Foreword

After several quarters of relatively strong growth, by the fourth quarter of 2010 the recovery of the global economy had slowed. Taiwan's economy, by contrast, gradually began to climb again in 2009, and by 2010, the recovery was speeding up, with a two-digit economic growth rate, the highest growth rate since 1987 (10.88%), being recorded as Taiwan recovered strongly from the crisis. As for the performance of SMEs in 2010, the number of enterprises (1,247,998 firms), total sales (NT$10,709 billion) and SME employment (8,191,000 people) were higher compared with 2009, while the number of SME start-ups SME (93,609 firms) in 2010 was slightly higher than in the previous year.

The economy in 2011 is continuing to expand; the GDP growth rate has been estimated to be 4.81% for 2011, and the improvement in the job market is taking place gradually. At the end of July 2011, the unemployment rate was as high as 4.41%. In addition, 2011 has been a year of major economic upheavals, for example, the major earthquake and tsunami in Japan have had a significant impact on the overall business environment, global shortages of raw materials are affecting the operations of Taiwanese industry, China's twelfth five-year plan brings structural change, and the worsening of the European debt crisis is encouraging protectionist sentiment. The SMEs in Taiwan also face major challenges from globalization and regionalization, especially after the signing of ECFA. SMEs in this rapidly changing marketplace will need to embrace consumers' views at the innovation stage and try to make effective use of collaboration with R&D specialist and design firms, in order to speed up SME development and create the environment for an "innovation economy" and "LOHAS Taiwan." These issues as well as the responses of both enterprises and the government are the highlights of the 2011 White Paper on SMEs in Taiwan.

The Small and Medium Enterprise Administration, MOEA has published the *White Paper on SMEs in Taiwan* on an annual basis since 1992, in order to witness the development of SMEs in Taiwan, and the English version has been published since 1998.

In Part One of the 2011 White Paper, an extensive array of statistical figures is provided to describe the development of SMEs from a wide variety of perspectives in 2010, which includes a comparison with their performance in previous years, as well as with the performance of large enterprises.

In Part Two of this White Paper, two special topics are tackled through an in-depth analysis on the special challenges faced by SMEs in recent times. They are "Promoting the

Adoption of Innovation-based Operations by SMEs in the Manufacturing Sector" and "Building "LOHAS Taiwan" through Service Industry Innovation".

The government has been helping SMEs in various ways by ensuring that necessary resources are available and that the overall business environment is conducive to them. In Part Three, the major government policies and measures related to SMEs along with their resulting effects over the past year are examined. These policies and measures can be categorized into six areas, i.e., policies and measures adopted in response to the changing global environment, assistance in upgrading, transforming and enhancing R&D capabilities, providing SME financing and investment capabilities, strengthening business start-up capabilities and promoting new business incubation, revitalizing local economies and promoting the development of new business opportunities and participation in international affairs and other related resources. The Appendix to this White Paper also provides important SME statistics covering the years from 2008 to 2010 for reference purposes.

Providing guidance to support the development of SMEs requires a long-term effort. It is hoped that this *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 and appreciated.

Robert Sun-Quae Lai, Ph.D.
Director General
Small and Medium Enterprise Administration
Ministry of Economic Affairs
September 2011

Contents

Tables

Figures

Summary

The upturn in the global economy that began in the second half of 2009 continued into the first half of 2010, becoming even more pronounced. The leading economic forecasting institutions all made upward revisions of their growth forecasts for many parts of the world and many individual countries. However, despite the strong economic growth, this appeared to be a "jobless recovery," with continued danger of an asset bubble forming, and the debt crisis in several nations posed the threat of a renewed economic downturn. Adding to this the impact of natural and manmade disasters including earthquakes, storms, climate change and grain shortages, the overall environment for global economic development remained clouded by uncertainty. Given this wider environment, what is the state of Taiwan's SMEs? What major challenges are they faced with? What strategies is the government adopting to assist them? And what changes need to be made, bearing in mind that the rapid pace of change in the global business environment is likely to continue for the foreseeable future? The *White Paper on Small and Medium Enterprises in Taiwan, 2011* seeks to give a detailed answer to these questions. The content of the *White Paper* can be summarized as follows:

Part One Major Trends in SME Operations

1. Changes in the Domestic and International Economic Environment Since 2010

By the middle of 2009, the global economy was starting to recover from the impact of the global financial crisis, and showing signs of renewed growth. However, after several quarters of relatively strong growth, by the fourth quarter of 2010 the recovery had slowed. With the combined effects of frequent natural disasters, the threat of a renewed global food shortage, an increasingly serious aging of the population structure, the growing prominence of female entrepreneurs, and a continuing global energy shortage, by the end of 2010 different parts of the world were seeing markedly different economic growth rates, although the overall global trend was for slower growth. There have also been significant changes in the international financial situation, with countries around the world working to reduce their budget deficit, and many European countries being forced to cut spending on welfare provision. Adding to these factors the impact of high unemployment rates and stubbornly high inflation in China, a situation has developed where SMEs in some countries are becoming less confident in the economic outlook, while in other countries business confidence has increased. The European Union has been introducing legislation to boost the competitiveness of European SMEs, and all of the OECD member states have been working to promote innovation in the SME sector. In the U.S., small business confidence fell to a new low in July 2010, although in Japan the gap between the percentage of SMEs that expect the economic situation to improve and the percentage that expect it to worsen has been shrinking for seven consecutive quarters; SMEs in China are faced with serious challenges.

The dramatic decline in market demand resulting from the global economic downturn made

competition more intense than usual, with many firms resorting to low-price strategies. Business enterprises focused on streamlining their operations and cutting costs, aiming to ensure that they would be ready when market demand started to pick up again. The key challenges for SMEs were thus to take advantage of the upturn in the economy in 2010, grasp the opportunities, and overcome the challenges. So far, 2011 has been a year of major upheavals for the global economy, what with the earthquake and tsunami in Japan, global shortages of raw materials affecting business operations, the restructuring implemented in China in line with the 12th Five-year Plan, the worsening European debt crisis, and Taiwan's plasticizer scandal. SME business owners need to monitor the changes taking place in the wider business environment and respond flexibly; the government also needs to adjust its policies in line with these changes, and implement appropriate response measures.

In 2011, besides rationalizing their operations to enhance the efficiency of resource utilization and strengthen the overall structure of their business, SMEs also need to strive for change and transformation, attaching due importance to branding and innovation. Even more importantly, they need to key their finger on the pulse of global trends and respond to new developments.

2. Major Trends in the Development of SMEs in Taiwan in 2010

Analysis of Ministry of Finance VAT data gives the following picture of the state of Taiwan's SMEs in 2010:

- There were approximately 1,247,998 SMEs in Taiwan in 2010, representing 97.68% of all business enterprises. 80.42% of these SMEs were in the service sector, and 51.77% were in the wholesaling and retailing industry. 56.96% of SMEs were organized as sole proprietorships, and 46.73% were located in Northern Taiwan. 46.72% of SMEs had been in existence for over 10 years.
- SMEs' total sales accounted for 29.55% of the total sales of all business enterprises in 2010; SMEs' domestic sales accounted for 34.67% of the total domestic sales of all business enterprises, and SMEs' export sales accounted for 16.16% of the total export sales of all business enterprises. Domestic sales accounted for 84.87% of SMEs' total sales; exports by manufacturing firms accounted for 70.64% of SMEs' total exports.
- In 2010, 35.82% of SME owners were women. 44.19% of female-owned SMEs had been in existence for at least 10 years; around 63.68% of female-owned SMEs were structured as sole proprietorships. 54.07% of female-owned SMEs were in the wholesaling and retailing industry, and around 80% of female-owned SMEs' total sales were derived from domestic sales.

3. Financial Status of SMEs

As of 2009, current assets accounted for 50.38% of the total assets of Taiwan's SMEs (representing an increase of 0.62 percentage points compared to 2008). Inventory accounted for 15.57% of current assets, down 2.32 percentage points from 2008. As regards operating costs, in 2009 the large enterprises' operating cost ratio fell by 1.33 percentage points to 91.79%, while the SMEs' operating cost ratio (which had risen significantly in 2008) fell by

2.72 percentage points to 80.98%. With more enterprises in the black, SMEs as a whole made a profit in 2009.

With regard to earnings, 2009 saw renewed changes in the SMEs' earning ability. All profitability indicators – including the operating profit ratio, return on total assets, return on fixed assets, return on capital and return on net worth – turned positive, showing that SMEs as a whole generated a profit in 2009. Turning to bank loans, as of 2010 45.39% of the total outstanding loans of all domestic banks in Taiwan had been made to SMEs, representing an increase of 2.73 percentage points compared to 2009. Clearly, with the upturn in the economy, banks are becoming more willing to lend to SMEs.

4. SMEs' Labor Utilization

With the upturn in the economy, the number of employed persons working in SMEs in Taiwan rose by 1.55% (compared to 2009) to 8,191,000, while the number of paid employees working in SMEs in Taiwan increased by 2.22% to 5,805,000. The number of SME business owners rose by 4,700 (1.00%) to 472,000. However, the number of self-employed persons, which has been in decline since 1992, fell by around 2,000 in 2010 to 1,329,000. The number of female SME business owners stood at 90,307 in 2010, up 3,017 (3.45%) from 2009. The number of female self-employed persons fell by 4,707 to 335,030; the combined total of female SME business owners and female self-employed persons was 425,337, 1,690 (0.40%) down on 2009.

The gradual upturn in the economy that began in 2009 was reflected in the fact that personnel costs' share of SMEs' total operating expenses stood at around 30–40%. There was a significant fall in expenditure on training as a percentage of operating costs, although the number of enterprises implementing individual training plans rose. Average working hours rose slightly in most industries in 2010.

5. SMEs' Innovation, R&D and Market Development

For SMEs, innovation and R&D (whether conducted independently or in collaboration with other companies and organizations) can help a firm to make effective use of its existing technology resources, and to develop both the domestic market and overseas markets; innovation and R&D are one of the keys to continued growth.

- The total R&D spending of all SMEs in Taiwan rose to NT$44,764 million in 2009, 2.05% up on 2008; this was the third consecutive year of R&D expenditure growth.
- Survey results indicate that around 40% of SMEs are involved in innovation and R&D activity. The survey results showed that the main sources of innovation concepts were customers' needs, the SMEs' own technology resources, and managers' creativity, and that SMEs hoped to use innovation and R&D to develop new markets, reduce costs and improve efficiency. The aspects of technology to which those SMEs engaged in innovation and R&D attached the most importance were quality, performance, cost reduction and production efficiency, which shows that SMEs have gradually become more aware of the importance of being customer- and quality-oriented. The factor of most importance to SMEs when collaborating with customers is the building of a solid long-term relationship. When collecting information about potential customers, SMEs

rely mainly on regular purchasing activities. Nearly 30% of SMEs have adopted e-business, and nearly 70% are developing overseas markets; the main motivation factors for expanding overseas include the desire to develop the local market, responding to customers' needs, and collaborating with customers' overseas market development plans.

Part Two Analysis of Individual Topics Relating to SMEs

6. Promoting the Adoption of Innovation-based Operations by SMEs in the Manufacturing Sector

The main focus of the strategies adopted by SMEs in the wake of the global financial crisis has been on strengthening their existing R&D and production capabilities, and using these as the foundation for exploring possible new markets. However, because Taiwan's small and medium-sized manufacturing firms have traditionally been involved mainly in contract manufacturing, they lack the capabilities needed for developing servitized, high-value-added operations and for building brand value; this is the main reason why value-added is lower in small and medium-sized manufacturing firms than it is in the manufacturing sector as a whole. The question concerns how to leverage servitization and branding to build new types of innovation-oriented operations and encourage SMEs to transform themselves into high-value-added enterprises, so as to create a new ten-year "golden age" of high growth for Taiwan's SMEs.

- As regards the servitization of manufacturing industry, survey results showed that only 24.3% of SMEs had expanded into service-related business areas. In most cases, the motivation for doing so was to enhance customer satisfaction; SMEs also believed that moving into these business areas could help them to build long-term relationships of trust with their customers.
- With regard to brand development, the survey results indicated that 44.6% of SMEs had own-brand products. The main sources of motivation for developing branded products were the desire to boost earnings and product value; SMEs hoped to strengthen their corporate image and differentiate themselves from their competitors, thereby facilitating the internationalization of their operations. The main factor taken into account by SMEs with their own brands when deciding on the special features of their brand was the upgrading of product technology; when seeking to boost brand recognition, SMEs focused particularly on product design. SMEs' main brand development strategy for the future was to develop potential new customer segments. SMEs felt that having the opportunity to collaborate with external organizations and leverage their distribution resources would help them to build up their own brand rapidly and implement ongoing innovation.

7. Building "LOHAS Taiwan" through Service Industry Innovation

During this period of transformation for the global economy, innovation has come to be seen as an issue of great importance in both advanced and developing nations. Taiwan's service

sector is dominated by SMEs, which often find it particularly hard to innovate. The challenge for Taiwan is therefore to build a business environment conducive to service industry innovation, so as to enhance the service industry innovation success rate and help Taiwan's service industries evolve into key industries that can remain competitive in the new century. At the same time, service sector innovation can also make it possible for Taiwanese consumers to enjoy healthier, more innovative, happier lifestyles, with customer-focused enterprises finding ways to create real value for consumers that demonstrates their concern and respect for the individual consumer. This in turn can help to strengthen Taiwan's "national brand," while showcasing the new business models adopted by Taiwan's service industries, and the new lifestyles and new forms of cultural value that they are creating, transforming Taiwan into a "LOHAS" (Lifestyles of Health and Sustainability) paradise for both business enterprises and consumers; this should be the ultimate goal of service industry innovation.

This chapter presents an overview of the current state of service sector innovation in Taiwan, before going on to establish an analytical framework based on a review of the literature in this area and exploring the key factors that can be identified in case studies of service industry innovation. It also examines the policies that Taiwan has adopted to promote service sector innovation, and compares these strategies with the methods adopted to achieve this goal in other parts of the world, in order to put forward suggestions for the reference of the government when formulating a service sector innovation promotion strategy, setting funding levels for service sector R&D subsidies, and adjusting the regulatory framework that applies to the service sector; it is also suggested that the government should establish market research and service industry R&D centers, organize regular cross-industry business matching fairs, and establish innovation case studies so that government guidance teams can offer suggestions that more closely match service sector enterprises' real needs.

Part Three The Government's SME Policies and Measures

8. Policies and Measures Adopted in Response to the Changing Global Environment

During a year-end press conference in late 2010, Taiwan's Minister for Economic Affairs Shih Yen-hsiang stated that "Innovation Economy, LOHAS Taiwan" would be the underlying theme of the government's policy initiatives in 2011 (the 100th anniversary of the founding of the Republic of China in 1911), and that the government would be implementing six key strategies – enhancing the "soft power" of Taiwanese industry, boosting investment and consumption, building "green power," developing global business opportunities, encouraging new business start-up to create new jobs, and building a "LOHAS" environment – to drive economic growth. The concrete measures that the government will be implementing in this regard are outlined in Section II of this chapter.

9. Provision of Financing Support and Strengthening Investment Capabilities

SMEs often find it difficult to secure funding from the financial markets because of their small size, frequently unsatisfactory management structure, inability to provide adequate collateral, and poor creditworthiness. The government has worked actively to establish financing guidance mechanisms and to provide various types of policy loan; it has also established the SME Financing Services Contact Window and SME Troubleshooting Center to provide guidance information and handle requests for emergency assistance and consulting service. In addition, the SME Credit Guarantee Fund provides SMEs with credit guarantees that make banks more willing to lend to them; this is supplemented by start-up investment support to help SMEs obtain the working capital they need.

10. Helping SMEs to Upgrade and Transform Themselves and to Strengthen Their R&D Capabilities

With the rapid pace of change in the international competitive environment in the past few years, SMEs are faced with operational challenges and pressure to transform themselves; they need to strengthen their utilization of IT, their quality management, and their R&D capabilities, to cope with these challenges. The government should be working actively to help SMEs upgrade and transform themselves, and to upgrade their R&D capabilities, focusing in particular on e-enablement, quality improvement, the strengthening of managerial capabilities, technology upgrading, improving innovation and R&D capabilities, etc.

11. Strengthening Business Start-up Capabilities and Innovative Business Incubation

The “Start-up Guidance Plan” integrates a number of sub-plans relating to business start-up and incubation, with the aim of building a comprehensive incubation platform for SME start-up. SME Entrepreneurship and Innovation Service Centers have been established in Northern, Central, Southern and Eastern Taiwan to create a regional service network and expand the ability to provide service to SME start-ups at the local level, while also supporting the development of micro-enterprises. In 2011, besides continuing to implement existing measures, the Small and Medium Enterprise Administration will also be carrying out key tasks related to the Executive Yuan’s “Six Key Emerging Industries” strategy.

As regards measures being implemented to support female entrepreneurship, in 2010 the Small and Medium Enterprise Administration began integrating its resources and expanding its capabilities in this area, and implementing the “Women Entrepreneurship and Incubation Network Program” to provide a resource network and business matching platform for female entrepreneurs in areas relating to creativity, technology and aesthetics. In addition, the National Youth Commission, Executive Yuan has been implementing the “Flying Goose Program,” and the Council of Labor Affairs has been providing support for the establishment of new female-owned business enterprises through its “BeBoss Plan.” These initiatives help women who are interested in establishing their own business to obtain the knowledge and resources they need,

thereby reducing the time needed for new business start-up, and helping female entrepreneurs to acquire the necessary capabilities for successful business operation.

12. Revitalizing Local Economies and Promoting the Development of New Business Opportunities

The various subordinate agencies of the Ministry of Economic Affairs have been implementing a number of projects to revitalize local economies and stimulate the development of local cultural industries, including: the Plan for Helping Local Cultural Industries to Create Value, the Local Industry Development Fund Implementation Plan, the Creative Lifestyle Industry Development Plan, the Local Industry Cluster Development Plan – Factory Tourism Guidance Plan, the Local Industry Innovation Engine Plan, and the Local Business District Branding Development Plan. These projects all seek to promote the development of local tourism, innovation and new business models, to encourage SMEs to participate actively in local cultural industry R&D, and to revitalize local economies by strengthening the competitiveness of local industries.

The volume of global trade has been growing rapidly in recent years. To help Taiwan's SMEs develop new business opportunities both at home and overseas, the Ministry of Economic Affairs has been formulating a variety of business opportunity development and marketing plans that approach this issue from the point of view of markets, industries, individual companies, industry associations, branding, etc. The idea is to help business enterprises develop new markets successfully, expand their marketing and distribution networks both in Taiwan and overseas, and enhance the export competitiveness of their products.

13. Participation in International SME Affairs, and Other Relevant Resources

In 2010 and 2011, Taiwan organized and participated in numerous SME-related international conferences and activities; in addition, Taiwan (under the name Chinese Taipei), took over as chair of the APEC SME Working Group for the period 2011 – 2012. The Small and Medium Enterprise Administration has compiled comprehensive statistics (accompanied by commentary and analysis) relating to the resources which the government has allocated to assist SMEs, including guidance project funding, government purchasing, and government funding for low-interest loan programs targeting SMEs.

To help solve the problem of shortages of human talent which have been affecting Taiwan's SMEs, the government has been allocating budgets and coordinating the efforts of government agencies and experts from industry and academia to draw up manpower cultivation plans tailored to the development needs of individual industries to support SME innovation and help Taiwan's SMEs to respond to the challenge of globalization. The Small and Medium Enterprise Administration is continuing to work to improve the legal and regulatory environment for Taiwan's SMEs, by seeking to remove restrictive policies and regulations that may place an excessively high burden on SMEs and make it difficult for them to compete on a level playing field against large enterprises.

CHAPTER 1

Changes in the Domestic and International Economic Environment Since 2010

The upturn in the global economy that began in the second half of 2009 continued into the first half of 2010, becoming even more pronounced. The leading economic forecasting institutions all made upward revisions of their growth forecasts for many parts of the world and many individual countries. However, despite this strong economic growth, this appeared to be a "jobless recovery," with continued danger of an asset bubble forming, and the debt crisis in several nations posed the threat of a renewed economic downturn. Adding to this the impact of natural and manmade disasters including earthquakes, storms, climate change and grain shortages, the overall environment for global economic development remained clouded by uncertainty.

This chapter addresses the impact that the changes in the global business environment have had on the operations and development of small and medium enterprises (SMEs). The chapter is divided into four sections. Section I outlines the main changes that have taken place in the international business environment as a whole. Section II analyses the changes in the domestic business environment within Taiwan in 2010 as they have affected SMEs. Section III presents an overview of the major changes in the international environment so far in 2011, while Section IV offers suggestions as to how SMEs and government agencies can respond to and deal with all of these changes.

I Changes in the International Business Environment for SMEs

By the middle of 2009, the global economy was starting to recover from the impact of the global financial crisis, and showing signs of renewed growth. However, after several quarters of relatively strong growth, by the fourth quarter of 2010 the recovery had slowed. Some of the key developments in the international business environment during this period that affected SMEs are outlined below:

1. Continued Prevalence of Natural Disasters

According to comparative analysis reported by the Associated Press news agency, the number of people that lost their lives in natural disasters in 2010 was the highest for two decades. Worldwide, 260,000 people died as a result of earthquakes, heat-waves, floods, volcano eruptions, super-typhoons, snowstorms, landslides and drought. The direct economic loss from these disasters exceeded US$222 billion (the economic loss was not the highest on record for any given year, as most of the disasters occurred in impoverished regions where property is either not insured or not insured for high amounts).

Human activity seems to have contributed to many of the natural disasters that occurred in 2010. For example, shoddy building quality and over-development made the loss of life from earthquakes higher than it need have been. With more and more people living in cities in badly-constructed buildings, even higher loss of life can be expected in the future from earthquakes, rivers that break their banks, and tropical cyclones.

2. A Renewed Global Food Crisis

A plague of locusts in Australia in April 2010 resulted in extensive damage to grain crops. In South Korea, abnormal weather conditions led to a disappointing cabbage harvest, as a result of which South Korea was forced to import 50,000 tons of cabbage from China to meet its *kimchi* needs. Thailand, the world's largest exporter of rice, suffered the worst floods for 50 years in mid-October 2010, with almost 280,000 hectares of rice paddy being inundated, leading to a 20% fall in rice output. India was also affected by heavy rains in mid-December, causing the onion crop to fail, and sending the price of onions skyrocketing.

Russia's grain output fell by nearly 30% in 2010, while Germany experienced a 20% decline in wheat production, and Canadian wheat production fell by 17%. In Ukraine, the decline in grain output was 21%. Other leading grain exporters such as Kazakhstan and Australia also suffered a decline in output due to abnormal weather.

3. A Steadily More Serious Aging of the Population

Aging populations have become a global phenomenon. According to the United Nations' *2007 World Economic and Social Survey*, because of falling birth rates and rising life expectancy, by 2050, worldwide, the number of people aged 60 or over will have doubled, rising to nearly 2 billion, and the percentage of the global population aged 80 or more will have increased from 1% to 4%. This trend represents a major economic and social challenge for humanity.

4. A Rise in Female Entrepreneurship

While the trend towards smaller families and aging populations is creating short-term labor shortages, there has been a (largely unnoticed) increase in the size of the available female workforce. Particularly since the global financial crisis, there has been a dramatic increase in female entrepreneurial activity. It is noticeable that, during the global economic downturn, female-owned businesses tended to cope better with the impact of the crisis, possibly reflecting women's caution and skill at financial management.

5. The Global Energy Crisis is Still Continuing

Beginning in the second half of 2009, the economic data for countries throughout the world began to show signs of an upturn; as a result, demand for energy began to rise again. This brings home the fact that the limits to economic growth do not lie in financial bubbles, but rather in the physical constraints imposed by energy and the environment.

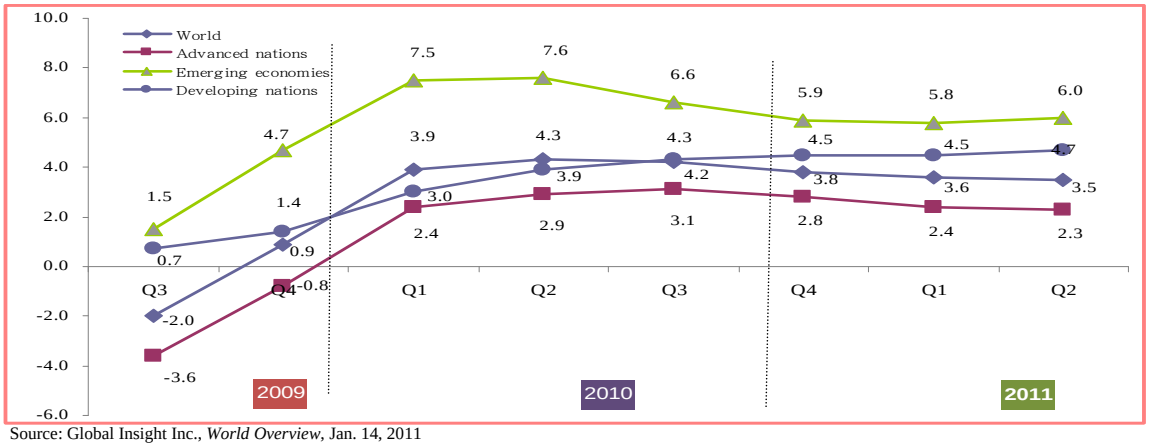
In 2010, the combination of a continuing global economic upturn and a long, cold winter caused global demand for crude oil to rise from 84.8 million barrels a day in 2009 to 86.9

million barrels a day (representing an annual growth rate of 2.5%). Total demand in the OECD member nations rose by 1.3% compared to 2009, reaching 46.1 million barrels per day; by way of comparison, in 2009 demand had actually fallen by 5%. Demand in the non-OECD economies rose by 3.6% in 2010, compared to just 1.5% in 2009; in China, demand rose by 5.1% in 2010. At the same time, the Organization of Petroleum Exporting Countries (OPEC) has continued to restrict oil production, seeking to keep the price of oil within the US$70 – 80 per barrel price band.

6. A Slowing in Global Economic Growth towards the End of 2010, Accompanied by Greater Variation in Growth Rates between Regions

By the fourth quarter of 2010, the pace of the global economic recovery was starting to slow. According to data published by IHS Global Insight, the whole-year economic growth rate for the global economy as a whole is expected to fall from 4.1% in 2010 to 3.7% in 2011 (Figure 1-1-1).

Figure 1-1-1 International Economic Growth Rate Trends



Source: Global Insight Inc., *World Overview*, Jan. 14, 2011

It is noticeable that the anticipated growth rates for the advanced nations (including the U.S.A., the European Union, and Japan) are significantly lower than those for the emerging economies such as China and India. This disparity in growth between the advanced nations and the emerging economies can be expected to result in a further loss of equilibrium in global trade and in the global flow of funds (Figure 1-1-2).

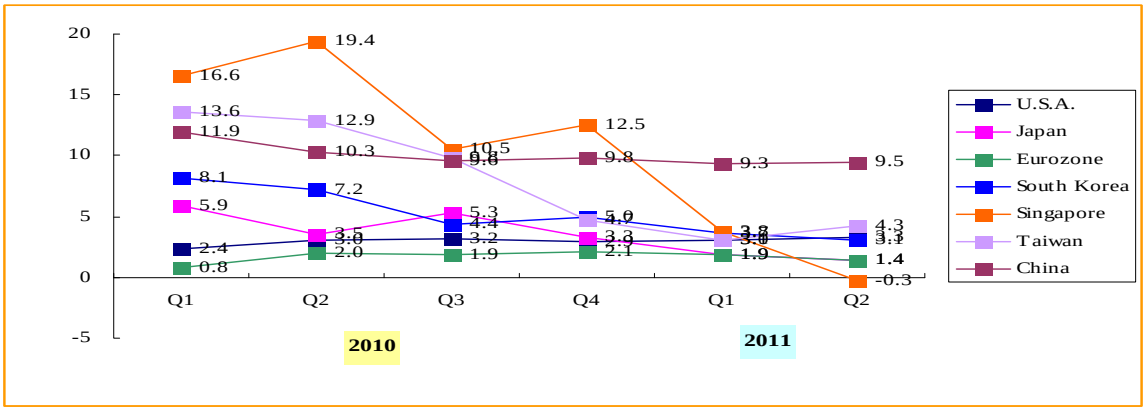
7. Changes in the International Financial Environment

The most important issue here is the fluctuations in the international foreign exchange markets. The weakening of the economic recovery in many countries in early 2010 was rapidly reflected in the exchange rates of individual currencies vis-à-vis the U.S. Dollar; as a result, 2010 saw considerable instability in the foreign exchange markets.

Currencies that were particularly strong with respect to the U.S. Dollar as of the end of 2010 (compared to the situation at the end of 2009) included the Thai Baht, the Japanese Yen, the

Malaysian Ringgit, the Australian Dollar and the Singaporean Dollar; currencies that had weakened noticeably against the U.S. Dollar included the Euro and the Pound. Viewed in terms of the mid-year high, the currencies that had appreciated most against the U.S. Dollar were the Japanese Yen (14.5%), the Thai Baht (12.9%), the Australian Dollar (12.9%), the Malaysian Ringgit (11.1%), and the Singaporean Dollar (9.2%); the currencies that had depreciated most against the U.S. Dollar were the Euro (17.3%) and the Pound (11.3%). Both the Australian Dollar and Singaporean Dollar had, during the course of the year, risen to a point where one Australian Dollar or Singaporean Dollar was worth more than one U.S. Dollar. Those currencies that had appreciated with respect to the U.S. Dollar had in some cases appreciated by more than 20% vis-à-vis the Euro or the Pound; overall, the fluctuations in the foreign exchange markets in 2010 were quite pronounced.

