track service mechanism has been established that incorporates the SME Honorary Attorneys and SME Honorary Law Office. The main aim of this mechanism is to solve SMEs' legal problems, reduce legal risk and search costs for SMEs, and provide SMEs with a legal inquiries service.

As of 2005, there were 150 SME Honorary Attorneys providing legal inquiry service by telephone, fax, e-mail or in person, helping SMEs to overcome the problems that can result from their small size and lack of in-house legal specialists.



2. SME Development Policy Research and Evaluation

(1) Undertaking of Research on Specific Topics of Immediate Importance

In order to meet SMEs' future needs, the SMEA undertakes policy research relating to SMEs, along with research on issues of more immediate importance. In 2005, besides the ongoing research on SME development strategy, research was also conducted on eight topics of immediate importance.

The eight topics were as follows: (1) Research on issues relating to the rises in the price of iron and steel, aluminum and petroleum; (2) Research on the establishment of joint branding and marketing mechanisms for SMEs; (3) Research on how to use high technology to foster the development of local industries; (4) Research on strategies for strengthening SMEs' innovation capabilities; (5) Research on the feasibility of establishing incubation mechanisms for SMEs in the service sector; (6) A study of the South Korean government's allocation of 90.4 billion Won to assist SMEs in the manufacturing sector; (7) Analysis of the impact of Avian Influenza on Taiwan's SMEs, and on the possible response strategies; (8) Preliminary suggestions regarding the possible extension of the national defense service and alternative military service systems to provide manpower for SMEs.

(2) Implementing of Policy Objective Management and Performance Evaluation

The strategies adopted to achieve more efficient implementation of SME policies include: implementation of policy objective plan management, with a thorough review of the results achieved; utilization of an active performance appraisal system in the implementation of policy objective management and performance evaluation; and formulation of priority scheduling and resource allocation plans for individual projects, to ensure effective allocation of budget appropriations. The year 2005 saw the establishment of a new information system to collate information regarding the results of policy information, thereby facilitating promotion of the relevant services.

3. Provision of Guidance to SMEs to Comply with the Requirements of the Consumer Protection Law

Work relating to the Consumer Protection Law is being undertaken on an ongoing, comprehensive basis; this is an area where the government has a major responsibility to the public. To achieve the systematic promotion of consumer protection concepts and knowledge in today's customer-oriented era, the SMEA is implementing a Plan to Assist SMEs in Complying with the Provisions of the Consumer Protection Law, to ensure that both business owners and employees understand the requirements of the Law. The work items implemented in 2005, and the results achieved, were as follows:

(1) Holding of Consumer Protection Law Guidance Presentations

A total of eight Consumer Protection Law Guidance Presentations were held in 2005, of which five were held at the request of SME business owners. Survey results showed an overall level of participant satisfaction with the presentations of over 90%. In 2005, besides providing more presentations at the request of SMEs, an effort was also made to ensure that the presentations more closely matched participants' needs.

(2) Planning for the Consumer Protection Law Web Page and Publication of the Consumer Protection Law Handbook

In 2005, the SMEA designed a Consumer Protection Law web page, to provide information about related training courses.

II Establishment of SME Start-up and Incubation Platforms

1. Strengthening Innovation and the Start-up Incubation Function

To strengthen the provision of guidance for encouraging innovation and R&D, and to assist with the establishment and development of new enterprises, in 1996 the



SMEA began working with other government agencies, research institutes, universities and the private sector to develop strategies for SME incubation. The main purpose in establishing an incubator center is to provide start-ups with the technology, funding, management and marketing resources that they need to reduce the level of expenditure and risk during the process of new business establishment and when undertaking innovation, thereby speeding up the rate at which R&D results can be commercialized.

(1) Provision of Subsidies to Public and Private-sector Incubator Centers

As of 2005, there were 91 incubator centers in Taiwan, of which 73 were receiving government subsidies. With 403 enterprises “graduating” from incubator centers in 2005, a total of 2,331 SMEs have been successfully cultivated by incubator centers in the last nine years. Incubator centers contributed to the creation of investment totaling around NT\$5.68 billion in 2005, with a cumulative total of NT\$34.15 billion over the past nine years.

(2) Using the SME Development Fund to Provide Funding for the Establishment of Three New Incubator Centers

The SME Development Fund has been used to provide funding for three new incubator centers: the Southern Science-based Industrial Park Incubator Center, the Nankang Software Park Incubator Center, and the Nankang Biotechnology Incubator Center. It is anticipated that these incubator centers will serve as bases for the cultivation of hi-tech SMEs; although the incubator centers have not been in existence very long, impressive results have already been achieved.

The Southern Science-based Industrial Park Incubator Center is located within the Southern Science-based Industrial Park. The Incubator Center aims to cultivate hi-tech start-ups in industries that include electronics, ICT, pharmaceuticals and biotechnology, precision machinery, and various other sectors. The Incubator Center was established in November 2003. By 2005, four companies had already graduated from the Incubator Center, while another 15 were still undergoing cultivation.

The Nankang Software Park Incubator Center is located within the Nankang Software Park Business District. In the four years since the Incubator Center was established in 2002, a total of 29 enterprises have graduated from it, and another 32 are still undergoing cultivation. In all, 26 enterprises have been accepted into various government award and guidance programs. These companies received subsidies totaling NT\$52.38 million. In all, firms located in the Nankang Software Park Incubator Center were able to implement capital increments totaling NT\$261.25 million.

The Nankang Biotechnology Incubator Center is also located within the Nankang Software Park Business District. The main goal behind the establishment of this Incubator Center was to build up a biotechnology R&D cluster; it was anticipated that the Incubator Center would benefit from its geographical proximity to the National Health Research Institute, the Academia Sinica and the Biotechnology Development Center, with their advanced facilities and first-rate research personnel. The Nankang Biotechnology Incubator Center was established in August 2004; by 2005, 14 biotech start-ups had established themselves within the Center.

(3) Publication of the 2004 SME Incubator Center Yearbook

The *2004 SME Incubator Center Yearbook* brings together information about SME incubator center development strategy, and the current status and performance of Taiwan's incubator centers. The yearbook is divided into four chapters: the first chapter describes Taiwan's incubator center development strategy and the overall results achieved; the second chapter outlines the development of the incubator center sector in Taiwan, along with the sharing of experience by incubator center managers; the third chapter discusses the resources that are available for incubator center development in Taiwan; and the fourth chapter describes incubator center development in other countries and Taiwan's participation in international activities relating to incubator center development.

2. Providing SME Start-ups with Guidance and Services



(1) Provision of Information and Consulting Services for Start-ups

The Start-up and Innovation Inquiry Service Center's toll-free hotline provides a useful inquiry service for those members of the public who are interested in starting their own business. In 2005, preliminary inquiry services were provided on 9,570 occasions, 1,130 up on 2004. The Service Center has also established a Start-up Knowledge Base, which integrates a wide range of information related to SME start-up, thereby increasing the likelihood of success in entrepreneurial activity.

(2) The Start-up and Innovation Cultivation Institute

The Start-up and Innovation College offers both introductory and advanced courses for entrepreneurs. A total of 30 classes were held in 2005, with a total of 927 trainees attending, representing an increase of 45 compared with 2004.

(3) The Entrepreneur Success Plan

In 2005, the resources of the SME Service Centers in individual counties and cities were used to establish 23 "Entrepreneur Success Plan Workshops," with entrepreneurship consultants being attached to them to provide on-site guidance. A total of 653 entrepreneurs were accepted into the Entrepreneur Success Plan Workshops in 2005, of which 415 have completed the process of guidance provision, and 222 have successfully established their own businesses, creating 1,327 new jobs; in all, NT\$980 million has been invested in these enterprises.

(4) The Holding of the New Enterprise Awards

143 enterprises registered to take part in the Fourth Annual New Enterprise Awards. Gold, silver or bronze medals were presented to 12 enterprises in four categories – High Technology, Traditional Industries, Knowledge-based Service Industries, and Micro-enterprises. In addition, in 2005 a Special Award for Innovative Business Models was presented to two companies.

3. Holding of SME Manpower Cultivation Courses

The SME manpower cultivation courses organized by the SMEA include SME

Managerial Talent Cultivation courses, Discussion of Key Trends in SME Development, SME Managerial Leadership courses, and training courses for SME management consultants and guidance providers. In addition, the Administration presented trainees with “lifelong learning passports” to encourage lifelong learning among SME personnel. Total funding for SME manpower cultivation courses in 2005 came to NT\$15.78 million, with approximately 10,000 individuals undergoing training. A cumulative total of around 100,000 lifelong learning passports have now been issued; the number issued in 2005 was more than 17,000 up on 2004.

4. Active Participation in International SME Activities

The achievements of Taiwan’s SMEs have won widespread international recognition, and Taiwan’s SME sector has been the object of intensive study in other countries. Active participation in the meetings and activities of international economic and trade organizations by both the government and the private sector has helped to raise Taiwan’s international visibility, while also providing opportunities to share Taiwan’s experience in SME development with other nations, and to learn from them in turn. The main aspects of Taiwanese SMEs’ participation in international activities in 2005 are outlined below.

(1) The Holding of Three APEC Conferences in Taiwan

2005 was the first year in which three Asia Pacific Economic Cooperation (APEC) meetings were held in Taipei. These included the Fourth Meeting of the APEC Sub-group on Micro-enterprises held on March 7, 2005, the APEC Conference on Small and Medium Enterprise Clusters held on March 8–9, 2005, and the Twentieth APEC SME Work Team Meeting held on March 10–11, 2005. A total of 350 people participated in the three conferences, all of which were implemented in a paperless, wireless fashion. During the conferences, Taiwan’s representatives read reports on “Innovation Strategy for Micro-enterprises,” “Strategies for Promoting the Development of Industry Clusters,” and “The Current Status of Industry Cluster Development and Industry Cluster Development Policy in Taiwan.”



The theme of the APEC Conference on Small and Medium Enterprise Clusters (the holding of which had been advocated by Taiwan, and had won acceptance from APEC) was how to create a trade and investment environment conducive to industry cluster development. The issues discussed during the conference included: (1) The requirements for successful industry cluster formation within the APEC region; (2) Collaboration between industry, universities and research institutes on industry cluster development; (3) The relationship between the free trade and investment environment and international industry cluster formation; (4) The relationship between industry clusters and e-business; and (5) Using industry clusters to stimulate innovation in the SME sector. The results of the discussion were collated to produce the *APEC Guiding Principles for SME Industry Clusters*, which was submitted to the APEC SME Work Team for discussion. The document received a commendation from the ministers attending the APEC SME Ministerial Meeting (held in South Korea in September 2005); they encouraged all APEC member economies to adopt the *Guiding Principles* so as to promote industry cluster development within the APEC region, and the *Guiding Principles* were included in the Declaration of the 12th APEC SME Ministerial Meeting as Article 33.

(2) Attendance at the 12th APEC SME Ministerial Meeting

The 12th APEC SME Ministerial Meeting was held on September 1–2, 2005 in South Korea. The overall theme for the meeting – promoting innovation in the SME sector – embraced three sub-themes: (1) Collaboration between industry and universities to upgrade the quality of manpower resources and promote technological development; (2) Helping innovative SMEs to secure access to financing; and (3) Creating networks to link innovative SME clusters. During the meeting, Taiwan’s Administrative Deputy Minister for Economic Affairs, Mr. Yen-shiang Shih, read a paper on the subject of “Strategies for Promoting the Development of Innovative SME Industry Clusters,” in which he shared Taiwan’s experience in industry cluster development with the other delegates.

(3) Attendance at the 5th Meeting of the APEC Sub-group on Micro-enterprises and the 21st APEC SME Work Team Meeting

The 5th Meeting of the APEC Sub-group on Micro-enterprises and the 21st APEC SME Work Team Meeting were held in South Korea on August 28–30, 2005. Mr. Robert Lai, Director General of the Small & Medium Enterprise Administration, gave a presentation on Taiwan's experience in the creation of an environment conducive to micro-enterprise innovation during the APEC Sub-group on Micro-enterprises meeting, and gave a further presentation on a Plan for Promoting Market Development by Local Industries Within the APEC region during the SME Work Team meeting. This Plan was supported by the representatives of nine other APEC member economies – the US, Indonesia, Thailand, New Zealand, Mexico, Peru, the Philippines, Papua New Guinea and Russia – and received APEC's approval. It is anticipated that an APEC Local Industries Network Expo and APEC Local Industries Market Development Forum will be held in Taipei in late August 2006.

(4) Participation in the 2nd OECD SME and Start-up Steering Group Telephone Conference

On May 2, 2005, the Taiwanese government wrote to the Deputy Secretary General of the OECD expressing Taiwan's willingness to participate in the Automobile Industry case-study forming part of the OECD's Global Value Chain (GVC) project. On May 26, 2005, Taiwan participated in the 2nd OECD SME and Start-up Work Team Telephone Conference, putting forward some suggestions regarding questionnaire surveys of entrepreneurial activity. On October 17, 2005, Taiwan participated in an OECD GVC Steering Group telephone conference, during which Taiwan's representative discussed Taiwan's implementation of automobile industry case study research; a written progress report was also submitted.

(5) Attendance at the APEC SME Forum and Innovative Technology Exhibition

The Taiwan Turnkey Project Association organized a delegation that included representatives of 24 SMEs in 12 different industries to attend the APEC SME Forum and Innovative Technology Exhibition held in South Korea on August 29 – September 2, 2005. In all, Taiwan had eight booths at the exhibition, which



received around 2,000 visitors a day, providing many opportunities to negotiate deals; in addition, an SME Trade Seminar was held.

(6) Attendance at the 50th Meeting of the ICSB and the 32nd Meeting of the ISBC

Taiwan participated in the 50th Meeting of the ICSB and the 32nd Meeting of the ISBC, a joint meeting that was held in Washington D.C. on June 15–18, 2005. Mr. Robert Lai, Director General of the Small & Medium Enterprise Administration, presented a paper entitled “The Entrepreneurial Spirit and Economic Development – A Case Study of Taiwan.”

III Upgrading SMEs’ e-Enablement and Quality Management Capabilities

To help Taiwan’s SMEs to upgrade their international competitiveness, in 2002 the government began the implementation of a five-year plan to promote e-enablement among SMEs. This was followed in 2003 by the Plan to Upgrade SME Quality Management, to help SMEs to establish effective quality management systems and comply with the requirements of new environmental directives such as RoHS, WEEE and EuP. In addition, in line with the objectives of the Executive Yuan’s Challenge 2008 National Development Plan, in 2003 the government began to implement a number of medium- and long-term e-enablement projects, including the SME Knowledge Management Utilization, Broadband-to-the-SME, Business Services e-Network and SME Online Learning projects.

The results achieved in the implementation of these various plans in 2005 were as follows:

1. Promoting e-Business Development in the SME Sector

(1) Helping SMEs to Establish Industry-specific Online Database Systems

In 2005, the SMEA collaborated with 10 industry associations on the

establishment of new websites and online databases. Each industry association invited at least 100 companies in its industry to participate in the project by inputting information about their respective companies and products into the databases. In all, over 1,000 items of information were entered into the databases.

(2) Providing Guidance for SMEs in the Utilization of Innovative e-Business Solutions

Promotion of the adoption of innovative e-business solutions by SMEs was stepped up in 2005, together with enhanced promotion of integrated cross-industry marketing.

(3) Completion of Research on the Environment for SME e-Business Development

In 2005, the SMEA completed three analytical studies on the environment for e-business development by SMEs in Taiwan. The aim of this research was to investigate the problems posed by the e-business development environment, the obstacles to SME e-business development and the technologies that need to be adopted.

2. Upgrading SMEs' Quality Management

The provision of guidance in this area by the SMEA in 2005 focused on helping SMEs to adjust to the introduction of new international environmental directives (such as RoHS, WEEE and EuP), and promoting the adoption of TS 16949 and QS 9000 certification in the small and medium-sized car part industry. At the same time, special clinics and individual guidance were employed to help SMEs upgrade the various systems contributing to overall operational quality.

3. Promotion of SME Knowledge Management Guidance Services

The main objective behind the promotion of SME knowledge management guidance services in 2005 was to help SMEs to adopt and make effective use of knowledge management and build up a knowledge management application



environment, leveraging knowledge management and innovation to create SMEs that are capable of using knowledge effectively to enhance their competitiveness.

- (1) In 2005, knowledge management diagnostics or guidance were provided for a total of 123 SMEs. Efforts were made to ensure both qualitative and quantitative improvements in the guidance provided; one of the measures employed to achieve this goal was to undertake a thorough auditing of SMEs prior to determining whether they should be selected to receive guidance.
- (2) The cultivation of consultants and trainee consultants was stepped up through the holding of advanced training courses and exchange activities, with the aim of achieving both qualitative and quantitative improvements in guidance provision.
- (3) Training was provided to more than 1,100 trainees as part of the Administration's efforts to boost awareness of the importance of SME quality management and cultivate the knowledge management talent that Taiwan's business enterprises need.

4. Establishment of Industry-specific SME e-Enablement Service Teams

In line with the objective of "expanding appraisal and deepening the utilization of model companies," 2005 saw the establishment of several new industry-specific e-enablement service teams to provide appraisal and diagnostic e-enablement services for SMEs. At the same time, ongoing efforts were made to deepen the adoption of e-enablement applications and leverage the example of model enterprises in those industries where e-enablement service teams had already been set up.

5. Promotion of ESMENET

ESMENET was developed as one of the e-government initiatives under the Challenge 2008 National Development Plan, with implementation taking place over the five-year period from 2003 to 2007. The ESMENET portal site (<http://esmenet.moeasmea.gov.tw>) was established to provide business enterprises

with a platform that would combine information, service and matching functions.

6. Promotion of Online Learning among SMEs

As part of the e-Taiwan sub-plan forming part of the Challenge 2008 National Development Plan, the SMEA formulated the SME Online Learning Plan and Plan for Promoting the Cultivation of e-Business Talent among SMEs; the Administration also established the SME e-Learning College (www.smelearning.org.tw). The goals behind these plans are to establish a sound environment for e-learning, promote online learning among SMEs, integrate learning resources, guide the development of e-learning content, and provide SME employees with an opportunity to study in a convenient manner at their own pace, thereby helping to improve overall SME competitiveness.

In 2005, the SME e-Learning College is being upgraded from a single college to an ‘SME Online University’ composed of multiple colleges.

7. Broadband-to-the-SME

The aim of the ‘Broadband-to-the-SME’ project is to promote the use of broadband Internet access equipment and related service applications among SMEs, thereby stimulating the growth of the information service industries and speeding up the establishment of SMEs’ IT infrastructure.

In 2005, the number of individual SMEs that the SMEA assisted with the adoption of broadband infrastructure and e-business applications rose to more than 3,559. In all, a cumulative total of around 5,300 SMEs have completed broadband infrastructure establishment and e-enablement under this program.

8. The Plan to Reduce the Digital Divide between Industries

In Taiwan, the digital divide between industries is most apparent in traditional industries, start-ups and small businesses located in remote parts of the country. For various reasons, the IT capabilities of these enterprises tend to be relatively limited. This has a negative impact on social equity, and in the long term could be



damaging to overall national competitiveness. Over the period from 2005–2008, The Plan to Reduce the Digital Divide between Industries will focus on providing guidance to small businesses, start-ups and enterprises in traditional industries with 20 or fewer employees, with a view to bringing the number of enterprises with broadband Internet access to over 100,000, increasing the number of enterprises using e-commerce to 150,000, and stimulating an increase in overall operating revenue of at least NT\$40 billion; it is anticipated that these efforts will also create business opportunities worth more than NT\$7 billion for the information services industry.

IV Strengthening the SME Management Guidance Function

1. Helping SMEs to Strengthen Their Operational Capabilities

- (1) Providing short managerial diagnostics programs for 100 SMEs, and individual guidance for 10 SMEs.
- (2) The holding of 30 Taiwan Innovation and Entrepreneurship Forum (TIEF) courses, with a total of 1,445 participants.
- (3) The holding of three sessions of the “Industry Upgrading Training,” with a total of 500 participants, helping to create business opportunities worth around NT\$50 million.
- (4) The holding of three presentations to introduce new management concepts, with a total of 151 participants.
- (5) Publication of 1,000 copies of the *Operational Management Case Studies and Q&A*.
- (6) Publication of 3,000 copies of the *Introduction to the Measures Adopted by the Ministry of Economic Affairs to Help SMEs Deal with the Introduction of the EU’s New Environmental Directives*.

- (7) Helping three turnkey factory equipment suppliers to expand investment in their turnkey operations, creating investment of over NT\$100 million.
- (8) Helping 10 individual firms to develop overseas markets, creating turnkey equipment exports totaling NT\$140 million, and helping another 4 firms to secure financing for turnkey exports totaling NT\$25.74 million.
- (9) Holding presentations, investment fairs and innovation expos, assisting in the introduction of 75 new technologies and facilitating business matching to create business opportunities worth NT\$182 million.
- (10) Helping SMEs to secure guidance and subsidies from government agencies, and assisting 10 SMEs with the preparation of business expansion plans, thereby stimulating NT\$165 million of investment in R&D.

2. The Plan to Assist SMEs in Upgrading Their Technology Capabilities

In order to build a solid foundation for global competitiveness in the future, and to compensate for the negative effects of the migration of so much of Taiwan's manufacturing industry offshore, the SMEA has been implementing the Plan to Assist SMEs in Upgrading Their Technology Capabilities. The aim of this plan is to promote, in a systematic and carefully organized manner, the introduction and commercialization of new technology and increase the success rate in technology matching, thereby helping Taiwan's SMEs to upgrade and transform themselves.

3. Promoting Mutual Assistance and Collaboration among SMEs

With the transformation of the economic environment in Taiwan, the need for collaboration between companies in different industries has grown. Having begun to provide practical support for such collaboration back in 1997, in 2001 the Ministry of Economic Affairs began to promote the formation of industry clusters. The main focus of the SMEA's efforts to promote mutual assistance and collaboration has been on building up the environment needed to facilitate such cooperation between SMEs. By making effective use of information technology, exploiting new, rapid



methods of information exchange, encouraging the exchange of management knowledge and promoting the integration of enterprise resources, the Administration has helped SMEs to cope with the challenges of a rapidly changing business environment. The main work items implemented in 2005 were as follows:

(1) Providing Guidance for Practical Collaboration Projects

The practical collaboration projects for which guidance was provided in 2005 included collaborative promotion, the introduction of new technology, joint manufacturing, collaborative marketing, etc. The results achieved are outlined below:

Provision of Guidance for Practical Collaboration Projects	Results Achieved
Practical collaboration planning to promote vertical integration in the zipper industry, including joint development of new technologies for special-purpose zippers.	<ol style="list-style-type: none"> 1. Establishment of a joint inspection standards platform for zipper and slider zipper products. 2. Establishment of three slider zipper mechanics inspection laboratories. 3. Joint design of blueprints for automated slider zipper inspection machinery.
Practical collaboration planning for the Family Rice International boxed lunch chain.	<ol style="list-style-type: none"> 1. A three-fold increase in operating revenue for the chain as a whole. 2. More than 300 new jobs created.
Practical collaboration planning for the leisure industry in the Puli district.	<ol style="list-style-type: none"> 1. Establishment of joint marketing mechanisms. 2. Creation of NT\$6 million in additional value added.
Practical collaboration planning for joint marketing in the leisure industry in the Hsinwu district.	<ol style="list-style-type: none"> 1. An average 5% reduction in operating costs. 2. An 8% increase in operating profit.
Practical collaboration planning for joint marketing by members of the "Chrysanthemum Island" Industry Alliance in the Penghu Islands.	<ol style="list-style-type: none"> 1. An average 15% increase in operating revenue for alliance members. 2. More than 40 new jobs created in the Penghu Islands.

Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs.

(2) Provision of Guidance to Cluster-type Industries

In 2005, the SMEA provided guidance to two cluster-type industries. The first was the Plan for the Provision of Guidance to Facilitate the Transformation of the Bamboo and Wood Industry Cluster in the Chushan District. It involved the formation of a team of experts to help enterprises in Chushan's traditional bamboo and wood industry to transform their businesses so that they combined bamboo/wood production with tourism/leisure operations. Exchange, discussion, promotion and visits to model operations were used to strengthen the industry

cluster's overall operational capabilities. In 2005, the provision of guidance contributed to a NT\$12 million increase in the wood and bamboo industry's operating revenue.

The second was the Joint Marketing Collaboration Plan for the Leisure Industry in Omei Rural Township, Hsinchu County. It involved the implementation of industry cluster joint marketing to integrate Omei Rural Township's Tungfang Meijen tea industry, Hakka cuisine restaurants, tourist farms and bicycle rental operations to create synergy. The aim was for the different industry alliances concerned to work together to build up new sources of customers, share business opportunities, and work together to promote the development of the local tourist industry as a whole. In 2005, collaborative marketing helped local firms to reduce their operating costs by 5–10%.

4. Provision of Guidance for Distinctive Local Industries and Community Enterprises

The provision of guidance for distinctive local industries had begun back in 1989, while the provision of guidance to community enterprises started in 1994. The overall strategy for the provision of guidance to distinctive local industries and community enterprises involves focusing on a single township or district, using a comprehensive range of guidance measures to achieve effective integration of local industry, creating linkages to build synergy and giving rise to a prosperous local economy. As of 2005, guidance had been provided to a total of 101 local industries.

In these projects, the guidance teams leverage local resources and integrate a wide range of human resources, including local historians, restaurant operators, musicians, artists, and firms involved in the processing of agricultural produce, etc. The aim is to encourage innovation and the development of new products and services, thereby boosting the value-added creation of local industry. The guidance teams offer guidance regarding spatial layout, product design and operational management, and also help with packaging design, etc. The work items implemented in 2005, and the results achieved, were as follows:



- (1) 2005 saw the establishment of 15 local industry and community enterprise guidance stations, along with 3 community enterprise self-help stations.
- (2) The funding allocated for the provision of guidance to local industries and community enterprises in 2005 totaled NT\$36.04 million.
- (3) A total of 380 firms in local industries and community enterprises were helped to improve their operational management.
- (4) Visits were organized to study successful examples of local industry development in other countries and to learn from their experience.
- (5) A total of 1,450 jobs were created or secured in local communities, with NT\$130 million in value-added being created.

5. Helping SMEs to Participate in Government Purchasing

- (1) 16 lectures on the government purchasing system were held in 2005, with a total of 913 participants.
- (2) 320 inquiries related to government purchasing were handled by the SMEA.
- (3) 1,000 copies of the brochure *Handbook for SME Participation in Government Purchasing* were printed.
- (4) Statistics indicate that 32% of government purchasing opportunities in 2004 went to SMEs.

6. Enhancing the Functionality of the SME Service Network

The SMEA has been working to strengthen the functions of the SME Service Centers located in each of Taiwan's counties and cities, and of the 46 Industrial Development and Investment Promotion Committee SME Service Centers, while also continuing with the implementation of the "honorary SME guidance personnel" system (honorary SME guidance personnel provide consulting services to SMEs and help them to solve their problems).

- (1) In 2005, the SMEA provided assistance and consulting services (including

coordination, guidance referral and the assignment of consultants to work with SMEs) to SMEs on 10,299 occasions.

- (2) Study tours, lectures and seminars were held on 1,189 occasions, with a total of 82,957 people participating. A total of 5,028 visits to model enterprises were organized, with 1,557 people participating.

7. Stepped Up Promotion and Commendation Activities

The SMEA organizes a number of awards to encourage SMEs to upgrade themselves. An overview of each of these awards is given below:

(1) The 14th National Award for Small and Medium Enterprises

The National Award for Small and Medium Enterprises was established to encourage SMEs to upgrade themselves, by selecting for public commendation those SMEs that had achieved impressive performance across the board, and that had also made a meaningful contribution to society.

At the 14th National Award for Small and Medium Enterprises in 2005, six SMEs received awards. Over the last 14 years, a total of 157 SMEs have been honored. These firms went on to receive guidance and support from various government agencies to help them transform themselves, and as a result were able to achieve significant improvements in product marketing and overall corporate image; 42% of the award recipients have since gone on to secure an OTC listing or stock market listing, or to establish themselves as leading players in their industry.

(2) The 12th Small and Medium Enterprise Innovation Research Awards

The Small and Medium Enterprise Innovation Research Award is now in its twelfth year. Each award winner is presented with a cash prize of NT\$300,000 to encourage them to continue with their R&D and innovation efforts, thereby building core competitiveness. In 2005, a total of 200 enterprises entered for the Award, of which 50 were chosen by the jury to receive awards. Since the Awards were first held in 1993, a total of 481 firms have been honored; these firms have



included SMEs in a wide range of industries, including electronics and IT, textiles, household goods, machinery components, food products, chemical materials, medical and healthcare products, distribution and services, etc.

The winning companies' products and services benefit from the increased media exposure, publication of award-related materials and assistance with advertising; they also have the opportunity to participate in various exhibitions and technology matching fairs, helping them to leverage their innovative products to develop new business opportunities. By helping firms to take their products into international markets, the Award makes it possible for them to boost their value-added creation and their profitability.

(3) The 8th Little Giant Awards

The purpose of the Little Giant Awards is to honor those SMEs that have achieved particularly impressive export performance, in recognition of the contribution that they have made to Taiwan's economic development. A total of 17 SMEs received awards at the 8th Little Giant Awards in 2005; over the years, a total of 160 enterprises have received the awards. Regardless of whether they are in the electronics and IT industry, the metallurgy or machinery manufacturing industry, or the materials or chemical industry, award recipients have all succeeded in maintaining high quality, low costs and high creativity, and in building a high level of international competitiveness.

(4) The 2005 Outstanding SME Guidance and Service Personnel Awards

This award activity is now in its twelfth year. Over the years, a total of 162 outstanding guidance and service personnel have been honored. Many Taiwanese SMEs have benefited from these individuals' efforts; it is thanks to them that the government's programs to provide guidance to SMEs have been so effective. The objective of the awards is to honor those people who have been working tirelessly behind the scenes to provide guidance and services to SMEs, giving due recognition to their long-term contribution to SME development. At the same time, it is hoped that the awards will encourage more people to become involved in providing guidance and service to SMEs, so as to enhance the overall effectiveness

of these programs.

(5) The 10th Golden Book Awards

The purpose of the Golden Book Awards is to encourage the writing, translation and publication of more books that will be of practical use to SMEs, thereby encouraging SME owners and employees to read more and helping SMEs to meet the new challenges of the future. The Golden Book Awards celebrated their tenth anniversary in 2005.

The 14 books chosen to receive the Golden Book Award in 2005 were chosen from 231 books from 36 different publishers. Many of the books were written by leading management theorists and business leaders (both Taiwanese and foreign). In the future, the SMEA intends to organize joint promotional activities to encourage SME owners and employees to read more books, thereby helping to upgrade their operational capabilities and broaden their vision, and getting them to move away from outmoded ways of thinking.

(6) The SME Studies Masters and Ph.D. Thesis Awards

The SME Studies Masters and Ph.D. Thesis Awards also celebrated their tenth anniversary in 2005. Over this ten-year period, awards have been presented to 150 Masters candidates, 50 doctoral candidates and their supervisors. Graduate students have shown a great deal of enthusiasm for participating in these awards, which have helped to stimulate research in the field of SME studies and to encourage graduate students to take an interest in the SME field.

A total of 359 candidates (including 333 Master's candidates and 26 doctoral candidates) registered to participate in the 10th SME Studies Masters and Ph.D. Thesis Awards. After intensive scrutiny, 20 theses were selected to receive awards; these included 15 Masters theses and 5 doctoral theses.

8. The Holding of the First National SME Development Conference

The first National SME Development Conference itself was held on October 3–4,



2005. The overall theme for the event was “Creating Competitive Advantage for Taiwan’s SMEs – Maintaining Taiwan’s Economic Vitality in a Sustainable Manner,” with “Innovation, Clusters and Taiwan’s New Vitality” as the central topics. The Ministry of Economic Affairs has adopted a proactive attitude towards the conclusions reached at the National SME Development Conference, coordinating the formulation of action plans by the relevant government agencies and undertaking periodic follow-up. The Ministry has thrown its full weight behind the efforts to encourage SME specialization and to enhance their global competitiveness, with the aim of making Taiwan an ideal location for the establishment and growth of SMEs.