Figure 1-1-2 Growth Trends in the Major Economies



Source: All Taiwan data are based on official government statistics; for China and Singapore, data for 2010 are based on government statistics; for all other countries, data for the first to third quarters of 2010 are based on official statistics, while the remaining data are based on Global Insight forecasts..

8. Many Countries Have Succeeded in Cutting their Budget Deficits, While Implementing Changes in Social Welfare Provision

Faced with high levels of debt, in the aftermath of the global financial crisis many countries – including Greece, Spain, Portugal, Ireland, France, the U.K. and the U.S.A. – announced budget deficit reduction plans in 2010.

According to estimates compiled by the International Monetary Fund (IMF), in 2010 total debt in the Group of Seven (G7) nations had risen to 109% of GDP, and in 2011 it can be expected to rise still higher, to 113% of GDP (compared to just 77% in 2000). The U.S.A.'s debt-to-GDP ratio had already reached 92% in 2009, while in Japan the ratio had ballooned to 225% by the end of 2010, giving Japan the highest debt-to-GDP ratio in the world. According to data compiled by the Statistical Office of the European Commission, in 2009 France's debt-to-GDP ratio rose to 78%, while Portugal's reached 76%.

To reduce their debt levels, the developed nations have been working to reduce pensions and other welfare provisions for the elderly, while also raising taxes. These measures to reduce the budget deficit have provoked an immediate and angry response from trade unions. The debt crisis in Greece that began in early 2010 has attracted more attention to Europe's serious debt problem, with considerable criticism being leveled at Europe's excessively high levels of welfare provision. Many

people in Europe make little effort to seek work, being content to live off benefits funded by the hard-working middle class and by government budget deficits.

9. An "Intangible Recovery" with Unemployment Remaining High Worldwide

According to the *Global Employment Trends 2011* report issued by the International Labour Organization (ILO), in 2010 the global unemployment rate stood at 6.2%, representing an increase of 27.6 million people compared to the situation in 2007 before the global financial crisis. The ILO report emphasized that, while global stock markets rallied in 2010 and the Dow Jones Index rose by nearly 18%, with global GDP rising by 4.8%, job creation has lagged behind.

The ILO report noted two major warning signs with respect to the global employment situation. The first of these is the high unemployment rates in the advanced nations. The developed nations (including the European Union member states) have only 15% of the world's population, but over the past few years they have accounted for 55% of the newly unemployed. By contrast, in some emerging economies such as Brazil, unemployment is now lower than it was before the crisis.

Another issue is youth unemployment. The ILO report points out that, globally, there are 78 million young people between the ages of 15 and 24 who are unable to find work, equivalent to a global youth unemployment rate of 12.6%. In Spain, the youth unemployment rate is currently running at 40%. In some Southeast Asian nations, while the youth unemployment rate as such is not spectacularly high, the likelihood of becoming unemployed for older adults is 4.7 times as high as in Spain; North Africa also has a very high youth unemployment rate, at 23.6%.

10. Substantial Inflationary Pressure in China

During the global financial crisis, the Chinese government adopted a loose monetary policy to rescue China's depressed economy. Due to the combination of this loose monetary policy with the recent rise in international raw materials prices, China's consumer price index (CPI) rose steadily in 2010, climbing by 2.4% in the first quarter, 2.6% in the second quarter, and 2.9% in the third quarter. In October, the CPI growth rate rose above 4% to reach 4.4%, and in November it rose to 5.1%, the highest level for 28 months. December saw the CPI growth rate drop back slightly, to 4.6%. The whole-year CPI growth rate for 2010 was 3.33%.

Over the course of 2010, the People's Bank of China adjusted the reserve requirement (cash reserve ratio) eight times (some of which applied to all financial institutions in China, and others to only some institutions), with the aim of drawing surplus liquidity out of the market and keeping a lid on inflation. Leaving aside the impact of external factors such as the rising prices of raw materials and the U.S. government policy of implementing a second round of quantitative easing, it is clear that the Chinese government's long-standing policy of using a loose monetary policy to support economic growth is the main factor behind inflationary pressure in China.

II Changes in the Business Environment for SMEs in Taiwan

Taiwan's economy gradually began to pick up again in 2009, and by 2010 the recovery was speeding up, with a two-digit economic growth rate. This period has also seen significant changes in the economic and business environment in which Taiwanese SMEs have to operate.

1. Strong Economic Recovery in Taiwan in 2010

The Council for Economic Planning and Development (CEPD), Executive Yuan uses a "traffic light" system to represent the economic outlook for Taiwan. While consecutive "red lights" were seen during the period January – April 2010, this should not be interpreted as indicating that the economy was overheating. Rather, this represented a strong recovery from the economic downturn caused by the global financial crisis; it was merely a case of economic indicators returning to their pre-crisis levels. In May and June, the economy was given a "yellow-red light" signifying that the economy was heating up, followed in July and August by "red lights." In September, the economy slipped back to a "yellow-red light," which continued until December. There has thus been a steady economic recovery, with the expansion of the scale of economic activity from a low base (due to the global crisis) creating the potential for further growth. Overall, despite the high growth rate that Taiwan displayed in 2010, there appears to be little danger of the economy overheating (Figure 1-2-1).

Examination of economic growth over the longer term shows that, as can be seen from Table 1-2-1 below, between 2003 and 2007 Taiwan's economic growth rate displayed what might be called "normal" fluctuation, with growth rates of 3.67% in 2003, 6.19% in 2004, 4.70% in 2005, 5.44% in 2006, and 5.98% in 2007. However, 2008 saw a dramatic fall to a growth rate of just 0.73%, barely above zero growth, and in 2009 the economy actually contracted, with a growth rate of –1.91%. These figures show just how severe the impact of the global financial crisis was in Taiwan. However, the economy grew rapidly in 2010, posting the highest growth rate since 1987 (10.88%) as it made a strong recovery from the crisis.

2. A Mild Rise in Prices and an Upward Revaluation of the NT Dollar against the US Dollar

The economic recovery caused the consumer price index (CPI) to rise in 2010. The CPI increased in every month in 2010 except August, when it fell slightly by 0.47%; the highest monthly increase was a rise of 2.34% in February. The average CPI growth rate for the whole of 2010 was 1.0%, which is very mild by comparison with many other countries such as India (where the CPI rose by 12.0% in 2010); the average CPI growth rate for the emerging economies in 2010 was 5.6%.

The wholesale price index (WPI) rose rapidly in 2010 due to the impact of rising international raw materials prices. In the first half of the year, the WPI rose substantially every month, increasing by 9.43% in May. The rate of growth subsequently slowed, falling to 2.39% in November and 2.22% in December. The whole-year WPI growth rate for 2010 was 5.46%, compared to a negative growth

rate of –8.74% in 2009 (Table 1-2-1).

Having fallen in value against the US Dollar for two years in a row, the NT Dollar began to climb again in January. At the end of December 2010 it stood at US$1 = NT$30.55; the whole-year average was US$1 = NT$31.64, compared to US$1 = NT$33.05 in 2009 (Table 1-2-1).

Figure 1-2-1 "Traffic Light" Symbols Indicating the Outlook for the Taiwanese Economy Over the Course of 2010

Item \ Month		Jan.	Feb.	March	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
Overall score	Light												
	Score	38	38	39	39	37	37	38	38	37	34	32	34
Rate of change in money supply (M1B)													
Rate of change in ratio of direct to indirect financing													
Stock price index													
Rate of change in industrial production index													
Employment (non-agricultural sector)													
Exports (as reported by Customs)													
Imports of machinery and electromechanical equipment													
Manufacturing industry sales													
Wholesaling, retailing and restaurant industry sales index													

Notes: 1. indicates a "red light"; indicates a "yellow-red light"; indicates a "green light"; indicates a "yellow-blue light"; indicates a "blue light".

2. The overall growth performance scores corresponding to each light are as follows: 45 – 38 = red light; 37 – 32 = yellow-red light; 31 – 23 = green light; 22 – 17 = yellow-blue light; 16 – 9 = blue light.

3. With the exception of stock prices, all of the items making up the growth performance index are seasonally adjusted. Please note that the items used in each year's index do not necessarily correspond exactly to those used in previous years; care should therefore be exercised when interpreting the scores.

Source: Council for Economic Planning and Development website: http://www.cepd.gov.tw

3. A Rise in Tax Revenue in 2010 Compared to 2009

Total government tax revenue in 2010 came to NT$1,557.1 billion, representing an increase of NT$73.6 billion (5.0%) compared to 2009 (Table 1-2-1). There was an increase in revenue from almost all individual tax items compared to the previous year; the most pronounced increase was in revenue from business tax, which grew by NT$40.4 billion. This growth reflected the upturn in the economy.

Business income tax revenue fell by NT$50 billion in 2010 compared to the previous year, due to the impact of the global financial crisis and the use of the revised tax rate of 17% for provisional tax returns. However, as a result of the rapid economic recovery, the amount of business tax, commodity tax and customs duty collected was higher than originally anticipated, as was revenue from land tax (thanks to the vibrant real estate market).

Table 1-2-1 Key Indicators for the Taiwanese Economy, 2003 - 2010

Unit: %

Indicator / Year	Economic Growth Rate	Wholesale Price Index	Consumer Price Index	Tax Revenue	Money Supply		Labor Force Participation Rate	Unemployment Rate	Exchange Rate (NT$ to the US$)
					M1B	M2			
2003	3.67	2.48	-0.28	2.5	11.8	3.8	57.34	4.99	34.42
2004	6.19	7.03	1.61	10.9	19.0	7.5	57.66	4.44	33.42
2005	4.70	0.62	2.31	13.1	7.1	6.2	57.78	4.13	32.17
2006	5.44	5.63	0.60	1.7	5.3	6.2	57.92	3.91	32.53
2007	5.98	6.47	1.80	8.3	6.4	4.3	58.25	3.91	32.84
2008	0.73	5.15	3.53	1.5	-2.9	2.7	58.28	4.14	31.52
2009	-1.91	-8.74	-0.87	-13.3	16.5	7.2	57.90	5.85	33.05
2010	10.88	5.46	0.96	5.0	14.9	4.6	58.07	5.21	31.64

Note: With the exception of the labor force participation rate, unemployment rate and exchange rate (which are all whole-year averages), all indicators are expressed as annual growth rates.

Source: 1. DGBAS, Executive Yuan, *Quarterly National Economic Trends* (May 2011) and *Monthly Bulletin of Manpower Statistics* (Feb. 2011).
2 .DGBAS, Executive Yuan, National Income Statistics and National Economic Growth Outlook press release (May 2011).
3. Central Bank, *Financial Statistics Monthly.*

4. A Continuing Slight Rise in Interest Rates in the Money Markets

In 2010, the daily average value for the annual growth rate in the M2 money supply continued to grow steadily. For the whole year, the daily average value for the annual growth rate was 4.6% (down from 7.2% in 2009), while the daily average value for the annual growth rate in the M1B money supply, which had been 16.5% in 2009, fell slightly to 14.9% in 2010 (Table 1-2-1).

Responding to the continuing recovery in the domestic economy in 2010, the Central Bank raised the key policy rate three times during the period from June to December 2010. The cumulative increase was 0.375 percentage points. Following these adjustments, the discount rate, rate on accommodations with collateral and rate on accommodations without collateral stood at 1.625%, 2% and 3.875%, respectively. Market rates rose with them. By December 2010, the inter-bank offered rate and the commercial paper interest rate had risen to 0.24% and 0.49%, respectively, with whole-year averages of 0.19% and 0.38%, which represented an increase of 0.08 percentage points and 0.14 percentage points, respectively, compared to 2009.

Overall, thanks to the Central Bank's interest rate adjustments and drawing off of excess liquidity from the market, money market interest rates have been brought more or less into line with the government's policy goals.

5. An Upturn in Foreign Trade in 2010, and a Continuing Trade Surplus

Following the beginnings of a global economic recovery in the second half of 2009, 2010 saw a significant rise in the volume of world trade. The total value of Taiwan's foreign trade rose to US$526.01 billion in 2010, up 39.1% from 2009. Exports increased to US$274.62 billion (up 34.8%) and imports rose by US$251.24 billion (up 44.1%), bringing them back up to pre-crisis levels. Taiwan continued to run a trade surplus in 2010, although the size of the surplus declined by 20.5% (Table 1-2-2).

Table 1-2-2 Taiwan's Foreign Trade Performance, 2003 – 2010

Units: US$ billions; %

Indicator / Year	Total Foreign Trade		Exports		Imports		Trade Surplus or Deficit	
	Amount	Annual Growth Rate	Amount	Annual Growth Rate	Amount	Annual Growth Rate	Amount	Annual Growth Rate
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
2006	426.72	12.0	224.02	12.9	202.71	11.0	21.31	34.8
2007	466.07	9.2	246.72	10.1	219.35	8.2	27.43	28.6
2008	496.48	6.6	255.66	3.6	240.82	9.8	14.83	-45.9
2009	378.04	-23.8	203.67	-20.3	174.37	-27.5	29.30	93.0
2010	526.01	39.1	274.62	34.8	251.24	44.1	23.25	-20.5

Notes: 1. Total exports = exports + re-exports; total imports = imports + re-imports
2. The figures for total imports and total exports may not add up exactly to the corresponding figure for total foreign trade due to rounding.
Source: Bureau of Foreign Trade, Ministry of Economic Affairs, *Foreign Trade Statistics Database*

An increase or fall in the value of exports is a direct reflection of the volume of export orders received. Export orders in December 2010 totaled US$36.57 billion, a new record, and representing a year-on-year growth rate of 15.3% compared to December 2009. Whole-year export orders in 2010 came to US$406.72 billion, also a record level. Due to the relatively low base from which export orders were growing (because of the global crisis), the annual growth rate was very high, at 26.1%; this was the highest level for 6 years, and the fourth highest ever.

6. China Remains Taiwan's Most Important Trading Partner

In 2010, Taiwan saw an increase in exports to all of its major trading partners. Exports to the U.S., which had declined in 2009, rose by 33.6% in 2010, and exports to China increased by 41.8%. Trading partners that accounted for 10% or more of Taiwan's total exports included China (28.0% of the total), Hong Kong (13.8%), and the U.S. (11.5%). Taiwan also experienced an increase in imports from all of its key trading partners in 2010, with the biggest increase being seen in imports from Japan (97.3%) (Table 1-2-3).

If exports to Hong Kong are included in the total for China, then exports to China (including Hong Kong) accounted for 41.8% of Taiwan's total exports in 2010, up from 41.1% in 2009. In absolute terms the value of exports to China rose by 37.1%. Imports from China (including Hong Kong) accounted for 14.9% of Taiwan's total imports in 2010, and were up 46.7% in absolute terms compared to 2009 (Table 1-2-3).

Table 1-2-3 Taiwan's Trade with its Main Trading Partners in 2010

Units: US$ millions; %

Indicator / Country / Region	Exports			Imports			Trade Surplus / Deficit	
	Amount	Share of Total	Annual Growth Rate	Amount	Share of Total	Annual Growth Rate	Amount	Annual Growth Rate
Total	274616	100.0	34.8	251393	100.0	44.2	23223	-20.8
China (inc. Hong Kong)	114741	41.8	37.1	37480	14.9	46.7	77116	32.6
China	76936	28.0	41.8	35952	14.3	47.2	40984	37.4
Hong Kong	37805	13.8	28.4	1628	0.6	45.0	36177	27.7
U.S.A.	31469	11.5	33.6	25380	10.1	39.8	6089	12.8
Japan	18008	6.6	24.2	51929	20.7	97.3	-33920	56.2
Singapore	12096	4.4	40.4	7644	3.0	59.0	4453	17.0
South Korea	10682	3.9	46.3	16059	6.4	52.8	-5378	67.9
Other	84973	30.9	28.7	108119	43.0	36.6	-23146	76.4

Notes: 1. Total exports = exports + re-exports; total imports = imports + re-imports
2. The figures for total imports and total exports may not add up exactly to the corresponding figure for total foreign trade due to rounding.
Source: Ministry of Finance, *Customs Import/Export Trade Statistics Bulletin* for December 2010 (published on Jan. 7, 2011).

7. The Central Government's Finances Are Still in an Unhealthy State

In 2011, central government tax revenue is forecast to rise slightly to around NT$1.6 trillion; there will also be a slight increase in government expenditure, to NT$1.8 trillion. With the economy starting to pick up again, and with the various measures adopted by the government to counteract the effects of the global economic downturn having proved quite effective, the government's budget deficit is expected to fall from NT$355 billion in 2010 to NT$299 billion in 2011 (Table 1-2-4).

8. A Substantial Fall in the Unemployment Rate, and a Slight Rise in Average Wages

2010 saw rapid recovery from the impact of the global financial crisis. Although the unemployment rate remained high, it fell steadily over the course of the year, dropping below 5% to 4.92% by October 2010 and continuing to fall further in November and December; the average unemployment rate for the whole year was 5.21% (Table 1-2-1), representing a decline of 0.64 percentage points from the 2009 average of 5.85%. The recovery has thus become less of a "jobless recovery," with a healthier-looking job market.

With the upturn in the economy in 2010, the average regular salaries of employed persons in the manufacturing and service sectors rose slightly, by 1.83% (compared to the fall in wages of 2.20% seen in 2009); furthermore, there was a steady increase in every month of the year. Average monthly wages rose from NT$42,176 in 2009 to NT$44,430 in 2010, which was the highest level for 10 years.

Table 1-2-4 The State of the Central Government's Finances, 2006 - 2011

Unit: NT$ billions

Indicator / Year	Budget (Settled Account of Expenditures)		Budget Surplus		
	Revenue	Expenditure		Regular Budget	Special Budget Appropriations
2006	1546.4	1529.8	-94.3	16.6	-110.9
2007	1635.4	1552.0	-12.5	83.4	-95.9
2008	1620.3	1711.7	-236.4	-91.4	-145.0
2009	1675.1	1809.7	-391.4	-134.6	-256.8
2010	1552.2	1715.0	-355.0	-162.8	-192.2
2011	1630.5	1769.8	-299.0	-139.3	-159.7

Notes: 1. The data given for the Budget (Settled Account of Expenditures) represent the approved budget for the years 2006 – 2009 and the legally authorized budget for the years 2010 – 2011.
2. The data given for the Special Budget Appropriations represent the approved special budget for the years 2006 – 2009, the legally authorized special budget for 2010, and the proposed special budget for 2011.

Source: DGBAS, Executive Yuan, *2011 Central Government Budget – Results of Budget Review by the Legislative Yuan* press release, issued on January 12, 2011.

III Changes in the Overall Business Environment in 2011

1. 2011 Has Been a Year of Major Political and Economic Upheavals

The revolts that have taken place in Arab countries such as Tunisia and Egypt in 2011, leading to the overthrow of these countries' rulers, were attributable in no small part to rising food prices. The upheavals in the Arab world are continuing; it remains to be seen whether and to what extent they will spread to other parts of the globe.

2. The Major Earthquake and Tsunami in Japan Have Had a Significant Impact on the Business Environment

On March 11, 2011, Japan was struck by a Magnitude 9.0 earthquake which caused a huge tsunami, and also resulted in a nuclear energy crisis that has yet to be resolved. Besides causing serious loss of life and damage to property, the disaster also had a severe negative impact on Japan's automotive and electronics industries. According to official statistics compiled by the Japanese government, the direct economic damage resulting from this earthquake – the fourth largest in recorded history – amounted to 25 trillion Yen (approximately NT$9 trillion), a sum equivalent to over five times' Taiwan's total annual budget.

Taiwan has always had close economic and trading links with Japan, and so has inevitably been affected by the Japanese earthquake. Japan plays a very important role in the global industrial supply chain; consequently, some Taiwanese manufacturers have found themselves suffering serious component shortages. According to a survey conducted by 1111 Job Bank, nearly 22% of Taiwanese firms have suffered a negative impact as a result of the earthquake, with the IT sector, consumer services industry and trading and distribution sector suffering most severely. Taiwan's ITC industry relies heavily on Japan for many of its materials and

components; the closure of Japanese factories as a result of the earthquake has consequently had a severe knock-on effect on Taiwanese ITC manufacturers. In addition, concerns about the possibility that Japanese produce may have been contaminated by radiation have led many importers to cancel orders placed in Japan, which has had a negative impact on Taiwan's export/import trade.

3. Global Materials Shortages are Affecting the Operations of Taiwanese Industry

The series of natural disasters and political upheavals that have occurred in 2011 have posed major challenges for business enterprises in Taiwan, which have been left struggling to adapt to the changed circumstances. The shortage of components resulting from the earthquake and tsunami in Japan was a bolt from the blue for Taiwan's electronics industry; in the future, the problems resulting from global resources shortages are likely to become a permanent, unavoidable fact of life. Some industries were already experiencing problems with materials shortages prior to the Japan earthquake, particularly those industries that use agricultural products as raw materials; rising prices have affected firms' ability to obtain the materials they need and to maintain appropriate inventory levels, in some cases making it difficult for them to operate normally.

In the international commodity markets, the prices of oil, gold, agricultural products and other commodities are continuing to rise. From the point of view of manufacturing industry, as many of these items constitute key components, and as they are not in a position to exercise any control over international prices, it can be very difficult to formulate a suitable strategy in response. The fluctuations in the international raw materials markets are closely linked to the second round of quantitative easing (QE2) in the U.S. It remains to be seen whether raw materials prices will fall back to more reasonable levels when QE2 comes to an end in June 2011.

4. China's Twelfth Five-year Plan Brings Structural Change

2011 was the first year of implementation of China's Twelfth Five-year Plan (the official name of which is the "Twelfth Five-year Guidance"). The Twelfth Five-year Plan embodies a shift away from an emphasis on growth towards a new emphasis on structural adjustment; the scope of this structural change is very broad, encompassing a shift in production away from manufacturing towards the service sector, a shift in markets away from export-oriented operation towards a new focus on the domestic market, and a shift in lifestyles from rural to urban.

The shift in emphasis in the economy away from manufacturing and towards services will mean more than just a change in the structure of production; it will also inevitably lead to a reduction in China's ability to supply export markets with "made in China" goods; any growth in local sales is likely to be offset by a fall in export sales. At the same time, the expansion of domestic demand is sure to lead to a speeding up of the urbanization process, which in turn will provide a further boost to domestic demand, creating a "virtuous circle." Of course, considerable investment in infrastructure building will be required to support the creation of this "virtuous circle."

Infrastructure spending is another major source of domestic demand, which will further speed up the transfer of resources outlined above; it may even come to constitute a major driver of a

renewed spurt of economic growth. Rapidly-growing investment and domestic spending can substitute for export growth to help China achieve equilibrium in its domestic market, a more equitable balance between urban and rural development, and a suitable balance between manufacturing and service sector development. Whereas in the past China was the "factory to the world," with the country's manufacturing capability being its sole engine of growth, contributing to unbalanced development, it now has the opportunity to make adjustments and revisions to this model.

This process of structural adjustment can also be extended to cover the impact of the economy on the environment. The Twelfth Five-year Plan emphasizes the need to support the growth of "green industries"; the development of the "green economy" can help to reduce the pressure on the environment, not just in China but worldwide, thereby helping other nations and regions to achieve more balanced development.

5. The Worsening of the European Debt Crisis is Encouraging Protectionist Sentiment

According to the European Commission, the scale of Greece's indebtedness (relative to GDP) has set a new record for the Eurozone countries. Greece's debt stood at 143% of GDP in 2010, and is predicted to reach 158% in 2011 and 166% in 2012. Portugal's debt will also increase to more than 100% of GDP for the first time in 2011, rising to 101.7% of GDP. In Ireland, the debt-to-GDP ratio will reach 112% in 2011.

While the European Commission forecast that the Eurozone as a whole would achieve an economic growth rate of 1.6% in 2011, it also warned that, given the high level of uncertainty, this figure might need to be revised downwards. An IMF report issued on May 12 suggested that there was a risk of the European debt crisis spreading.

6. Meeting the Challenge of the Post-ECFA Era

The "Early Harvest" provisions of the Economic Cooperation Framework Agreement (ECFA) signed between Taiwan and China came into effect on January 1, 2011. Under these provisions, there are a total of 529 product items with regard to which Taiwanese exports to China will benefit from preferential tariff treatment, thereby helping indirectly to boost income levels in Taiwan and create new jobs. However, Taiwan will also face challenges in the post-ECFA era. Besides dealing with the impact of trade liberalization, working to secure greater involvement in regional economic integration, and promoting the commencement of free trade agreement (FTA) and economic cooperation agreement negotiations with major trading partners, Taiwan will also need to work more actively to adjust its industrial structure, while providing assistance for less competitive industries and helping them to transform and upgrade themselves.

Following the signing of the ECFA agreement, there has been a trend towards greater integration between the Taiwanese and Chinese economies. As a result, Taiwan's industrial clusters and value chains will find themselves under increasingly heavy pressure to adjust. While the process of "cross-strait" economic integration will be beneficial to the Taiwanese economy as a whole, some individual industries will find themselves facing serious challenges. This does not only apply to less

competitive industries; even more competitive industries will need to find ways to leverage cross-strait integration to build an enhanced value creation capability and develop the new market opportunities that cross-strait integration is bringing. Given the trend towards greater cross-strait integration, the challenge for the government is to decide how to use its industrial innovation policy to help those industries that are being harmed by ECFA to transform themselves, and also to help those industries that benefit from ECFA to maximize their earnings. This will require systematic, coordinated policy formulation. A further point is that cross-strait economic integration can be expected to result in a further speeding up of the cross-strait flow of production factors, thereby exerting a direct impact on the development and transformation of Taiwan's industry clusters.

7. The Impact of the Plasticizer Scandal

The plasticizer scandal which first came to public notice in Taiwan in late May 2011 snowballed rapidly; it has affected not only the food and beverage products industry, but also other plastics-related industries. Consumers have become warier, and the quality of "made in Taiwan" products is being questioned both in the Taiwanese domestic market and overseas; as a result, both domestic sales and export sales have suffered. It remains to be seen just how severe an impact this scandal will have on Taiwanese industry and on the economy as a whole.

Business enterprises may well complain that the scandal was totally unexpected, and put the blame on the illegal activities of a handful of immoral business owners (and on the government's failure to monitor and control their activities); be that as it may, the scandal constitutes a serious test of firms' managerial capabilities and ability to handle crises.

With the complex division of labor that has developed in industry, driven by the need to reduce costs, a high percentage of firms today are reliant on other, upstream companies for raw materials and components which they use to perform processing operations before selling the finished products on to distributors, and ultimately to the consumer. In the recent plasticizer scandal, many well-known companies found that they had become involved due to having purchased materials from certain middle-men, despite having had no direct business dealings with either Yu Shen Chemical Co., Ltd. or Ben Hur Spices and Chemicals. This scandal has shown that, when it comes to the supply of materials for manufacturing, a problem with one small link in the supply chain can have a serious impact on many finished products; end products may need to be withdrawn from sale if it is discovered that one of their component ingredients includes toxic substances. The scandal has thus thrown into sharp relief just how important supply chain management and risk management are for business enterprises.

IV Monitoring New Developments and Trends, and Adapting to Them by Striving for Transformation

Faced with the various environmental factors outlined above, how should Taiwan's SMEs and the Taiwanese government respond to the changing circumstances, and what transformations will they

need to make?

1. New Business Opportunities in the "Green Economy"

Besides causing drought, floods, torrential rains and other abnormal weather, global warming and the El Niño effect have also had a major impact on the economy. However, a crisis can sometimes be turned into an opportunity. Today, the world is at a historic turning point. The concept of the "green economy" is developing rapidly as a way of mitigating the negative impact of climate change and global warming. The "green economy" will in fact be the main battleground of the "fourth industrial revolution." Renewable energy, which has been hailed as humanity's savior from the greenhouse effect, will underpin new trends in investment throughout the world.

Judging from the industrial development plans that governments around the world – from Europe to the BRICs' emerging economies – have been announcing, it is clear that the "low-carbon" revolution is already well underway, creating new business opportunities in the "green economy." With environmental consciousness growing steadily, national governments can be expected to continue stepping up their investment in plans to revitalize their respective economies through green technology. According to forecasts compiled by the International Energy Agency, over the period 2005 – 2050, annual global investment in carbon reduction equipment could average as much as US$1.3 trillion. Business enterprises have become more aware of the importance of environmental protection, and are collaborating more readily with government policy; these trends will contribute to the growth of "green industries."

2. Building "Soft Power" and New Business Opportunities through Effective Development of the Cultural and Creative Industries

The futurologist Alvin Toffler once forecast that the cultural and creative industries would be amongst the "star" industries of the future. UNESCO defines the "creative industries" as industries that integrate creative, production and business content, and where the content embodies cultural capital or cultural concepts, benefits from intellectual property rights protection, and takes the form of a product or service. In terms of their content, the cultural industries can be thought of as creative industries; they include book, newspaper and magazine publishing, the music industry, the film industry, multimedia, tourism, and other industries that depend on creative production.

The U.K. was the first country in the world where the government made a proactive effort to promote the development of the cultural and creative industries. This program began in 1997, and by 2005 the U.K. had succeeded in creating cultural and creative industry production value totaling £99 billion. In recent years, London has established itself as a leading global center for fashion and cutting-edge design. Out of London's population of 8 million people, around 500,000 are employed in the cultural and creative industries, and London-based firms in these industries have annual production value of around £2.5 – 2.9 million, significantly more than the financial services sector.

There has thus been a shift in the core source of economic competitiveness away from the "knowledge economy" towards the "creative economy." Experts note that those "smokeless industries" that are best suited to today's emphasis on environmental protection are industries which can create wealth and jobs through creativity and by turning sensory experiences into happy

memories. To maintain its competitiveness over the long term, an industry needs to respect the planet, take creativity as the core element in its activities, focus on human-centered art supported by technology, and be market-oriented, integrating production, marketing and services to build a comprehensive cultural and creative industries value chain.