V Integration of SME Financing Mechanisms

1. Promoting the Use of SMEs’ Intellectual Property Rights for Financing Purposes

The main emphasis in the government’s efforts to promote the use of SME intellectual property rights for financing purposes is on ensuring the ready availability of information regarding intellectual property right financing, while working to improve financial institutions’ ability to read and understand intellectual property right financing reports, thereby helping SMEs to obtain the working capital they need. The main work items undertaken in 2005, and the results achieved, were as follows:

- (1) Formulation of an intellectual property rights guidance service mechanism. Thirteen SMEs have been helped to leverage their intellectual property rights to secure financing totaling NT\$118 million.
- (2) In order to strengthen financial institutions’ ability to read and understand intellectual property rights financing appraisal reports, intellectual property rights financing training courses were arranged for financial institutions. The total class time was 210 hours; in all, 372 financial institution staff members received training. In addition, 5 intellectual property rights financing conferences were held for the senior managers of financial institutions. By leveraging the resources of the SME Credit Guarantee Fund, the SMEA has

been able to help SMEs to use their intellectual property rights to secure financing.

- (3) The SMEA has completed the establishment of an SME intellectual property rights financing matching network platform. A total of 45 SMEs with significant development potential were selected; 10 were helped to use their intellectual property rights to secure financing totaling NT\$107 million.
- (4) The total number of members registered with the matching platform has now reached 200. The platform is used to distribute an intellectual property rights financing e-paper at regular intervals; so far, seven issues have been published. The platform has received approximately 13,000 distinct visitors, and provided inquiry services to 270 more enterprises in 2005 than in 2004.

2. Helping SMEs to Strengthen Their Financial Structure

In order to strengthen SMEs' financial structure and facilitate the securing of financing by SMEs, in 2005 the SMEA continued to implement a range of financing guidance services for SMEs to help ensure that SMEs have access to the working capital they need. The main work items implemented in 2005, and the results achieved, were as follows:

- (1) To help SMEs secure loans and solve their financing problems, in 2005 the SMEA provided diagnostic and guidance service on 208 occasions, helping the enterprises concerned to secure loans worth around NT\$3.42 billion.
- (2) Short-term financing diagnostics and guidance service was provided to 110 SMEs, and long-term financing diagnostics and guidance service was provided to 11 SMEs, with the aim of helping SMEs to strengthen their financial structure and their financial and accounting management capabilities, and improve the financing channels available to SMEs, thereby making it easier for SMEs to secure loans.
- (3) The SME Troubleshooting Center provides inquiry services for SMEs in a wide range of fields, including finance and financing, operational management, technology R&D, industrial safety, quality upgrading, mutual



assistance and collaboration etc. In 2005, telephone inquiry service was provided on 5,350 occasions.

- (4) Cultivation programs were provided for 245 SME financial managers and SME financial management consultants.
- (5) A total of 263,025 SME Credit Guarantee Fund credit guarantees were provided in 2005.
- (6) The SMEA helped SMEs to secure SME Root Establishment Project Loans and SME Mini-Loans totaling NT\$40.04 billion.
- (7) In 2005, the SMEA arranged for the SME Development Fund to invest in 29 SMEs with significant development potential.
- (8) In 2005, the SMEA helped SMEs to secure Micro-enterprise Start-up Loans by providing consulting service on 414 occasions and providing project-type guidance in 35 cases.

3. Helping SMEs to Secure Loans through the Provision of Credit Guarantees

Taiwan's modern industrial and commercial development began in earnest after the Second World War, creating the "Taiwanese economic miracle" of today. In the business environment that has developed in Taiwan, the SMEs' small size, limited earning ability, lack of collateral and unsound accounting systems make it difficult for them to secure financing from financial institutions. Over time, this problem has become more and more pronounced; as a result, the provision of guidance for SMEs in this area has become one of the main priorities in the government's SME policy.

In 1974, the government provided funding support to establish the SME Credit Guarantee Fund (which is today the longest-established of the specialist SME guidance providers), the first specialist credit guarantee institution to be set up in Taiwan. The Fund's main functions were to implement the government's SME policy, help SMEs to overcome the problems they were experiencing due to lack of collateral when trying to secure financing, and increase financial

institutions' willingness to lend to SMEs.

In January 2004, the Executive Yuan finalized the SME Credit Guarantee Development Fund Transformation and Development Plan. The Plan had six main objectives: to strengthen SME financing, to make it easier for SMEs to secure access to financing, to assist in the implementation of the government's industrial policy, to integrate the various guidance resources available in this area, to achieve greater centralization in the management of credit data, and to enhance the use of credit risk management technology in Taiwan.

In 2005, the SME Credit Guarantee Fund provided 271,401 credit guarantees with a combined value of NT\$333 billion, helping over 140,000 enterprises to secure financing worth NT\$538.9 billion. 263,025 of the credit guarantees were not supported by special project funds; these guarantees had a combined value of NT\$319.7 billion, and helped SMEs to secure financing worth NT\$518.6 billion from financial institutions. As of the end of 2005, the total amount of outstanding credit guarantees was NT\$372.8 billion, representing an increase of 27.39% compared with the end of 2004; the amount of loans outstanding stood at NT\$569 billion, representing an increase of 22.45% over the end of 2004. The number and value of the various types of credit guarantees as of the end of 2005 are shown in Table 9-5-1 below.

There is good evidence to show that the availability of credit guarantees helps SMEs to grow stronger. Of the 156 SMEs that have won the National Award of Small and Medium Enterprises over the years, 117 had previously been recipients of credit guarantees from the SME Credit Guarantee Fund; the same was true of 116 of the 159 winners of the Little Giant Award, 298 out of the 521 winners of the Small and Medium Enterprise Innovation Research Award, and 7 out of the 12 winners of the National Quality Award. Furthermore, more than 2,000 of the SMEs that have been granted credit guarantees in the past have since grown sufficiently large to be classed as "large enterprises" rather than SMEs; 502 have secured stock market or OTC listing.



Table 9-5-1 Number of Cases and Combined Value of Individual Types of Credit Guarantee as of the End of 2005

Type of Credit Guarantee	No. of Guarantees Provided	Combined Value of Guarantees Provided (NT\$ millions)
Credit guarantees for Young Entrepreneur Loans	9,893	6,922
Credit guarantees for Brand Development Loans	94	2,048
Credit guarantees for Traditional Industry Loans*	37,008 (21,938)	135,613 (64,865)
Credit guarantees for Earthquake Reconstruction Loans	334	2,054
Credit guarantees for Micro-enterprise Start-up Loans	6,342	5,294
Credit guarantees for R&D Loans for Industrial Upgrading	175	2,311
Direct credit guarantees	54	210
Credit guarantees for Knowledge Economy Enterprise Financing	45	276
Batch-type credit guarantees	27,728	106,577
Credit guarantees for Loans to Help Taiwanese Enterprises Fight International Patent Lawsuits	4	103
Total	81,677	261,408

Note: *This item includes credit guarantees for Digital Content Industry and Cultural and Creative Industry Development Loans; figures in parentheses are the data for SMEs in the case of loans available to both SMEs and large enterprises.

Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs.

4. Implementation of the Plan to Strengthen the Provision of Loans to SMEs by Domestic Banks

During the process of SME development, banks play an important role as suppliers of funding. To make it easier for SMEs to secure the financing they need, after extensive consultation with other agencies the Financial Supervisory Commission, Executive Yuan formulated the Plan to Strengthen the Provision of Loans to SMEs by Domestic Banks. Implementation of this Plan began on July 1, 2005; it was anticipated that, by the end of June 2006, the value of outstanding loans to SMEs granted by domestic banks would have risen by NT\$200 billion compared to the situation at the end of June 2005.

During the period of implementation of the Plan, a variety of measures are being adopted to facilitate execution by the participating banks. An additional NT\$100 billion in batch-type credit guarantees will be provided through the SME Credit Guarantee Fund; in addition, the amount of collateral provided for SME Mini-Loans is being increased from NT\$3 million to NT\$5 million, and two additional banks have been appointed to handle these loans. Furthermore, a clear

stipulation has been made that, besides medium- and long-term funding provided by the Council for Economic Planning and Development, banks may also use their own capital for the provision of SME Root Establishment Project Loans.

Once implementation of the Plan has been underway for one year, the Financial Supervisory Commission will appraise the performance of the individual banks involved in providing loans for SMEs. Those banks that display particularly impressive performance will be rewarded by being authorized to upgrade mini-branches to full branches and to relocate branches between regions, etc. This is the first time that the regulatory authorities have used a concrete incentive mechanism to encourage banks to establish a long-term partnership relationship with SMEs; the significance of this measure cannot be overstated. Following the commencement of the Plan's implementation, by the end of 2005 domestic banks' outstanding loans to SMEs had risen to NT\$2,944.2 billion, representing an increase of NT\$275.6 billion compared to the end of 2004.

VI The Resources Allocated by the Government to SME Development

The government has been unstinting in its efforts to provide guidance to SMEs, and has taken great pains to ensure that sufficient resources are available for SME guidance. The SME Development Statute clearly stipulates that the *White Paper on Small and Medium Enterprises in Taiwan* should describe all of the resources available for promoting SME development, and since 2001 the *White Paper* has included a section outlining these resources. However, the SME Development Statute provision in question does not clearly define the scope of "resources allocated for SME development." For the purposes of this section, "resources allocated for SME development" include all resources allocated for this purpose by central government agencies. These resources fall into three categories: (1) Government purchases of goods, construction work or services from SMEs (2) The resources allocated by the government for SME guidance, and (3) Resources allocated by the government for project financing loans to SMEs. The data presented in this section is based on the actual amounts spent. In all, government resources allocated for SME development in 2005 came to NT\$752,072 million.



The items that made up this total are outlined below:

1. Government Purchasing from SMEs – NT\$726,471 million

Tender award statistics from the Government Procurement Information System show that, in 2005, total government purchasing from SMEs (regardless of whether the SMEs were being used as contractors or subcontractors) came to NT\$726,471 million, up from NT\$712,458 million in 2004. The share of total government procurement going to SMEs (whether as contractors or subcontractors) fell slightly from 75.74% in 2004 to 74.18% in 2005. As the Government Procurement Information System covers all levels of government, this procurement data includes both central government and local government purchasing.

2. Government Spending on the Provision of Guidance to SMEs – NT\$17,549 million

The statistics for government resources allocated to SME guidance used by the SMEA cover only the Eleven Major Guidance Systems established by the SMEA in concert with other Ministry of Economic Affairs agencies, and the manpower cultivation funding provided by the Council of Labor Affairs. For 2005, the government's contribution to the SME Guarantee Fund is also included. The agencies involved in the Eleven Major Guidance Systems include the SMEA itself, the Industrial Development Bureau, the Bureau of Foreign Trade, the Commerce Department, the Department of Industrial Technology, and the Industrial Development and Investment Center, etc. Table 9-6-1 shows the settled account of expenditures for each of these agencies in 2005. The grand total comes to NT\$30,686 million, of which NT\$17,234 million (56.16% of the total) was applied to SME guidance. The Department of Industrial Technology made the single largest contribution to SME guidance, at NT\$6.7 billion, followed by the Industrial Development Bureau with NT\$2 billion and the Bureau of Foreign Trade with NT\$1.8 billion. The entire expenditure of the SMEA—NT\$1.4 billion—was allocated to SME guidance. In 2005, the amount of contribution to the SME

Guarantee Fund was 4.75 billion.

As regards investment in manpower resources, the Council of Labor Affairs allocated around NT\$315 million for SME manpower cultivation in 2005. Total government spending on SME cultivation in 2005 was therefore approximately NT\$17,549 million.

Table 9-6-1 Resources Allocated to SME Guidance by the Ministry of Economic Affairs

Units: NT\$ thousand; %

Agency	Annual Amount	Settled Account of Expenditures – 2005	Total Expenditures on SME Guidance
Small and Medium Enterprise Administration (including the SME Development Fund)		6,147,625	6,147,625 (100.00)
Industrial Development Bureau (industrial technology guidance and the Industrial District Development Fund)		4,411,486	2,000,220 (45.34)
Bureau of Foreign Trade (overseas marketing guidance and the Trade Promotion Fund)		2,781,230	1,821,933 (65.51)
Commerce Department (promoting the modernization of commercial operations and the development of relevant technology)		1,509,396	432,762 (28.67)
Department of Industrial Technology		15,673,100	6,769,921 (43.19)
Industrial Development and Investment Center (overseas investment guidance and overseas hi-tech talent recruitment)		163,499	61,701 (37.74)
Total		30,686,336	17,234,162 (56.16)

Note: Figures in parentheses are the percentage of the total settled account of expenditures for the agency in question.
Source: The respective agencies.

3. SME Project Financing Loans – Approximately NT\$8,052 million

There are seven types of project financing loans, although some types of loans targeting to large enterprises as well as SMEs, in practice the enterprises that receive these loans are almost all SMEs, so these loan types have been included in the calculations. Total government spending on SME project financing loans in 2005 was approximately NT\$8,052 million (Table 9-6-2).



Table 9-6-2 Government Spending on SME Project Financing Loans in 2005

Unit: NT\$ million

Loan Type	Targets	Funding Sources	Amount	
			Total Loan Amount	Government Expenditure
SME Upgrading Loans	SMEs	The Executive Yuan Development Fund provides one quarter of the funds for each loan, with the remaining three quarters being provided by banks	9,402	2,351
Young Entrepreneur Loans	Young entrepreneurs	The Sino-American Fund for Economic and Social Development provides half of the funds for each loan, with the other half being provided by banks	2,053	1,027
SME Development Fund Project Loans	SMEs	The SME Development Fund provides all funding	711	711
Agricultural Machinery Loans	Farmers and fishermen actually involved in agricultural or fisheries production, along with farmers' or fishermen's organizations involved in agricultural or fisheries production contracting work	Funding is provided by the financial institutions concerned, with the Agricultural Development Fund making up the interest differential	3,732	940
SME Root Establishment Project Loans	SMEs	The Council for Economic Planning and Development provides funding support from medium- and long-term funds	2,670	2,670
Loans for Indigenous People	Members of indigenous communities	All funding is provided by the Council of Indigenous Peoples, Executive Yuan	188	188
Micro-enterprise Start-up Loans	Enterprises established by the middle-aged or elderly unemployed (aged 45 – 65) that have been in existence for less than one year	The Council of Labor Affairs makes up the interest differential	1,667	165
Total			54,011	8,052

Source: The respective agencies.



Chapter 10

SME Policy in Taiwan: Past, Present and Future

For many years now, the government's SME policy has focused on creating an environment conducive to SME development, and on building up SMEs' operational capabilities. This has involved the establishment of guidance systems covering operational management, finance and financing, information management, mutual assistance, R&D, production technology, industrial safety, pollution prevention, marketing and quality enhancement. Today, with the emergence of the knowledge economy and the transformation that is taking place in Taiwan's industrial structure, the business environment in which Taiwanese SMEs have to operate has grown increasingly severe. The areas on which the government needs to focus now as it works to ensure the sustainable development of Taiwan's SMEs are helping SMEs to strengthen themselves and to build up competitive advantage. By building on the overview of SME guidance results in 2005 that was presented in the previous chapter, this chapter will seek to forecast the changes that can be expected to take place in the business environment; it will examine the government's SME policy, and suggest how this policy may evolve in the future.

I An Appraisal of the Government's SME Policy

1. Creating a First-rate Environment for SME Development

(1) Development Strategy Planning

The Small and Medium Enterprise Administration, Ministry of Economic Affairs is the main government agency responsible for the provision of guidance to SMEs. In the last few years, the underlying vision for the Administration's activities has been to build Taiwan into a first-class environment for SME growth and

development. Faced with a rapidly changing business environment, the Administration's policy formulation has focused on four key areas: transformation, innovation, incubation, and industry cluster formation. Implementation has followed a four-stage process of surveying, planning, execution and appraisal. The overall goals have been to create the space that SMEs need to grow, to build up an environment in which SMEs can create value, to help SMEs to strengthen their competitive advantage, and promote the creation of value in emerging industries. At the same time, to ensure that the Administration remains up-to-date with the issues affecting SMEs and with SMEs' needs, research and analysis are implemented on an ongoing basis on both longstanding and topical issues to provide a reference for development strategy formulation.