Efforts to promote the development of the cultural and creative industries in Taiwan began in 2002, focusing on 13 key areas. By 2010, 16 individual items had been incorporated into the Law for the Development of the Cultural and Creative Industries, which was enacted in January 2010; the relevant sub-statutes had come into effect by the end of August 2010, providing a solid legal basis for the various budget appropriations, incentive and subsidy mechanisms, tax breaks, etc. Of course, in promoting the development of the cultural and creative industries, the government is also hoping to enhance the overall cultural level of Taiwan's citizens and promote the growth of culture and the arts, in line with current international trends.

To facilitate the cultivation of talent for the cultural and creative industries, ensure coordinated application of teaching and research resources, and encourage the cultural and creative industries to undertake research projects and manpower cultivation programs that leverage collaboration between industry, government, and the university sector, the Council for Cultural Affairs has established seven cultural and creative industries incubation centers (including centers at National Taiwan Normal University, National Taiwan University of the Arts, Taipei National University of the Arts, Kun Shan University, the Xue Xue Institute, the Taipei Cultural Foundation, and Bamboo Curtain Studio. A total of over 70 cultural and creative enterprises have received guidance from these incubation centers. With this incubation mechanism in place to create a "virtuous circle," Taiwan's cultural and creative industries should be able to exploit the new markets that are opening up to them and demonstrate impressive "soft power."

3. The Growing Trend towards Carbon Footprint Certification

The abnormal weather conditions and frequent natural disasters of recent years have repeatedly shown the power that nature can exert in reaction to mankind's destructive behavior, forcing humanity to think deeply about the issue of carbon reduction. To achieve the goal of mitigating global warming, countries around the world have begun to develop "carbon footprint certification" systems. More and more business enterprises have begun to adopt carbon footprint certification, and to roll out "green" product. This global trend is sure to have a major impact on global trading opportunities.

In 2008, the PAS 2050 standard was launched in the U.K. as a joint initiative by BSI British Standards, the Carbon Trust, and the Department for Environment, Food and Rural Affairs (DEFRA); the aim was to provide business enterprises with a standard that they can use to evaluate the carbon footprint of their products and services. Currently, PAS 2050 is the world's best-known carbon footprint certification standard.

Other countries have also been developing their own carbon footprint certification mechanisms; the European and Union and Japan were close behind the U.K. in this regard. In Taiwan, the Environmental Protection Administration began implementation of the Plan for Provision of Subsidies for Model Carbon Footprint Labeling Projects in 2010, selecting 10 companies and industry

associations to serve as carbon footprint labeling models for others to follow. These model schemes covered 11 product categories: photocopier paper, hand-wipes, magazines, T5 light tubes, LED lamps, butterfly orchids, carbonated beverages, fruit juice, hair-nets, towels and PET needle-punched non-woven fabric.

While carbon footprint inspection may seem like an almost impossible task, one which will pose a major test of industry's ability to respond to changing circumstances, more and more enterprises are already seeking carbon footprint certification as part of their efforts to create a better tomorrow for the planet.

Many companies view carbon reduction initiatives as a threat to their operations. In point of fact, they can be an opportunity. If an enterprise can use new concepts to develop new, energy-saving products, then not only will this help the firm to sell more of its products and develop new business opportunities, but it will also strengthen the firm's brand and enhance its image. With the global trend towards carbon reduction and energy conservation, many large corporations and government agencies have made carbon footprint certification one of the criteria for bidding for tenders. Carbon footprint certification thus constitutes a challenge that can in fact benefit the individual firm, benefit other people, and benefit the environment.

4. A Revolution in Corporate Business Models

The production model used by Taiwan's SMEs has already changed in response to the impact of globalization, with a shift away from an OEM model dependent on trading companies or the "center companies" of center-satellite systems, towards a global logistics model based on international resource integration. With the growth of the Internet and the increased demand for innovation in the knowledge economy (including innovative content, and innovation in terms of speed), there have also been major new trends in R&D innovation models, information models and marketing models that SMEs cannot afford to ignore.

As regards R&D innovation models, given the trend towards shorter product lifecycles, business enterprises can no longer rely solely on internal R&D; they need to integrate their R&D activity with external R&D resources so as to speed up the pace of innovation. Channels through which external R&D resources can be accessed include: utilization and integration of overseas R&D capabilities (e.g., by establishing R&D or design centers overseas, to make use of overseas R&D talent and creativity), leveraging Taiwan's national innovation network (for example, by collaborating with universities or research institutes), commissioning private-sector R&D organizations, other business enterprises or individual experts to undertake R&D and innovation on the firm's behalf, and exploiting creative ideas suggested by consumers, etc.

Besides the trends towards collaborative R&D and demand-led R&D, there has also been a shift towards "destructive innovation." This involves a re-definition of market demand, with the developing of demand-oriented technologies in areas where market demand is not currently being met, and a conscious move away from "over-designing" products.

With regard to information models, thanks to the advances that have been made in information and communications technology (ICT) and the growth of the Internet, the functionality of enterprise networks has already expanded beyond internal management to embrace e-commerce, and from the

uni-directional provision of information via the B2B or C2C model towards “Web 2.0” active user participation and information sharing. For example, blog-based marketing is based around a “community management” model that makes more extensive use of consumer information, helping SMEs to achieve closer interaction with the consumer (which may take the form of securing more information about consumer needs, or building up the firm’s brand image in an online, virtual market).

The Internet has made it easier for new entrants to enter the market, since building economies of scale is no longer as challenging as it once was. From the point of view of SMEs, which are not usually in a position to establish their own physical distribution network, online distribution represents a major opportunity. It is significant that one can find many individual entrepreneurs using enterprise-style operational methods in the C2C online auction market; the C2C model in fact involves more than virtual markets, as specialist C2C transaction platforms are starting to appear in the area of physical distribution.

5. Taking Advantage of New Trends in Product and Service Value

In the aftermath of the global financial crisis, many middle-class households have found themselves in reduced financial circumstances, prompting a new emphasis on frugality, saving, and getting back to essentials. This has led to a quiet revolution in lifestyles, with greater emphasis on non-monetary value (i.e., cultural, moral and ethical value), and to the emergence of simple, practical, high-quality products as the new consumption mainstream.

At the same time, the growth of environmental consciousness among consumers has ensured a growing market for “environmentally-friendly” products and services, with business enterprises seeking to enhance their green credentials by developing products that meet environmental protection and energy saving needs. Businesses are now generally willing to absorb the higher costs associated with recycling and repurposed materials (for example in the use of recycled paper, and the manufacturing of textile products made from recycled plastic bottles), or to create products that reduce the burden on the environment (e.g., by developing energy-saving products, or reducing the amount of packaging material used, or by adopting materials that can be broken down easily), or to leverage rising environmental awareness by developing new lifestyle concepts (one example being the expansion of the bicycle market due to the adoption of new lifestyles). Besides working to develop higher-end products, companies are also developing the business opportunities presented by peripheral services; even car advertisements are being linked to bicycles, to help give the car a “green”, “leisure” image.

The reach and interactivity of the Internet have also affected the way in which product and service value is presented. People generally associate e-commerce with low cost, and the emphasis on interaction between buyer and vendor creates a situation where proactive requests for information and search by the buyer can significantly reduce the intermediary service costs that the vendor would otherwise have had to bear. Given that this trend towards lower cost is unlikely to change, the only way to enhance the value of products or services is through product innovation (including technology innovation and the adoption of cultural and creative elements) or the strengthening of brand image. One point worth noting is that, while the Internet permits rapid transmission of information, it can be difficult to verify the accuracy of the information that one finds online. As a

result, image and word-of-mouth reputation can have a major impact on consumers' willingness to engage in online transactions. In the future, besides working actively to build up their brand image, SMEs will also need to explore ways of securing trusted authentication or certification for their products.

6. Strengthening Brand Image by Emphasizing Corporate Social Responsibility

According to the *Reader's Digest Asia Trusted Brands 2011* survey, within the Asia region, 73% of consumers feel that the corporate social responsibility (CSR) activities of a trusted brand should include environmental protection efforts. The percentage of respondents in Taiwan who felt this way was the second highest in Asia, which gives some idea of just how pervasive environmental consciousness is in Taiwan today.

These survey results show that brand building is about more than just the "packaging" of corporate image; it also involves outreach based on environmental concepts. It is significant that, recently, many major construction and infrastructure projects in Taiwan – such as the Sixth Naphtha Cracker project and the plans for the establishment of a new facility by Kuokuang Petrochemical – have become embroiled in environmental controversy. How environmentally friendly an enterprise is perceived to be can have a major impact on how consumers perceive that company's brand.

What this means in practice is that, besides purely commercial considerations, business enterprises also need to focus on the three key issues of protecting the environment, meeting consumers' needs, and supporting the implementation of government policy; only then can they hope to build a relationship of mutual trust with the general public; this is one of the most important requirements for achieving sustainable brand development.

The essential elements of CSR involve trying not to exert a negative impact on society and on the environment, and also making a positive contribution in these areas, while still seeking to make a profit. Achieving these multiple objectives requires a three-pronged approach: compliance with relevant laws and regulations, taking ethical considerations into account, and participating in charitable and public welfare activities in those areas where government and social welfare organizations require assistance.

7. Strengthening Innovation in Local Industry Clusters

Industry clusters have for many years been a key aspect of Taiwan's industrial competitiveness; they are also one of the main sources of innovation and productivity. In the *Global Competitiveness Report 2010 – 2011*, compiled by the World Economic Forum (WEF), Taiwan's ranking in terms of the "state of cluster development" rose steadily for three years in a row from 2006 to 2008 to reach number one; although Taiwan fell back into sixth place in 2009, it moved back up to third place in 2010, making this one of Taiwan's most impressive performances in terms of an individual competitiveness indicator. Taiwan's industry clusters have been hailed as a model for other countries to follow.

Taiwan has developed a wide range of different industry clusters in response to the impact of globalized competition and the new industrial division of labor within the Asia region. In terms of

the spatial distribution of industry clusters, Northern Taiwan is mainly home to electronics and hi-tech manufacturing industry clusters, Central Taiwan has precision machinery manufacturing clusters, and Southern Taiwan has iron and steel and electromechanical equipment clusters. Some of the best-known individual clusters include the Kangshan screw and nut cluster (a "compound" cluster), the Yingko ceramics cluster (a "service innovation" cluster), the Nankang Software Park cluster (a hi-tech, niche cluster), and the Huashan Creative Park in Taipei (a local creative cluster).

In addition to Taiwan's strong hi-tech industry clusters, local clusters in "traditional" industries have also been developing rapidly. They include integrated handicrafts clusters, local cultural industry clusters, and clusters engaged in business areas with a strong aesthetic element. Local clusters of this type can make an important contribution to the economic growth of a particular locality, and to job creation. Examples of these local clusters include the digital content and ceramics industry clusters in the Taipei area, Hsinchu's optical disk, automotive and glass manufacturing clusters, Taichung's bicycle, precision machinery and musical instrument manufacturing clusters, and Tainan's TFT-LCD panel, IC and textile clusters, all of which have proved themselves to be highly competitive in recent years.

For SMEs, "cluster economics" is unquestionably conducive to innovation. Within a cluster, a firm is engaged in a team effort; the decision-making process is the result of organizational activity (whether formal or informal) in which a group a enterprises make decisions together.

Furthermore, operating as part of a cluster with other enterprises in a heterogeneous or homogeneous grouping can help to strengthen the collaborative relationships between enterprises; individual firms no longer need to struggle along on their own. The cluster model can also lead to greater enthusiasm and ambition, helping industry supply chains to expand while benefiting the individual firms in the upstream, midstream and downstream segments that make up those supply chains.

In the future, SMEs will need to focus on upgrading at the two "ends" of the value chain, either undertaking innovative R&D, or carrying out advanced, high-precision marketing and distribution. At the same time, they can make effective use of R&D alliances and marketing alliances (which may be single-industry or cross-industry alliances) and adjust their business models to achieve maximum synergy, working together to enhance the competitiveness of the cluster as a whole.

8. The Business Opportunities that China's Tenth Five-year Plan Offers for Taiwanese Firms

In early 2011, China began implementation of its Tenth Five-year Plan, which it was announced would involve an extensive program of industrial upgrading and transformation. Given the recent signing of the ECFA agreement with China, what opportunities will the Tenth Five-year Plan bring for Taiwan?

There are still significant disparities between the different economic zones within China, creating significant potential for the development of complementary relationships in those industry sectors in which Taiwanese firms excel. At the same time, the form taken by any individual industry may be significantly different in China from in Taiwan, and so the opportunities for each industry and enterprise need to be evaluated separately.

The key factors that will determine how successful Taiwanese enterprises are in securing business opportunities created by China's Tenth Five-year Plan will be the extent to which the core competencies and price positioning of the individual industry or firm meet China's development needs. Maintaining one's own competitiveness will be the key to long-term, continued success in the China market.

There is already widespread awareness of the fact that Chinese industry is gradually losing its cost advantage. Faced with demands to save energy and cut carbon emissions, Taiwanese-owned businesses operating in China (which have in the past been oriented mainly towards processing for export) are coming under pressure to transform themselves. To help meet China's development needs, Taiwanese-owned enterprises in China will need to do more than just invest in their production lines; they will also need to speed up the localization of their supply chains, talent recruitment, marketing and R&D, all of which could lead to a weakening of cross-strait industrial linkages.

China continues to maintain that its policy towards Taiwan is based on building a framework for peaceful cross-strait development; viewed in these terms, strengthening emerging industries and modern service industries could become the main focus of cross-strait economic collaboration. Emerging industries such as those relating to energy conservation, environmental protection and bio-fuels may offer significant investment opportunities for Taiwanese-owned businesses.

China's efforts to boost domestic demand and develop the service sector could provide Taiwanese industry with a golden opportunity to move beyond contract manufacturing and build international brands. If Taiwanese-owned businesses can leverage the advantage of a common language to secure first-mover advantage in the China market, this should help Taiwan's service industries to internationalize themselves and build economies of scale. On the other hand, businesses operating in China need to cope with a low level of transparency and large numbers of "unwritten rules." A key issue here is the extent to which future negotiations within the ECFA framework help Taiwanese-owned businesses to overcome these "unofficial" obstacles.

The Chinese government makes extensive use of pilot projects to explore development models for emerging industries, and to stimulate the growth of market demand. In their promotion of economic and industrial collaboration within the ECFA framework, the Taiwanese and Chinese governments should consider incorporating model programs and pilot projects into this collaboration, to help Taiwanese firms gain a foothold in emerging industry markets at an early stage in their development. In more concrete terms, Taiwan should leverage the strengths provided by its local industry clusters and model projects to monitor the development of emerging industries in China and the policies adopted by the Chinese government with regard to emerging industries. At the same time, Taiwan should be working to leverage the capabilities of individual regions within China to develop more diversified cross-strait collaboration, thereby helping Taiwanese enterprises – and particularly SMEs – to develop products and service models suited to the Chinese market, and building new opportunities for wide-ranging cross-strait industrial collaboration.

9. Responding to the Changing Business Environment – Remaining Optimistic and Looking for Solutions

To summarize the analysis presented above, it is clear that the global financial crisis has had little effect on long-term economic and social trends. SMEs will need to continue monitoring and adjusting their operations in response to the impact of smaller family size on industry, the new business opportunities being created by the aging of the population, the increased emphasis on energy saving and environmental protection, and the adoption of green lifestyles by consumers. However, the financial crisis has sparked a number of new trends, including a shift towards frugal, simpler lifestyles with increased saving; greater emphasis on cultural and spiritual matters; a new focus on streamlined, practical, high-quality products, and the development of more products that embody cultural and creative elements. There is also a new trend towards "destructive innovation" which seeks to meet consumers' needs at low cost without using unnecessarily complex or advanced technology and services. It is worth noting that these changes brought by the global financial crisis are unlikely to prove a short-term phenomenon; they are likely to be with us for some time to come, and SMEs need to take them into account when developing new products and services. SMEs should also try to make effective use of the guidance resources being made available by the government in response to the changing business environment (these resources are discussed and analyzed in more detail in Part Three of this book).

It is worth emphasizing that the shakeout caused in industry by the global financial crisis, and the adoption of new industrial development targets by individual national governments, offer significant opportunities to business enterprises. As noted above, in the aftermath of the financial crisis, the countries of Europe and North America have taken the opportunity to embark on an overhaul of their industrial development planning, for example by seeking to boost investment in "green" industries. According to data released by the United Nations in January 2010, as of June 2009, the green industries' share of GDP in individual countries was as follows: 0.7% in the U.S.; 0.2% in the European Union; 0.8% in Japan; and 3% in both China and South Korea (influenced by these countries' desire to reduce their dependence on hydrocarbons). On February 21, 2011, the United Nations Environment Programme announced the release of a new report – *Towards a Green Economy: Pathways to Sustainable Development and Poverty Eradication* – which noted that investing a sum equivalent to 2% of global GDP in ten key sectors of the economy would make a significant contribution towards creating a new, low-carbon, "green" global economy in which resources are used efficiently.

Looking ahead to the future, it can be anticipated that the applications and functionality of the Internet will continue to grow and expand, helping to link SMEs more closely to consumers. The growing cohesion and importance of online communities suggests that SMEs will need to begin attaching more importance to consumer-related information, and to the use of online platforms for interaction (and sharing) with consumers. This applies not only to the sales aspect of business operations; enterprises should also be taking consumers' views into account at the innovation stage. To speed up the process of innovation, identifying external sources of innovation outside the organization will become increasingly important; SMEs should try to make effective use of opportunities for collaboration with universities and research institutes, and with specialist R&D and

design firms, in order to speed up innovation and secure business opportunities in a rapidly changing marketplace.

The chapters in the next part of this *White Paper* will examine the key issues of manufacturing servitization, building brand value, and service industry and branding innovation, which are of great importance with respect to SME development and the creation of the "innovation economy" and "LOHAS Taiwan." The policy measures being adopted by the government to provide support for SMEs in these areas are discussed in Part Three.

CHAPTER 2

Major Trends in the Development of SMEs

Due to the improvement in the economic environment, the overall performance of the Taiwanese economy in 2010 was better than in previous years. The data showed an increase in the number of business enterprises in Taiwan and in business enterprises' total sales (including domestic sales and export sales) compared to 2009; the total number of employed persons and the number of paid employees also rose. In the SME sector, the numbers of enterprises, total sales, export sales and domestic sales all rose in 2010 by the largest amount; exports increased most dramatically, by 23.07%. The large enterprise sector also saw an increase in the number of enterprises and in total sales that was even more pronounced than in the SME sector. In terms of the number of employed persons and the number of paid employees, both SMEs and large enterprises experienced an increase in 2010 compared to 2009; here again, the increase was greater among large enterprises. (Table 2-0-1).

Table 2-0-1 The Number of Enterprises in Taiwan, Their Annual Sales, the Number of Employed Persons and the Number of Paid Employees in 2010

Units: enterprises; NT$ millions; thousand persons; %

Indicator \ Enterprise Size	All Enterprises	SMEs	Large Enterprises
No. of enterprises	**1,277,585**	**1,247,998**	**29,587**
Share of total	100.00	97.68	2.32
Annual growth rate	1.54	1.30	12.78
Total annual sales	**36,239,637**	**10,709,005**	**25,530,632**
Share of total	100.00	29.55	70.45
Annual growth rate	20.87	16.54	22.79
Domestic sales	**26,216,138**	**9,088,972**	**17,127,166**
Share of total	100.00	34.67	65.33
Annual growth rate	18.20	15.44	19.71
Export sales	**10,023,499**	**1,620,033**	**8,403,466**
Share of total	100.00	16.16	83.84
Annual growth rate	28.46	23.07	29.57
No. of employed persons	**10,493**	**8,191**	**1,253**
Share of total	100.00	78.06	11.94
No. of paid employees	**8,104**	**5,805**	**1,250**
Share of total	100.00	71.63	15.42

Note: The figures (and percentages) given in the table for the number of employed persons and number of paid employees working in all enterprises include 1,050,000 government employees, accounting for 10.00% of all employed persons and 12.95% of all paid employees.
Sources: 1. Ministry of Finance Tax Data Center, VAT data for 2010.
2. DGBAS, *Monthly Bulletin of Manpower Statistics*, 2010.

The data presented in this chapter for the number of SMEs in Taiwan and total SME sales are based on value added sales tax data compiled by the Tax Data Center, Ministry of Finance. As these data do not include the number of employees working in each enterprise, for the purposes of determining the number of enterprises and total sales the definition of SMEs is based on capitalization and annual sales.

When using capitalization and sales as the benchmark for determining SME status, there is a possibility that an enterprise that would still be classed as a SME in terms of the number of

employees may post annual sales in excess of NT$100 million when the economy is booming, and as a result that enterprise is classed as a large enterprise. When the economy is in a less healthy state or the enterprise is not performing as well, its annual sales may fall under the NT$100 million mark, causing it to be classed as a SME again. This point should be borne in mind when using the statistical data presented in this chapter.

In the following sections we examine the scale (in terms of the number of enterprises, total annual sales, domestic sales, export sales, etc.) and industry structure of Taiwan's SME sector, as well as undertaking comparisons based on the changes seen from year to year. For details of the sources used to determine the number of employed persons and number of paid employees, see Part 1, Chapter Four of this White Paper. For more detailed statistical data, broken down by industry, scale of operations and geographical location (county and city), and for more detailed information relating to the manufacturing sector and female-owned enterprises, see the SME statistical data tables for 2010 presented in Appendix C.

I The Number of SMEs in Taiwan

According to the analysis of Ministry of Finance VAT data, there were 1,248,000 SMEs in Taiwan in 2010, representing 97.68% of all business enterprises. 80.42% of these SMEs were in the service sector, while 51.77% were in the wholesaling and retailing industry. 56.96% of SMEs were organized as sole proprietorships, and 46.73% were located in Northern Taiwan.

1. The Number of SMEs Broke Previous Records in 2010

As of 2010, there were a total of 1,277,585 business enterprises in Taiwan, of which 1,247,998 were SMEs, accounting for 97.68% of the total number of business enterprises in Taiwan. This figure represented an increase of 15,973 enterprises (1.30%) compared to 2009. The number of large enterprise was 29,587 enterprises, accounting for 2.32% of the total number of business enterprises, which rose by 12.78% and increased by 3,352 enterprises. (Table 2-0-1). After decreasing over the past three years, the number of SMEs has been recovering, and has broken the record for the new definition of SMEs as from 2000 (see Appendix 1) (Table 2-1-1).

2. The Service Sector Accounted for the Largest Share of SMEs by More Than 80%

As regards the breakdown of the SME sector by industry, in 2010 there were 1,003,699 SMEs in the service sector, accounting for 80.42% of all SMEs; this figure represented an increase of 13,793 enterprises (1.39%) compared to 2009. Over the past six years, the service sector has consistently accounted for more than 80% of all SMEs in Taiwan. The number of SMEs in the manufacturing and construction sector stood at 232,955 in 2010, accounting for 18.67% of all SMEs in Taiwan, and representing a 0.85% increase compared to 2009. There were 11,344 SMEs in the agricultural sector in 2010 (0.91% of all SMEs), 1.93% up on 2009 (Table 2-1-1).

Table 2-1-1 The Shares of All SMEs in Taiwan Held by Individual Sectors and Key Industries, 2005–2010

Units: enterprises; %

Year / Sector/Industry	2005	2006	2007	2008	2009	2010
All Enterprises	**1,253,694**	**1,272,508**	**1,266,664**	**1,263,846**	**1,258,260**	**1,277,585**
All SMEs	**1,226,095**	**1,244,099**	**1,237,270**	**1,234,749**	**1,232,025**	**1,247,998**
Ratio	**97.80**	**97.77**	**97.68**	**97.70**	**97.91**	**97.68**
Annual growth rate	**4.17**	**1.47**	**-0.55**	**-0.20**	**-0.22**	**1.30**
Total (all sectors)	100.00	100.00	100.00	100.00	100.00	100.00
Agricultural sector	0.91	0.88	0.87	0.89	0.90	0.91
Industrial sector	18.11	18.13	18.79	18.83	18.75	18.67
Manufacturing	10.94	11.64	10.77	10.68	10.55	10.42
Construction	7.01	7.34	7.37	7.47	7.51	7.57
Service sector	80.98	80.99	80.33	80.28	80.24	80.42
Wholesaling and retailing	53.14	52.86	52.87	52.51	52.13	51.77
Hotel and restaurant	8.33	8.62	8.79	8.92	9.21	9.39

Source: Ministry of Finance Tax Data Center, VAT data for 2005–2010.

3. The Wholesaling and Retailing Industry Accounted for a Highest Share of the Number of SME Enterprises

The SMEs' share of the total number of business enterprises in Taiwan was highest in the wholesaling and retailing industry. In 2010 there were 646,101 such enterprises, accounting for 57.46% of all SMEs, followed by the manufacturing sector with 129,983 SMEs (10.42% of the total), and the hotel and restaurant industry with 117,207 SMEs (9.39%). Over the past six years, the shares of the wholesaling and retailing industry and manufacturing industry accounted for by SMEs have declined continuously, while the ratio of the number of small and medium family enterprises has been declining. By contrast, the shares of the hotel and restaurant industry and the construction industry have been increasing year by year (Table 2-1-1).

4. 40.70% of SMEs are Concentrated in Northern Taiwan

(1) Enterprises Number by County and City

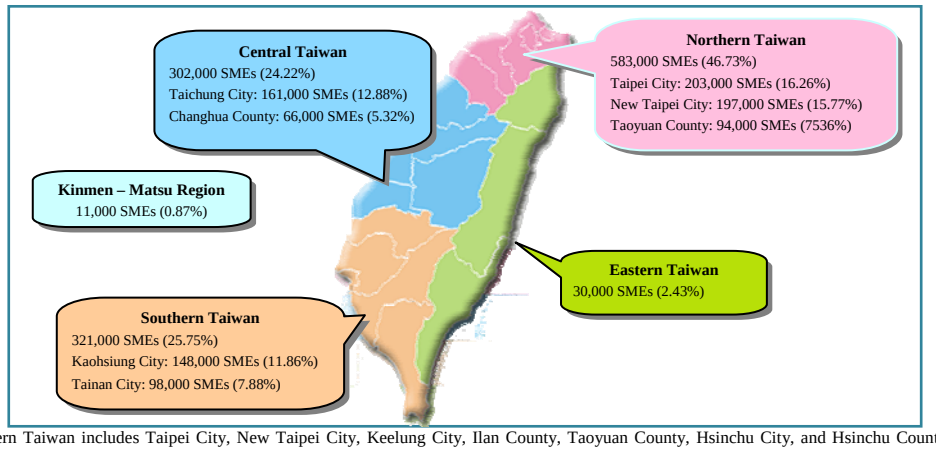
In 2010, the 10 counties and cities that had the largest number of SMEs comprised mainly the major metropolitan areas on Taiwan's west coast and their satellite cities and counties. Taipei City had the largest number of SMEs, at 202,962, representing 16.26% of all SMEs in Taiwan. New Taipei City was in second place with 196,863 SMEs (15.77% of the total), followed by Taichung City with 160,713 SMEs (12.88% of the total) (Figure 2-1-1).

Taipei City has the most of Taiwan's large enterprises the most (with 9,992), followed by New Taipei City with 4,577, and Taichung City with 3,169.

(2) Number of Enterprises by Region

In regional terms, in 2010 46.73% of Taiwan's SMEs were concentrated in Northern Taiwan; 24.22% were located in Central Taiwan and 25.75% in Southern Taiwan (Figure 2-1-2). The concentration in Northern Taiwan was even more marked in the case of large enterprises; 64.19% of Taiwan's large enterprises were based in Northern Taiwan in 2010.

Figure 2-1-1 The Distribution of SMEs by Region, and the Counties/Cities with the Largest Shares of SMEs, in 2010



Note: Northern Taiwan includes Taipei City, New Taipei City, Keelung City, Ilan County, Taoyuan County, Hsinchu City, and Hsinchu County. Central Taiwan includes Miaoli County, Taichung City, Changhua County, Nantou County and Yunlin County. Southern Taiwan includes Chiayi City, Chiayi County, Tainan City, Kaohsiung City, Pingtung County and Penghu County. Eastern Taiwan includes Hualien County and Taitung County. The Kinmen-Matsu Region includes Kinmen County and Lienchiang County.
Source: Ministry of Finance Tax Data Center, VAT data for 2011.

5. 56.96% of Taiwan's SMEs are Sole Proprietorships

Sole proprietorships constituted the largest group of SMEs, with 710,894 firms or 56.96% of the total, followed by limited corporations, with 351,979 firms (28.20% of the total), and corporations limited by shares, with 112,220 firms (8.99%). These three types accounted for a combined total of 94.15% of all SMEs in Taiwan; none of the other forms of enterprise organization accounted for more than a very small share of the total (Table 2-1-2).

Table 2-1-2 Business Enterprises in Taiwan by Form of Organization, 2009–2010

Units: enterprises; %

Year / Form of Organization	2009				2010			
	SMEs	Share of Total	Large Enterprises	Share of Total	SMEs	Share of Total	Large Enterprises	Share of Total
Total	**1,232,025**	**100.00**	**26,235**	**100.00**	**1,247,998**	**100.00**	**29,587**	**100.00**
Corporation limited by shares	113,217	9.19	16 ,121	61.45	112,220	8.99	17,635	59.60
Limited corporation	344,688	27.98	5,346	20.38	351,979	28.20	6,683	22.59
Unlimited corporation	46	0.00	3	0.01	43	0.00	2	0.01
Unlimited corporation with limited liability shareholders	13	0.00	0	0.00	11	0.00	1	0.00
Partnership	19,786	1.61	62	0.24	20,714	1.66	72	0.24
Sole proprietorship	704,885	57.21	119	0.45	710,894	56.96	164	0.55
Foreign company	3,038	0.25	622	2.37	3,039	0.24	694	2.35
Representative office of foreign company	118	0.01	22	0.08	101	0.01	19	0.06
Branch office	27,818	2.26	2,341	8.92	28,157	2.26	2,517	8.51
Other	18,416	1.49	1,599	6.09	20,840	1.67	1,800	6.08

Source: Ministry of Finance Tax Data Center, VAT data for 2010.