(2) Adjustment of Laws and Regulations Relating to SMEs

The adjustment of the legal and regulatory environment for SME operation involves revising existing laws and regulations that are no longer suited to current conditions, and establishing new laws and regulations that can make a positive contribution to SME development. The overall goal is to build up a legal and regulatory environment conducive to SME growth. When formulating new legislation, government agencies tend to focus on the needs of large enterprises, even when the laws in question will apply to both large enterprises and SMEs. There is a tendency to ignore the special characteristics and special needs of SMEs, forcing SMEs to compete in an environment where larger enterprises have an unfair advantage.

In 2005, the Small and Medium Enterprise Administration continued with its analysis and planning work relating to the adjustment of the legal and regulatory environment for SMEs. This included the drawing up of standard operating procedures, the establishment of a system for canvassing the views of legal experts, planning for future training and guidance provisions, preparations for the establishment of a legal and regulatory environment adjustment consulting center, and the trial operation of a shared information platform for legal and regulatory environment adjustment, etc. The emphasis in the Administration's research activities has been on "promoting the positive and eliminating the negative"; research work has covered the formulation of the laws and regulations needed to



stimulate the development of local industries and micro-enterprises, as well as the impact that new legislation would have on the implementation of existing laws and regulations. Examples include the impact of the new Labor Insurance Pension system on SMEs, the revision of the standard definition of SMEs, and the analysis of issues relating to the fairness of transactions between suppliers and distributors, etc. Concrete recommendations have been put forward in all of these cases.

As regards the Administration's efforts to help SMEs build up their own legal affairs systems and legal knowledge, while continuing with the ongoing provision of legal affairs consulting services and other efforts to boost the SMEs' knowledge of legal affairs, the Administration has been focusing in particular on promoting awareness of consumers' rights, as part of the overall process of boosting SMEs' legal affairs capabilities. In addition, the legal affairs training and guidance programs provided by the Administration have proved very popular with SMEs.

Besides the proactive collection of information relating to legal issues encountered by SMEs, the Administration's implementation of legal and regulatory adjustment research in 2005 also included the active provision of assistance to help SMEs solve the problems they were experiencing, and to reduce the disparities in terms of awareness of legal issues. There is clearly a need to establish more comprehensive assistance mechanisms for SMEs in this area; mechanisms are also needed to analyze the results achieved in legal and regulatory adjustment. The main achievements in the Administration's legal and regulatory adjustment work in 2005 were as follows:

a. Promoting the development of local industries

To promote the successful development of special local industries, besides undertaking integrated planning and conducting comprehensive surveys of Taiwan's local industries, the Small and Medium Enterprise Administration has also formulated a multi-level development strategy and appraisal indicators for local industries, so as to help local industries follow a development path that enables them to internationalize their operations while at the same time remaining rooted in the local community.

b. Promoting the development of micro-enterprises

Many existing laws and regulations tend to place obstacles in the way of micro-enterprise development. There is a need for ongoing coordination with the regulatory authorities in a number of areas, including land zoning regulations, company registration procedures, the legal requirements with regard to possession of a fixed place of business, tax registration, and the new Labor Insurance Pension system, etc. However, while relaxing and simplifying some laws and regulations, attention must also be paid to the competitive environment. In order to build up the kind of environment that is needed to foster micro-enterprise development, a clear definition of the term “micro-enterprise” should be included within the SME Development Statute, thereby providing a sound legal basis for guidance provision.

c. The burden of Labor Insurance Pension System

The introduction of the new Labor Insurance Pension system has led to an increase in labor costs for the vast majority of Taiwan’s SMEs. Although the Ministry of Economic Affairs has offered “Labor Insurance Pension Loans” to help companies cope with the financial burden imposed by this new system, relatively few SMEs have applied for these loans; clearly, SMEs as a whole do not feel that taking out loans offers a real solution to this problem. From the SMEs’ point of view, the need to achieve adequate pension fund provision within five years is a heavy burden.

d. Adjustment of the definition of “SMEs”

Some countries base their definition of SMEs on capitalization, others on annual sales revenue. Both methods have their advantages and disadvantages. Apart from the issues of convenience and statistical accuracy, the main reason why the definition of SMEs used in Taiwan needs to be adjusted relates to the question of fairness and equity. Any adjustments to the definition must be implemented in such a way that they do not hurt the interests of SMEs, and so that they contribute to the maintenance of market competition based on fairness and the preservation of a healthy business environment.

e. Improved mechanisms for transactions between distributors and suppliers

Although the provisions of the Fair Trade Law and related laws and regulations



with regard to transactions between distributors and suppliers are reasonably comprehensive, in reality, disputes between distributors and suppliers continue to occur all the time. To ensure that SMEs enjoy the protection that the Constitution requires them to be given, the government should collate the information relating to disputes of this sort, clarify the principles according to which they are dealt with, and draw up standard contracts that could help to protect the weaker party in the relationship. Other “soft” measures such as “administrative guidance” could also be used to ensure that distributors behave in an appropriate manner, and to ensure that the transaction system as a whole continues to develop along the right lines.

2. Building Up the Start-up Incubation Platform

(1) Strengthening the Capabilities of Taiwan’s Incubator Centers

More than 90% of the incubator centers currently operating in Taiwan receive funding from the SME Development Fund; on average, the Fund pays out around NT\$200 million in subsidies each year to these incubators. The SME Development Fund itself suffers from restricted funding sources; as a result, it has been making a loss for several years now. There is thus an urgent need to review the funding mechanisms used to support incubator center operation in Taiwan. The Small and Medium Enterprise Administration has already established a mechanism for appraising the performance of incubator centers; however, more needs to be done to ensure that resources are channeled towards the better performing incubators. The government should also be helping incubator centers to find alternative sources of funding, so as to reduce the burden on the SME Development Fund.

(2) Creating the Start-up Information Platform

Besides capital, technology and manpower, access to knowledge and information is also vital for SMEs during the new business start-up process. In 2005, the Small and Medium Enterprise Administration began to provide business start-up inquiry service to the general public through the Start-up Information Service Center. The Administration is also working to integrate the various resources available in this area and build up a business start-up knowledge base, thereby helping to increase the success rate in new business establishment. In addition, the SME Service

Centers at the county and city level are being used as Entrepreneur Success bases that can provide a wide range of service to start-ups, including on-site guidance and the assignment of expert consultants to work together with the new business. Not only does this program help to stimulate job creation, it also makes a significant contribution to the maintenance of social stability.

(3) Development of SME Manpower Resources

With the trend towards knowledge-intensive industries and the ongoing process of economic globalization, the key factor determining whether SMEs can maintain long-term growth is now the size and quality of their human resources. Given their small size and limited resources, it is difficult for SMEs to implement training programs in-house; they are forced to rely on external resources for manpower cultivation. To meet this need, every year the Small and Medium Enterprise Administration commissions training services providers to provide training courses for SMEs. Currently, most of these courses are still taught through traditional classroom learning methods. There can be a significant amount of overlap in the material taught in different courses, and there is no satisfactory mechanism for appraising the quality of the courses; there is thus a danger that valuable resources may be wasted. When implementing SME manpower cultivation programs in the future, the Administration will need to ensure that thorough, integrated planning is performed in advance, so as to reduce overlap between courses. In addition, information technology should be exploited to promote online learning; in this way, it should be possible to achieve improvements both in the quantity of training provided and the quality of that training.

3. Upgrading the IT Capabilities of Taiwan's SMEs

(1) Establishment of Online Databases and Provision of e-Enablement Guidance

Faced with the rapid pace of change in information technology, it has become increasingly important to help SMEs to leverage the power of the Internet to strengthen their competitive advantage and develop new market opportunities. In



2005, working in collaboration with various IT vendors and industry associations (each of which provided valuable expertise and resources), the Small and Medium Enterprise Administration completed the establishment of online databases and mechanisms for e-enablement guidance provision. Although this may reflect the fact that a high percentage of Taiwan's SMEs are located in northern Taiwan (as are the headquarters of many industry associations), it was found that both online database establishment and the implementation of e-enablement guidance still tended to be concentrated in the northern region.

To enhance the effectiveness of guidance provision, clear benchmarks for performance appraisal will need to be established. These benchmarks could be based on the total increase in e-business activity, cost reduction, and the increase in sales, etc.

(2) Provision of Guidance for Upgrading Quality

The vision behind the government's plans to help SMEs upgrade the quality of their products and services is based around the goal of assisting Taiwan's SMEs to attain a reputation for excellence and high quality. Five major problems have been encountered in the implementation of this plan: (1) Ongoing surveys of the current state of quality management in Taiwanese industry will be needed, so as to facilitate the formulation of quality strategies, the setting of quality standards and key performance indicators (KPI), and the revision of relevant laws and regulations, etc. (2) The government needs to build up an environment conducive to first-rate quality management, and to strengthen the linkages between the various sectors involved; for example, the government should be working to build "total quality" awareness among SMEs, and to provide guidance for quality enhancement at the level of the industry cluster. (3) So far, efforts to integrate international resources and to bring Taiwan into line with international practice in the quality field have been relatively unsuccessful. More effort is needed to introduce information about quality initiatives in other parts of the world, and to achieve localization of quality management concepts and techniques; quality databases could also be established through collaboration between government, industry and the university sector. (4) Currently, the supply of SME quality management talent is insufficient to meet demand. Feasible solutions to this

problem include the establishment of a cultivation program for technical talent, training programs for different categories of quality management personnel, cultivation programs for quality management instructors and consultants, and the arrangement of overseas training for high-level quality management talent. (5) Efforts to spread awareness of the importance of quality throughout the SME sector have not been entirely successful. Model enterprises should be selected both within individual industries and for different sizes of enterprise, with public commendation of those enterprises that achieve superior quality management performance, while leveraging the power of the media to spread the quality message.

(3) Cultivation of e-Enablement Talent

The cultivation of e-enablement talent is a vital part of the process of helping SMEs to upgrade their IT capabilities. Currently, there are still several problems that must be addressed in this area, including: (1) The mechanisms for the selection and cultivation of e-enablement consultants need to be strengthened, with the establishment of an e-enablement consultant database and a strengthening of exchange within the e-enablement consultant community. (2) Improvements are needed in curriculum design. In particular, the content of e-enablement courses must be differentiated from that of regular IT courses. To achieve this goal, experts familiar with the special needs of SMEs will need to be involved in the course design process, and the courses will need to be reviewed and revised on a regular basis. Courses should be designed to meet different needs, with the development of specialized, advanced courses that provide more than can be learned from conventional IT training courses or from the courses provided in universities and colleges. (4) The cultivation program appraisal mechanism should be strengthened, with regular reviews of the results achieved in e-enablement cultivation.

(4) Planning, Establishment and Maintenance of Management Information Sources

The main SME-related work item implemented within the framework of the government's e-Life program in 2005 was the establishment of an effective, comprehensive SME information service network that can provide SMEs with a



convenient, one-stop portal for their decision-making needs. Planning in this area has focused on making sure that the system meets SMEs' special requirements, providing industry-specific business information and value-added services targeting business strategy and policy formulation. SMEs will be able to access all of the information that they require for the entire operational cycle from a single portal.

4. Strengthening Guidance in the Area of Operational Management

(1) Provision of Guidance with Respect to SME Production and Sales and Technology Management Applications

The main emphasis in the Administration's provision of guidance for SME production and sales and technology management applications in 2005 was on two key areas: technology exchange and marketing guidance. The aim was to upgrade SMEs' marketing capabilities by focusing on platforms, guidance and services. Key work items included:

- a. Leveraging industry alliances to pool resources, thereby helping SMEs to undertake R&D, innovation and brand development, and to build economies of scale.
- b. Emphasizing the introduction of overseas technologies, while at the same time making effective use of Taiwan's existing advantages and the flexibility of Taiwan's SMEs, in line with the increasing importance of time-to-market requirements.
- c. Leveraging collaborative brand development and collaborative distribution channel establishment to create synergy and achieve maximum economic benefit.

(2) SME Awards and Commendations

a. The National Award for Small and Medium Enterprises

With the ongoing transformation of Taiwan's economic structure into a service

economy, the annual production value of the service sector has been rising steadily. However, service sector enterprises are often unable to participate in the National Award for Small and Medium Enterprises because they do not meet the qualifications with respect to operating revenue (less than NT\$100 million per year) or the number of employees (no more than 50 employees). Ideally, the definition of SMEs in the service sector should be amended to facilitate service sector enterprises' participation in the Award.

b. The Small and Medium Enterprise Innovation Research Award

Given that the service sector is gradually replacing manufacturing as the bedrock of the Taiwanese economy, in 2005 a special effort was made to increase the number of service sector enterprises entering for the Small and Medium Enterprise Innovation Research Award. Particular emphasis has been placed on encouraging participation by enterprises that have the potential to make a significant contribution to the development of Taiwanese industry as a whole, and that are involved in the provision of cutting-edge knowledge-intensive services, technical services or business services, thereby helping Taiwanese industry to upgrade itself.

c. The Little Giant Award

Possibly due to problems related to the definition of export sales in the service sector, relatively few of the SMEs that entered for the Little Giant Award in 2005 were service-sector enterprises. In the future, efforts should be made to coordinate a reformulation of the definition of service sector export sales with the regulatory authorities concerned. In 2005, the awards ceremony for the Little Giant Award was combined with that for the Bureau of Foreign Trade's Golden Trade Award for the first time, thereby helping to create synergy.

d. The Golden Book Award

Thanks to effective, ongoing publicization over the years, the recipients of the Golden Book Award have become an important channel for the dissemination of knowledge to SMEs. However, more effort is needed to encourage participation by authors and publishers in a wider range of fields, in order to meet the needs of today's society.

e. The Masters and Ph.D. Thesis Award



The real importance of the Masters and Ph.D. Thesis Award lies in the fact that the research results can be made available for the use of SMEs. To prevent the scope of the research from becoming too broad, consideration should be given to integrating the Awards with the Ministry of Education's university appraisal system. The recipients of the Award should be asked to give presentations, with comments from the thesis supervisors, and opportunities for two-way communication with industry; in this way, the research results can be more widely disseminated.

(3) Helping SMEs to Participate in Government Purchasing

Facilitating SME participation in government procurement helps to expand the range of market opportunities available to SMEs; this is an area on which the Small and Medium Enterprise Administration has been focusing for some time now. The most important measures implemented in 2005 to help SMEs to participate in government purchasing included the following:

- a. The addition of an online Q&A function to the government purchasing website, and the establishment of English-language service in all areas.
- b. The holding of a conference where experts could discuss the deficiencies in the current legal and regulatory framework, with the overall goal of furthering SME participation in government procurement.

(4) Upgrading the Functions of the Local Inquiry Service Network

The amount of funding available for the SME Development Fund has been falling steadily in recent years. This has had a knock-on effect in reducing the funding that can be provided for SME service centers at the county and city level, or in industry associations and chambers of commerce. The positioning of the SME service centers, industry associations and chambers of commerce needs to be reassessed, their performance appraised, and funding re-allocated, while they should be encouraged to reorganize themselves in accordance with their own particular strengths and special functions. In this way, it should be possible to avoid duplication of effort and to enhance the efficiency of resource utilization.

(5) Provision of Guidance for Traditional and Special Local Industries

In line with the Executive Yuan's promotion of the Six-star Program for Vibrant Communities, the Small and Medium Enterprise Administration has organized teams of experts to provide "rolling" guidance to enterprises in traditional and special local industries for periods of 3–4 years, while at the same time encouraging local participation. The goal is to revitalize traditional and special local industries and to help community industries to upgrade and transform themselves, thereby creating a wider range of job opportunities at the grassroots level, and encouraging young people to return to their home communities to work or start their own business.