The situation with regard to the organizational structure of large enterprises in Taiwan is significantly different. Corporations limited by shares represent the biggest group of large enterprises, with 59.60% of the total, followed by limited corporations, with 22.59%, and branch offices, with 8.51%. Between them, these three categories account for 90.70% of all large enterprises in Taiwan (Table 2-1-2).

6. 46.72% of Taiwan's SMEs Have Been in Existence for Over 10 Years

As of 2010, 7.50% of start-ups in Taiwan had been in existence for less than one year. 31.33% of SMEs had been operating for less than 5 years, and 46.72% for over 10 years (Table 2-1-3). The corresponding percentages for large enterprises were 0.88%, 11.94% and 67.61%, respectively. These figures show that, in terms of market entry and exit, SMEs display more flexibility than large enterprises.

An examination of the changes in the percentage of SMEs that have been in business for a particular length of time shows that, from 1996 to 2010, the percentage of newly-established SME start-ups (as a share of all SMEs) peaked in 2007 at 10.19%, and was at its lowest in 2008, at 6.99%. The percentage of SMEs that had been in existence for over 20 years was only 9.63% in 1996. Since then it has risen gradually, climbing to 21.39% by 2010 (Table 2-1-3).

Table 2-1-3 The Share of All SMEs Held by SMEs of Particular Ages over the Period 1996–2010

Year \ Age	Total number of SMEs	Less than 1 Year	1 – 2 Years	2 – 3 Years	3 – 4 Years	4 – 5 Years	5 – 10 Years	10 – 20 Years	Over 20 Years
1996	1,003,325	9.30	10.02	8.47	7.36	7.24	20.72	27.26	9.63
1997	1,020,435	10.19	8.91	8.09	7.02	6.25	21.62	24.80	13.11
1998	1,045,117	9.94	9.77	7.23	6.83	6.03	21.68	24.31	14.22
1999	1,060,738	9.50	9.61	7.93	6.09	5.92	22.06	23.91	15.00
2000	1,070,310	9.04	9.27	7.86	6.72	5.30	22.57	23.58	15.66
2001	1,078,162	8.79	8.68	7.60	6.69	5.85	21.89	24.17	16.33
2002	1,104,706	8.28	8.51	7.01	6.39	5.78	21.16	25.26	17.61
2003	1,171,780	9.30	9.40	7.41	5.97	5.15	20.57	23.97	18.23
2004	1,190,176	10.17	8.79	7.73	6.32	5.18	19.83	23.71	18.28
2005	1,226,095	10.22	8.81	7.75	6.37	5.19	19.83	23.63	18.20
2006	1,244,099	8.71	9.69	7.35	6.69	5.64	19.87	23.32	18.73
2007	1,237,270	7.51	8.57	8.09	6.31	5.86	20.11	23.97	19.58
2008	1,234,749	6.99	7.25	7.34	7.08	5.61	20.64	24.63	20.47
2009	1,232,025	7.19	6.76	6.16	6.45	6.33	21.01	25.10	21.02
2010	1,247,998	7.50	6.95	5.75	5.38	5.75	21.95	25.33	21.39

Note: From 2005 onwards, the data includes SMEs located in Lienchiang County.
Source: Ministry of Finance Tax Data Center, VAT data.

II SMEs' Sales Performance

According to VAT data, in 2010 the total sales, domestic sales and export sales of all SMEs in Taiwan increased by 16.54%, 15.44%, 23.07% compared to 2009, respectively. The changes in the sales structure of Taiwan's SME sector are outlined below:

1. SMEs Account for Around 30% of the Total Sales of All Business Enterprises in Taiwan.

(1) Total Sales by Scale

In 2010, the total sales of all business enterprises in Taiwan came to NT$36,239.6 billion, representing a 20.87% increase compared to 2009. SMEs' sales totaled NT$10,709 billion, 16.54% up on 2009, while large enterprises posted total sales of NT$25,530.6 billion; 22.79% up on 2009. As a result, SMEs' share of the total sales of all business enterprises fell from 30.65% in 2009 to 29.55% in 2010 (Table 2-2-1 and Table 2, Appendix C).

Table 2-2-1 The Shares of Total Sales Held by SMEs in Individual Sectors and Key Industries, 2005–2010

Units: NT$ millions; %

Year / Sector/Industry	2005	2006	2007	2008	2009	2010
Total sales (all industries)	**33,941,857**	**34,326,070**	**35,886,186**	**35,239,137**	**29,981,803**	**36,239,637**
Total sales (all SMEs)	**10,000,220**	**10,241,215**	**10,481,910**	**10,462,696**	**9,189,463**	**10,709,005**
Ratio	**29.46**	**29.84**	**29.21**	**29.69**	**30.65**	**29.55**
Annual growth rate	**2.81**	**2.41**	**2.35**	**-0.18**	**-12.17**	**16.54**
Total (all sectors)	100.00	100.00	100.00	100.00	100.00	100.00
Agricultural sector	0.14	0.14	0.15	0.16	0.18	0.17
Industrial sector	48.20	48.85	50.04	50.09	45.85	49.41
Manufacturing	36.75	37.11	38.39	38.24	34.07	38.03
Construction	10.94	11.22	10.69	10.89	10.82	10.47
Service sector	51.65	51.01	49.81	49.75	53.96	50.42
Wholesaling and retailing	37.95	37.41	37.27	37.14	39.77	37.33
Hotel and restaurant	2.07	2.12	2.16	2.25	2.65	2.52

Source: Ministry of Finance Tax Data Center, VAT data for 2005–2010.

(2) Total Scales by Sector

Viewed in terms of individual sectors, the highest total sales of SMEs derived from the service sector, with posted total sales of NT$5,399.7 billion, accounted for 50.42% of SMEs' total sales in 2010, with the manufacturing and construction sector amounting to NT$5,290.9 billion and accounting for 49.41%; the agricultural sector amounted to NT$18.3 billion and accounted for just 0.17%. All these three sectors saw an increase in sales in 2010 compared to the previous year (Table 2-2-1).

Examination of the changes in SME sales by sector over the past six years shows that, in 2007 and 2008, the service sector's share of SME total sales fell below 50%, but in 2009 the service sector's share of SMEs' total sales climbed back to 53.96%, and dropped to 50.42% in 2010, while the share held by the manufacturing and construction sector climbed to 49.41%.

(3) Total Sales by Industry

In industry terms, the SMEs' share of total sales was the highest in the manufacturing industry with NT$4,072.6 billion, accounting for 38.03%, followed by the wholesaling and retailing industry with NT$3,986.6 billion (37.23% of total), and the construction industry with NT$1,120.7 billion (10.47% of the total).

Within the service sector, the wholesaling and retailing industry has always accounted for the largest share of total sales. In 2007 and 2008, a combination of rising oil prices, the impact of the global economic downturn, and a contraction in consumer spending within Taiwan led to a pronounced fall in both the number of enterprises in the wholesaling and retailing industry and the industry's total sales; this was the main factor that caused the service sector's share of total SME sales to fall for two years in a row.

The data presented in Table 2-2-1 show that, in 2009 and 2008, the impact of the global financial crisis and a contraction in Taiwan's exports led to a pronounced fall in the share of total sales in manufacturing to 34.07%, lower than that figure for the wholesaling and retailing industry (39.77%). In 2010, Taiwan saw a pronounced increase in exports and experienced an

increase in the sales of the manufacturing industry compared with the wholesaling and retailing industry.

2. The Wholesaling and Retailing Industry Accounted for a Higher Share of Total Domestic Sales Than Any Other Individual Industry

In 2010, the total domestic sales of SMEs in Taiwan amounted to NT$9,089.0 billion, increasing by 1,215.9 billion, representing a 15.44% increase compared to 2009, and accounting for 34.67% of total domestic sales of NT$26,216.1 billion. By contrast, large enterprises accounted for 65.33% of total domestic sales, increasing by 19.71%. The figure was higher than that of SMEs (Table 2-0-1 and Table 2, Appendix C).

The total domestic sales of the SMEs' service sector came to NT$4,940.6 billion and accounted for the largest share of 54.36%, followed by the manufacturing and construction sector with 45.47% (NT$4.132.3 billion). Total SME domestic sales in the service sector, the manufacturing and construction sector and the agricultural sector all rose in 2010 compared to 2009. The service sector's share of total SME domestic sales has exceeded 50% for six consecutive years with the manufacturing and construction sector increasing the most, by 23.95% (Table 2-2-2).

Table 2-2-2 The Shares of Total Domestic Sales Held by SMEs in Individual Sectors and Key Industries, 2005–2010

Units: NT$ millions; %

Year / Sector/Industry	2005	2006	2007	2008	2009	2010
Total domestic sales (all industries)	**25,310,936**	**25,594,318**	**26,277,862**	**25,762,915**	**22,179,910**	**26,216,138**
Total domestic sales (all SMEs)	**8,481,397**	**8,678,992**	**8,842,983**	**8, 817,989**	**7,873,111**	**9,088,972**
Ratio	**33.51**	**33.91**	**33.65**	**34.23**	**35.50**	**34.67**
Annual growth rate	**2.45**	**2.33**	**1.89**	**-0.28**	**-10.72**	**15.44**
Total (all sectors)	100.00	100.00	100.00	100.00	100.00	100.00
Agricultural sector	0.14	0.15	0.16	0.16	0.19	0.18
Industrial sector	44.37	45.00	46.14	46.05	42.35	45.47
Manufacturing	31.04	31.30	32.50	32.15	28.74	32.22
Construction	12.73	13.09	12.53	12.77	13.00	12.20
Service sector	55.49	54.85	53.71	53.79	57.46	54.36
Wholesaling and retailing	39.83	39.23	39.09	39.09	41.20	39.09
Hotel and restaurant	2.43	2.49	2.56	2.67	3.09	2.96

Source: Ministry of Finance Tax Data Center, VAT data for 2005–2010.

In 2010, the SMEs' domestic sales in the wholesaling and retailing industry came to NT$3,552.5 billion, accounting for the largest share of 39.09%; followed by the manufacturing and construction sector with NT$2,928.3 billion, which accounted for 32.22% and increased the most, by 29.40% (Table 2-2-2, Appendix C).

3. The Manufacturing and Construction Sector Accounted for 71% of SMEs' Export Sales

Taiwan's SMEs posted total export sales of NT$1,620.0 billion in 2010, 23.07% up on 2009, and represented 16.16% of the total export sales of all business enterprises in Taiwan (NT$10,023.5 billion). Large enterprises' share of total export sales grew by 29.57 percentage points compared

to 2009, to 83.84%. It can thus be seen that the economy has recovered from the global financial crisis, which led to a major expansion in the export sales of Taiwanese business enterprises in 2010, that was more pronounced among large enterprises than among SMEs (Table 2-0-1).

The manufacturing and construction sector accounted for the largest share of SME export sales in 2010, at 71.52%, of which the manufacturing industry's share of total SME export sales was 70.64%. The service sector represented 28.34% of the total export sales of SMEs, which was 5.61% higher compared to 2009 (Table 2-2-3).

Table 2-2-3 The Shares of Total Export Sales Held by SMEs in Individual Sectors and Key Industries, 2005–2010

Units: NT$ millions; %

Year / Sector/Industry	2005	2006	2007	2008	2009	2010
Total export sales (all enterprises)	**8,630,921**	**8,731,753**	**9,608,324**	**9,476,222**	**7,801,893**	**10,023,499**
Total export sales (all SMEs)	**1,518,823**	**1,562,224**	**1,638,927**	**1,644,707**	**1,316,352**	**1,620,033**
Ratio	**17.60**	**17.89**	**17.06**	**17.36**	**16.87**	**16.16**
Annual growth rate	**4.86**	**2.86**	**4.91**	**0.35**	**-19.96**	**23.07**
Total (all sectors)	100.00	100.00	100.00	100.00	100.00	100.00
Agricultural sector	0.14	0.10	0.11	0.11	0.15	0.14
Industrial sector	69.61	70.25	71.09	71.77	66.82	71.52
Manufacturing	68.65	69.35	70.19	70.85	65.94	70.64
Service sector	30.25	29.64	28.79	28.12	33.03	28.34
Wholesaling and retailing	27.47	27.27	27.43	26.67	31.24	26.80

Source: Ministry of Finance Tax Data Center, VAT data for 2005–2010.

4. A Steady Decline in SMEs' Share of Exports, but a Slight Increase in SMEs' Export-orientedness

Using Ministry of Finance Tax Data Center data, total SME exports in 1997 amounted to NT$1,250.0 billion, representing an SME export contribution rate of 26.42%. Since then, SME export sales have risen steadily in absolute terms, climbing to NT$1,645.0 billion by 2008, but the SME export contribution rate has fallen, declining to 1,316.0 billion, and then increasing to 1,620.0 billion in 2010 (Table 2-2-4).

If we calculate the SMEs' export-orientedness as the SME export sales' share of the SMEs' total sales, we can see that this indicator has never exceeded 20% in any year since 1997. The highest level that it ever reached was 19.01%, in 2001; the lowest was in 2009, when SME export-orientedness was just 14.32%. More recently, this indicator rose to 15.13% in 2010 (Table 2-2-4).

The changes in the export contribution rate and export-orientedness of Taiwan's SMEs are generally attributed to the transformation in the structure of Taiwanese industry and in the form taken by exportation, the raising of the technology level of Taiwanese industry, a reorientation towards high-value-added and low-energy-consuming industries (such as the electronics and IT industry, precision machinery manufacturing, and metallurgy), and the emergence of new hi-tech industries (including the information industry, consumer electronics, the semiconductor industry, aerospace, advanced materials, biotech and pharmaceuticals), which have shifted the focus of Taiwan's export trade towards large enterprises. Rather than exporting products themselves, SMEs have become satellite firms of large enterprises, undertaking specialized production of particular types of industrial Chapter 2 SME Sales Performance 29 materials and components.

SMEs have thus continued to make a major contribution to Taiwan's export performance; it is simply that there has been a shift away from direct exportation by SMEs themselves towards indirect exports via large enterprises, with SMEs playing a supporting or ancillary role. SMEs are still contributing to Taiwan's export performance; it is just that their contribution has become less visible.

Table 2-2-4 The Export Contribution Rate and Export-orientedness of Taiwan's SMEs, 1997–2010

Units: NT$ billions; %

Year	All Enterprises	SMEs			
	Export Sales（A）	Total Sales（B）	Export Sales（C）	Export Contribution Rate (C/A)	Export-orientedness (C/B)
1997	473.5	686.4	125.1	26.42	18.22
1998	518.4	690.8	123.3	23.79	17.85
1999	567.5	690.5	119.8	21.11	17.35
2000	684.1	756.7	137.0	20.03	18.11
2001	629.7	684.2	130.0	20.65	19.01
2002	700.8	749.5	135.1	19.28	18.02
2003	733.3	870.9	132.8	18.11	15.25
2004	849.3	972.7	144.8	17.05	14.89
2005	863.1	1,000.0	151.9	17.60	15.19
2006	873.2	1,024.1	156.2	17.89	15.25
2007	960.8	1,048.2	163.9	17.06	15.64
2008	947.6	1,046.3	164.5	17.36	15.72
2009	780.2	918.9	131.6	16.87	14.32
2010	1,002.3	1,070.9	162.0	16.16	15.13

Note: SME export contribution rate = (SME export sales / Total export sales) × 100%.
SME export-orientedness = (SME export sales / SME total sales) × 100%.
Source: Ministry of Finance Tax Data Center, VAT data, consecutive years.

5. The Number of SMEs Enterprises Accounted for 99.72% of New Enterprises and 72.89% of Total Sales

For the purposes of this chapter, newly-established enterprises are defined as those that have been in existence for less than one year. In 2010, there were 93,609 newly-established SMEs in Taiwan, representing 99.72% of the total of 93,868 newly-established enterprises. Newly-established SMEs posted total sales of NT$309.1 billion in 2010, accounting for 72.89% of the total sales of all newly-established enterprises; they posted domestic sales of NT$170.5 billion, representing 72.04% of the total domestic sales of all newly-established enterprises, and export sales of NT$138.6 billion, accounting for 73.97% of the export sales of all newly-established enterprises (Table 2-2-5).

In 2010 the service sector accounted for by far the largest share of the total number of newly-established SMEs in Taiwan (84.86% of the total), as well as the largest share of newly-established SMEs' total sales (56.87%), domestic sales (73.52%) and export sales (94.52%) (Table 2-2-6).

Table 2-2-5 The Number of Newly-established SMEs and Their Sales as a Percentage of the Total for All SMEs, 2005–2010

Units: enterprises; NT$ millions; %

Item	Year	2005	2006	2007	2008	2009	2010
No. of enterprises	All SMEs	1,226,095	1,244,099	1,237,270	1,234,749	1,232,025	1,247,998
	Newly-established SMEs	125,313	108,320	92,956	86,325	88,531	93,609
	Newly-established SMEs as % of total	10.22	8.71	7.51	6.99	7.19	7.50
Total annual sales	All SMEs	10,000,220	10,241,215	10,481,910	10,462,696	9,189,463	10,709,005
	Newly-established SMEs	277,631	236,973	209,849	176,941	157,579	309,088
	Newly-established SMEs as % of total	2.78	2.31	2.00	1.69	1.71	2.90
Domestic sales	All SMEs	8,481,397	8,678,992	8,842,983	8,817,989	7,873,111	9,088,972
	Newly-established SMEs	256,192	221,496	192,999	165,219	147,318	170,476
	Newly-established SMEs as % of total	3.02	2.55	2.18	1.87	1.87	1.88
Export sales	All SMES	1,518,823	1,562,224	1,638,927	1,644,707	1,316,352	1,620,033
	Newly-established SMEs	21,438	15,477	16,851	11,722	10,261	138,612
	Newly-established SMEs as % of total	1.41	0.99	1.03	0.71	0.78	8.56

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

Table 2-2-6 The Number of Newly-established SMEs and Newly-established SME Sales Performance by Sector in 2010

Units: enterprises; NT$ millions; %

Item	No. of Enterprises	Share of Total	Total Sales	Share of Total	Domestic Sales	Share of Total	Export Sales	Share of Total
All sectors	**93,609**	**100.00**	**309,088**	**100.00**	**170,476**	**100.00**	**138,612**	**100.00**
Agricultural sector	460	0.49	388	0.13	375	0.22	13	0.01
Industrial sector	13,715	14.65	175,785	56.87	44,767	26.26	131,018	94.52
Manufacturing sector	5,259	5.62	153,610	49.79	22,968	13.47	130,942	94.47
Service sector	79,434	84.86	132,915	43.00	125,334	73.52	7,581	5.47
Wholesaling and retailing	43,972	46.78	90,559	29.30	83,477	48.97	7,083	5.11

Source: Ministry of Finance Tax Data Center, VAT data for 2010.

III The Number of Female-owned SMEs, and the Sales Performance of Female-owned SMEs

In this section, enterprises where the owner is a juridical person or foreigner have to be excluded from the calculations. In addition, it is not possible to eliminate those enterprises where a woman is the nominal owner but is not actually running the business, or where the female "owner" actually controls only a minority of the firm's shares. The number of female-owned SMEs in 2010, their sales structure, and the significant changes, are outlined below:

1. Female-owned Enterprises Account for Over 30% of All Business Enterprises in Taiwan

In 2010, there were 1,268,421 business enterprises in Taiwan for which the sex of the business owner could be determined. Of these, 454,308 (35.82% of the total) were owned by women.

18.57% of large enterprises were owned by women compared to 36.20% in the case of SMEs. 98.87% (449,156) of female-owned enterprises were SMEs (Table 2-3-1).

Table 2-3-1 Number of Enterprises and Sales Performance in 2010 – by Sex of Business Owner

Units: enterprises; NT$ millions; %

Indicator \ Enterprise Size	All Enterprises	SMEs	Large Enterprises
No. of enterprises	**1,268,421**	**1,240,672**	**27,749**
Female-owned enterprises	454,308	449,156	5,152
Share of total	35.82	36.20	18.57
Male-owned enterprises	814,113	791,516	22,597
Total sales	**32,839,905**	**10,389,145**	**22,450,760**
Female-owned enterprises	4,637,575	2,437,569	2,200,007
Share of total	14.12	23.46	9.80
Male-owned enterprises	28,202,330	7,951,576	20,250,754
Domestic sales	**24,352,113**	**8,902,038**	**15,450,075**
Female-owned enterprises	3,759,808	2,176,952	1,582,856
Share of total	15.44	24.45	10.24
Male-owned enterprises	20,592,305	6,725,086	13,867,219
Export sales	**8,487,792**	**1,487,106**	**7,000,686**
Female-owned enterprises	877,767	260,617	617,151
Share of total	10.34	17.53	8.82
Male-owned enterprises	7,610,025	1,226,490	6,383,535

Notes: 1. Whether an enterprise should be classed as male-owned or female-owned was determined using the registered identity of the business owner.
2. The totals for all enterprises given in this table do not conform to those given in Table 2-1-1 because some enterprises are registered as being owned by other enterprises or by foreigners; these enterprises were excluded from the data used in this table.

Source: Ministry of Finance Tax Data Center, VAT data for 2011.

2. 44% of Female-owned Enterprises Have Been in Existence for Over 10 Years

As of 2010, 7.88% of female-owned enterprises in Taiwan had been in existence for less than one year, compared to a figure of 7.01% for male-owned enterprises. 66.95% of female-owned enterprises had been in existence for over 5 years, and 44.19% for over 10 years; the corresponding percentages for male-owned enterprises were 70.46% and 49.04%, respectively (Table 2-3-2).

3. 63.68% of Taiwan's SMEs are Sole Proprietorships

Sole proprietorships were the most common form of organization for female-owned enterprises, accounting for 63.68% of all female-owned enterprises, followed by limited corporations and corporations limited by shares. The share of sole proprietorships that were female-owned enterprises was relatively higher than that in the case of male-owned enterprises, while the shares held by limited corporations and corporations limited by shares were less than the corresponding shares in male-owned enterprises (Table 2-3-3).

Table 2-3-2 Enterprise Age Structure in 2010 – by Sex of Enterprise Owner

Units: enterprises; %

Sex of Owner / Enterprise Age	All Enterprises		Female-owned Enterprises		Male-owned Enterprises	
	No. of Enterprises	Share of Total	No. of Enterprises	Share of Total	No. of Enterprises	Share of Total
Total	**1,268,421**	**100.00**	**454,308**	**100.00**	**814,113**	**100.00**
Less than 1 year	92,863	7.32	35,822	7.88	57,041	7.01
1 – 2 years	86,451	6.82	34,169	7.52	52,282	6.42
2 – 3 years	71,744	5.66	27,591	6.07	44,153	5.42
3 – 4 years	67,364	5.31	25,612	5.64	41,752	5.13
4 – 5 years	72,239	5.70	26,981	5.94	45,258	5.56
5 – 10 years	277,783	21.90	103,382	22.76	174,401	21.42
10 – 20 years	324,111	25.55	111,654	24.58	212,457	26.10
20 years or more	275,866	21.75	89,097	19.61	186,769	22.94

Notes and Source: See Table 2-3-1 above.

Table 2-3-3 Number of Different Enterprises – by Sex of Business Owner 2010

Units: enterprises; %

Sex of Owner / Indicator	All Enterprises		Female-owned Enterprises		Male-owned Enterprises	
	No. of Enterprises	Share of Total	No. of Enterprises	Share of Total	No. of Enterprises	Share of Total
Total	1,268,421	100.00	454,308	100.00	814,113	100.00
Corporation limited by shares	126,525	9.98	29,895	6.58	96,630	11.87
Limited corporation	356,604	28.11	117,462	25.86	239,142	29.37
Unlimited corporation	45	0.00	11	0.00	34	0.00
Unlimited corporation with limited liability shareholders	12	0.00	2	0.00	10	0.00
Partnership	20,763	1.64	7,027	1.55	13,736	1.69
Sole proprietorship	710,581	56.02	289,310	63.68	421,271	51.75
Foreign company	2,068	0.16	683	0.15	1,385	0.17
Representative office of foreign company	63	0.00	13	0.00	50	0.01
Branch office	29,674	2.34	5,065	1.11	24,609	3.02
Other	22,086	1.74	4,840	1.07	17,246	2.12

Notes and Source: See Table 2-3-1 above.

4. The Sales of Female-owned Enterprises Account for Less Than 20% of the Total Sales of All Business Enterprises

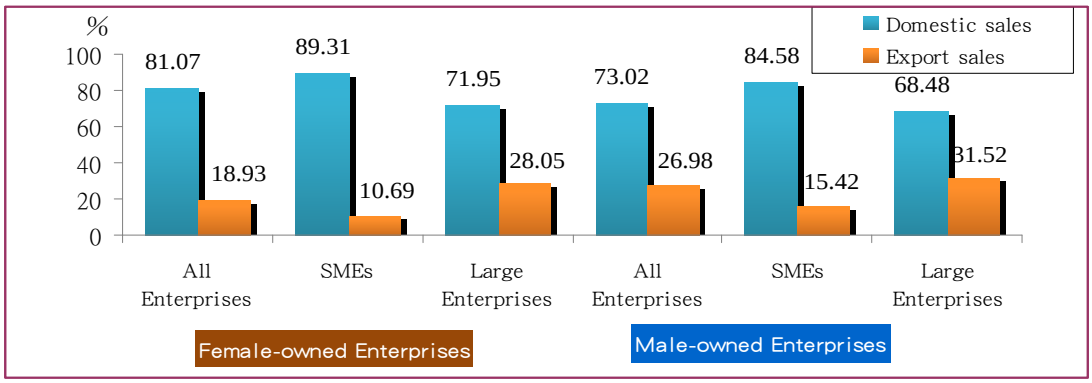
In 2010, Taiwan's female-owned business enterprises posted total sales of NT$4,637.6 billion, accounting for 14.12% of the combined total for all business enterprises. Female-owned enterprises had domestic sales of NT$3,759.8 billion (15.44% of the total for all enterprises), and export sales of NT$877.8 billion (10.34%). The female-owned enterprises' share of overall sales was far lower than the share held by male-owned enterprises (Table 2-3-1).

5. Female-owned Enterprises are More Oriented Towards the Domestic Market

In 2010, domestic sales accounted for 81.07% of the total sales of female-owned enterprises, with export sales accounting for only 18.93%, (giving a disparity of 62.14 percentage points). By contrast, export sales accounted for 26.98% of the total sales of male-owned enterprises, while

domestic sales accounted for 73.02%, giving a disparity of only 46.04 percentage points (Figure 2-3-1).

Figure 2-3-1 Number of Enterprises and Sales Performance in 2010 – by Sex of Business Owner

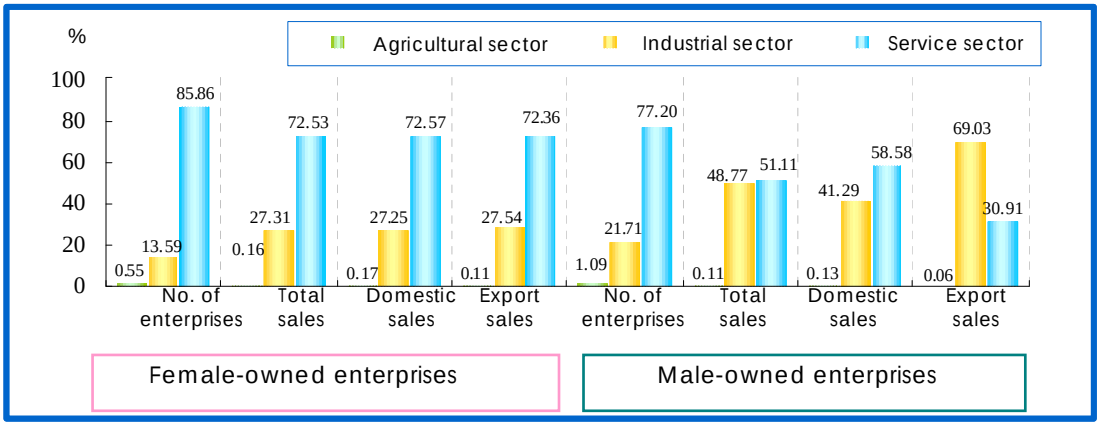


Notes and Source: See Table 2-3-1 above.

6. Female-owned Enterprises are Heavily Concentrated in the Service Sector

The service sector accounts for the largest share of the total number of female-owned enterprises, and also for the largest share of female-owned enterprises in total sales and export sales. In particular, 86.08% of female-owned enterprises are in the service sector, the corresponding percentage for male-owned enterprises is 77.20%. For male-owned enterprises, the manufacturing sector accounts for the largest share of export sales (69.03%) (Figure 2-3-2).

Figure 2-3-2 SME Performance Indicators in 2010 – by Sector and Sex of Enterprise Owner



Notes and Source: See Table 2-0-1 above.

IV Trends in Manufacturing Industry Operations

To provide a clearer picture of the current state of Taiwan's manufacturing sector, its export performance, and the impact of trade liberalization, this section presents data from the *Survey of*

Manufacturing Industry Operations report published by the Department of Statistics, Ministry of Economic Affairs, in November 2010. The effective sample size in this survey was 2,752 enterprises (representing a questionnaire return rate of 91.73%). For the purposes of this section, large enterprises are defined as firms with 200 or more employees, and small and medium enterprises (SMEs) are defined as firms with less than 200 employees.