(6) The SME Honorary Instructor System

While the resources available to the government are limited, the power of the private sector is boundless. Under the SME Honorary Instructor system, individuals who have themselves been successful as business owners or managers, and who have accumulated extensive experience in enterprise management, serve as a bridge between the government and SMEs, passing their specialist knowledge on to SMEs that have only limited resources of their own. However, SME Honorary Instructors often find that they do not have the time to attend training courses, preventing their continued employment and resulting in a high instructor turnover rate.

(7) Guidance in the Area of Mutual Assistance and Collaboration

The government's aim in promoting collaboration between SMEs is to help SMEs leverage opportunities for cooperation and for the sharing of resources to create synergy, moving gradually from the exchange of ideas and experiences up to practical collaboration. In the future, more will need to be done to strengthen collaboration and exchange through the promotion of cross-industry alliances and other collaborative projects.

5. Integration of Financing Mechanisms



(1) Improving the Functioning of the SME Troubleshooting Center

Since its establishment, the Small and Medium Enterprise Administration's SME Troubleshooting Center has played a vital role in the provision of "emergency services" for SMEs; the Center has helped many SMEs to overcome crises. The Center continued its operations in 2005. Besides undertaking visits to enterprises from which complaints had been received, the Center also held both regular and occasional meetings with banks to help arrange loans for SMEs that, despite having passed a dual-track SME financing guarantee review, were still unable to secure bank financing. In order to serve an even larger number of SMEs, the Center established a new customer service information system, making it possible to handle inquiries online in a transparent, efficient manner. In addition, a follow-up monitoring mechanism has been established for those enterprises receiving financial guidance. The overall goal in all of these efforts is to provide quick, efficient service while ensuring that citizens' rights are protected, improving both administrative efficiency and the level of customer satisfaction, and providing SMEs with the up-to-date financial information they need.

(2) Cultivation of Accounting and Financial Management Talent

SME business owners tend to be highly technology- or sales-oriented; as a result, they often neglect the cultivation of financial and accounting personnel. One of the Small and Medium Enterprise Administration's key objectives in 2005 was to promote the cultivation of financial managers in SMEs, particularly those in traditional industries, thereby helping SMEs to overcome their financial and financing problems and to transform and upgrade themselves. At the same time, by stepping up the cultivation of financial diagnostics, guidance and consulting talent, the Administration has contributed to the achievement of the government's goal of strengthening the SMEs' financial structure and upgrading their performance in the area of financial management.

(3) Credit Guarantees

For many years, the operation of the SME Credit Guarantee Fund was limited to passively responding to applications from financial institutions. To ensure that Taiwan's SME credit guarantee system and industry guidance system mechanism

were able to meet the needs of the government's industrial policy, so that policy implementation could more closely match the original objectives, in April 2003 the Executive Yuan gave its approval for a new measure whereby the Ministry of Economic Affairs replaced the Ministry of Finance as the regulatory authority for the SME Credit Guarantee Fund. At the same time, it was decided that, in the future, the Fund would simultaneously provide both direct and indirect credit guarantees. While working to keep pace with the changes taking place in the financial sector, the regulations that govern the Fund's operations would be reviewed, so that those regulations that no longer conform to the needs of today's Taiwan would be revised. In addition, the Fund will be focusing on the development of new, innovative financing services so that it can provide a more diversified range of services and contribute to the building of an environment more conducive to SME development.

After 31 years of hard work, the SME Credit Guarantee Fund has achieved impressive growth, whether in terms of the range of enterprises to which credit guarantees are provided, the types of guarantee offered, the industries covered, the size of the individual guarantees, the number of collaborating financial institutions, or the introduction of new SME financing measures. At the same time, the total amount of credit guarantees provided has continued to rise steadily. The number of credit guarantees provided in the last five years and the total value of those guarantees are shown in Table 10-1-1 below. As the SME Credit Guarantee Fund provides credit guarantees that enable SMEs to secure loans without collateral, the level of risk is inherently rather high. Following the dramatic changes that have taken place in the financial system and in the economy as a whole in the last few years, banks' past-due loan ratios have tended to rise, leading to a further increase in the level of risk borne by the SME Credit Guarantee Fund; the delinquent loan ratio for loans obtained using credit guarantees provided by the SME Credit Guarantee Fund rose from 2.76% in 2004 to 4.61% in 2005 (Table 10-1-2). Although the Fund has adopted a variety of risk control measures to try to keep the delinquent loan ratio below a reasonable level, given the need for the Fund to collaborate on government initiatives to expand the scale of credit guarantee provision, it will be difficult to achieve any significant improvement in the Fund's financial situation in the near future.



Table 10-1-1 The Provision of Credit Guarantees by the SME Credit Guarantee Fund in Recent Years

Period	Cumulative total of enterprises to which credit guarantees were provided	No. of credit guarantee cases	Value of credit guarantees provided (NT\$ million)	Value of financing secured (NT\$ million)
2001	144,402	149,610	147,804	233,913
2002	162,293	160,123	151,028	250,977
2003	187,517	199,783	205,179	347,852
2004	216,964	265,139	315,658	517,037
2005	243,325	271,401	333,020	538,947
Cumulative total (2005)		2,869,555	333,452,600	482,664,300

Source: SME Credit Guarantee Fund.

Table 10-1-2 Delinquent Loan Ratios for Loans Obtained through Credit Guarantees

Unit: %

Year	Ratio of New Delinquent Loans	Year	Ratio of New Delinquent Loans
1975	14.79	1991	2.46
1976	4.21	1992	2.87
1977	2.68	1993	4.51
1978	1.64	1994	4.42
1979	2.00	1995	6.13
1980	1.06	1996	6.48
1981	1.34	1997	4.83
1982	2.98	1998	5.41
1983	3.46	1999	5.97
1984	3.05	2000	4.92
1985	6.06	2001	7.25
1986	3.64	2002	4.97
1987	2.77	2003	2.75
1988	2.01	2004	2.76
1989	2.32	2005	4.61
1990	3.03	Average	4.40

Notes: 1. The ratio of new delinquent loans = the amount of new delinquent guaranteed loans / the total amount of loans that have come due.

2. The Credit Guarantee Fund classifies as delinquent loans those that have not yet been repaid two months after becoming due; this is different from the method used by most banks, which classify as delinquent those loans that have not yet been repaid three months after becoming due. The basis for calculation of delinquent loans that is used by the Fund is thus different from that used by the banks.

Source: SME Credit Guarantee Fund.

The SME Credit Guarantee Fund is currently facing various problems, including the lack of stable funding sources, the need to make credit guarantee authorization processes more rigorous, unsatisfactory risk control mechanisms, and the need to bring income and expenditure into balance. As regards funding sources, the higher the Fund's credit guarantee multiple, the greater the level of

risk that the Fund has to bear. While the government wants the Fund to expand the scope of its credit guarantee provision, stable funding sources will need to be found if the Fund's net worth is to be prevented from falling.

During the first meeting of the President's Economic Advisory Team, held on July 10, 2003, President Chen said that he hoped that the size of the SME Credit Guarantee Fund could be increased by NT\$10 billion a year over the next five years to a total of NT\$50 billion, so as to strengthen the Fund's performance. Besides the NT\$44 billion that the government allocated to the Fund over the period 2003–2007, in accordance with the provisions of Paragraph 2, Article 13 of the SME Development Statute, those financial institutions collaborating with the Fund donated NT\$1.5 billion a year each during the period 2001–2003, and were scheduled to donate NT\$1 billion in 2005, NT\$1.5 billion in 2006 and NT\$2 billion in 2007. These donations have made a significant contribution towards expanding the Fund's capabilities. In order to further reduce the burden on the government, a Plan for the Transformation and Development of the SME Credit Guarantee Fund was drawn up in early 2004. This plan has been approved by the Executive Yuan, and efforts are already underway to reduce expenditure and develop new sources of income in accordance with the plans' recommendations. Some of the concrete measures that have been implemented are as follows:

a. Expanding the scale of batch-type credit guarantee provision

Application of the total risk control method to credit guarantee provision can help to keep risk within reasonable limits; at the same time, the simplification of operational procedures helps financial institutions to protect their liabilities and encourages the development of new SME financing channels, creating a “win-win-win” situation for the SME Credit Guarantee Fund, financial institutions and SMEs. Batch-type credit guarantee provision was implemented for the first time in 2004, with NT\$51 billion of the credit guarantees being granted, enabling SMEs to secure a total of NT\$42.87 billion in actual loans (84% of the credit guarantee value). Following these impressive results, the scale of batch-type credit guarantee provision was expanded in 2005. In the first half of the year, credit guarantees totaling NT\$100 billion were allocated to 18 financial institutions; as of December 31, 2005, the actual loans provided totaled NT\$53,797 million. In the



second half of the year, in line with the implementation by the Financial Supervisory Commission of the Plan to Expand the Provision of Loans to SMEs by Domestic Banks, a further NT\$100 billion in credit guarantees was provided, of which NT\$50.6 billion has already been allocated to 14 financial institutions through a public appraisal system.

b. Expansion of direct credit guarantee provision

In the past, the provision of credit guarantees by the SME Credit Guarantee Fund mainly involved indirect credit guarantees, where the Fund handled cases passed on to it by financial institutions without being directly involved in the credit-checking process. However, after the Ministry of Economic Affairs was made the regulatory authority for the Fund, the Fund began to undertake direct credit guarantee provision as well as indirect credit guarantees, with the aim of creating a higher level of synergy. In this way, the Fund is able to help those SMEs with strong R&D, management and marketing capabilities and significant development potential, but which lack tangible assets, to secure financing. To expand the scope of the direct credit guarantee system, the Fund has established a Direct Credit Guarantee Department, and is gradually strengthening its ability to perform credit checks.

c. Credit guarantee risk control

In order to improve the overall quality of credit guarantee provision and ensure that resources are used in the most efficient manner possible, the SME Credit Guarantee Fund has established a system of grading for those financial institutions where the delinquent loan ratio is in the range of 40%-80%; the higher the delinquent loan ratio, the smaller the amount of credit guarantees that will be allocated to that financial institution, thereby reducing the level of risk for the Fund.

d. Establishment of a differentiated fee system to boost handling fee revenue

So as not to increase the financial burden that SMEs are under, the SME Credit Guarantee Fund has in the past set its handling fees at very low levels, far too low to reflect the actual level of risk borne. In order to make up the shortfall in handling fee revenue, on January 1, 2005 the Fund introduced a new differentiated

fee system whereby the fee paid for credit guarantees varies depending on the creditworthiness of the SME; SMEs with a higher level of risk pay higher fees. As of December 31, 2005, the introduction of this new system had led to a NT\$92 million increase in handling fee revenue. In the future, this new system will be expanded, although the need to prevent the financial burden on SMEs from rising too high will still make it impossible for handling fees to fully reflect the risk borne by the Fund.

e. Implementation of the Phoenix Project to strengthen debt collection, including collection of subrogated rights

In order to expand credit guarantee provision and help more SMEs to secure financing, the SME Credit Guarantee Fund is encouraging banks to step up collection of past-due loans. Implementation of the Phoenix Project began in January 2005; by December 31, 2005, past-due loans totaling around NT\$859 million had been recovered (compared to NT\$455 million in 2004), which was felt to represent a very good start.

f. Database establishment to centralize credit guarantee data collection

The SME Credit Guarantee Fund already possesses extensive enterprise data, credit guarantee data and other financial data. In the future, online processing will be used to make up those deficiencies that do exist in the Fund's databases, to ensure that the databases can continue to serve as an important reference for credit surveys and appraisals; the Fund will also be setting up an internal credit appraisal mechanism. Given the Fund's ability to undertake centralized collection of SME credit data, while the databases will initially be used only for internal appraisal purposes, in the future the Fund may be able to collaborate with other agencies to build up a comprehensive credit status appraisal system for Taiwan's SMEs.

g. Establishment of models for credit guarantee appraisal

The SME Credit Guarantee Fund has established risk appraisal models that integrate a range of financial, operational and industry-specific risk factors, so that credit guarantee risk can be gauged in a more scientific manner. Initially, these models (combined with computer-assisted auditing) were applied to applications for smaller credit guarantees (NT\$3 million or less), with the aim of speeding up



credit guarantee application processing. In the future, the use of these models will gradually be expanded to include regular credit guarantee applications and to establish credit guarantee credit ratings.

h. Improving credit risk management technology

In order to strengthen credit guarantee risk control, the SME Credit Guarantee Fund has continued to implement on-site follow-up to monitor the changes in the operational status of those enterprises that receive credit guarantees. The results of this monitoring are added to the Fund's industry and enterprise databases, where they provide an important foundation for credit appraisal and credit guarantee application evaluation. At the same time, information on delinquent loans is used to adjust risk factors and revise the Fund's credit guarantee appraisal models. Over time, the Fund will be able to build up a comprehensive risk database and perfect its risk management technology.

i. Establishment of the SME Credit Guarantee Fund College

An SME Credit Guarantee Fund College has been established, with SME owners and personnel being encouraged to undergo training. By getting successful business owners to share their experiences with others, the College will help SMEs to upgrade their financial and general management capabilities, thereby reducing the risk of SMEs being unable to repay loans secured using credit guarantees.

j. Establishment of a dedicated fund utilization department to ensure that the SME Credit Guarantee Fund's capital is used efficiently

In order to improve the efficiency of fund utilization and boost revenue, the SME Credit Guarantee Fund has drawn up a set of utilization methods and implementation strategies that take into account the importance of liquidity, security, profitability and risk management. The Fund has also formulated the necessary operational guidelines and auditing regulations to facilitate implementation.

(4) Trust-type Investment Accounts

The main purpose of the trust-type investment accounts is to support the growth of start-ups and strengthen the competitiveness of Taiwanese industry. The targets for

investment are newly-established SMEs and those in the process of transforming or upgrading themselves. With these types of companies there is the potential for high profitability once the enterprise has grown to a reasonable size, but there is also a significantly higher level of investment risk.

(5) Improving the Performance of the SME Development Corporations

Although the four SME Development Corporations' business areas include five other areas besides investment and advisory services, in reality most of their operating revenue is derived from investment activity. This investment activity is vulnerable to the ups and downs of the business cycle, and in the last few years the SME Development Corporations' operational performance has been disappointing. It is intended that the regulations governing the operation of the SME Development Corporations will be revised to help them achieve improvement.

(6) Integrating the Operations of the SME Development Fund

The SME Development Fund has for many years now been providing support for a variety of SME guidance policies and measures; its role in this respect has been of the utmost importance. However, because of the limited size of the Fund, the difficulty in developing new sources of income and the current low level of interest rates in Taiwan, the Fund's interest income has not been sufficient to meet its steadily increasing expenditure. As a result, the Fund has been in the red for several years in a row. The loans and investment that the Fund provides fall under the category of long-term financing, with little chance of making a significant return on investment in the short term, so the Fund's ability to use profits from previous investment to support new investment is limited.

II SME Policy in Taiwan – the Future

1. Creating a First-rate Environment for the Sustainable Development of SMEs



(1) Developing the Policy Research and Planning System to Help Strengthen SMEs' Competitive Advantage

Following the process of democratization and liberalization that has taken place in Taiwan in the last few years, the public have become increasingly insistent on their right to express their views during the formulation of government policy. As a result, when drawing up new policies that will have an impact on the general public, the government has to take the views of all interested parties into account, or else face being subjected to fierce criticism. In the future, the formulation of new SME guidance policies and strategies (including policy planning, the formulation of new laws and regulations, policy implementation and the appraisal of results) will need to be based on thorough research and detailed surveys. Policies will need to be supported by comprehensive statistics, and alternative strategies will be needed. Ensuring that SMEs' real needs are met will be a key requirement.