1. Operational Status of Taiwan's Manufacturing Sector

(1) Just Over 63% of Firms Expected to Have Made a Profit in 2010

Taiwan's manufacturing sector has benefited from the upturn in the global economy and the resulting rapid increase in orders, as well as the steady growth in the volume of "cross-strait" trade between Taiwan and China. Of the 2,752 enterprises included in the survey, just over 63% expected to have made a profit in 2010; large enterprises were more likely to report that they anticipated making a profit. 55.36% of SMEs expected to have made a profit in 2010; within the SME category, for medium-sized enterprises the percentage of firms anticipating that they would make a profit in 2010 was 71.31%, compared to just 7.69% of medium-sized manufacturers who expected to have made a loss, giving a profit outlook index of 31.81 (Table 2-4-1).

Table 2-4-1 Anticipated Profitability Status in 2010

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Profit	62.79	83.84	55.36	71.31	48.30
Break even	26.16	11.00	31.51	20.99	36.17
Loss	11.05	5.15	13.12	7.69	15.53
Profit Outlook Index	25.87	39.35	21.12	31.81	16.39

Note: Profit Outlook Index = (Percentage of firms reporting a profit – Percentage of firms reporting a loss) ÷ 2.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010*.

(2) Regardless of Enterprise Size, the Percentage of Manufacturing Firms Expecting to See Their Earnings Increase in 2010 was Higher than the Share who Expecting to See Them Fall

The speeding up of economic growth in 2010 led directly to increased corporate earnings. The survey results showed that, for all enterprises, and for each enterprise size category, the percentage of manufacturing firms that expected to see an increase in earnings in 2010 was higher than the share of firms expecting earnings to fall. 46.01% of SMEs were anticipating an increase in earnings; within the SME category, the figure was 57.05% for medium-sized enterprises and 41.13% for small enterprises (Table 2-4-2).

Table 2-4-2 Percentage of Manufacturing Firms Expecting Earnings to Rise in 2010, and Percentage Expecting Earnings to Decline

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Firms expecting earnings to rise	52.11	69.36	46.01	57.05	41.13
Firms expecting no change in earnings	24.49	15.04	27.83	22.44	30.21
Firms expecting earnings to fall	23.40	15.60	26.15	20.51	28.65
Outlook Index	14.36	26.88	9.93	18.27	6.24

Note: Outlook Index = (Percentage of firms expecting earnings to rise – Percentage of firms expecting earnings to fall) ÷ 2.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

(3) The Main Reason Given for Expecting to See an Increase in Earnings was "Increased Market Demand"

The five main reasons given by manufacturing firms for anticipating an increase in earnings in 2010 were, in order: "increased market demand," "new product launch," "improved marketing methods," "increased production capacity," and "higher prices" The percentage of SMEs giving "improved marketing methods" as a reason was higher than the corresponding percentage of large enterprises. The percentage of large enterprises giving "new product launch," "increased production capacity" or "higher prices" as reasons was higher than the corresponding shares of SMEs (Table 2-4-3).

Table 2-4-3 Reasons Given for Anticipating Higher Earnings in 2010 than in 2009 (Weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Increased market demand	40.09	39.79	40.26	40.47	40.13
New product launch	12.49	13.88	11.72	12.39	11.31
Improved marketing methods	8.66	6.71	9.73	10.07	9.52
Increased production capacity	8.60	9.49	8.10	8.80	7.67
Higher prices	8.07	9.53	7.27	7.18	7.32
Lower administrative and sales costs	5.12	5.25	5.05	5.26	4.92
Improved yield rate	4.79	4.35	5.04	4.1	5.62
Reduced materials costs	4.78	4.18	5.12	4.25	5.65
Expanded distribution channels	3.05	2.61	3.28	3.44	3.19
Own brand development	1.50	1.50	1.51	1.57	1.47
Exchange rate fluctuations	1.30	1.03	1.45	1.16	1.63
Other	1.54	1.68	1.47	1.32	1.57

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

(4) The Main Reason Given for Anticipating a Decline in Profits was "Rising Raw Materials Prices"

The five main reasons given by manufacturing firms for anticipating that earnings would have fallen in 2010 were, in order: "rising raw materials prices," "declining market demand," "falling product prices," "increased administrative and sales costs," and "new competitors." The share of firms reporting "declining market demand," "new competitors" and "shrinking distribution channels" as reasons for expecting lower earnings was higher among SMEs than among large enterprises, while the share of firms reporting "exchange rate fluctuations," "falling product prices," and "high product substitutability" as reasons for anticipating lower earnings was higher among large enterprises than among SMEs (Table 2-4-4).

Table 2-4-4 Reasons Given for Anticipating Lower Earnings in 2010 than in 2009 (Weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Rising raw materials prices	32.97	33.01	32.97	31.66	33.38
Declining market demand	26.14	19.48	27.52	25.24	28.24
Falling product prices	15.19	17.07	14.79	14.64	14.84
Increased administrative and sales costs	6.14	8.05	5.75	6.28	5.58
New competitors	5.81	4.83	6.02	6.00	6.02
Exchange rate fluctuations	5.26	8.53	4.58	7.25	3.73
High product substitutability	2.02	3.22	1.77	1.95	1.71
Shrinking distribution channels	1.99	0.32	2.34	2.37	2.33
Wear and tear on equipment, leading to reduced production capacity	1.83	2.09	1.77	1.26	1.93
Products no longer marketable	1.02	0.97	1.04	1.95	0.75
Other	1.63	2.42	1.47	1.39	1.49

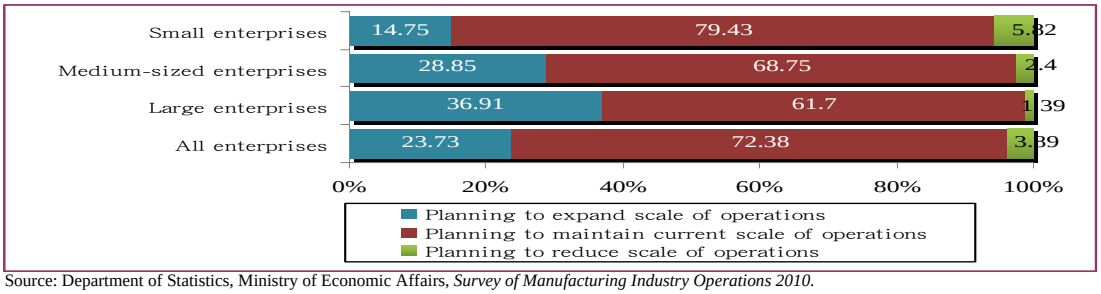
Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010*.

(5) Regarding their Future Business Strategy for their Taiwan Operations, 79.43% of Small Enterprises Reported Planning to Maintain their Current Scale of Operations

With the global economy gradually starting to recover from the financial crisis, partly thanks to buoyant demand in the emerging economies, there has been a steady increase in the volume of international trade, and the output of Taiwanese manufacturing industry has started to climb again. The survey results showed that, as regards their business strategy for their Taiwan operations, over 23% of manufacturing firms were planning to expand their scale of operations; larger enterprises were more likely to report planning to do this. The share of manufacturing firms planning to maintain their current scale of operations was highest among small enterprises, at 79.43%; this high figure suggests that SMEs are adopting a conservative stance. Only 3.89%

of firms were planning to reduce their scale of operations; here again, this figure was the highest among SMEs (Figure 2-4-1).

Figure 2-4-1 Future Business Strategy with Respect to Firm's Taiwan Operations



Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

(6) More than 30% of SMEs have Adopted "Product Transformation" as a Transformation Strategy

The survey results showed that, regarding the transformation strategies that manufacturing firms had adopted over the last two years, for enterprises in all size categories "product transformation" (in which the firm remains in the same industry, but changes the nature of the products it manufactures) was the most commonly chosen transformation strategy, followed by "changing the method of production" (e.g. through automation, outsourcing, etc.), with "diversification" in third place (Table 2-4-5).

Table 2-4-5 Transformation Strategies Adopted Over the Last Two Years (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Product transformation	31.54	32.37	31.20	32.30	30.72
Changing production methods	14.49	13.92	14.70	15.51	14.34
Diversification	8.07	7.87	8.15	8.16	8.14
Vertical integration	4.80	7.59	3.72	4.32	3.45
Overseas investment	4.17	7.69	2.79	4.61	1.98
Business model transformation	4.12	4.25	4.06	4.83	3.72
Strategic alliance	4.06	5.24	3.59	3.91	3.45
No recent transformation, but planning to implement transformation in the future	3.01	2.68	3.14	2.34	3.50
Moving into a different industry	2.25	1.87	2.41	1.76	2.70
Horizontal merger	0.68	1.51	0.36	0.33	0.38
Other	0.59	0.72	0.54	0.66	0.48
No transformation plans at present	22.22	14.29	25.35	21.29	27.15

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicated that the highest level of importance to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

2. Developing Export Markets

(1) China is the Main Export Market for 20% of SMEs

The survey results showed that, in 2009, China was the main export market for just under 22% of firms in the manufacturing sector. As a result of China's rapid economic growth in recent years, there has been a dramatic increase in the spending power of its consumers, and this increased market demand has ensured that China now plays a major role in the global economy. Manufacturing sector firms' other main export markets included North America (the U.S., Canada and Mexico), which was the main export market for 18.58% of firms, Europe (12.90%), the ASEAN region (including Vietnam, Indonesia, Malaysia, etc.) (12.03%), and Japan (10.15%); 13.34% of manufacturing sector firms reported having no exports (Table 2-4-6).

Regardless of enterprise size, the export market that manufacturing firms were most intent on developing in 2009 was the China market, followed by the North American market; this trend was even more pronounced among larger enterprises. Other exports markets besides China and North America that SMEs had focused on developing in 2009 included ASEAN (11.82%); large enterprises had attached more importance to the European market. 18.30% of SMEs reported having no exports in 2009, while for large enterprises the figure was 2.52% (Table 2-4-6).

Table 2-4-6 The Main Export Markets for Manufacturing Firms in 2009 (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
China (inc. Hong Kong)	21.86	25.92	20.06	22.01	19.20
North America (U.S.A., Canada and Mexico)	18.58	21.72	17.10	20.66	15.52
ASEAN	12.03	11.79	12.10	12.74	11.82
Europe	12.90	15.41	11.77	13.67	10.93
Japan	10.15	11.15	9.70	10.23	9.47
Central and South America	2.59	2.78	2.49	2.89	2.31
India	1.77	1.27	1.99	1.73	2.10
Middle East	1.80	1.50	1.93	1.86	1.96
New Zealand and Australia	1.73	1.68	1.73	2.31	1.47
South Korea	1.94	2.65	1.63	2.05	1.44
Other	1.32	1.60	1.20	0.99	1.29
No exports	13.34	2.52	18.30	8.85	22.48

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010*.

(2) The Main Problem Experienced by Manufacturing Firms in Export Markets in 2009 was Intense Competition from Other Companies in the Same Industry

The factors that manufacturing firms reported as constituting their three most serious problems in their most important export market in 2009 were: intense competition from other companies in the same industry (41.64% of firms), excessive exchange rate fluctuations (17.90%), and inadequate marketing channels (7.78%).Besides the three main problems noted above, the share of SMEs reporting a

shortage of export sales development talent as being a major problem was higher than the corresponding share for large enterprises, while for large enterprises the percentage of firms reporting problems with "unfair tariffs" was higher (Table 2-4-7).

Table 2-4-7 Problems Experienced by Manufacturing Firms in their Most Important Export Market in 2009 (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Intense competition from other companies in the same industry	41.64	42.85	41.08	40.01	41.68
Excessive exchange rate	17.90	17.78	17.96	17.91	17.99
Inadequate marketing channels	7.78	7.72	7.79	8.56	7.36
Shortage of export sales development talent	7.09	6.13	7.54	7.07	7.81
Unfair tariffs	5.90	7.27	5.25	6.18	4.73
Lack of access to market information	4.62	4.63	4.61	4.16	4.87
Excessively strict environmental requirements	3.31	2.81	3.55	3.38	3.64
Product piracy	2.31	1.50	2.69	2.17	2.98
Cash-flow problems	1.77	1.28	2.00	1.71	2.16
Rigorous and/or time-consuming inspection and quarantine procedures	1.88	1.87	1.89	2.31	1.65
Protectionist sentiment	2.01	2.65	1.70	2.42	1.30
Other	3.80	3.51	3.93	4.12	3.82

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

(3) Other Taiwanese Firms are Taiwanese Manufacturing Enterprises' Main Competitors in the Taiwanese Domestic Market, Followed by Chinese Firms

60.27% of Taiwanese manufacturing firms reported that other domestic firms were their main source of competition in the domestic market; Chinese companies were the next largest source of competition (12.08% of firms), followed by Taiwanese-invested overseas businesses (10.36%) and Japanese enterprises (7.39%). SMEs were significantly more likely than large enterprises to report intense competition from other Taiwanese companies, Chinese companies, and Taiwanese-invested overseas enterprises; large enterprises felt more threatened by Japanese, South Korean, U.S. and European companies (Table 2-4-8).

(4) China is Taiwanese Manufacturing Firms' Main Source of Competition in Overseas Markets

As regards the situation in export markets, 26.00% of firms reported that Chinese companies had emerged as their single biggest source of competition (thanks to their cheap labor and large scale of production). The next largest source of competition was other Taiwanese firms (24.89%), followed by Taiwanese-invested overseas firms (15.35%). SMEs were significantly more likely than large enterprises to report experiencing intense competition from Chinese companies, other Taiwanese companies, and Taiwanese-invested overseas firms. For large enterprises, the main sources of competition were Japanese, South Korean, U.S. and European companies (Table 2-4-9).

Table 2-4-8 Sources of Competition in the Taiwanese Domestic Market (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Other Taiwanese firms	60.27	55.03	62.36	61.49	62.74
Chinese firms	12.08	9.51	13.12	12.05	13.59
Taiwanese-invested overseas firms	10.36	9.32	10.78	10.36	10.96
Japanese firms	7.39	11.02	5.94	7.57	5.21
South Korean firms	3.84	6.01	2.98	2.83	3.05
U.S. firms	2.49	4.46	1.70	2.37	1.40
European firms	1.68	2.64	1.30	1.30	1.30
ASEAN member state firms	1.33	1.43	1.28	1.64	1.12
Other	0.56	0.58	0.55	0.38	0.63

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denote the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010*.

Table 2-4-9 Sources of Competition in Export Markets (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Chinese firms	26.00	23.14	27.42	25.81	28.32
Other Taiwanese firms	24.89	23.68	25.49	25.19	25.66
Taiwanese-invested overseas firms	15.35	12.32	16.85	15.33	17.70
Japanese firms	9.81	12.15	8.66	9.49	8.19
South Korean firms	7.84	10.07	6.74	6.68	6.78
U.S. firms	6.25	8.44	5.16	6.17	4.60
European firms	5.04	5.51	4.80	5.29	4.53
ASEAN member state firms	4.06	4.12	4.01	5.11	3.40
Other	0.76	0.57	0.85	0.91	0.82

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010*.

(5) 63% of Manufacturing Firms Believe that the Key Factor Affecting Competitive Advantage in the Marketplace is “Superior Product Quality”

With the upturn in the global economy, it is no longer the case that consumers are mainly interested in buying low-priced products. The survey results showed that Taiwanese manufacturing firms felt the main factor affecting competitive advantage to be “superior product quality” (35.52% of firms), followed by “company reputation,” (13.60%), and “product distinctiveness” (9.66%) (Table 2-4-10).

Large enterprises were more likely than SMEs to give “company reputation,” “new product development capability,” “extensive marketing channels” or “superior managerial capabilities” as key factors affecting competitiveness. SMEs were more likely than large enterprises to list “product distinctiveness,” “speed of delivery,” “pricing strategy,” or “superior after-sales service” (Table 2-4-10).

Table 2-4-10 Key Factors Determining Competitiveness in the Marketplace (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Superior product quality	35.52	34.05	36.05	36.63	35.79
Company reputation	13.60	14.06	13.45	12.20	14.00
Product distinctiveness	9.66	9.36	9.77	9.66	9.82
Speed of delivery	8.05	6.58	8.58	8.09	8.79
Pricing strategy	8.00	7.09	8.33	8.09	8.44
New product development capability	7.92	10.85	6.85	8.17	6.27
Superior after-sales service	6.10	5.38	6.35	6.27	6.39
Production efficiency	4.72	4.65	4.75	4.78	4.73
Extensive marketing channels	2.94	4.34	2.44	3.15	2.12
Superior managerial capabilities	2.47	2.89	2.32	2.37	2.30
Diversified payment methods	0.50	0.27	0.58	0.50	0.62
Other	0.52	0.48	0.54	0.11	0.73

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

3. The Impact of Trade Liberalization

(1) The Formation of the “ASEAN Plus One” and “ASEAN Plus Three” Groupings has had a Negative Impact on Taiwan’s Manufacturing Sector

The process of regional economic integration in East Asia is speeding up. Following the coming into effect of the FTA signed between ASEAN and China on January 1, 2010 (the “ASEAN Plus One” agreement), Taiwanese products will be faced with an unfavorable tariff situation in both the China and ASEAN markets. The resulting trade diversion effect will lead to reduced sales revenue, lower profits and lower competitiveness for Taiwanese manufacturing enterprises. The survey results showed that over 22% of Taiwanese manufacturing firms felt that “ASEAN Plus One” had had a negative impact on their sales revenue, their profits, and the competitiveness of their products; less than 13% felt that the agreement had had a positive impact. The smaller the firm, the more negative was the outlook index (Table 2-4-11).

Table 2-4-11 The Impact of "ASEAN Plus One" and "ASEAN Plus Three" on Taiwan's Manufacturing Sector

Unit: %

Item	ASEAN Plus One				ASEAN Plus Three			
	All Enterprises	Large Enterprises	Medium Enterprises	Small Enterprises	All Enterprises	Large Enterprises	Medium Enterprises	Small Enterprises
Sales Revenue								
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Positive impact	12.90	18.11	14.74	9.43	9.38	12.53	9.62	7.66
Negative impact	22.42	24.37	22.44	21.42	29.76	35.10	31.73	26.17
No impact	64.68	57.52	62.82	69.15	60.86	52.37	58.65	66.17
Outlook Index	-4.76	-3.13	-3.85	-6.00	-10.19	-11.29	-11.06	-9.26
Product Competitiveness								
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Postive impact	11.81	16.57	13.46	8.65	9.05	11.42	8.97	7.87
Negative impact	24.20	24.23	25.80	23.48	30.67	35.79	32.21	27.38
No impact	63.99	59.19	60.74	67.87	60.28	52.79	58.81	64.75
Outlook Index	-6.20	-3.83	-6.17	-7.42	-10.81	-12.19	-11.62	-9.76
Profits					Scale of Production (domestic)			
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00
Positive impact	10.83	15.74	12.66	7.52	7.12	9.89	7.21	5.67
Negative impact	24.71	25.07	24.68	24.54	26.31	29.53	26.76	24.47
No impact	64.46	59.19	62.66	67.94	66.57	60.58	66.03	69.86
Outlook Index	-6.94	-4.67	-6.01	-8.51	-9.60	-9.82	-9.78	-9.40

Note: Outlook Index = (Percentage of firms expecting earnings to rise – Percentage of firms expecting earnings to fall) ÷ 2.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

If the free trade grouping comprising ASEAN, China, Japan and South Korea ("ASEAN Plus Three") comes into being, Taiwanese manufacturing firms will find themselves facing high tariff barriers, trade diversion, and investment diversion. It can be anticipated that this situation will tend to speed up Taiwan's deindustrialization, as manufacturers relocate production to China and the ASEAN member states in order to protect the competitiveness of their products and their position in the market. The survey results showed that the Outlook Index for the impact of "ASEAN Plus Three" on the sales revenue, product competitiveness and scale of domestic production of Taiwan's manufacturing firms was –10.19%, –10.81% and –9.60% respectively. If "ASEAN Plus Three" becomes a reality, Taiwanese manufacturers will be concerned about the possibility of Taiwan becoming economically marginalized, and will be excluded from the preferential tariffs that this huge regional trade grouping provides for its members. For both large and small enterprises, the Outlook Index with respect to the impact of "ASEAN Plus Three" was negative; in every case, the percentage of firms anticipating a negative impact from "ASEAN

Plus Three" exceeded 24%, with less than 13% of firms expecting to benefit from it. The percentage of large enterprises anticipating that "ASEAN Plus Three" would have a negative impact on their sales revenue, product competitiveness and scale of domestic production was in every case higher than the corresponding percentage for medium-sized and small enterprises; large enterprises also had more pronouncedly negative Outlook Index values (Table 2-4-11).

(2) The Main Strategy that Manufacturing Firms will be Adopting in Response to "ASEAN Plus One" is to Focus on "Developing New Products"

As to how they intended to respond to the impact of "ASEAN Plus One" on their domestic operation, 14.23% of manufacturing firms stated that the main measure they would adopt in response would be to focus on "developing new products." The next most commonly selected response strategies were, in order, "raising product quality" (13.04%) and "reducing operating costs" (10.61%), followed by "product diversification" (9.26%), "developing new export markets" (7.47%), and raising product value-added (6.75%). 18.60% of manufacturing firms reported that they did not plan to adopt any particular measures in response to "ASEAN Plus One"; this percentage was higher among SMEs (22.81%) than among medium-sized (16.68%) or large (12.62%) enterprises (Table 2-4-12).

(3) The Types of Assistance Manufacturing Firms Most Hope for From the Government in Response to the Impact of ASEAN-centered Regional Economic Integration are "Improving the Investment Environment in Taiwan" and "Assistance in Developing New Markets"

14.51% of manufacturing firms hoped that, in response to the impact of regional economic integration in the East Asia region (such as "ASEAN Plus Three"), the government would focus on "improving the investment environment in Taiwan." Other areas in which a high share of manufacturing firms hoped the government would provide support included: "assistance in developing new markets" (13.58%), and "providing information about ASEAN Plus One and ASEAN Plus Three" (10.53%) (Table 2-4-13).

The areas with respect to which SMEs were most eager for the government to take action were: "improving the investment environment in Taiwan" (15.74%), "assistance in developing new markets" (14.08%), and "providing information about ASEAN Plus One and ASEAN Plus Three" (10.75%). These figures were all higher than the corresponding percentages for large enterprises. Areas where the share of large enterprises looking for support from the government was higher than the corresponding shares for SMEs included "speeding up the negotiating of FTAs with ASEAN member states," "providing incentives for innovation and R&D," "negotiating tariff barrier reductions with key trading partners," and "speeding up the negotiation of the ECFA agreement with China" (Table 2-4-13).

Table 2-4-12 Strategies Adopted by Taiwanese Manufacturing Firms in Response to "ASEAN Plus One" (weighted)

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium-sized Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Developing new products	14.23	14.23	14.26	12.67	14.97
Raising product quality	13.04	11.28	13.72	12.87	14.1
Reducing operating costs	10.61	11.58	10.22	11.12	9.82
Product diversification	9.26	11.80	8.28	9.05	7.94
Developing export markets	7.47	7.98	7.22	10.12	5.94
Raising product value-added	6.75	8.72	5.99	6.56	5.74
Reducing product price	3.68	2.43	4.16	3.72	4.36
Strengthening product marketing	3.91	4.40	3.71	4.46	3.38
Reducing manpower costs	2.57	1.53	2.97	2.55	3.16
Diversification	2.38	2.08	2.50	2.65	2.43
Adopting new technologies and equipment	1.74	1.37	1.88	1.68	1.97
Increasing investment in China	2.11	3.96	1.41	1.88	1.20
Increasing investment in ASEAN	1.34	2.49	0.90	1.26	0.74
Technology collaboration or strategic alliances with overseas companies	1.04	1.45	0.88	1.23	0.73
Vertical or horizontal integration	0.76	1.31	0.55	1.00	0.35
Other	0.5	0.77	0.40	0.48	0.36
Not planning to take any particular action	18.60	12.62	20.93	16.68	22.81

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010*.

V Survey and Analysis of the Operational Status of the Taiwanese Wholesaling and Retailing Industry in 2010

With the aim of gaining a clearer picture of the operational environment and development strategies of Taiwan's wholesaling and retailing companies, in March 2011 the Department of Statistics, Ministry of Economic Affairs implemented the *Survey of the Operational Status of the Wholesaling and Retailing Industry*. A total of 3,050 completed questionnaires were returned, giving a completion rate of 88.20%. Large enterprises (defined as those with 100 or more employees) and small and medium-sized enterprises (defined as those with 100 or less employers) are each considered in this chapter.

Table 2-4-13 Areas Where Manufacturing Firms Hope the Government Will Take Action in Response to the Impact of East Asian Regional Economic Integration

Unit: %

Item	All Enterprises	Large Enterprises	SMEs		
			All SMEs	Medium Enterprises	Small Enterprises
Total	100.00	100.00	100.00	100.00	100.00
Improving the investment environment in Taiwan	14.51	11.31	15.74	13.20	16.86
Assistance in developing new markets	13.58	12.21	14.08	14.17	14.04
Providing information about ASEAN Plus One and ASEAN Plus Three	10.53	9.95	10.75	10.73	10.76
Industry upgrading guidance	7.98	6.04	8.69	8.61	8.73
Support for affected industries	6.44	5.54	6.79	5.41	7.40
Speeding up the negotiation of FTAs with ASEAN member states	7.81	11.48	6.40	9.14	5.19
Incentives for innovation and R&D	6.75	8.69	6.03	6.29	5.91
Negotiating the reduction of tariff barriers with key trading partners	5.41	6.90	4.82	6.88	3.91
Speeding up the cultivation of the talent industry needs	4.07	4.00	4.10	3.35	4.43
Speeding up the signing of the ECFA agreement with China	4.88	7.73	3.81	4.61	3.46
Improving the handling of anti-dumping cases	3.24	2.06	3.68	3.47	3.78
Providing information about foreign trade opportunities	2.78	2.12	3.04	2.38	3.33
Relaxing restrictions on overseas investment	2.88	3.93	2.49	2.82	2.34
Formulating a new industrial development strategy	2.64	3.22	2.41	3.09	2.11
Improving the service provided by Taiwan's trade offices overseas	1.27	1.36	1.24	1.18	1.27
Providing information about trade regulations (both domestic and overseas)	0.74	0.58	0.80	0.82	0.79
Other	4.50	2.87	5.12	3.85	5.68

Note: This table uses weighted ratios, whereby the importance attached to each reason is divided by the total value for all respondents; a score of 3 indicates that the highest level of importance is attached to the reason, 2 denotes less importance, and 1 denotes the lowest level of importance.
Source: Department of Statistics, Ministry of Economic Affairs, *Survey of Manufacturing Industry Operations 2010.*

1. Product Sales Flow and Materials Sources

(1) Overall Product Sales Increased by 9.67% Compared to 2009

The survey results show that, in 2010, the total product sales of Taiwan's wholesaling and retailing industry came to NT$13,322.8 billion, of which the SMEs accounted for NT$7,234.8 billion(54.30%), higher than the NT$6,088.0 billion(45.70%) of larger enterprises. In comparison with the 2009 total of NT$12,148.3 billion, overall wholesaling and retailing industry product sales grew by 9.67% in 2010 (Table 2-5-1).

Table 2-5-1 Total Wholesaling and Retailing Industry Product Sales in 2010

Item	All Enterprises	SMEs				Industry		
		Total	Less than 5 People	50 – 49 People	50 – 99 People	Total	100-199 People	200 or more people
Total sales (NT$ billions)	133,228	72,348	2,262	37,201	32,885	60,880	18,271	42,609
Share of total (%)	**100.00**	**54.30**	**1.70**	**27.92**	**24.68**	**45.70**	**13.71**	**31.98**

Source: *Survey of the Operational Status of the Wholesaling and Retailing Industry* (2011).

(2) The Domestic Sales Accounted for 57.17% of the Total Sales of SMEs in 2010

In 2010, domestic sales accounted for 68.94% of the total sales of Taiwan's wholesaling and retailing industry, with exports accounting for 31.06%. The wholesaling and retailing industry are thus heavily oriented towards the Taiwanese domestic market. The domestic sales accounted for 57.17% of the total sales of SMEs, with exports accounting for 42.83% and still oriented towards the Taiwanese domestic market. However, it is worth pointing out that, over the last four years, the difference between the domestic sales' share of total sales and the export sales' share is the smallest. The share of domestic sales accounted for by larger enterprises was 82.94%, which was markedly higher than that for SMEs (Table 2-5-2).

(3) Wholesaling and Retailing Industry Account for the Largest Share in Domestic Sales of SMEs in 2010

Of wholesaling and retailing industry sales that falls under the category of domestic sales, the largest share (25.54% of total sales) goes to consumers, followed by sales to other wholesalers and retailers (23.60%), and private-sector factories (13.08%). Among small and medium-sized wholesaling and retailing firms, the largest domestic sales' share of total sales was 74.35% distributed to wholesalers and retailers (21.81%), followed by private-sector factories (18.45%), and consumers(10.86%), while for large enterprises the percentage going to consumers was 42.99%. (Table 2-5-2).

(4) The China Accounted for the Highest Share of Export Sales

The single largest export market for the wholesaling and retailing industry is China (including Hong Kong and Macao), which accounts for 16.78% of the industry's total export sales, followed by Japan (6.41%). Among small and medium-sized wholesaling and retailing firms, China (including Hong Kong and Macao) is the largest export market, which accounts for 20.52% of SMEs' total exports, followed by Japan (11.09%). For large enterprises, the corresponding share is 17.06% , of which China accounts for 12.34% (Table 2-5-2).

(5) Sales through Physical Stores Account for the Largest Share of Sales to Consumers

In 2010, sales through physical, bricks-and-mortar stores accounted for the largest share of the wholesaling and retailing industry's sales to consumers (at 89.03% of the total), indicating that consumers still like to be able to browse through goods in a physical store. Online sales accounted for the next largest share of sales to consumers (5.57%), followed by direct sales(2.84%) (Figure 2-5-3).

Table 2-5-2 Changes in Domestic Sales Flow, 2009-2010

Unit:%

Item		Total (2010)	SMEs					Larger enterprises (2010)
			Total (2009)	Total (2010)	less than 5 persons	5~49 persons	50~99 persons	
Total sales		100.00	100.00	100.00	100.00	100.00	100.00	100.00
Domestic sales	Total	68.94	76.44	57.17	92.51	78.21	30.94	82.94
	Private-sector factories	13.08	19.21	18.45	20.71	23.95	12.06	6.71
	Public-sector agencies	0.70	0.80	0.37	0.69	0.35	0.36	1.09
	Domestic trading companies	5.31	6.51	5.26	7.50	7.41	2.67	5.36
	Wholesaling and retailing	23.60	33.00	21.81	38.55	31.69	9.49	25.72
	Government	0.72	0.58	0.42	0.90	0.46	0.34	1.07
	Consumer	25.54	16.34	10.86	24.17	14.33	6.02	42.99
Export sales	Total	31.06	23.56	42.83	7.49	21.79	69.06	17.06
	Japan	6.41	1.32	11.09	2.04	1.12	22.98	0.85
	United States	1.68	3.01	2.01	0.18	2.93	1.10	1.28
	Europe	1.69	2.63	2.74	0.26	4.49	0.92	0.44
	China (including Hong Kong and Macao)	16.78	6.42	20.52	2.84	7.99	35.91	12.34
	South Asia	2.60	4.46	4.16	1.34	2.30	6.45	0.74
	Others	1.90	5.72	2.32	0.82	2.95	1.70	1.41

Source: *Survey of the Operational Status of the Wholesaling and Retailing Industry* (2011).

Table 2-5-3 Channels Used for Sales to Consumers,2009-2010

Unit:%

Sector	2009	2010	SMEs		Larger enterprises (2010)
			2009	2010	
Total	100.00	100.00	100.00	100.00	100.00
Physical stores	88.16	89.03	60.97	70.92	94.47
Online sales	5.20	5.57	24.87	19.35	1.43
Direct sales	3.33	2.84	7.06	6.12	1.86
Through the TV channels	0.61	0.33	1.29	0.42	0.31
Through the auto sales machine	0.14	0.11	0.01	0.04	0.13
Mail-order	0.03	0.10	0.08	0.07	0.11
Others	2.52	2.02	5.73	3.08	1.70

Source: *Survey of the Operational Status of the Wholesaling and Retailing Industry* (2011).

2. Business Environment and Business Strategies

(1) About 69.09% of Taiwan's SME wholesaling and retailing industry and food industry was concentrated in Northern Taiwan

In 2010, 69.09% of Taiwan's SME wholesaling and retailing industry was concentrated in Northern Taiwan, a pronounced increase compared to 2009. The concentration in Northern Taiwan was less marked in the case of large enterprises; 56.42% of Taiwan's large enterprises were based in Northern Taiwan in 2010, while the share accounted for by large enterprises located in Central Taiwan and Southern Taiwan was greater than that for the SMEs (Figure 2-5-4).

Table 2-5-4 Distribution of wholesaling and retailing industry

Unit:%

Sector	2009	2010	SMEs		Larger enterprises (2010)
			2009	2010	
Total	100.00	100.00	100.00	100.00	100.00
Northern Taiwan	55.66	61.02	53.63	69.09	56.42
Taipei City	22.98	25.12	26.39	31.72	21.36
New Taipei City	17.01	18.97	13.80	21.83	17.34
Others	15.67	16.93	13.44	15.54	17.72
Central Taiwan	19.63	16.64	23.14	13.32	18.53
Southern Taiwan	22.29	20.26	20.75	15.90	22.73
Kaohsiung City	8.57	9.38	8.27	7.89	10.22
Others	13.72	10.88	12.48	8.01	12.51
Eastern area	2.19	1.86	2.24	1.45	2.09
Off-shore island area	0.24	0.23	0.25	0.23	0.23

Source: *Survey of the Operational Status of the Wholesaling and Retailing Industry* (2011).

(2) Intense Market Competition Accounted for the Largest Share of Management Difficulty with 28.23%

With the rapid pace of change in consumer habits, the large-scale adjustment of production systems and the widespread adoption of international management techniques, the traditional retailing model has been gradually declining; in its place, there has been a trend towards ever larger enterprise size, hybridization, the growth of chain stores, diversification, the growth of online business, and the emergence of virtual retailing. It can be seen from the weighted survey results that the most widely reported problem experienced by enterprises in the wholesaling and retailing industry is the intense market competition in the business environment (28.23% of enterprises), followed by difficulty in keeping purchasing costs down (17.26%) and loss of customers due to the economic downturn (12.91%) (Table 2-5-5).

The shares of SMEs reporting difficulties experienced by the wholesaling and retailing industry due to the difficulty in keeping purchasing costs down, the economic downturn, and heavy tax burdens were all higher than the corresponding percentages for large enterprises. By contrast, the shares of large enterprises reporting problems with intense market competition, high land prices and high rentals, and high labor cost, were higher than the corresponding shares for SMEs.

Table 2-5-5 Operational Difficulties Experienced by Firms in the Wholesaling and Retailing Industry (weighted)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Total	100.00	100.00	100.00	100.00	100.00
Intense market competition	26.71	28.23	25.96	27.74	31.04
Difficulty in keeping purchasing costs down	14.09	17.26	14.17	17.73	14.52
Loss of customers due to the economic downturn	19.06	12.91	20.26	13.62	8.79
Excessively heavy tax burden	8.72	7.02	8.98	7.32	5.29
Changes in consumer preferences	5.18	5.17	5.13	5.03	5.98
High labor costs	3.76	4.96	3.46	4.67	6.67
Falling prices	4.31	4.48	4.35	4.52	4.31
High land prices and high rentals	4.61	4.99	3.91	4.43	8.26
Difficulty in securing working capital	4.69	3.86	5.53	4.10	2.48
Lack professional talent	2.09	3.12	1.83	3.10	3.25
Shorter product life-cycles	2.30	2.59	2.09	2.28	4.39
Dificience of internationalization capability	1.17	1.32	1.23	1.39	0.94
Hard to upgrade products development due to R&D dificience	1.05	1.08	1.01	1.06	1.22
Difficulty in collecting industrial information	0.51	0.99	0.50	1.02	0.77
Lack technical apllication capability	0.63	0.57	0.65	0.63	0.20
Other	1.10	1.43	0.97	1.36	1.87

Note: The weighted percentages were obtained by dividing the importance score for each item by the total value of all items for all respondents; a value of 3 denoted most important, 2 denoted of secondary importance, and 1 denoted less important.
Source: *Survey of the Operational Status of the Wholesaling and Retailing Industry* (2011).

(3) Improving the Quality of Service Provided to Customers is the Most Widely Adopted Business Strategy in the Wholesaling and Retailing Industry

It can be seen from the weighted survey results (Table 2-5-6) that the four business strategies most widely adopted by enterprises in the wholesaling and retailing industry are: improving the quality of service provided to customers (19.72%), developing new sales channels (18.37%), upgrading product value (14.87%), and adopting a low-margin, high-volume strategy (13.83%).

The most pronounced disparity between SMEs and large enterprises in terms of business strategy is with regard to the adoption of a low-margin, high-volume strategy; the percentage of SMEs reporting the adoption of such a strategy is 10.48 percentage points higher than the corresponding percentage for large enterprises. This suggests that when facing fierce competition, SMEs enjoy more flexibility than large enterprises when it comes to unit price, and are better placed to achieve profitability through a high-volume, low-unit-price strategy.

Table 2-5-6 Business Strategies Adopted by Firms in the Wholesaling and Retailing Industry (weighted)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs 2010	SMEs 2011	Large Enterprises (2011)
Total	100.00	100.00	100.00	100.00	100.00
Improving the quality of service provided to customers	17.58	19.72	16.80	19.54	20.78
Developing new sales channels	14.72	18.37	15.15	18.79	15.97
Upgrading product value	4.07	14.87	4.07	14.63	16.21
Adopting a low-margin, high-volume strategy	11.58	13.83	13.84	15.40	4.92
Strengthen pormotion activity of advertisement	5.07	6.11	4.51	5.83	7.73
Developing new enterprises	3.85	5.16	4.14	5.20	4.92
Strengthening promotional activities advertising	5.73	5.13	6.26	5.27	4.32
Product internationalization	4.54	4.44	4.65	4.46	4.28
Adoption of innovative business models	3.45	4.43	3.22	4.06	6.53
Increasing the number of direct outlets and/or franchise stores	5.22	4.00	4.05	3.01	9.61
Strategic alliances (collaboration with other enterprises)	1.83	2.64	1.88	2.48	3.52
Other	0.56	1.31	0.57	1.33	1.20

Note: The same as Table 2-5-3.
Source: *Survey of the Operational Status of the Wholesaling and Retailing Industry* (2011).

(3) The Main Environmental Factor Affecting Business Operations is Domestic Market Demand

The survey results showed that 33.90% of firms felt “domestic market demand” to be the single most important external environmental factor affecting their operations. The second and third most frequently listed factors were “international market demand” (14.29% of firms) and “fluctuations in the New Taiwan Dollar exchange rate” (12.84%). SMEs were more likely than large enterprises to view “international market demand” and “fluctuations in the New Taiwan Dollar exchange rate” as important environmental factors; large enterprises were more likely than SMEs to consider “domestic market demand” as constituting an important environmental factor (Table 2-5-7).

3. Operational Trends

(1) Quality, Price and Utility are the Three Aspects of Product Sales that Companies Emphasize Most

According to the 2011 survey results, the aspect of product sales that business enterprises emphasize most is “product quality” (23.28% of firms), suggesting that quality is of particular importance, followed by “product pricing” (17.68% of firms), and “product utility” (16.82%). SMEs were more likely than large enterprises to emphasize the importance of “product pricing,” “product utility” and “product distinctiveness”; large enterprises were more likely than SMEs to emphasize the importance of “product quality” and “product brand recognition” (Table 2-5-8).

Table 2-5-7 Environmental Factors Affecting Enterprise Operations (weighted)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Total	100.00	100.00	100.00	100.00	100.00
Domestic market demand	37.83	33.90	37.08	33.45	36.49
International market demand	13.67	14.29	13.96	14.62	12.34
New Taiwan Dollar exchange rate	10.71	12.84	10.71	13.15	11.05
Convenience of transportation	3.37	5.66	6.39	5.61	5.94
Domestic political situation	6.08	4.99	5.14	4.94	5.23
“Cross-strait” relations	4.85	4.28	5.10	4.38	3.68
Domestic stock market fluctuations	4.38	3.85	4.23	3.79	4.18
Adjustments in legally mandated working hours and the minimum wage	2.64	3.69	3.28	3.48	4.85
Deregulation	5.21	3.28	3.47	3.22	3.60
Government administrative efficiency	3.31	2.78	2.34	2.83	2.47
Crime level	2.18	2.37	2.43	2.41	2.18
E-Business penetration	1.62	2.04	2.28	1.88	2.97
Domestic real estate prices	2.17	1.97	1.61	2.07	1.42
Establishment of industrial/business districts	1.24	1.82	1.25	1.86	1.59
Other	0.73	2.25	0.76	2.30	2.01

Notes and Source: See Table 2-5-5.

Table 2-5-8 Most Emphasized Aspects of Wholesaling and Retailing Product Sales (weighted)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Total	100.00	100.00	100.00	100.00	100.00
Product quality	21.45	23.28	21.14	22.88	25.80
Product pricing	17.74	17.68	19.55	18.69	11.42
Product utility	18.11	16.82	18.89	17.24	14.24
Product brand recognition	13.46	11.80	11.92	11.04	16.50
Comprehensive product line	9.41	8.65	9.36	8.57	9.15
Product distinctiveness	8.11	8.61	8.29	9.01	6.10
Product value	3.75	5.21	3.23	5.08	6.06
Product innovation	3.68	3.61	3.81	3.45	4.62
Product fashionableness	3.47	3.27	2.98	3.00	4.95
Other	0.82	1.06	0.83	1.04	1.16

Notes and source: See Table 2-5-5.

(2) SMEs Hope for "Development of Business Opportunities in Emerging Markets" the Most

The weighted survey results indicate that, as of 2011, the area in which the largest number of enterprises anticipate government support is "development of business opportunities in emerging markets" (23.90% of firms), followed by "increased provision of low-interest loans for business enterprises" (20.88%) and "provision of new management knowledge and information" (17.25%). SMEs were more eager than large enterprises for the government to provide support in terms of "increased provision of low-interest loans for business enterprises" and "provision of new management knowledge and information"; large enterprises were more interested than SMEs in having the government "build a comprehensive e-business environment" and "review business-related regulations and simplify administrative procedures" (Table 2-5-9).

Table 2-5-9 Areas Where Firms are Seeking Government Support to Help Boost Competitiveness (weighted)

Unit: %

Item	All Enterprises	SMEs	Large Enterprises
Development of business opportunities in emerging markets	23.90	23.96	23.49
Increased provision of low-interest loans for business enterprises	20.88	21.97	14.51
Provision of new management knowledge and information	17.25	17.57	15.35
Assistance with the establishment of strategic alliances	11.29	11.34	11.02
Provision of guidance for e-enablement	8.67	8.51	9.63
Building a comprehensive e-business environment	5.22	4.66	8.51
Reviewing business-related regulations and simplifying administrative procedures	3.65	3.23	6.09
Assistance with manpower cultivation	3.04	2.95	3.53
Other	6.09	5.80	7.77

Notes and source: See Table 2-5-5.

(3) Approximately 70% of Firms Rely on Promotion by Sales Representatives as their Main Sales Promotion Strategy

The survey results show that, for around 77% of wholesaling and retailing enterprises, sales promotion activity undertaken by sales representatives is the most important form of sales promotion. This high figure reflects the advantages conferred by having direct, face-to-face contact with the customer. The next most commonly used sales promotion methods are distributors and agents (30.57% of firms) and online marketing (22.28%, including 13.85% of firms that have their own website, and 8.43% that make use of a third-party portal site). Large enterprises (which benefit from their higher capitalization and more extensive resources) are significantly more likely than SMEs to emphasize online marketing, catalog-based marketing and television marketing (Table 2-5-10).

Table 2-5-10 Sales Promotion Methods Used by Business Enterprises (respondents could list more than one method)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Total	100.00	100.00	100.00	100.00	100.00
Sales promotion by sales representatives	77.69	76.94	78.17	77.14	75.65
Distributors and agents	33.80	30.57	32.42	30.56	30.63
Online marketing (own website)	13.71	13.85	12.67	12.70	21.20
Online marketing (via portal site)	8.25	8.43	6.75	7.09	17.02
Catalog-based marketing	12.76	11.62	11.10	10.08	21.47
Television marketing	4.48	4.22	3.01	3.11	11.26
Multi-level marketing (direct sales)	2.89	1.91	2.68	2.01	1.31
Other	7.44	8.40	6.52	7.74	12.57

Notes and source: See Table 2-5-5.

4. The Internationalization of Taiwanese Industry, and the Outlook for the Future

(1) Approximately 70% of Firms Hope to Step Up their Development of the China Market in the Future

Reflecting the enormous business opportunities that China offers, and its geographical proximity to Taiwan, around 70% of firms stated that they hoped to step up their development of the China market. Other overseas markets that Taiwanese enterprises were looking to develop included, in order of the frequency with which they were listed: ASEAN (24.95% of firms), Japan and South Korea (16.87%), North America (16.58%), Europe (16.02%), and emerging markets, including India, Central and South America, the Middle East, etc. (11.95%).

Large enterprises were significantly more likely than SMEs to emphasize the importance of the China market (80.28% of large enterprises), while SMEs were more likely than large enterprises to be planning to step up development of the ASEAN, Japanese and South Korean, North American and European markets, as well as the emerging markets (Table 2-5-11).

In comparison with the results obtained in the 2010 survey, in 2011 the percentage of SMEs seeking to develop the ASEAN, North American and European markets fell by 6.41 percentage points, 3.42 percentage points and 1.83 percentage points respectively.

(2) “Insufficient Market-oriented Policy Formulation” is Felt to be the Biggest Obstacle to Ongoing Industrial Development

The weighted survey results showed that business enterprises believed the single biggest obstacle to future industrial development was “insufficient market-oriented policy formulation” (listed by 15.92% of firms), followed by “excessively small scale of operations of domestic enterprises” (12.86%) and “insufficient coordination of local industries” (10.94%).(Table 2-5-12)

SMEs were more likely than large enterprises to feel that the biggest obstacles to ongoing industrial development were “excessively small scale of operations of domestic enterprises” and

"insufficient coordination of local industries." Large enterprises were more likely to see "insufficient internationalization" and "administrative inefficiency" as key obstacles.

Table 2-5-11 Overseas Markets that Business Enterprises Wish to Step Up Development of in the Future (respondents could list more than one market)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Total	100.00	100.00	100.00	100.00	100.00
China	70.21	69.71	66.91	67.85	80.28
ASEAN	31.70	24.95	31.95	25.54	21.60
North America	16.12	16.87	21.02	17.60	12.68
Europe	18.64	16.58	18.94	17.11	13.62
Japan and South Korea	17.34	16.02	16.96	17.19	9.36
Emerging markets (including India, Central and South America, and the Middle East)	13.14	11.95	14.46	12.89	6.57
Africa	1.68	1.41	1.98	1.57	0.47
Other	1.60	3.44	1.35	3.31	4.23

Notes and source: See Table 2-5-5.

Table 2-5-12 Factors Which Business Enterprises Felt to be the Main Obstacles to Future Industrial Development (respondents could list more than one factor)

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Item	100.00	100.00	100.00	100.00	100.00
Insufficient market-oriented policy formulation	11.42	15.92	11.62	16.03	15.22
Excessively small scale of operations of domestic enterprises	9.61	12.86	10.33	13.37	9.62
Insufficient coordination of local industries	12.58	10.94	13.73	11.38	8.14
Administrative inefficiency	17.60	10.38	17.39	10.49	9.73
Insufficient internationalization	9.01	9.34	8.96	9.05	11.21
Failure to develop business opportunities based on local lifestyles	6.80	8.25	6.47	8.29	7.98
Excessive focus on product technology in industrial policy	6.87	7.94	6.81	7.66	9.73
Slow development of green industries	6.28	5.13	6.20	5.16	4.97
Domestic websites too small and insufficiently secure	3.75	4.63	3.33	4.51	5.39
Insufficient cultivation of high-level international management talent	7.89	4.39	7.24	4.15	5.97
Failure to put satisfactory money flow mechanisms for online transactions in place	3.46	3.24	3.16	3.11	4.07
Other	2.80	6.97	2.83	6.81	7.98

Notes and source: See Table 2-5-5.

(3) Business Enterprises believe that the Most Effective Measure for Increasing Internationalization would be to "Implement a Strategy of Promoting Taiwanese Brands"

The survey results indicated that business enterprises felt that the most effective strategy for increasing the extent of internationalization in Taiwanese industry would be to "implement a strategy of promoting Taiwanese brands" (listed by 40.16% of firms), suggesting that business enterprises believe that promoting brand development can not only help to boost product value, it is also an effective means of developing overseas markets. The second most commonly listed measure was "actively promoting participation in regional economic integration" (34.16% of firms); business enterprises are apparently confident that, if the process of regional economic integration in Asia is successful, this will contribute to industrial development and the internationalization of industry in Taiwan. (Table 2-5-13).

Table 2-5-13 Measures that Business Enterprises Believe Would be Most Effective for Enhancing the Internationalization of Taiwanese Industry

Unit: %

Item	All Enterprises (2010)	All Enterprises (2011)	SMEs		Large Enterprises (2011)
			2010	2011	
Total	100.00	100.00	100.00	100.00	100.00
Implement a strategy of promoting Taiwanese brands	40.10	40.16	40.13	40.07	40.72
Actively promoting participation in regional economic integration	38.80	34.16	39.30	33.85	36.02
Making effective use of Taiwanese firms' global presence	13.72	16.82	13.99	17.36	13.65
Leveraging the resources of government agencies	7.38	8.85	6.58	8.72	9.62

Notes and source: See Table 2-5-1.

(4) Around 20% of Firms in the Wholesaling and Retailing Industry Reported that their Sales Revenue had Received a Direct Boost from the Government's Relaxation of the Restrictions on Travel to Taiwan by Chinese Tourists

With the steady increase in the intensity of "cross-strait" contacts and exchange between Taiwan and China, on July 18, 2008 the Taiwanese government implemented a formal relaxation of the restrictions on travel to Taiwan by Chinese tourists. The number of Chinese tourists arriving in Taiwan has gradually increased from 3,000 a day to 4,000 a day; starting on June 28, 2011, Chinese tourists have also been allowed to visit Taiwan as independent (FIT) travelers, rather than only being allowed to visit on package tours. The survey results showed that 19.84% of firms in the wholesaling and retailing industries felt that their sales performance had benefited directly from the government's relaxation of the controls on travel to Taiwan by Chinese tourists; the percentage of large wholesaling and retailing enterprises that had benefited directly was significantly higher (at 33.78%) than the corresponding percentage for SMEs (17.44%) (Table 2-5-14).

Table 2-5-14 The Direct Impact on the Sales Performance of Wholesaling and Retailing Firms of the Relaxation of Restrictions on Travel to Taiwan by Chinese Tourists

Unit: %

Item	All Enterprises	SMEs	Large Enterprises
Total	100.00	100.00	100.00
Have benefited	19.84	17.44	33.78
Have not benefited	80.16	82.56	66.22

Notes and source: See Table 2-5-1.

CHAPTER 3

Financial Status of SMEs

Financial analysis has a vital role to play in facilitating an understanding of the current state of Taiwan's SMEs and the outlook for their future development; the various financial indicators can be used to examine SMEs' operational management. The first section of this chapter presents an overview of the financial status of Taiwan's SMEs, using business income tax return data for 2009 provided by the Tax Data Center of the Ministry of Finance; there is thus a one-year time lag as compared with the data presented in the other chapters of this White Paper. The second section examines the interaction between SMEs and the banking sector, using survey data from the Financial Supervisory Commission. The third section outlines the assistance that the SME Credit Guarantee Fund provides to SMEs with respect to credit guarantees and helping SMEs to obtain financing.

The definition of SMEs used in the first and second sections of this chapter is based on the revised Standard for the Determination of SME Status promulgated by the Ministry of Economic Affairs (MOEA) in July 2005. The data presented in the third section of this chapter are taken mainly from Statistics of Banking Business, compiled by the Financial Supervisory Commission, Executive Yuan, the Directorate General of Budget, Accounting and Statistics (DGBAS), Executive Yuan, and the Central Bank; the definition of SMEs used in the third section is the same as that used in the first and second sections.

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 asset allocation status of SMEs, so as to gain an overall understanding of SMEs' financial structure.

1. Analysis of Asset Allocation by SMEs

(1) Adequate Current Assets, a Decreased Inventory Ratio, and a Sufficiently Strong Ability to Cope with Changes in the Wider Environment

As can be seen from Table 3-1-1, for large enterprises the share of total assets accounted for by current assets decreased by 1.8 percentage points in 2009 (compared to the previous year), to 60.54%. For SMEs, this percentage increased by 0.62 percentage points, to 50.38%. There was an improvement in short-term repayment ability compared to 2008, and it is significant that the share of SME total assets accounted for by current assets was more than 50%. With regard to cash's share of total assets, for large enterprises this decreased by 0.99 percentage points in 2009 to 23.88%. For SMEs, it increased from 15.31% to 20.14%, reflecting the fact that SMEs are more flexible and more able to respond rapidly to changing circumstances than large enterprises.

Table 3-1-1 Consolidated Financial Data for Taiwanese Enterprises, 2007–2009

Unit: %

Item \ Size / Year	Large Enterprises			SMEs		
	2007	2008	2009	2007	2008	2009
Current assets	62.23	62.34	60.54	43.91	49.76	50.38
Cash	24.32	24.87	23.88	14.54	15.13	20.14
Accounts receivable	27.64	28.27	26.32	11.37	12.80	11.48
Inventories	8.06	5.75	7.19	14.72	17.89	15.57
Advance payments	0.52	1.19	0.45	1.37	1.46	1.34
Other current assets	1.69	2.26	2.70	1.91	2.48	1.85
Funds and long-term investments	17.73	18.15	20.89	31.69	22.61	25.41
Fixed assets	15.55	15.22	14.13	21.15	24.08	21.00
Land and buildings	6.53	6.52	6.21	14.39	13.85	13.52
Machinery	8.10	7.84	7.09	5.70	8.92	6.35
Other fixed assets	0.92	0.85	0.83	1.06	1.31	1.13
Intangible and other assets	4.49	4.29	4.43	3.26	3.56	3.21
Total assets = Liabilities + Net worth	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**	**100.00**
Liabilities	72.54	74.66	73.57	51.48	52.80	55.87
Current liabilities	52.93	55.19	54.07	42.39	43.60	46.94
Short-term loans	34.50	37.34	37.64	11.45	11.55	12.07
Accounts payable	10.22	8.06	8.46	11.82	11.37	12.77
Income received in advance	3.93	5.39	3.99	2.96	3.81	3.91
Other current liabilities	4.27	4.40	3.98	16.16	16.87	18.19
Long-term liabilities	10.94	11.49	9.40	6.76	7.02	7.22
Long-term loans repayable	4.25	4.55	5.65	4.96	5.11	5.10
Other long-term liabilities	6.70	6.94	3.75	1.80	1.90	2.12
Other liabilities	8.67	7.98	10.10	2.33	2.18	1.72
Net worth	27.46	25.34	26.43	48.52	47.20	44.13

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

As can be seen from Table 3-1-1, inventories' share of large enterprises' total assets has continued to rise, increasing to 7.19% in 2009. For SMEs, on the other hand, inventories' share of total assets has continued to fall; in 2009, it stood at 15.57%. These figures indicate that SMEs experience a higher speed recovery compared to large enterprises during an economic upturn.

(2) A Trend towards Cautious Management Reflected in Funds and Long-term Investments Ratios That Have Remained High

Long-term investments are investments undertaken by an enterprise for financial or operational reasons, where the investments are held over the long term, for example in the form of shares or convertible bonds, etc. Long-term investments are generally defined as investments that the enterprise does not intend to convert into cash within the coming year. As can be seen from Table 3-1-1, for large enterprises the share of total assets held by funds and long-term investments rose by 2.74 percentage points in 2009 to 20.89%. For SMEs it rose by 2.8 percentage points to 25.41%. The fact that funds and long-term investments have remained high both for large enterprises and SMEs suggests that firms are experiencing a high level of uncertainty regarding the future. In the new era of low-interest rates, enterprises are unwilling to leave funds sitting in the bank earning meager returns; they have therefore been adjusting their asset mix, increasing the share of total assets held by funds and investments, and making use of different investment tools to secure higher returns.

(3) A Fall in Fixed Assets for SMEs

As can be seen from Table 3-1-1, for large enterprises the share of total assets held by fixed assets fell by 1.09 percentage points in 2009 compared to 2008, down to 14.13%. For SMEs the share fell by 3.08 percentage points to 21%.

2. Analysis of SMEs' Financial Structure

Examination of the asset allocation of Taiwan's SMEs shows that the SMEs' current asset ratio has continued to rise since 2007, standing at 50.38% in 2009. Looking at the SMEs' debt structure as well can give a more comprehensive picture of the SMEs' overall financial status. In 2009, the SMEs' current liability ratio and liability ratio have continued to rise to 46.94% and 55.87%, respectively.

(1) An Upward Trend in the Current Liabilities Ratio, But Short-term Funding Pressure Remains High

As can be seen from Table 3-1-1, in 2009 the SMEs' current liability ratio rose by 3.34 percentage points to 46.94%, while the large enterprises' current liability ratio fell by 1.12 percentage points to 54.07%. Although the SMEs' current liabilities ratio in 2009 was lower than that of large enterprises, current liabilities as a share of total liabilities for SMEs in 2009 remained very high, at 84.01%, which was significantly higher than the corresponding percentage for large enterprises (73.49%). This disparity reflects the generally high level of short-term funding pressure that SMEs are under. Ideally, SMEs should try to increase their long-term liabilities at the expense of short-term borrowing, so as to reduce this kind of short-term funding pressure.

(2) An Increase in the Long-term Liabilities Ratio

As can be seen from Table 3-1-1, in 2009, the SMEs' long-term liabilities ratio rose by 0.2 percentage points, to 7.22%, while the large enterprises' long-term liabilities ratio fell by 2.09 percentage points to 9.40%. Long-term liabilities represent debt that does not have to be repaid within the next year, such as bonds payable and long-term bills payable. Most SMEs are family businesses with inadequate capitalization, finances that are not especially transparent, and inadequate managerial capabilities. As a result, financial institutions are often reluctant to lend to SMEs, which tends to make for a low long-term liabilities ratio.

3. Analysis of SMEs' Profit and Loss

(1) A Large Decrease in the Operating Cost Ratio That Has Raised Profitability

As regards operating costs' share of net operating income, (as can be seen from Table 3-1-2), in 2009 the large enterprises' operating cost ratio fell by 1.33 percentage points to 91.79% , and the SMEs' operating cost ratio fell by 2.72 percentage points to 80.98%. As a result, the SME sector as a whole went into the black, with positive current term profit.

Table 3-1-2 Profit and Loss of Taiwanese Enterprises, 2007–2009

Unit: %

Size/Year / Item	Large Enterprises			SMEs		
	2007	2008	2009	2007	2008	2009
Net operating income	100.00	100.00	100.00	100.00	100.00	100.00
Less: Operating costs	92.34	93.12	91.79	76.23	83.70	80.98
Gross operating profit	7.66	6.88	8.21	23.77	16.30	19.02
Less: Operating expenses	5.00	5.44	6.39	17.14	17.35	18.43
Net operating profit	2.66	1.45	1.82	6.63	-1.05	0.59
Plus: Non-operating profit	1.64	2.14	1.90	2.60	1.70	1.86
Less: Interest expenses	0.84	1.51	1.47	0.92	1.25	1.10
Less: Other non-operating expenses	0.36	0.41	0.35	0.69	0.74	0.54
Current term profit (loss)	3.09	1.67	1.90	7.62	-1.34	0.81

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

(2) An Increase in SMEs' Operating Expenses Ratio, Which Significantly Exceeds That of Large Enterprises

The term "operating expenses" is used to refer to expenditure derived from an enterprise's sales and management activities, including sales expenses, management expenses, and R&D expenses, etc. In 2009, the SMEs' operating expenses ratio was 18.43%, rising slightly by 1.08 percentage points. The large enterprises' operating expenses ratio was 6.39%, up 0.95 percentage points in 2009 compared to 2008, which is lower than the corresponding figure for SMEs.