(2) Establishing a Fair Legal and Regulatory Environment to Create Room for Growth

a. Implementation of a legal and regulatory adjustment analysis mechanism to ensure that SMEs' rights are protected

A fair, equitable legal and regulatory environment is one of the fundamental requirements for the sustainable development of the SME sector. It is vitally important that any articles that are disadvantageous to SMEs should be pointed out in all laws and regulations related to SME operation, including Company Law, the Fair Trade Law, the Labor Standards Law, the Negotiable Instruments Law, the new Labor Insurance Pension system, and the regulations related to the recent reform of the financial sector. To achieve this goal, the government will need to implement a Legal and Regulatory Adjustment Analysis Mechanism, and encourage SME organizations to report any problems with the legal and regulatory system and collect information regarding these issues. Government agencies at all levels must be encouraged to include SME legal and regulatory adjustment analysis procedures in existing legal and regulatory procedures, establish expert review models for different fields, and undertake research on the legal and regulatory difficulties experienced by SMEs and on their needs in this regard.

b. Developing research and analysis on legal and regulatory issues to promote innovation and new business start-up activity

Responding to the changes in the business environment and in the structure of Taiwanese industry, the government will need to undertake research on laws and regulations that could help to promote SME development (e.g., laws and regulations to stimulate R&D activity among SMEs, to promote joint marketing and brand development efforts, to stimulate micro-enterprise development, to promote the development of special and traditional local industries, etc.), so as to build an environment conducive to SME start-up and innovation activity.

c. Implementation of a new tax system based on the ability to pay, so as to create a more favorable climate for business operation

Since the integration of business income tax with personal income tax, the SMEs' tax burden has fallen significantly; this is particularly true for sole proprietorships. Providing more favorable tax treatment for SMEs will not only encourage SMEs to strengthen their financial structure, but it will also help them to achieve greater stability in their operations and stimulate the development of new business areas, thereby achieving the government's objective of getting SMEs to transform and upgrade themselves. When revising the tax system in the future, the government should take into consideration the special characteristics of SMEs, creating a tax system based on the ability to pay, and thus building an environment that is more conducive to successful SME business operation.

(3) Strengthening the Government Policy Coordination and Management Mechanisms to Ensure that Resources Are Integrated More Effectively

Besides the Small and Medium Enterprise Administration, Ministry of Economic Affairs, for many years now other departments of the Ministry of Economic Affairs and other government agencies have also been collaborating on the provision of guidance to SMEs. Whether through regular budget appropriations or the establishment of special funds, they have contributed resources for SME guidance and participated in the implementation of a variety of guidance plans. However, in the last few years the budget deficit has been growing steadily, and it can be anticipated that in the future the funds earmarked for SME guidance will be



reduced, or in some cases eliminated altogether.

In the future, the provision of guidance to SMEs will need to take into account the limited resources available to the government. To ensure that SMEs continue to receive the help they need, a proactive, flexible policy coordination and management mechanism should be established. Besides coordinating the allocation of resources for SME management by different government agencies, this mechanism would also be used for appraising the results achieved in existing Ministry of Economic Affairs guidance programs, ensuring that there is no duplication of effort, and making sure that the resources made available by the government for SME guidance are used in the most efficient manner possible.

2. Improving the Functioning of the Incubation Mechanism to Help Build a New Entrepreneurial Society

(1) Strengthening the Provision of Guidance for Individuals and Small Entrepreneurs to Promote Social Stability

In the last few years, with the diversification of consumer needs and the other social and economic changes that have taken place, combined with the rapid pace of change in technology, there has been a dramatic increase in the number of small enterprises in new service industries and in the number of SOHO (Small Office / Home Office) type businesses. The question facing the government is how to provide effective support and guidance to these small entrepreneurial businesses, which often possess innovative new business models and cutting-edge technology, and which can make a significant contribution towards promoting the growth of the economy as a whole and towards stimulating the upgrading of Taiwan's industrial structure. Key strategies could include relaxing the requirements for the granting of credit guarantees to small businesses and individual entrepreneurs, and introducing different types of guidance to meet the needs of different sized enterprises.

(2) Strengthening the Mechanisms for Collaboration between Industry and Universities, and Encouraging Incubator Centers to Transform Themselves

In today's constantly changing business environment, SMEs need to focus on adopting unique technology and innovative concepts, transforming themselves to focus on new products and new business areas. However, when SMEs attempt to innovate or develop new businesses, the costs derived from risk are higher than they would be in the case of larger enterprises; SMEs are also likely to experience problems with funding, recruiting the human talent they need, and accessing information. These are areas where SMEs need assistance (in terms of the provision of resources) both from the state and from the private sector. It is therefore of vital importance that the functioning of Taiwan's incubator centers should be improved. Given the limited funds available to the government, the methods that were used in the past to subsidize incubator center operation may need to be adjusted. The government will be encouraging incubator centers to focus on their core competencies, and to become financially self-supporting, autonomous organizations.

(3) Implementing Lifelong Learning Mechanisms to Improve Overall Manpower Quality

As the trend towards smaller families becomes more pronounced, Taiwan's population is aging. With the emergence of the knowledge economy and the rapid pace of change in information technology, SMEs find themselves unable to recruit the types of worker they need, while faced with the need to rapidly transform and upgrade themselves. In the future, while continuing to strengthen the existing SME manpower cultivation mechanisms, the government will also need to ensure that effective use is made of the resources of the various different government agencies concerned, including the manpower cultivation resources of the Industrial Development Bureau and Commerce Department of the Ministry of Economic Affairs, and the resources of the Bureau of Employment and Vocational Training, Council of Labor Affairs. The government should also be planning training courses for SME senior managers and technical specialists, and developing the mechanisms for recruiting managerial and technical talent from overseas. Assistance should be provided to help SMEs recruit overseas experts to provide direction and pass on experience, and SME technical personnel and managers should be sent on training courses overseas to broaden their experience. SME personnel could also be encouraged to apply for funding for overseas study under



the government's StudyAbroad program. In this way, it should be possible to achieve a significant increase in the overall quality of SME manpower, thereby helping SMEs to respond to the challenges of the new business environment.

3. Making Effective Use of Information Technology, and Promoting the Industry Clustering Effect

(1) Upgrading SMEs' IT Capabilities, and Expanding the Creation of Value through e-Enablement

In the last few years, the ongoing process of economic globalization and the growing importance of information technology have eliminated the sources of competitive advantage that Taiwan's SMEs previously enjoyed. If SMEs in Taiwan's traditional industries are to succeed in raising their competitiveness, their first priority will be to upgrade their IT capabilities, speed up their development of information management, and develop e-enabled marketing systems. Areas where the government could provide assistance include helping SMEs to establish electronic transaction platforms, so that they can leverage the Internet to expand their distribution channels, and stepping up the implementation of guidance programs for industry-specific network establishment, thereby helping SMEs to access the market information they need, boosting their competitiveness and helping them to reduce operating costs and develop new business opportunities.

(2) Ensuring SMEs' Access to the Management Information to Improve Their Operational Performance

In an era when information technology is in widespread use and is developing rapidly, SMEs seeking to build competitive advantage can no longer rely solely on the experience that they have accumulated in the past; they need access to a wide range of management information to be able to keep pace with market trends. Given the limited resources available to SMEs (particularly financial resources), they will need external assistance to obtain this information. While working to strengthen existing management information platforms, the government should also be developing value-added services (focusing on business strategies and guidance) for SMEs in particular industries. In this way, SMEs will be able to

access the business information they need in a rapid, convenient manner, thereby enhancing their overall operational efficiency.

4. Improving Managerial Quality to Help SMEs Build Competitive Advantage

(1) Helping to Improve Operational Management and Product Quality so as to Boost SMEs' Core Competitiveness

In the rapidly changing business environment of today, SMEs need to keep their finger firmly on the pulse of market demand. It is also important for SMEs to leverage their own special characteristics to achieve innovation and organizational restructuring, develop new products and create additional value-added. What this means is that, in the future, when providing guidance to SMEs, the government will need to make a special effort to help them with the development of new products and services and the adoption of new production models and marketing methods, so that they can respond effectively to the challenges presented by the changing business environment.

(2) Providing Guidance for the Establishment of Marketing Networks Based on Collaborative Mechanisms

Economic liberalization and globalization have created a situation where large enterprises are striving to become even larger, to form business groups or strategic alliances, and to achieve growth through mergers and acquisitions. With the rapid development of information technology, and particularly the growth of the Internet, the interaction between business enterprises has become closer, and traditional marketing models have been overturned. Put simply, the strategies that SMEs adopted in the past within the international contract-manufacturing sector – which emphasized going it alone and competing on price – no longer work. It is important for the government to provide SMEs with guidance, helping them to establish their own international marketing networks. This could involve making effective use of technology trading, forming marketing alliances with leading international corporations, collaboration on the development of international brands, or integration with international supply chains; all of these measures would



help to expand the markets available to SMEs. SMEs can also exploit the power of effective organization, using strategic alliances and cross-industry exchange to strengthen collaboration with other SMEs, and working together on branding and joint marketing mechanisms to build economies of scale. By sharing technology, production capacity, sales resources and information, SMEs can compensate for their own weaknesses and become more competitive.

(3) Formulating Appropriate Safeguards to Ensure Fair Access to Market Opportunities

The trend for enterprises to grow increasingly larger in recent years has made it more and more difficult for many SMEs to stay in business. The government will need to develop safeguards that ensure fair, equitable access to market opportunities for SMEs, without violating the principles of free competition or causing social disruption. SMEs should be able to participate freely in new business areas, with equal emphasis on freedom of access and fair competition.

In the future, the government should leverage the resources of the relevant government agencies to boost procurement of the SMEs' products, for example by using programs such as the Global Procurement Center Plan to encourage foreign companies (such as chain store operators) to attend trade shows in Taiwan, by paying visits to overseas corporations' international purchasing offices (IPOs) in Taiwan and establishing IPO databases, by organizing procurement fairs, and by simplifying customs clearance procedures, etc. In addition, Taiwan's overseas representative offices and overseas Taiwanese business associations can assist with the collection of market information, and help SMEs to establish overseas business locations; the staff of the overseas representative offices should also be able to help SMEs with the formation of alliances for joint branding, with mergers and acquisitions, and with the development of international marketing channels.

(4) Stepping Up the Provision of Guidance for Local Industries and for Industry Cluster Development, Thereby Contributing to the Economic Prosperity of Local Communities

Many of Taiwan's SMEs are members of industry clusters, which may have developed for historical reasons to take advantage of local resources, or as part of a

center-satellite system. Although these SMEs may account for only a relatively small share of the total production and sales volume of Taiwanese industry as a whole, they have made a significant contribution towards job creation, raising income levels, promoting economic growth and ensuring social stability. In the future, when providing guidance for the development of local industries, the government will need to focus on integrating the resources of community enterprises and local industries, strengthening intra-industry collaboration and encouraging the formation of strategic alliances for innovation. In addition, incubator centers should be encouraged to make the cultivation of special and traditional local industries a key priority. By stepping up the development of new product design and development platforms for local industries, and by continuing the expansion of the “One Town One Product Web” and related information exchange platforms, the government can help to strengthen the operational performance of special and traditional local industries, while also helping to make Taiwan more attractive as a tourist destination and stimulating job creation at the grassroots level.

(5) Expanding the Implementation of Award Activities and Designating Model Enterprises for Other SMEs to Learn From

Taiwan’s SME sector has always displayed a high level of entrepreneurial activity, reflecting the energy, flexibility and tenacity of Taiwan’s SMEs. These characteristics have made an important contribution towards Taiwan’s industrial development and the growth of the economy as a whole; Taiwanese SMEs have become models for many other countries when promoting the growth of their own SME sectors. It is precisely because of the ongoing establishment of new SMEs that the Taiwanese economy displays so much vigor. However, at present neither the government nor the media give sufficient attention to SMEs when publicizing examples of successful business development. The various SME awards have an important role to play here; at the same time, the government should be doing more to promote the maintenance and development of Taiwan’s entrepreneurial culture to create a learning effect and to encourage more innovative, creative individuals to start their own businesses.



5. Helping SMEs to Strengthen Their Financial Management Capabilities

(1) Expanding the Capabilities of the Credit Guarantee System to Reduce Financing Costs for SMEs

Statistics indicate that Taiwan's SMEs – particularly small enterprises – meet a high percentage of their funding needs from own capital or from direct financing. The problems that SMEs experience when attempting to secure financing are partly due to the inability to provide sufficient collateral or find joint guarantors, but also due to the inadequacy of many SMEs' management systems and the lack of sound accounting systems, which prevents SMEs from providing banks with acceptable financial statements. The higher level of risk that financial institutions have to bear when granting loans to SMEs leads to the imposition of rigorous screening procedures for SME financing. The need to pay higher financing costs constitutes a significant extra burden for SMEs. One of the key tasks for the government in its provision of support for the SME sector should be to ensure stable funding sources for the SME Credit Guarantee Fund and to strengthen the Fund's guidance provision capability, thereby helping SMEs to secure the financing they need.

(2) Upgrading the Capabilities of the SME Troubleshooting Center, and Providing a More In-depth Range of Services

Since the establishment of the Small and Medium Enterprise Administration's SME Troubleshooting Center in 1997, the Center has been widely praised for its provision of rapid, efficient assistance to SMEs. However, with the changes that have taken place in the overall business environment, the types of problems that SMEs experience have become increasingly complex and diverse. In the future, besides establishing a properly organized database of past service provision cases, the SME Troubleshooting Center will also need to leverage information technology by establishing transparent, online service procedures, thereby permitting effective processing and follow-up of complaints and ensuring that enterprises' rights are protected; these measures would also help to improve overall administrative efficiency and service quality.

(3) Helping SMEs to Establish the Financial and Accounting Systems to Respond to Changes in the Business Environment

It is generally accepted that difficulty in securing funding and the limited range of financing channels available are among the most serious problems affecting SME operations. Taiwan's SMEs have tended to overlook the importance of having proper financial and accounting systems in place. As a result, if the business environment starts to worsen, these SMEs may find themselves in severe difficulties, which could in some cases even lead to the enterprise going out of business. Efforts will be needed to improve the functioning of the existing SME finance and financing guidance mechanisms, and to provide more help for SMEs working to set up new accounting and financial systems. For example, Taiwan could follow the example of the European Accounting Association and introduce special accounting principles specially designed for SMEs; SMEs could be encouraged to improve their asset risk management capabilities and establish a sounder financial structure; the SME Credit Guarantee Fund's SME Finance College and online learning methods could be employed to give SME managers and accounting personnel the financial management knowledge they need; a "financial knowledge brains-trust" could be set up to provide SMEs with the financial tools that they need for evaluating their own finances and with "early warning" manuals, thereby strengthening the SMEs' financial planning capabilities.