A saving of one dollar in operating expenses represents an extra dollar in earnings for the enterprise. In an era of low profit margins, the fastest way for an enterprise to boost its profit margin is to implement cost-down initiatives. Regardless of whether they are making a profit or making a loss, most firms are constantly trying to think of ways to cut costs and reduce operating expenses. The pronounced disparity between the operating expenses ratio of SMEs and that of large enterprises may be due to SMEs' limited managerial capabilities, coupled with their small scale of operation and limited bargaining power, which make it difficult for them to squeeze costs. At the same time, large enterprises are able to benefit from economies of scale; SMEs have to make do with the surplus resources that are left over, so naturally their operating expenses ratios are higher than those of large enterprises.

(3) Positive Net Operating Profit Due to the Decrease in Operating Costs Is Higher Than the Increase in Operating Expenses

As noted above, the SMEs' operating expenses ratio is far higher than that of large enterprises; however, their operating costs are lower than those of large enterprises, so in the past SMEs as a whole have always maintained a positive net operating profit. However, 2008 saw a dramatic increase in SMEs' operating costs, in addition to a slight increase in operating expenses; as a result, SMEs found themselves posting a negative net operating profit (Table 3-1-2) for the first time since 2000. However, due to the decrease in operating costs being higher than the increase in operating expenses in 2009, SMEs were still able to record a positive net operating profit.

(4) Current Term Profit and Loss Turns Positive, Reflecting the Serious Challenges SMEs Have Been Facing

As can be seen from Table 3-1-2, in 2008, large enterprises' current term profit or loss rose by 0.23 percentage points to 1.90%. SMEs' current term profit or loss increased dramatically by 2.15 percentage points to 0.81%. Net operating profit turned positive; non-operating income rose slightly (by 0.16 percentage points) to 1.86%, while the interest expenditure ratio and non-operating expenses ratio both fell slightly.

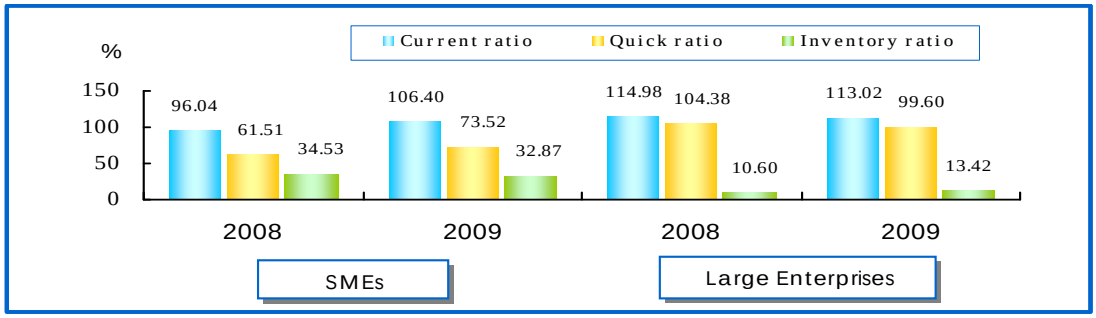
II Analysis of SMEs' Financial Ratios

1. Higher Short-term Repayment Ability, Implying Decreased Operational Risk

The current ratio of Taiwan's SMEs stood at 96.04% in 2008; in 2009 it rose by 10.36 percentage points to 106.40%, while the quick ratio also rose by 12.01 percentage points to 73.52%. The inventory ratio fell by 1.66 percentage points to 32.87% (Figure 3-2-1). The current ratio is a measure of enterprises' short-term repayment ability; ideally, a company that is in good financial health should have a current ratio of around 200%, indicating that the enterprise has NT$2 of current assets available to repay every NT$1 in current liabilities. The reference value for the quick ratio is 100%, indicating that the enterprise has NT$1 of immediately realizable current assets available to repay every NT$1 in current liabilities. The rise in both the current ratio and quick ratio of Taiwan's SMEs in 2009 denotes an amelioration in the SMEs' short-term repayment ability.

Turning to the short-term repayment ability of Taiwan's large enterprises, in 2008 large enterprises as a whole had a current ratio of 114.98%, while it fell by 1.96 percentage points in 2009 to 113.02%. The quick ratio fell by 4.78 percentage points in 2009 to 99.60%, which was lower than the 100% reference value. On the other hand, the inventory ratio rose by 2.82 percentage points to 13.42%. These data show that the large enterprises' short-term repayment ability is superior to that of SMEs.

Figure 3-2-1 Short-term Liquidity of Taiwanese Enterprises, 2008 and 2009



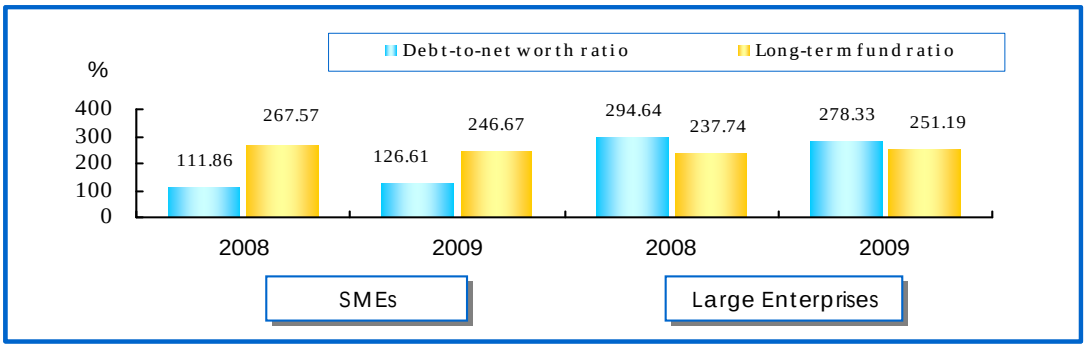
Notes: 1. Current ratio = current assets ÷ current liabilities × 100% (reference value = 200; ideally, the ratio should be higher than the reference value).
2. Quick ratio = (current assets – inventories) ÷ current liabilities × 100% (reference value = 100; ideally, the ratio should be higher than the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

As can be seen from the SME current ratio, quick ratio and inventory ratio data presented above, the ability of Taiwan's SMEs to cope with changes in the business environment is improving. SMEs need to focus on achieving rigorous control of their current asset and current liability structure, enhance their short-term repayment ability, and implement effective inventory management.

2. An Improvement in Enterprises' Long-term Stability

For the debt-to-net-worth ratio, a reference value of 100% is normally used, indicating that the enterprise has NT$1 of capital available for every NT$1 of debt. The higher the debt-to-net-worth ratio, the more heavily leveraged the enterprise is. In 2008, the average debt-to-net-worth ratio of Taiwan's SMEs was 111.86%, rising by 14.75 percentage points to 126.61% in 2009. For large enterprises, the debt-to-net-worth ratio in 2009 fell by 16.31 percentage points to 278.33% (Figure 3-2-2). The main reason for the increase in the debt-to-net-worth ratio of SMEs in 2009 was the impact of the global financial crisis, which led to higher levels of debt.

Figure 3-2-2 Long-term Stability of Taiwanese Enterprises in 2008 and 2009



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 funds ratio = (equity + long-term debt) ÷ fixed assets × 100% (reference value = 100; ideally, the ratio should be above the reference value).
Source: Ministry of Finance, Business income tax return data.

The fact that the SMEs' debt-to-net-worth ratio was close to the reference value means that creditors can be reasonably sure that their capital is protected; from the investor's point of view, it means that enterprise managers are making appropriate use of borrowing to enhance the firm's revenue performance. The debt-to-net-worth ratio of large enterprises is far higher than the reference value, indicating that large enterprises are using a high level of financial leverage. In an era of low interest rates, when the economy is starting to pick up again, taking on a reasonable level of leverage through low-interest borrowing can help firms to achieve higher earnings; however, enterprises must be careful not to become over-leveraged, otherwise the firm's financial health may be threatened.

The long-term funds ratio is mainly used to gauge whether a firm's long-term funding operations are appropriate. Ideally, enterprises should rely mainly on long-term funds for their funding of fixed asset purchases. In 2009, the long-term funds ratios of both SMEs and large enterprises remained higher than the reference value of 100%, which is conducive to the maintenance of long-term stability by the enterprise. In 2009, the SMEs' long-term funds ratio fell by 20.9 percentage points to 246.67%, while the large enterprises' long-term funds ratio rose

by 13.45 percentage points to 251.19%. For both SMEs and large enterprises, the long-term funds ratio is adequate to meet long-term asset purchase needs, indicating sound long-term fund allocation.

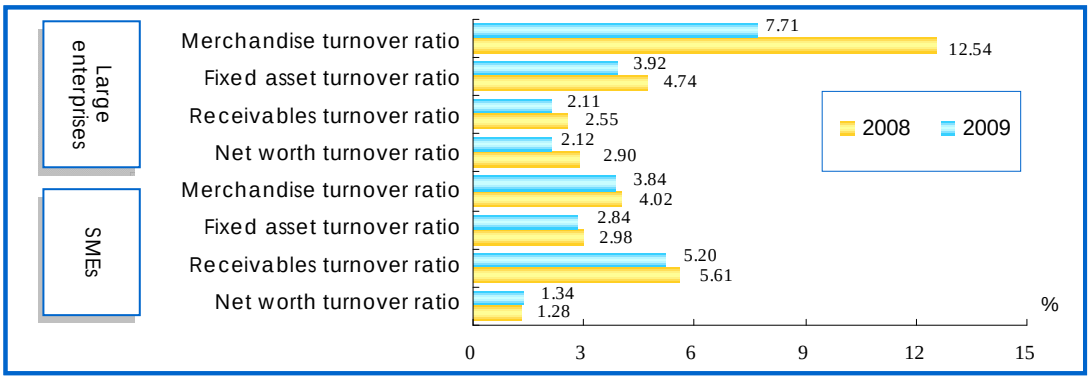
3. An Across-the-board Fall in Turnover Ratios, Indicating a Decline in Operating Capability

An enterprise's operational efficiency can be gauged by examining its efficiency of merchandise utilization, efficiency of fixed asset utilization, efficiency of collections and efficiency of capital utilization. Merchandise turnover is an indicator that can be used to determine whether an enterprise is managing to achieve a reasonable balance between inventory and sales; fixed asset turnover is used to measure the efficiency of utilization of a firm's buildings, machinery, land and other fixed assets; receivables turnover measures the efficiency of a company's collection activities. Net worth turnover denotes the number of own capital recovery turns; if this figure is too high, it implies that the enterprise has insufficient capital and is not sufficiently stable; if it is too low, it indicates that the firm has too much capital, or that its sales revenue is too low.

Examination of the data for 2009 shows that receivables turnover for SMEs fell from 5.61 turns in 2008 to 5.20 in 2009, while merchandise turnover fell from 4.02 to 3.84. This indicates that the SMEs' operating ability declined slightly in 2009 compared to 2008. Turning to large enterprises, receivables turnover for large enterprises fell from 2.55 in 2008 to 2.11 in 2009, while merchandise turnover fell significantly from 12.54 to 7.71, suggesting that the large enterprises' and SMEs' operating ability were inferior to those in 2008 (Figure 3-2-3).

Examination of the net worth turnover and fixed asset turnover indicators shows that, for SMEs, fixed asset turnover fell from 2.98 in 2008 to 2.84 in 2009, while net worth turnover rose slightly from 1.28 to 1.34. For large enterprises, fixed asset turnover fell from 4.74 in 2008 to 3.92 in 2009, and net worth turnover fell from 2.90 to 2.12. Although both the SMEs' and the large enterprises' fixed asset turnover did decline in 2009, the SMEs' net worth turnover increased slightly and that of large enterprises fell. It is clear that the efficiency of the SMEs' fixed asset utilization was superior to that of large enterprises.

Figure 3-2-3 Operating Capability of Taiwanese Enterprises in 2008 and 2009



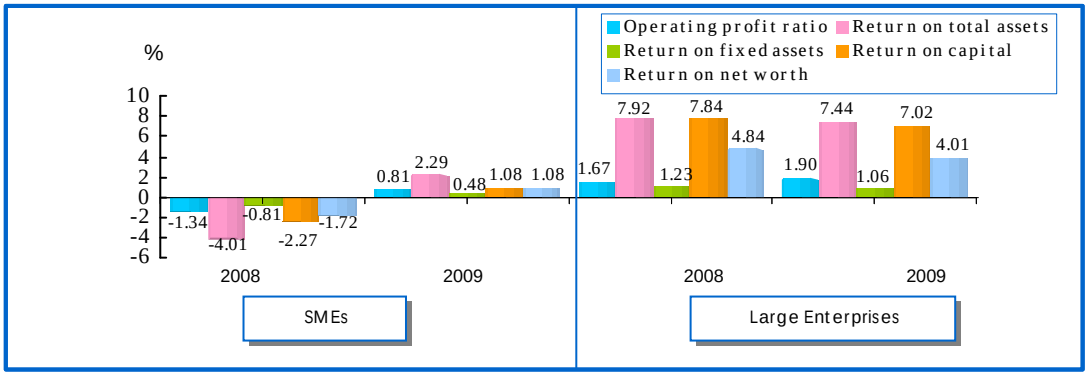
Notes: 1. Net worth turnover ratio = net sales / net worth; 2. Receivables turnover ratio = net sales / receivables.
3. Fixed asset turnover ratio = net sales / fixed assets; 4. Merchandise turnover ratio = net sales / inventories.
Source: Ministry of Finance, Business income tax return data.

To summarize, the global financial crisis of 2008 affected the operational performance of both large enterprises and SMEs. The economy improved in 2009, and in terms of net worth turnover, the performance of SMEs was superior to that of large enterprises.

4. Earnings Went into the Black, Reflecting an Amelioration of the Business Environment

2009 saw a significant change in SMEs' earnings performance; all profitability indicators – including operating profits, the return on total assets, return on fixed assets, return on capital, and return on net worth – turned positive (Figure 3-2-4). SMEs clearly had adjusted to the warm economic climate, and found themselves experiencing a steadily improving operational environment. For large enterprises, most of the profitability indicators were lower than in 2008. Overall, SMEs' earnings were better than those of large enterprises.

Figure 3-2-4 Profitability of Taiwanese Enterprises in 2008 and 2009



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 / net worth.
5. Return on net worth = current profit / net worth.
Source: Ministry of Finance, Business income tax return data.

III Financial Institutions and SME Financing

Funding 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.

The range of funding channels open to SMEs is somewhat limited; generally speaking, SMEs remain dependent on indirect financing in the form of bank loans. The following sections analyze the provision of funding to SMEs by the banking sector (Tables 3-3-1, 3-3-2 and 3-3-3).

1. First Commercial Bank Has a Higher Total of Outstanding Loans to SMEs than Any Other Bank

As in 2008, Taiwan Cooperative Bank had a higher total of outstanding loans to SMEs than any other financial institution in Taiwan in 2009 (for the purposes of this section, "outstanding loans" include overdue loans). However, in 2010, First Commercial Bank came to have the highest total of outstanding loans to SMEs of any other financial institution in Taiwan. As of December 31,

2010, First Commercial Bank's outstanding loans to SMEs totaled NT$455.8 billion, representing an increase of NT$98,856 million compared to December 31, 2009; the Bank's share of the SME loan market rose from 11.05% in 2009 to 12.34% in 2010. Taiwan Cooperative Bank was in second place, with outstanding loans to SMEs of NT$436.9 billion, giving it a market share of 11.83%. The SME loan market in Taiwan is heavily concentrated, with the top 10 banks providing 75.55% of all outstanding loans to SMEs (Table 3-3-1).

Table 3-3-1 Top 10 Banks by Amount of Loans to SMEs in 2010

Units: NT$ millions; %

Bank	Loans Outstanding	Market Share	Loans to SMEs as % of Total Loans
Total	**2,790,303**	**75.55**	**-**
First Commercial Bank	455,825	12.34	41.02
Taiwan Cooperative Bank	436,999	11.83	25.34
Taiwan Business Bank	341,089	9.23	38.70
Hua Nan Commercial Bank	308,250	8.35	26.15
Chang Hwa Commercial Bank	257,269	6.97	26.40
Land Bank of Taiwan	253,288	6.86	15.45
Mega International Commercial Bank	245,490	6.65	25.44
Bank of Taiwan	239,794	6.49	12.12
E. Sun Commercial Bank	137,057	3.71	24.34
Shanghai Commercial & Savings Bank	115,242	3.12	37.26

Source: Banking Bureau, Financial Supervisory Commission, Executive Yuan, *Statistics of Banking Business*, No. 400, 2011.

Of the top ten providers of loans to SMEs, apart from E.Sun Bank, which is a "new bank" established in 1994, and Shanghai Commercial & Savings Bank, which is also not a state-run bank, the other banks are all either state-run or partially state-run; between them, these banks account for 68.72% of all outstanding loans to SMEs. While this situation may be partly explained by the fact that the "new banks" were late entrants to the market, it does appear that the establishment of the "new banks" has so far had little positive impact on the volume of loans made available to SMEs. It also appears that state-run banks account for 56.17% of all outstanding loans to all enterprises, so the corresponding share to SMEs is higher than that for 'new banks'.

2. First Commercial Bank Had the Highest Percentage of Loans Extended to SMEs in 2010

As regards the percentage of a bank's total outstanding loans that were loans made to SMEs, in 2010 First Commercial Bank took the number one spot with an SME loan ratio of 41.02% (Table 3-3-2).

Taiwan Business Bank was in second place; as a specialized "SME bank," Taiwan Business Bank naturally has a high percentage of its loans going to SMEs. In 2010, Hwa Tai Commercial Bank and E. Sun Commercial Bank both moved up into the top ten banks with the highest percentage of loans extended to SMEs, while EnTie Commercial Bank and King's Town Bank dropped out of the top ten; there were also some changes in terms of the respective positions held within the top ten.

Table 3-3-2 Top 10 Banks by the Percentage of Total Loans Going to SMEs in 2009 and 2010

Units: NT$ millions; %

Bank	2009		2010	
	Loans Outstanding	Loans to SMEs as % of Total Loans	Loans Outstanding	Loans to SMEs as a % of Total Loans
First Commercial Bank	356,969	36.97	455,825	41.02
Taiwan Business Bank	313,882	35.89	341,089	38.70
Shanghai Commercial & Savings Bank	86,913	31.05	115,242	37.26
Taichung Business Bank	74,808	34.45	85,779	35.30
Hwa Tai Commercial Bank	17,949	21.76	23,787	27.05
Chang Hwa Commercial Bank	229,127	24.57	257,269	26.40
Hua Nan Commercial Bank	294,865	28.10	308,250	26.15
Mega International Commercial Bank	217,107	23.57	245,490	25.44
Taiwan Cooperative Bank	400,424	22.84	436,999	25.34
E. Sun Commercial Bank	113,457	21.84	137,057	24.34

Source: Banking Bureau, Financial Supervisory Commission, Executive Yuan, *Statistics of Banking Business*, No. 400, 2011.

3. Outstanding Loans to SMEs by Banking Subsidiaries of Financial Holding Companies Increased Significantly

Since the Financial Holding Company Law came into effect in late 2001, a number of financial holding companies have been established in Taiwan. As of December 2010, there were 15 banks in Taiwan that were subsidiaries of financial holding companies. According to statistics compiled by the Financial Supervisory Commission, between them, these banks had total outstanding loans to SMEs of NT$2,132.2 billion, representing an increase of NT$291.4 billion (15.83%) compared with the 2009 total of NT$1,840.8 billion. The rate of increase was more than the rate of increase in loans to SMEs by all regular commercial banks in 2010 (14.37%). It can thus be seen that, while outstanding loans to SMEs by all regular commercial banks did rise significantly in 2009, the increase was smaller than the increase in loans to SMEs by the banking subsidiaries of financial holding companies (Table 3-3-3).

4. An Increase in Total Bank Loans to SMEs Compared to 2009

As of the end of 2010, the total outstanding loans of ordinary commercial banks in Taiwan (including the Taiwan branches of foreign banks, but excluding overseas loans) came to NT$3,693.5 billion, representing an increase of NT$464.1 billion (14.37%) compared to the end of 2009. The share of total loans going to SMEs rose slightly, from 18.45% in 2009 to 19.85% in 2010 (Figure 3-3-1). Financial Supervisory Commission data give the total volume of loans to SMEs by domestic banks as NT$3,676.5 billion, accounting for 45.39% of loans to all business enterprises, and representing an increase of NT$472.2 billion compared to the 2009 total of NT$3,204.3 billion; the SMEs' share of all bank loans rose by 2.73 percentage points.

Both outstanding loans to SMEs (including overdue loans) by ordinary commercial banks and the share of total loans going to SMEs rose in 2010 compared to the end of 2009; the rate of growth of ordinary commercial banks' outstanding loans to SMEs, at 14.37%, was significantly higher than the overall growth rate of outstanding loans to all enterprises (6.31%).

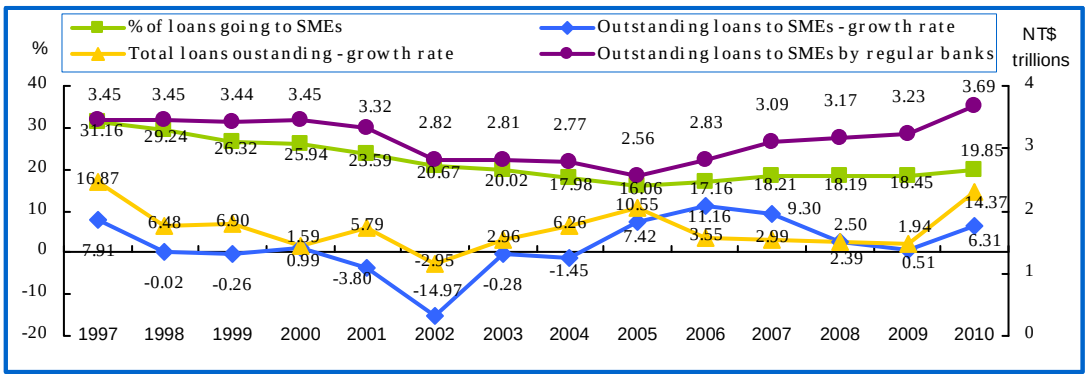
Table 3-3-3 Outstanding Loans to SMEs by the Banking Subsidiaries of Financial Holding Companies in 2009 and 2010

Units: NT$ millions; %

Bank	2009		2010			
	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 (all regular commercial banks)	**3,229,362**	**18.45**	**3,693,542**	**19.85**	**464,180**	**14.37**
First Commercial Bank	356,969	36.97	455,825	41.02	98,856	27.69
Hua Nan Commercial Bank	294,865	28.10	308,250	26.15	13,385	4.54
Chang Hwa Bank	229,127	24.57	257,269	26.40	28,142	12.28
Bank of Taiwan	228,994	11.75	239,794	12.12	10,800	4.72
Mega International Commercial Bank	217,107	23.57	245,490	25.44	28,383	13.07
E. Sun Commercial Bank	113,457	21.84	137,057	24.34	23,600	20.80
Bank SinoPac	82,811	14.36	88,326	14.66	5,515	6.66
Cathay United Bank	75,180	10.30	97,656	12.15	22,476	29.90
Taipei Fubon Commercial Bank	68,145	8.87	75,908	9.80	7,763	11.39
Chinatrust Commercial Bank	60,011	8.35	65,227	8.25	5,216	8.69
Yuanta Bank	41,240	18.18	58,831	21.47	17,591	42.66
Taiwan Shin Kong Commercial Bank	32,412	11.73	44,796	14.40	12,384	38.21
Taishin International Bank	27,962	6.01	45,731	9.30	17,769	63.55
Jih Sun Commercial Bank	10,358	8.67	11,160	9.25	802	7.74
China Development Industrial Bank	2,210	3.69	940	1.57	-1,270	-57.47

Source: Banking Bureau, Financial Supervisory Commission, Executive Yuan, *Statistics of Banking Business*, No. 400, 2011.

Figure 3-3-1 Changes in Bank Loans to SMEs by Regular Banks, 1997–2010



Note: "Total loans oustanding" 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: Banking Bureau, Financial Supervisory Commission, Executive Yuan, *Statistics of Banking Business*, consecutive years.

5. Domestic Banks' Outstanding Loans to SMEs Have Continued to Rise

To help SMEs overcome their financing problems, government agencies – including the Financial Supervisory Commission, the SMEA and the SME Credit Guarantee Fund – have introduced various guidance and credit guarantee measures that can help SMEs to obtain the funding they need.

Implementation of the Financial Supervisory Commission's Plan for Increasing Loans to SMEs by Domestic Banks began in July 2005. The economic downturn that was triggered by the global financial crisis in the second half of 2008 threatened the very survival of many of Taiwan's

SMEs. In response, the government adopted the “Three Supports” policy, and towards the end of 2008 the SME Credit Guarantee Fund launched the SME Credit Guarantee Fund “Golden Jack” Program to help SMEs obtain the funding they needed during the downturn; this program appears to have been quite successful in helping SMEs to get through this difficult period.

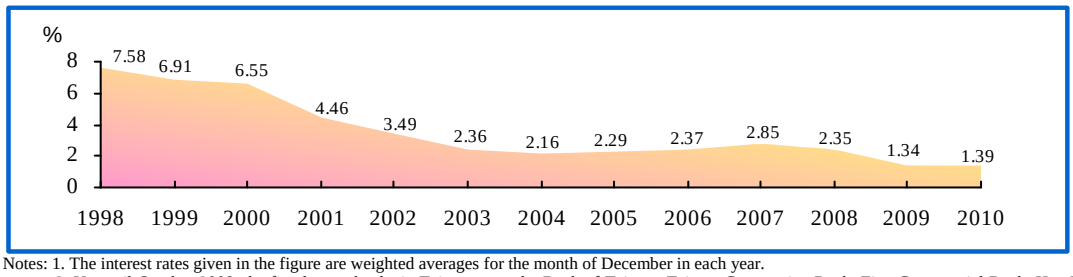
Before the implementation of the Financial Supervisory Commission’s Plan for Increasing Loans to SMEs by Domestic Banks began, in June 2005 total outstanding loans to SMEs by domestic banks stood at NT$2,366.6 billion. By the end of December 2008, this figure had risen to NT$3,137.6 billion, and by the end of 2010 it had increased still further to NT$3,676.5 billion, representing 45.39% of outstanding loans to all business enterprises. Loans to SMEs had thus grown by NT$1,309.9 billion since June 2005, a growth rate of 55.34%. This steady increase in outstanding loans to SMEs since 2005 shows that the implementation by domestic banks of the measures initiated by the government to strengthen the availability of funding to SMEs has borne fruit.

6. A slight rise in the Cost of Financing in 2010

In June 2008, the rediscount rate reached 3.625%, its highest level since 2001. Subsequently, the impact of the global financial crisis and the resulting economic downturn pushed interest rates down. The Central Bank implemented several downward revisions of the rediscount rate, which by February 19, 2009 had fallen to 1.25%, its lowest level since June 2008. However, with the economic recovery, in order to avoid economic overheating and in line with the international trend towards interest rate rises, the Central Bank gradually began to increase interest rates to 1.3625% on December 31, 2010.

Central Bank data show that the average interest rate on new loans extended by Taiwan’s five largest banks had fallen steadily from 7.58% in 1998 to 2.16% in 2004. In 2006, the rate rose to 2.37%, and in 2007 it climbed still further to 2.85%. The average interest rate on new loans then fell back to 2.35% in 2008 due to the impact of the global financial crisis, and in 2009 it fell even further, to 1.34%, making the cost of financing for business enterprises slightly higher in 2009 than it had been in 2008, or 1.39% (Figure 3-3-2).

Figure 3-3-2 The Average Interest Rate on New Loans Extended by Taiwan’s Five Largest Banks, 1998–2010



Notes: 1. The interest rates given in the figure are weighted averages for the month of December in each year.
2. Up until October 2008, the five largest banks in Taiwan were the Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank and Chang Hwa Commercial Bank; from November 2008 onwards the five largest banks were the Bank of Taiwan, Taiwan Cooperative Bank, First Commercial Bank, Hua Nan Commercial Bank and Land Bank of Taiwan.
Source: Central Bank of China (Taiwan).

CHAPTER 4

SME Human Resources

In 2010, the global economy improved quarter by quarter. According to the IHS Global Insight forecast, the 2010 economic growth rate reached 4.0%, mainly due to the rapid growth of emerging countries, but was also affected by inflation and asset price bubbles. However, the recovery of the advanced countries was weak and the unemployment rate decreased slowly, so that the economic recovery continues to face difficulties. The Taiwan economy has been seriously affected by the international economy. Its economic growth rate that reached up to 10.88% has been driven by the strong growth of private investment and exports, thereby further pushing up the demand for manpower. This chapter examines small and medium enterprise (SME) manpower utilization, working conditions, manpower cultivation and manpower requirements.

The official criteria for determining whether a business enterprise should be classed as an SME were revised in September 2009. With respect to the mining and quarrying, manufacturing and construction industries, the definition of an SME as being an enterprise with 200 or fewer employees has been retained, while for other industries the cutoff point for SME status has been raised to 100 or fewer employees.