Appendix





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Appendix A

Table A-1 Number of Enterprises and Sales Value by Industry, 2003-2005

Unit: Number of enterprises; NT\$ million; %

Item/ Year		Number of Enterprises			Sales Value		
Industry/ Size		2003	2004	2005	2003	2004	2005
Total	Total	1,172,633	1,204,343	1,253,694	27,673,536	31,755,313	33,941,857
	Large enterprises	25,433	27,357	27,599	18,964,631	22,028,592	23,941,637
	SMEs	1,147,200	1,176,986	1,226,095	8,708,904	9,726,721	10,000,220
	SMEs' share	97.83	97.73	97.80	31.47	30.63	29.46
Agriculture, forestry, fishing and animal husbandry	Total	10,755	10,802	11,135	26,014	33,510	33,679
	Large enterprises	33	35	36	12,514	19,990	19,428
	SMEs	10,722	10,767	11,099	13,500	13,520	14,252
	SMEs' share	99.69	99.68	99.68	51.89	40.35	42.32
Mining and quarrying	Total	1,414	1,427	1,431	38,526	45,334	51,628
	Large enterprises	21	22	21	4,878	6,441	8,038
	SMEs	1,393	1,405	1,410	33,648	38,893	43,591
	SMEs' share	98.51	98.46	98.53	87.34	85.79	84.43
Manufacturing	Total	137,710	137,422	138,519	9,248,350	11,121,703	11,193,576
	Large enterprises	4,122	4,315	4,347	6,102,166	7,499,462	7,518,434
	SMEs	133,588	133,107	134,172	3,146,184	3,622,241	3,675,142
	SMEs' share	97.01	96.86	96.86	34.02	32.57	32.83
Water, electricity and gas	Total	720	683	664	384,326	454,082	526,787
	Large enterprises	126	137	142	376,598	446,987	519,063
	SMEs	594	546	522	7,728	7,095	7,724
	SMEs' share	82.50	79.94	78.61	2.01	1.56	1.47
Construction	Total	77,591	81,095	87,398	1,392,190	1,690,418	1,718,327
	Large enterprises	1,633	1,501	1,397	540,241	637,728	624,393
	SMEs	75,958	79,594	86,001	851,949	1,052,691	1,093,934
	SMEs' share	97.90	98.15	98.40	61.19	62.27	63.66
Wholesale and retail	Total	624,510	641,202	666,418	10,199,570	11,707,337	12,304,550
	Large enterprises	12,896	14,478	14,828	6,817,287	8,066,199	8,509,474
	SMEs	611,614	626,724	651,590	3,382,283	3,641,139	3,795,076
	SMEs' share	97.94	97.74	97.77	33.16	31.10	30.84
Accommodation and eating-drinking places	Total	85,440	92,229	102,347	262,736	292,767	302,529
	Large enterprises	239	270	251	85,475	97,550	95,747
	SMEs	85,201	91,959	102,096	177,261	195,217	206,783
	SMEs' share	99.72	99.71	99.75	67.47	66.68	68.35



**Table A-1 Number of Enterprises and Sales Value by Industry, 2003-2005
(continued)**

Unit: Number of enterprises; NT\$ million; %

Item/ Year		Number of Enterprises			Sales Value		
Industry/ Size		2003	2004	2005	2003	2004	2005
Transportation, warehousing and communications	Total	46,372	42,902	38,227	1,916,483	1,462,643	1,371,514
	Large enterprises	1,569	1,501	1,329	1,559,241	1,124,381	1,064,045
	SMEs	44,803	41,401	36,898	357,242	338,263	307,469
	SMEs' share	96.62	96.50	96.52	18.64	23.13	22.42
Finance and insurance	Total	12,855	13,316	13,630	1,823,440	2,656,482	4,159,047
	Large enterprises	2,340	2,384	2,367	1,658,392	2,480,229	3,986,715
	SMEs	10,515	10,932	11,263	165,048	176,253	172,332
	SMEs' share	81.80	82.10	82.63	9.05	6.63	4.14
Real estate and rental	Total	23,615	25,233	26,830	518,610	596,480	668,110
	Large enterprises	800	910	1,003	395,633	455,317	511,050
	SMEs	22,815	24,323	25,827	122,977	141,163	157,060
	SMEs' share	96.61	96.39	96.26	23.71	23.67	23.51
Professional, scientific and technical services	Total	45,195	46,129	47,352	814,911	855,937	869,433
	Large enterprises	873	962	1,000	605,148	625,564	630,455
	SMEs	44,322	45,167	46,352	209,763	230,372	238,978
	SMEs' share	98.07	97.91	97.89	25.74	26.91	27.49
Educational services	Total	465	464	437	4,362	4,360	3,865
	Large enterprises	6	7	7	2,470	2,501	2,108
	SMEs	459	457	430	1,891	1,860	1,757
	SMEs' share	98.71	98.49	98.40	43.36	42.65	45.46
Medical, healthcare and social services	Total	379	382	379	11,448	8,149	2,101
	Large enterprises	11	7	4	10,229	6,795	837
	SMEs	368	375	375	1,220	1,353	1,264
	SMEs' share	97.10	98.17	98.94	10.65	16.61	60.16
Culture, sporting and leisure services	Total	27,074	28,362	29,146	481,179	266,373	267,524
	Large enterprises	359	369	367	405,319	185,325	185,644
	SMEs	26,715	27,993	28,779	75,860	81,049	81,880
	SMEs' share	98.67	98.70	98.74	15.77	30.43	30.61
Other service industries	Total	78,538	82,695	89,781	551,389	559,737	469,185
	Large enterprises	405	459	500	389,040	374,124	266,206
	SMEs	78,133	82,236	89,281	162,350	185,613	202,979
	SMEs' share	99.48	99.44	99.44	29.44	33.16	43.26

Notes: 1. The industries are classified according to the 7th revision of Industry Classification Standard.

2. Data of Lienchiang County, a small offshore island, are included in the calculation of all figures since 2003.

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

Table A-2 Domestic Sales Value and Export Sales Value by Industry, 2003-2005

Unit: NT\$ million; %

Item/ Year Industry/ Size		Domestic Sales Value			Export Sales Value		
		2003	2004	2005	2003	2004	2005
Total	Total	20,340,791	23,262,158	25,310,936	7,332,745	8,493,156	8,630,921
	Large enterprises	12,959,726	14,983,810	16,829,539	6,004,906	7,044,782	7,112,098
	SMEs	7,381,065	8,278,347	8,481,397	1,327,839	1,448,374	1,518,823
	SMEs' share	36.29	35.59	33.51	18.11	17.05	17.60
Agriculture, forestry, fishing and animal husbandry	Total	22,360	30,534	30,198	3,654	2,976	3,482
	Large enterprises	10,707	19,045	18,133	1,807	945	1,295
	SMEs	11,653	11,489	12,065	1,847	2,031	2,186
	SMEs' share	52.11	37.63	39.95	50.55	68.24	62.80
Mining and quarrying	Total	37,680	44,503	50,837	846	831	791
	Large enterprises	4,445	6,073	7,687	434	368	351
	SMEs	33,235	38,430	43,151	413	463	440
	SMEs' share	88.20	86.35	84.88	48.76	55.69	55.62
Manufacturing	Total	5,001,841	6,050,614	6,075,726	4,246,510	5,071,089	5,117,849
	Large enterprises	2,697,366	3,386,246	3,443,252	3,404,800	4,113,216	4,075,182
	SMEs	2,304,474	2,664,369	2,632,475	841,710	957,873	1,042,667
	SMEs' share	46.07	44.03	43.33	19.82	18.89	20.37
Water, electricity and gas	Total	378,876	447,390	518,016	5,450	6,691	8,772
	Large enterprises	371,281	440,472	510,392	5,317	6,514	8,671
	SMEs	7,595	6,918	7,624	133	177	100
	SMEs' share	2.00	1.55	1.47	2.45	2.65	1.15
Construction	Total	1,373,064	1,661,634	1,692,301	19,127	28,784	26,026
	Large enterprises	533,103	624,491	612,339	7,138	13,237	12,055
	SMEs	839,960	1,037,143	1,079,962	11,989	15,548	13,972
	SMEs' share	61.17	62.42	63.82	62.68	54.01	53.68
Wholesale and retail	Total	7,739,860	8,920,098	9,388,145	2,459,711	2,787,240	2,916,406
	Large enterprises	4,763,582	5,696,765	6,010,250	2,053,705	2,369,433	2,499,224
	SMEs	2,976,278	3,223,332	3,377,894	406,005	417,806	417,182
	SMEs' share	38.45	36.14	35.98	16.51	14.99	14.30
Accommodation and eating-drinking places	Total	254,331	288,460	300,724	8,405	4,307	1,805
	Large enterprises	79,239	95,060	94,760	6,235	2,490	987
	SMEs	175,092	193,400	205,964	2,169	1,817	818
	SMEs' share	68.84	67.05	68.49	25.81	42.19	45.33



Table A-2 Domestic Sales Value and Export Sales Value by Industry, 2003-2005 (continued)

Unit: NT\$ million; %

Item/ Year Industry/ Size		Domestic Sales Value			Export Sales Value		
		2003	2004	2005	2003	2004	2005
Transportation, warehousing and communications	Total	1,491,004	1,035,052	987,307	425,479	427,591	384,207
	Large enterprises	1,181,979	733,789	706,358	377,262	390,592	357,687
	SMEs	309,025	301,264	280,949	48,217	36,999	26,520
	SMEs' share	20.73	29.11	28.46	11.33	8.65	6.90
Finance and insurance	Total	1,810,194	2,647,301	4,150,467	13,245	9,181	8,580
	Large enterprises	1,645,362	2,471,356	3,978,474	13,030	8,873	8,241
	SMEs	164,832	175,945	171,993	216	308	339
	SMEs' share	9.11	6.65	4.14	1.63	3.35	3.95
Real estate and rental	Total	499,262	574,630	643,459	19,348	21,850	24,651
	Large enterprises	377,094	434,247	487,156	18,539	21,070	23,895
	SMEs	122,168	140,383	156,303	809	779	757
	SMEs' share	24.47	24.43	24.29	4.18	3.57	3.07
Professional, scientific and technical service	Total	699,171	739,800	749,800	115,740	116,137	119,633
	Large enterprises	501,194	521,464	521,960	103,954	104,101	108,495
	SMEs	197,977	218,336	227,840	11,786	12,036	11,138
	SMEs' share	28.32	29.51	30.39	10.18	10.36	9.31
Educational services	Total	4,247	4,266	3,516	115	94	349
	Large enterprises	2,404	2,423	1,764	67	78	343
	SMEs	1,843	1,843	1,752	48	16	5
	SMEs' share	43.40	43.21	49.82	41.99	17.11	1.53
Medical, healthcare and social services	Total	11,331	8,103	2,041	117	45	60
	Large enterprises	10,119	6,758	779	110	37	58
	SMEs	1,212	1,345	1,262	7	8	2
	SMEs' share	10.70	16.60	61.84	6.04	18.73	3.31
Culture, sporting and leisure services	Total	477,508	262,374	264,307	3,671	3,999	3,217
	Large enterprises	402,432	182,061	183,078	2,888	3,264	2,565
	SMEs	75,077	80,314	81,228	783	735	651
	SMEs' share	15.72	30.61	30.73	21.33	18.38	20.25
Other service industries	Total	540,062	547,395	454,092	11,327	12,342	15,093
	Large enterprises	379,419	363,560	253,158	9,621	10,563	13,048
	SMEs	160,643	183,835	200,934	1,706	1,779	2,045
	SMEs' share	29.75	33.58	44.25	15.06	14.41	13.55

Notes: 1. The industries are classified according to the 7th revision of Industry Classification Standard.

2. Data of Lienchiang County, a small offshore island, are included in the calculation of all figures since 2003.

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

Table A-3 Overview of Newly Established SMEs in 2005 - by Industry

Unit: Number of enterprises; NT\$ million; %

Industry/ Size		Item	Number of Enterprises	Sales Value	Domestic Sales Value	Export Sales Value
Total	Total		125,667	361,323	330,457	30,866
	Large enterprises		354	83,692	74,264	9,428
	SMEs		125,313	277,631	256,192	21,438
	SMEs' share		99.72	76.84	77.53	69.46
Agriculture, forestry, fishing and animal husbandry	Total		380	302	265	37
	Large enterprises		0	0	0	0
	SMEs		380	302	265	37
	SMEs' share		100.00	100.00	100.00	100.00
Mining and quarrying	Total		118	1,144	1,144	0
	Large enterprises		0	0	0	0
	SMEs		118	1,144	1,144	0
	SMEs' share		100.00	100.00	100.00	0.00
Manufacturing	Total		5,768	44,496	31,296	13,200
	Large enterprises		45	4,850	2,367	2,483
	SMEs		5,723	39,646	28,929	10,718
	SMEs' share		99.22	89.10	92.44	81.19
Water, electricity and gas	Total		15	23	23	0
	Large enterprises		0	0	0	0
	SMEs		15	23	23	0
	SMEs' share		100.00	100.00	100.00	0.00
Construction	Total		11,227	37,371	37,172	200
	Large enterprises		18	496	400	96
	SMEs		11,209	36,875	36,771	103
	SMEs' share		99.84	98.67	98.92	51.79
Wholesale and retail	Total		61,131	210,132	193,274	16,858
	Large enterprises		242	63,220	56,553	6,667
	SMEs		60,889	146,912	136,721	10,190
	SMEs' share		99.60	69.91	70.74	60.45
Accommodation and eating-drinking places	Total		20,716	16,426	16,426	0
	Large enterprises		1	470	470	0
	SMEs		20,715	15,955	15,955	0
	SMEs' share		100.00	97.14	97.14	0.00



Table A-3 Overview of Newly-established SMEs in 2005 - by Industry (continued)

Unit: Number of enterprises; NT\$ million; %

Industry/ Size	Item	Number of Enterprises	Sales Value	Domestic Sales Value	Export Sales Value
Transportation, warehousing and communications	Total	1,139	5,187	4,935	251
	Large enterprises	3	364	299	65
	SMEs	1,136	4,822	4,636	186
	SMEs' share	99.74	92.97	93.93	74.15
Finance and insurance	Total	854	8,194	8,169	25
	Large enterprises	15	5,847	5,825	22
	SMEs	839	2,347	2,344	3
	SMEs' share	98.24	28.64	28.69	13.18
Real estate and rental	Total	3,750	8,826	8,794	33
	Large enterprises	9	1,590	1,590	0
	SMEs	3,741	7,236	7,204	33
	SMEs' share	99.76	81.99	81.92	100.00
Professional, scientific and technical services	Total	5,750	13,166	12,982	185
	Large enterprises	10	4,187	4,092	95
	SMEs	5,740	8,980	8,890	90
	SMEs' share	99.83	68.20	68.48	48.74
Educational Services	Total	74	125	125	0
	Large enterprises	0	0	0	0
	SMEs	74	125	125	0
	SMEs' share	100.00	100.00	100.00	0.00
Medical, healthcare and social services	Total	32	51	51	0
	Large enterprises	0	0	0	0
	SMEs	32	51	51	0
	SMEs' share	100.00	100.00	100.00	0.00
Culture, sporting and leisure services	Total	3,713	4,602	4,591	11
	Large enterprises	4	1,072	1,072	0
	SMEs	3,709	3,530	3,520	11
	SMEs' share	99.89	76.71	76.66	100.00
Other service industries	Total	11,000	11,277	11,210	67
	Large enterprises	7	1,595	1,595	0
	SMEs	10,993	9,681	9,615	67
	SMEs' share	99.94	85.85	85.77	100.00

Notes: The industries are classified according to the 7th revision of Industry Classification Standard.

Source: Ministry of Finance Tax Data Center, VAT data for consecutive years.

Table A-4 Total Employment by Industry, 2000-2005

Unit: Thousand persons; %

Year		2000	2001	2002	2003	2004	2005
Industry/size							
Total	Total	9,491	9,383	9,454	9,573	9,786	9,942
	Government	955	961	946	988	995	961
	Large enterprises	1,126	1,134	1,147	1,159	1,238	1,333
	SMEs	7,410	7,288	7,361	7,425	7,553	7,648
	SMEs' share	78.06	77.67	77.86	77.56	77.18	76.93
Agriculture, forestry, fishing and animal husbandry	Total	738	706	709	696	642	591
	Government	7	6	5	6	6	6
	Large enterprises	2	2	1	2	2	2
	SMEs	729	698	703	688	635	584
	SMEs' share	98.75	98.87	99.08	98.94	98.82	98.79
Mining and quarrying	Total	11	10	9	8	7	7
	Government	2	2	1	1	1	2
	Large enterprises	0	0	0	0	0	0
	SMEs	9	8	8	7	6	5
	SMEs' share	80.44	80.31	84.06	84.61	81.22	77.97
Manufacturing	Total	2,655	2,587	2,563	2,590	2,671	2,726
	Government	42	42	39	31	30	30
	Large enterprises	489	477	490	508	547	597
	SMEs	2,124	2,067	2,035	2,051	2,095	2,099
	SMEs' share	80.01	79.92	79.38	79.18	78.41	77.00
Water, electricity and gas	Total	36	35	35	35	35	34
	Government	33	32	31	30	30	30
	Large enterprises	2	2	2	3	3	2
	SMEs	2	2	2	2	2	2
	SMEs' share	4.19	5.67	6.30	5.91	5.30	6.59
Construction	Total	832	746	725	702	732	791
	Government	14	13	14	13	11	10
	Large enterprises	7	6	8	8	8	10
	SMEs	812	727	703	681	713	771
	SMEs' share	97.54	97.48	96.99	97.01	97.40	97.44
Wholesale and retail	Total	1,701	1,679	1,693	1,698	1,727	1,727
	Government	10	10	10	9	9	9
	Large enterprises	105	108	97	92	96	99
	SMEs	1,586	1,561	1,585	1,596	1,621	1,618
	SMEs' share	93.24	92.97	93.65	94.03	93.90	93.72
Accommodation and eating-drinking places	Total	500	528	575	585	602	629
	Government	1	0	0	0	0	0
	Large enterprises	24	27	28	24	23	24
	SMEs	475	500	546	561	578	604
	SMEs' share	95.00	94.70	95.09	95.85	96.14	96.10

**Table A-4 Total Employment by Industry, 2000-2005 (continued)**

Unit: Thousand persons: %

Industry/ Size		2000	2001	2003	2003	2004	2005
Transportation, warehousing and communications	Total	481	487	477	484	489	480
	Government	102	99	91	88	85	76
	Large enterprises	74	80	79	84	83	87
	SMEs	304	308	307	313	321	316
	SMEs' share	63.20	63.24	64.33	64.67	65.68	65.84
Finance and insurance	Total	367	371	378	376	386	404
	Government	35	32	30	30	29	24
	Large enterprises	157	156	153	145	157	169
	SMEs	176	182	195	201	199	211
	SMEs' share	47.96	49.06	51.54	53.49	51.61	52.23
Real estate and rental	Total	66	61	60	66	74	80
	Government	1	2	1	2	1	2
	Large enterprises	5	4	3	4	5	6
	SMEs	59	55	56	60	67	72
	SMEs' share	89.39	90.16	92.78	91.17	91.37	90.32
Professional, scientific and technical services	Total	250	267	285	285	302	328
	Government	11	11	11	13	12	13
	Large enterprises	38	44	48	46	49	52
	SMEs	201	213	226	226	241	263
	SMEs' share	80.40	79.78	79.34	79.20	79.77	80.06
Educational services	Total	479	483	487	512	533	551
	Government	278	274	272	282	289	296
	Large enterprises	65	65	67	69	72	77
	SMEs	137	143	148	161	171	178
	SMEs' share	28.60	29.61	30.49	31.52	32.18	32.29
Medical, healthcare and leisure services	Total	252	266	279	290	305	322
	Government	57	59	62	62	61	60
	Large enterprises	83	82	88	94	103	116
	SMEs	112	126	129	133	141	146
	SMEs' share	44.44	47.37	46.27	45.86	46.25	45.27
Culture, sporting and leisure services	Total	165	169	184	187	192	194
	Government	10	10	9	11	12	12
	Large enterprises	47	48	50	48	50	49
	SMEs	108	111	125	128	130	132
	SMEs' share	65.45	65.68	67.55	68.46	67.66	68.31
Other service industries	Total	643	660	666	692	716	729
	Government	38	42	40	43	44	40
	Large enterprises	29	33	33	32	40	42
	SMEs	576	585	593	617	632	646
	SMEs' share	89.58	88.64	89.07	89.15	88.26	88.64

Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan, *Monthly Bulletin of Manpower Statistics*.

Table A-5 Number of Paid Employees by Industry, 2000-2005

Unit: Thousand persons; %

Year		2000	2001	2002	2003	2004	2005
Industry/ Size							
Total	Total	6,746	6,727	6,771	6,898	7,131	7,336
	Government	955	961	946	988	995	961
	Large enterprises	1,121	1,129	1,143	1,156	1,234	1,327
	SMEs	4,668	4,636	4,682	4,754	4,903	5,047
	SMEs' share	69.19	68.93	69.15	68.92	68.74	68.80
Agriculture, forestry, fishing and animal husbandry	Total	82	77	75	79	75	75
	Government	7	6	5	6	6	6
	Large enterprises	2	2	1	2	2	2
	SMEs	73	69	69	71	68	68
	SMEs' share	89.01	89.89	91.36	90.63	90.06	90.54
Mining and quarrying	Total	10	9	8	8	7	7
	Government	2	2	1	6	1	2
	Large enterprises	0	0	0	0	0	0
	SMEs	8	7	7	6	5	5
	SMEs' share	78.64	79.13	83.01	83.45	79.14	76.43
Manufacturing	Total	2,327	2,284	2,274	2,301	2,382	2,444
	Government	42	42	39	31	30	30
	Large enterprises	487	476	489	507	546	595
	SMEs	1,798	1,765	1,747	1,763	1,806	1,818
	SMEs' share	77.26	77.31	76.82	76.63	75.83	74.40
Water, electricity and gas	Total	36	35	35	35	35	34
	Government	33	32	31	30	30	30
	Large enterprises	2	2	2	3	3	2
	SMEs	1	2	2	2	2	2
	SMEs' share	3.97	5.38	6.30	5.86	5.08	6.37
Construction	Total	700	622	600	586	609	662
	Government	14	13	14	13	11	10
	Large enterprises	7	6	8	8	8	10
	SMEs	680	603	578	565	590	642
	SMEs' share	97.08	96.99	96.37	96.42	96.89	96.94
Wholesales and retail	Total	850	863	875	886	917	932
	Government	10	10	10	9	9	9
	Large enterprises	104	108	96	91	96	99
	SMEs	736	745	769	785	812	824
	SMEs' share	86.59	86.33	87.83	88.65	88.57	88.46
Accommodation and eating-drinking places	Total	244	258	280	277	290	312
	Government	1	0	0	0	0	0
	Large enterprises	24	27	28	24	23	24
	SMEs	219	231	252	252	267	288
	SMEs' share	89.75	89.53	89.94	91.29	92.08	92.35

**Table A-5 Number of Paid Employees by Industry, 2000-2005 (continued)**

Unit: Thousand persons; %

Industry/ Size		Year	2000	2001	2002	2003	2004	2005
Transportation, warehousing and communications	Total		352	361	352	363	366	365
	Government		102	99	91	88	85	76
	Large enterprises		74	79	78	83	83	87
	SMEs		175	184	182	192	198	202
	SMEs' share		49.72	50.97	51.71	52.93	54.21	55.29
Finance and insurance	Total		364	368	374	372	383	401
	Government		35	32	30	30	29	24
	Large enterprises		156	156	153	145	157	169
	SMEs		173	180	191	197	196	208
	SMEs' share		47.53	48.91	51.16	53.02	51.19	51.85
Real estate and rental	Total		45	43	43	48	56	62
	Government		1	2	1	2	1	2
	Large enterprises		5	4	3	4	5	6
	SMEs		39	37	38	42	50	54
	SMEs' share		86.67	86.05	89.78	87.93	89.08	87.46
Professional, scientific and technical services	Total		189	206	219	222	230	247
	Government		11	11	11	13	12	13
	Large enterprises		38	43	47	46	49	52
	SMEs		140	152	161	162	170	182
	SMEs' share		74.07	73.79	73.38	73.29	73.63	73.59
Educational services	Total		457	460	464	485	505	523
	Government		278	274	272	281	289	296
	Large enterprises		65	65	66	69	72	77
	SMEs		115	121	126	135	143	149
	SMEs' share		25.16	26.30	27.17	27.76	28.43	28.59
Medical, healthcare and social services	Total		216	229	240	250	265	283
	Government		57	59	62	62	61	60
	Large enterprises		82	82	88	94	103	116
	SMEs		76	88	90	93	102	107
	SMEs' share		35.19	38.43	37.36	37.36	38.31	37.93
Culture, sporting and leisure services	Total		146	151	160	159	162	158
	Government		10	10	9	11	12	12
	Large enterprises		46	48	50	48	50	48
	SMEs		89	93	100	101	100	97
	SMEs' share		60.96	61.59	62.69	63.26	61.69	61.54
Other service industries	Total		411	434	443	460	476	482
	Government		38	42	40	43	44	40
	Large enterprises		28	33	32	32	39	42
	SMEs		345	359	371	386	393	400
	SMEs' share		83.94	82.72	83.61	83.76	82.50	82.98
Public administration	Total		315	327	329	369	373	351
	Government		315	327	329	369	373	351

Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan, *Monthly Bulletin of Manpower Statistics*.

Table A-6 Women Owned Enterprises in 2005 – Number of Enterprises and Sales Value by Industry

Unit: Number of enterprises; NT\$ million; %

Industry/ Size	Item	Number of Enterprises			Sales Value		
		Total	Women Owned Enterprises	Women Owned Enterprises' Share	Total	Women Owned Enterprises	Women Owned Enterprises' Share
Total	Total	694,446	203,344	29.28	28,622,177	3,451,167	12.06
	Large enterprises	23,739	4,032	16.98	20,122,946	1,620,141	8.05
	SMEs	670,707	199,312	29.72	8,499,231	1,831,026	21.54
Agriculture, forestry, fishing and animal husbandry	Large enterprises	32	6	18.75	18,757	3,841	20.48
	SMEs	2,126	442	20.79	12,471	2,463	19.75
Mining and quarrying	Large enterprises	21	1	4.76	8,038	64	0.79
	SMEs	1,266	278	21.96	36,041	4,087	11.34
Manufacturing	Large enterprises	3,633	290	7.98	6,184,364	227,883	3.68
	SMEs	107,409	26,517	24.69	3,184,387	447,539	14.05
Water, electricity and gas	Large enterprises	115	9	7.83	431,142	14,575	3.38
	SMEs	358	59	16.48	6,506	710	10.92
Construction	Large enterprises	1,231	234	19.01	530,553	51,928	9.79
	SMEs	76,127	18,345	24.10	919,323	202,675	22.05
Wholesale and retail	Large enterprises	12,851	2,598	20.22	6,947,775	938,782	13.51
	SMEs	347,025	110,744	31.91	3,249,369	888,885	27.36
Accommodation and eating-drinking places	Large enterprises	222	42	18.92	75,722	11,786	15.56
	SMEs	18,253	7,132	39.07	125,281	35,470	28.31
Transportation, warehousing and communications	Large enterprises	1,156	204	17.65	883,933	91,394	10.34
	SMEs	21,497	6,430	29.91	264,734	70,821	26.75
Finance and insurance	Large enterprises	2,033	235	11.56	3,723,061	134,894	3.62
	SMEs	8,076	2,052	25.41	156,375	30,646	19.60
Real estate and rental	Large enterprises	929	164	17.65	468,356	60,768	12.97
	SMEs	18,227	4,961	27.22	143,723	34,556	24.04
Professional, scientific and technical services	Large enterprises	749	131	17.49	449,125	45,828	10.20
	SMEs	34,292	11,120	32.43	202,916	56,074	27.63
Educational services	Large enterprises	5	0	0.00	1,334	0	0.00
	SMEs	325	119	36.62	1,562	472	30.21
Medical, healthcare and social services	Large enterprises	4	0	0.00	837	0	0.00
	SMEs	176	63	35.80	1,028	378	36.76
Culture, sporting and leisure services	Large enterprises	319	49	15.36	158,295	16,794	10.61
	SMEs	8,446	2,688	31.83	53,945	14,702	27.25
Other service industries	Large enterprises	439	69	15.72	241,655	21,606	8.94
	SMEs	27,104	8,362	30.85	141,570	41,548	29.35

Note: The figures in total do not include those enterprises that owners are legal persons or foreigners for which gender cannot be identified.

Source: Ministry of Finance Tax Data Center, business income tax data (original data), 2005.



Table A-7 Women Owned Enterprises in 2005 - Domestic Sales Value and Export Sales Value by Industry

Unit: NT\$ million; %

Industry/ Size		Domestic Sales Value			Export Sales Value		
		Total	Women Owned Enterprises	Women Owned Enterprises' Share	Total	Women Owned Enterprises	Women Owned Enterprises' Share
Total	Total	8,800,319	1,276,793	14.51	6,954,140	563,098	8.10
	Large enterprises	5,508,251	513,965	9.33	5,681,120	352,941	6.21
	SMEs	3,292,068	762,828	23.17	1,273,020	210,157	16.51
Agriculture, forestry, fishing and animal husbandry	Large enterprises	13,985	748	5.35	1,079	354	32.77
	SMEs	4,362	935	21.43	2,021	420	20.77
Mining and quarrying	Large enterprises	4,009	0	0	351	31	8.71
	SMEs	9,441	1,177	12.47	320	26	8.12
Manufacturing	Large enterprises	1,274,048	54,845	4.30	3,156,279	66,067	2.09
	SMEs	1,195,705	188,308	15.75	849,650	83,816	9.86
Water, electricity and gas	Large enterprises	48,508	1,230	2.54	6,603	0	0.00
	SMEs	2,252	250	11.11	48	0	0.00
Construction	Large enterprises	211,427	27,560	13.04	8,484	276	3.25
	SMEs	311,602	67,664	21.71	9,058	2,224	24.55
Wholesale and retail	Large enterprises	2,025,402	299,825	14.80	2,092,452	244,896	11.70
	SMEs	1,261,520	354,998	28.14	375,143	113,250	30.19
Accommodation and eating-drinking places	Large enterprises	37,627	3,344	8.89	979	252	25.78
	SMEs	95,172	38,141	40.08	794	108	13.65
Transportation, warehousing and communications	Large enterprises	202,766	21,957	10.83	285,403	29,242	10.25
	SMEs	106,990	27,489	25.69	23,804	7,005	29.43
Finance and insurance	Large enterprises	1,276,613	46,642	3.65	7,949	2,419	30.43
	SMEs	56,704	11,193	19.74	306	42	13.62
Real estate and rental	Large enterprises	204,461	29,335	14.35	23,073	77	0.34
	SMEs	57,630	13,904	24.13	679	112	16.56
Professional, scientific and technical services	Large enterprises	115,599	17,741	15.35	88,537	4,786	5.41
	SMEs	72,486	18,939	26.13	8,780	2,211	25.18
Educational services	Large enterprises	220	0	0	45	0	0.00
	SMEs	394	184	46.64	5	0	6.59
Medical, healthcare and social services	Large enterprises	0	0	0	58	0	0.00
	SMEs	402	149	37.14	2	0	3.75
Culture, sporting and leisure services	Large enterprises	46,548	5,977	12.84	2,188	60	2.74
	SMEs	39,091	10,453	26.74	580	144	24.92
Other service industries	Large enterprises	47,037	4,761	10.12	7,638	4,481	58.67
	SMEs	78,317	29,043	37.08	1,829	799	43.66

Note: The figures in total do not include those enterprises that owners are legal persons or foreigners for which gender cannot be identified.

Source: Ministry of Finance Tax Data Center, business income tax data (original data), 2005.

Appendix B

Table B-1 The Evolving Definition of SMEs in Taiwan

Year of modification	Industry	Manufacturing	Construction	Mining and quarrying	Commerce, transportation services and other services
September 1967		Capital under NT\$ 5 million; and regular employees under 100 persons.			Annual operating revenue under NT\$ 5 million; and regular employees under 50 persons.
March 1973		Registered capital under NT\$ 5 million and total assets not exceeding NT\$ 20 million, or registered capital under NT\$ 5 million and the number of regular employees in accordance with the standards as below: (1) under 300 persons for garments, clothing and electronics industry; (2) under 200 persons for food products industry; (3) under 100 persons for others.			No change
August 1977		Paid-in capital under NT\$ 20 million and total assets amount not exceeds NT\$ 60 million, and the number of regular employees not exceeds 300 persons.		Paid-in capital under NT\$ 20 million and the number of regular employees not exceed 500 persons.	Annual operating revenue under NT\$ 20 million; and regular employees under 50 persons.
February 1979		No change		Paid-in capital under NT\$ 40 million.	No change
July 1982		Paid-in capital under NT\$ 40 million and total assets amount not exceed NT\$ 120 million.		No change	Annual operating revenue under NT\$ 40 million.
November 1991		No change, except for extending industry terms into construction.		No change	No change
September 1995		Paid-in capital not exceeds NT\$ 60 million; or regular employees not exceed 200 persons.			Total operating revenue in the preceding year not exceeds NT \$80 million; or its regular employees not exceed 50 persons (extending industry terms to agriculture).
May 2000		Paid-in capital not exceeds NT\$ 80 million; or regular employees not exceed 200 persons.			Total operating revenue in the preceding year not exceeds NT\$ 100 million; or its regular employees not exceed 50 persons (extending industry terms to agriculture).
July 2005		Paid-in capital not exceed NT\$ 80 million; or regular employees not exceed 200 persons.			Total operating revenue in the preceding year not exceeds NT\$ 100 million; or its regular employees not exceed 50 persons (Industrial classification has changed according to the 7 th edition).



Appendix C

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國家圖書館出版品預行編目資料

White Paper on Small and Medium Enterprises in
Taiwan, 2006 / edited by Chung-Hua Institution for
Economic Research

ISBN-13 978-986-00-6482-7 (平裝) NT\$: 300

ISBN-10 986-00-6482-2 (平裝) NT\$: 300