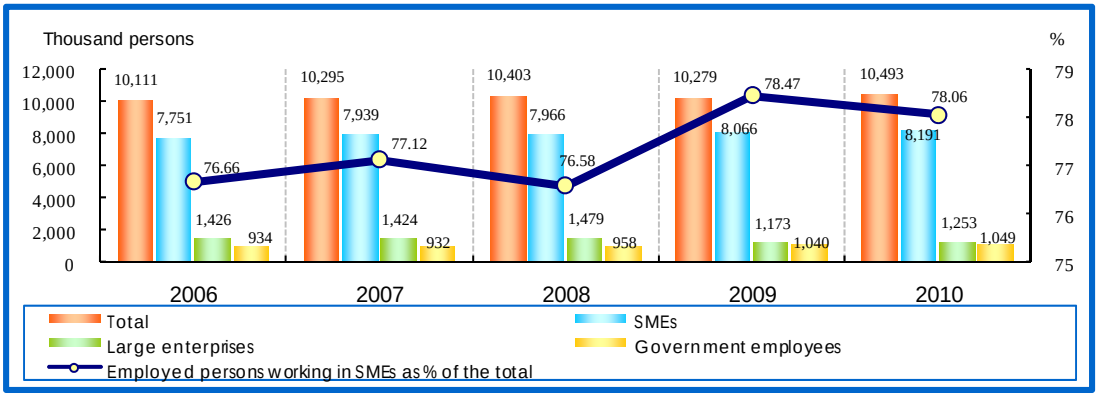
I Labor Utilization by SMEs

In 2010, the workforce in Taiwan totaled 11,070,000 people, including 10,493,000 employed persons (including employers, own-account workers, unpaid family workers, and paid employees) and 577,000 unemployed persons; the labor participation rate was 58.07%, and the unemployment rate averaged 5.21% over the course of the year. Due to the recovery of the global economy, the workforce increased by 153,000 compared to 2009, and the number of employed persons rose by 214,000, while the number of unemployed persons declined by over 60,000. The following section examines SME labor utilization in 2010.

1. The SME Sector Provided Over 8,190,000 Jobs in 2010

Using the revised definition of SMEs that was introduced in September 2009, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs, in 2009 the number of employed persons working in SMEs in Taiwan totaled 8,066,000, accounting for 78.47% of all employed persons in Taiwan. In 2010, the number of employed persons working in SMEs in Taiwan totaled 8,191,000. However, the rate of increase for large enterprises was higher than that of SMEs, and so the proportion of employment in SMEs fell to 78.06%. (Figure 4-1-1).

Figure 4-1-1 No. of Employed Persons in Taiwan, 2006–2010



Notes: Data for 2009 and 2010 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*.

The number of employed persons working in SMEs in the manufacturing sector in 2010 stood at 2,127,000, accounting for 25.97% of all employed persons working in SMEs. The wholesaling and retailing industry had the second largest number of employed persons working in SMEs, or 1,682,000 (20.53% of all employed persons working in SMEs), followed by the construction industry, with 779,000 (9.51%) (Table 4-1-1).

Table 4-1-1 The Number of Employed Persons and Paid Employees Working in SMEs in 2009 and 2010

Units: thousand persons; %

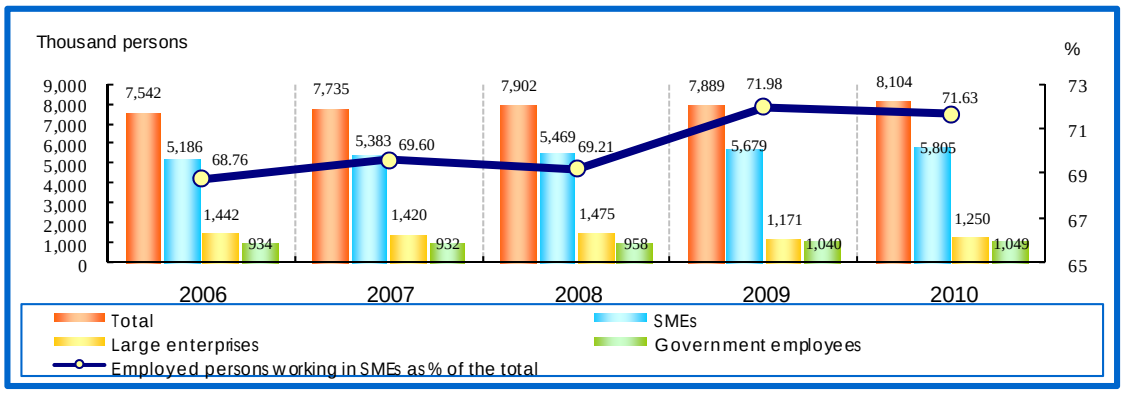
Industry \ Item/Year	No. of Employed Persons				No. of Paid Employees			
	2009	2010	Share of Total	Growth Rate	2009	2010	Share of Total	Growth Rate
Total	**8,066**	**8,191**	**100.00**	**1.55**	**5,679**	**5,805**	**100.00**	**2.22**
Agriculture, forestry, fisheries and animal husbandry	537	545	6.65	1.49	79	78	1.35	-1.27
Mining and quarrying	4	4	0.04	0.00	4	4	0.06	0.00
Manufacturing	2,111	2,127	25.97	0.76	1,843	1,867	32.16	1.30
Electric power and gas	3	3	0.04	0.00	3	3	0.05	0.00
Water supply and pollution control	27	29	0.36	7.41	20	21	0.37	5.00
Construction	769	779	9.51	1.30	640	650	11.20	1.56
Wholesaling and retailing	1,669	1,682	20.53	0.78	942	962	16.58	2.12
Transportation and warehousing	289	295	3.61	2.08	196	202	3.48	3.06
Hotel and restaurant	677	708	8.64	4.58	379	399	6.88	5.28
Information, communications and broadcasting	147	148	1.81	0.68	136	136	2.35	0.00
Finance and insurance	310	315	3.85	1.61	306	312	5.37	1.96
Real estate	64	70	0.85	9.38	56	61	1.05	8.93
Professional, scientific and technical services	248	258	3.15	4.03	180	188	3.24	4.44
Supporting services	212	217	2.65	2.36	191	197	3.39	3.14
Educational services	217	218	2.66	0.46	186	187	3.23	0.54
Medical, healthcare and social welfare services	185	192	2.34	3.78	152	159	2.75	4.61
Arts, entertainment and leisure services	76	76	0.93	0.00	56	58	1.00	3.57
Other service industries	519	525	6.41	1.16	310	319	5.50	2.90

Notes: Data for 2009 and 2010 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2009 and 2010.

2. A Total of 5,805,000 Paid Employees were Working for SMEs in 2010

The total number of paid employees in Taiwan averaged 8,104,000 in 2010 (including government employees and private company employees), representing an increase of 214,000 (2.72%) compared to 2009; of this total of 8,104,000 paid employees, 5,805,000 (71.63% of all paid employees) were working in SMEs (Figure 4-1-2). The number of employed persons working in SMEs in the manufacturing sector in 2010 stood at 1,867,000, accounting for 32.16% of all employed persons working in SMEs. The wholesaling and retailing industry had the second largest number of employed persons working in SMEs, at 962,000 (16.58% of all employed persons working in SMEs), followed by the construction industry, with 650,000 (11.20%) (Table 4-1-1).

Figure 4-1-2 No. of Paid Persons in Taiwan, 2006–2010

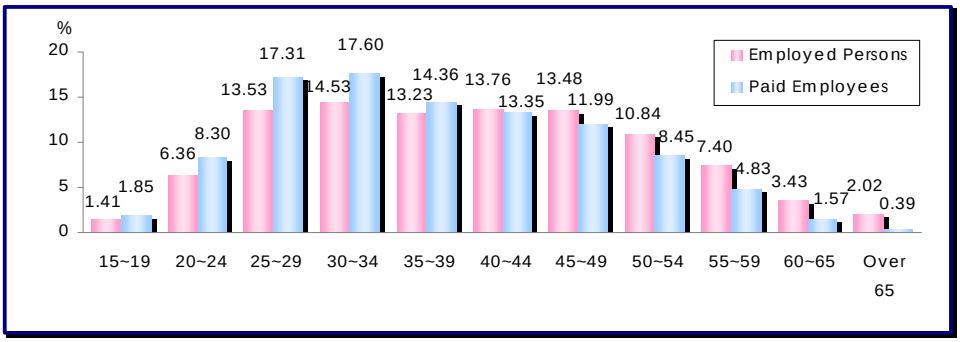


Notes: Data for 2009 and 2010 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*.

3. More than 28% of SMEs' Manpower Educational Structure is Vocational Education

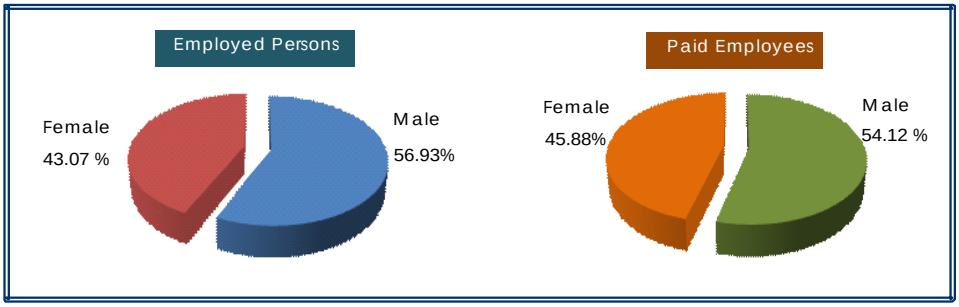
In 2010, employed persons working in SMEs were mainly between the ages of 25 and 54. While employment continues to be male-dominated, the female employment rate has followed an increasing trend with each passing year. In addition, although the highest proportion of employed persons working in SMEs consisted of those with a vocational education, the share of those with a university education has, however, gradually increased and is consistent with Taiwan's higher education expansion policy. The age structure of paid employees is similar to that of employed persons who were working for SMEs in 2010, with the proportion up to 49.27% for those aged between 25 and 39. As for paid employees, the proportion of women is more than 45%, and even higher than the percentage of women among employed persons. In addition, the share of paid employees with a university education in 2010 was also significantly higher than in 2009, having increased by 3.5 percentage points (see Figures 4-1-3.4-1-4.4-1-5).

Figure 4-1-3 The Age Structure of Employed Persons and Paid Employees Working in SMEs in 2010



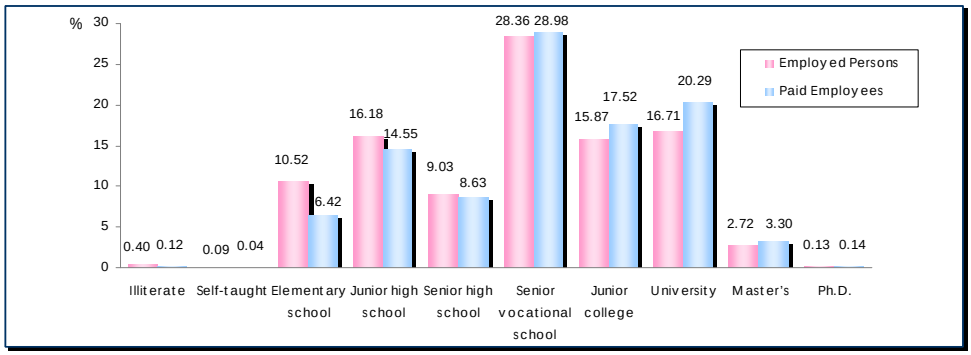
Notes: Data for 2009 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, Monthly Bulletin of Manpower Statistics, 2010.

Figure 4-1-4 The Sex Structure of Employed Persons and Paid Employees Working in SMEs in 2010



Notes: Data for 2009 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, Monthly Bulletin of Manpower Statistics, 2010.

Figure 4-1-5 The Educational Structure of Employed Persons and Paid Employees Working in SMEs in 2010



Notes: Data for 2009 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, Monthly Bulletin of Manpower Statistics, 2010.

4. There were Around 472,000 SME Employers in Taiwan in 2010

There were around 472,000 SME employers in Taiwan in 2010, and approximately 2,000 large enterprise employers. The number of SME employers rose by 4,700 (1.00%) in 2010. At the same time, the number of large enterprise employers rose by 310, an increase of 15.27%. This gives some idea of the impact that the economic recovery had on both SMEs and large enterprises in 2010. While the growth rate of large enterprise employers rose more quickly than that of SME employers, the share held by SME employers fell by 0.06 percentage points compared to 2009. However, the age structures of SME employers showed that they were younger than large enterprise employers, and the educational structure distribution was broader (Table 4-1-2).

Table 4-1-2 Characteristics of Employers in 2009 and 2010

Units: thousand persons; %

Item \ Year	2009		2010	
	SMEs	Large Enterprises	SMEs	Large Enterprises
Total No. of Persons	**468.08**	**2.03**	**472.78**	**2.34**
(Share of total)	**99.57**	**0.43**	**99.51**	**0.49**
Age	100.00	100.00	100.00	100.00
15 – 19	0.02	–	0.02	–
20 – 24	0.37	–	0.20	–
25 – 29	2.17	–	2.23	–
30 – 34	6.69	4.62	6.47	–
35 – 39	12.36	–	11.98	4.07
40 – 44	17.87	3.82	17.02	7.28
45 – 49	20.57	4.38	20.32	9.32
50 – 54	19.51	28.98	19.85	19.41
55 – 59	12.34	20.81	13.33	28.70
60 – 65	5.71	13.73	6.04	19.28
Over 65	2.40	23.67	2.54	11.94
Sex	100.00	100.00	100.00	100.00
Male	81.35	92.17	80.90	86.82
Female	18.65	7.83	19.10	13.18
Education	100.00	100.00	100.00	100.00
Illiterate	0.04	–	0.06	–
Self-taught	0.06	–	0.04	–
Elementary school	8.29	5.90	7.94	–
Junior high school	14.92	1.49	15.39	9.81
Senior high school	10.48	5.22	10.37	7.38
Senior vocational school	27.84	2.05	26.63	–
Junior college	18.94	10.90	19.31	21.48
University	15.72	29.82	16.35	33.07
Master's	3.31	33.38	3.50	18.91
Ph.D.	0.42	11.24	0.41	9.34

Note: See Table 4-1-2.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2009 and 2010.

5. A Decrease in the Number of Self-employed Persons

The self-employed either work alone or as part of a partnership, but they do not have any paid employees. Self-employed persons can thus all be classed as SMEs. The number of self-employed persons in Taiwan peaked in 1991–1992 at around 1,572,000. Since then, it has tended to fall, dropping to 1,329,000 in 2010; this figure represents a decline of around 2,000 compared to 2009, the lowest level after a number of years of decline. As seen from the age

structure, the shares of self-employed at both ends of the age structure have both increased, while the proportion for the 30-50 age group is lower than in 2009, which shows that the trend towards young entrepreneurs is increasing, and the numbers of those in the 55 and above age groups who are turning to create their own businesses are also increasing (Table 4-1-3).

Table 4-1-3 Characteristics of Self-employed Persons in 2009 and 2010

Units: thousand persons; %

Item \ Year	2009	2010
Total No. of Persons	**1,331**	**1,329**
(Share of total)	100.00	100.00
Age	100.00	100.00
15 – 19	0.05	0.07
20 – 24	0.64	0.66
25 – 29	2.89	2.93
30 – 34	6.18	5.76
35 – 39	9.82	9.25
40 – 44	14.62	14.31
45 – 49	17.12	17.01
50 – 54	17.01	16.96
55 – 59	14.94	15.38
60 – 64	9.10	9.76
65 or over	7.61	7.91
Sex	100.00	100.00
Male	74.48	74.80
Female	25.52	25.20
Education	100.00	100.00
Illiterate	1.30	1.22
Self-taught	0.34	0.25
Elementary school	26.03	25.33
Junior high school	22.88	22.88
Senior high school	9.84	9.86
Senior vocational school	24.16	24.53
Junior college	9.44	9.81
University	5.15	5.23
Master's	0.79	0.85
Ph.D.	0.07	0.05

Note: See Table 4-1-2.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2009 and 2010.

6. There were Nearly 425,000 Female SME Owners and Self-employed Persons in Taiwan in 2010

There were 90,307 female SME owners in Taiwan in 2010, representing an increase of 3,017 (3.45%) compared to 2009, as well as 335,030 female self-employed persons, representing a decline of 4,707 (-1.39%). Overall, the combined total for female SME owners and female self-employed persons in 2010 was 425,337 persons, reflecting a decrease of 1,690 (0.40%) persons compared with 2009.

Female SME owners are highly concentrated in the wholesaling and retailing industry, followed by the hotel and restaurant industry, and "other service industries" in third place. The female self-employed are mainly found in the wholesaling and retailing industry, and in the "other service industries," followed by the hotel and restaurant industry. Overall, female entrepreneurial activity is heavily concentrated in the wholesaling and retail industry and in the hotel and restaurant industry, and "other service industries".

7. Temporary and Contract Workers Increased in SMEs

According to the data presented in the 2010 Taiwan Region Manpower and Employment Survey, there has been an increase in the use of full-time workers by enterprises. The number of full-time workers in SMEs rose by 114,000, while the number of full-time workers in large enterprises rose by 91,000. The part-time workers in SMEs have increased by 33,000, while those in large enterprises and government agencies that employ part-time manpower have declined, especially in large enterprises where they have sometimes declined by more than 60%. Overall, the utilization of part-time workers is most common in the service sector, especially in the wholesaling and retailing industry, followed by the hotel and restaurant industry. Clearly, both SMEs and service sector enterprises feel a real need for part-time workers.

8. An Increase in the Share of Foreign Laborers Employed by SMEs

With the recovery from the global financial crisis as reflected by business enterprises' operations and the number of orders received, 2010 saw an increase in both the number of applications to employ foreign laborers and the number of foreign laborers actually working in Taiwan. The number of approvals rose to 208,600 (up 20,415 on 2009), while the number of foreign laborers actually working in Taiwan increased to 185,800 (up 16,179 on 2009). The rise in the number of foreign laborers in 2010 was attributable mainly to SMEs, where the number of foreign laborer approvals rose by 9,958, compared to 10,457 among SMEs; similarly, the number of foreign laborers actually in Taiwan and working for large enterprises increased by 9,197, while the number of foreign laborers in Taiwan and working for SMEs rose by 6,982 to 102,605, reflecting a share of over 55%, which is consistent with the trend from 2008 on.

9. A Decrease in the Number of SME Employees Becoming Involuntarily Unemployed

In 2010, the number of unemployed persons in Taiwan fell by approximately 63,000 compared to 2009, and the unemployment rate fell to 5.21%. The number of unemployed persons who had previously been working for an SME fell from 466,000 in 2009 to 402,000 in 2010, while the number of unemployed who had previously been working for a large enterprise declined from 51,000 to 42,000 (Table 4-1-4).

Due to the global financial crisis having slowly ebbed away, the number of unemployed due to the layoffs, or employers going out of business decreased to 230,009, reflecting a decline of 28.82% compared to 2009 (Figure 4-1-6). The shares for all SMEs, large enterprises and government departments all decreased. However, the seasonal or temporary jobs provided by government departments to alleviate unemployment in the financial crisis period increased significantly. However, in 2010 the share for leaving one's previous job because of dissatisfaction also rose, suggesting that the labor market has recovered (Table 4-1-5).

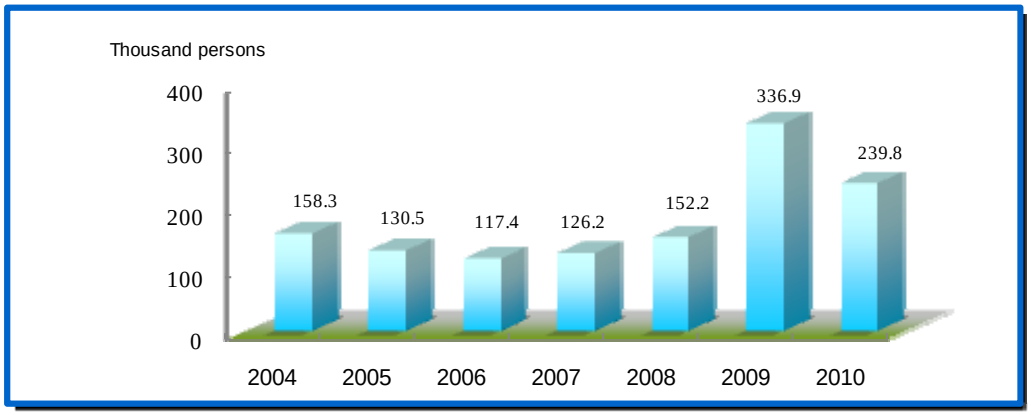
Table 4-1-4 Characteristics of the Unemployed in 2009 and 2010

Unit: thousand persons; %

Item \ Year	2009			2010		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total No. of Persons	**465.68**	**51.16**	**19.35**	**401.90**	**41.67**	**28.71**
Share of total	**86.85**	**9.54**	**3.61**	**85.10**	**8.82**	**6.08**
Age	100.00	100.00	100.00	100.00	100.00	100.00
15 – 19	2.12	0.76	0.53	1.73	0.20	0.32
20 – 24	10.51	10.10	7.87	9.44	9.38	9.41
25 – 29	19.40	30.08	24.27	19.81	26.84	25.64
30 – 34	16.21	21.91	13.24	16.99	23.49	10.30
35 – 39	12.88	12.11	9.01	12.81	13.44	7.78
40 – 44	12.15	9.44	11.52	12.23	11.46	10.15
45 – 49	11.75	7.76	12.43	12.33	9.00	10.90
50 – 54	8.92	5.75	11.00	8.77	3.78	12.15
55 – 59	4.96	1.84	7.46	4.81	2.10	11.56
60 – 64	1.08	0.25	2.56	1.02	0.30	1.73
65 or over	0.02	–	0.11	0.07	–	0.06
Sex	100.00	100.00	100.00	100.00	100.00	100.00
Male	66.02	58.61	47.82	65.09	57.73	56.69
Female	33.98	41.39	52.18	34.91	42.27	43.31
Education	100.00	100.00	100.00	100.00	100.00	100.00
Illiterate	0.07	–	0.04	0.04	0.20	–
Self-taught	0.10	–	–	0.03	0.01	–
Elementary school	8.67	1.82	9.15	6.99	0.69	10.22
Junior high school	20.36	6.21	9.92	19.26	4.90	13.50
Senior high school	9.50	7.78	4.44	10.05	7.07	4.89
Senior vocational school	31.11	25.12	22.27	31.22	26.91	19.07
Junior college	14.27	24.18	14.26	14.32	23.92	15.67
University	14.52	26.66	33.63	16.08	28.62	31.47
Master's	1.38	7.91	5.78	1.90	7.47	4.93
Ph.D.	0.01	0.33	0.50	0.11	0.21	0.26

Notes: See Table 4-1-1.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2009 and 2010.

Figure 4-1-6 No. of Workers Becoming Unemployed Because of Layoffs or Factory Closures, 2004–2010



Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2004–2010.

Table 4-1-5 Reasons Given for Leaving One's Previous Job in 2009 and 2010

Units: thousand persons; %

Item \ Year	2009			2010		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Total no. of persons	**465.68**	**51.16**	**19.35**	**401.90**	**41.67**	**28.71**
Layoffs, or employer went out of business	64.79	63.48	14.22	54.24	45.02	10.61
Dissatisfaction with previous job	22.10	27.03	12.29	30.17	42.37	9.96
Poor state of health	1.75	2.33	1.62	2.27	2.84	1.23
Previous job was seasonal or temporary work	9.23	3.51	62.95	10.18	5.75	72.88
Marriage or pregnancy (women)	0.31	0.51	0.38	0.48	0.35	0.64
Retirement	0.19	1.41	4.80	0.30	0.73	2.78
Needed to devote self to housework	0.49	0.41	1.18	0.95	1.30	0.04
Other	1.14	1.33	2.55	1.41	1.64	1.86

Notes: See Table 4-1-1.
Source: DGBAS, *Monthly Bulletin of Manpower Statistics*, 2009 and 2010.

10. An Increase of Around 18,000 in the Number of SME Employees Changing Jobs

In 2010, a total of 536,000 SME employees changed jobs; this figure was about 18,000 higher compared to 2009. 87.80% of the SME employees who changed their jobs in 2010 went to work for another SME, which was over 3.34 percentage points down on 2009, with 7.82% taking up a position with a large enterprise, which was over three percentage points up on 2009. Only 4.38% took a job with the government, a slightly higher share than in 2009. The combined total for those who took up jobs with large enterprises and those who went to work for the government was around 10.20% of all those SME employees who changed their jobs in 2010; this figure has remained relatively stable for some years now, suggesting that it is not easy for former SME employees to find work with large enterprises or in the public sector (Table 4-1-6).

Table 4-1-6 Choice of New Employer by Former SME Employees, 2005–2010

Units: thousand persons; %

Year	Total	Going to Work for Another SME		Going to Work for a Large Enterprise		Going to Work for a Government Agency	
		No. of Persons	Share of Total	No. of Persons	Share of Total	No. of Persons	Share of Total
2005	438	394	89.95	36	8.22	8	1.83
2006	428	367	85.79	48	11.27	13	2.95
2007	439	390	88.65	38	8.62	12	2.73
2008	474	413	87.13	46	9.70	15	3.16
2009*	518	472	91.14	24	4.69	22	4.17
2010*	536	471	87.80	42	7.82	23	4.38

Note: * Data for 2009 are based on the revised definition of SMEs, whereby enterprises in industries other than mining and quarrying, manufacturing and construction that have 100 or fewer employees are classed as SMEs.
Source: DGBAS, *Taiwan Region Manpower and Employment Survey*, 2005–2010.

11. The Government Has Been Working Actively to Stimulate the Creation of New Jobs

The SMEA and Council of Labor Affairs have implemented start-up courses, start-up assistance and incubation activities to encourage the public to establish new businesses through "strengthening the environment of incubation development", "building an environment

conducive to start-up business" and "providing assistance with start-up capital". In addition to establishing the SME Entrepreneurship and Innovation Service Centers in Northern, Central, Southern and Eastern Taiwan, the aim is to create systematic guidance mechanisms for creativity, innovation and business start-up, and to provide individual consulting and in-depth guidance services for the outstanding start-up projects with significant potential, as well as help to match start-up projects with venture capital providers and provide would-be entrepreneurs and owners of new businesses with an opportunity to undertake specialist training.

In 2010, the Council of Labor Affairs held Introduction to Entrepreneurship Classes that were attended by a total of 8,000 people, Intermediate Entrepreneurship Classes that were successfully completed by 4,601 people, and Advanced Entrepreneurship Classes that were attended by 1,285 people, giving a combined total of 13,886 participants (Table 4-1-7). The Council provided business start-up consulting services to 5,916 people, of which 1,715 succeeded in establishing their own business, creating a total of 4,485 jobs (Table 4-1-8).

Table 4-1-7 Entrepreneurship Classes Organized by the Council of Labor Affairs

Year	Introductory Classes		Intermediate Classes		Advanced Classes		Annual Total	
March – Dec. 2007		7,356		1,720		535		9,611
2008		8,243		2,841		2,708		13,792
2009		8,940		5,050		1,822		15,812
2010	Male	2,231	Male	1,262	Male	347	Male	3,840
	Female	5,769	Female	3,339	Female	938	Female	10,046
	Sub-total	8,000	Sub-total	4,601	Sub-total	1,285	Sub-total	13,886
Total		**32,539**		**14,212**		**6,350**		**53,101**

Source: Council of Labor Affairs, Executive Yuan.

Table 4-1-8 Results Achieved in the Provision of Business Start-up Assistance by the Council of Labor Affairs

Year	No. of Persons Receiving Guidance	No. of Persons Helped to Start Their Own Business	No. of New Jobs Created (including business owners)
March – Dec. 2007	2,024	1,276	2,983
2008	2,693	1,168	2,819
2009	4,016	2,149	6,494
2010	5,916	1,715	4,485
Total	**14,649**	**6,308**	**16,781**

Source: Council of Labor Affairs, Executive Yuan.

II Labor Conditions in SMEs

1. The Highest Average Salary Levels for SME Employees are Found in the Mining and Quarrying Industry

As can be seen from the data presented in Table 4-2-1, most of the SME employees had a lower average salary than in 2009. Both the agriculture, forestry, fisheries and animal husbandry and hotel and restaurant industries had average salaries that even did not exceed NT$17,280, the basic wage level. In 2010, the industry in which SME employees had the highest average salary level was the mining and quarrying industry, where monthly salaries averaged just over NT$30,000. Compared to the results in Table 4-2-2, the longer employee working hours and lower salary levels were found to exist in 2010.

Table 4-2-1 Average Monthly Salary in 2009 and 2010 – by Industry and Enterprise Size

Unit: NT$ thousands

Industry \ Item	2009			2010		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Agriculture, forestry, fisheries and animal husbandry	20.12	32.57	35.72	15.83	25.59	41.26
Mining and quarrying	34.37	—	46.77	32.11	—	40.00
Manufacturing	32.04	37.78	52.77	20.31	27.23	50.07
Electric power and gas	39.08	42.19	58.08	30.51	39.78	63.03
Water supply and pollution prevention	29.35	27.56	36.14	19.19	31.45	25.93
Construction	33.56	50.86	44.40	28.92	42.53	30.20
Wholesaling and retailing	32.55	37.03	28.41	20.06	28.20	22.31
Transportation and warehousing	36.49	44.35	46.20	23.67	35.68	22.75
Hotel and restaurant	28.05	26.75	30.00	17.24	15.59	30.00
Information, communications and broadcasting	38.97	45.70	55.78	26.15	48.38	52.94
Finance and insurance	40.88	41.84	54.54	25.97	30.33	55.82
Real estate	34.72	29.94	29.43	26.20	28.33	37.27
Professional, scientific and technical services	41.26	59.05	48.28	27.15	54.83	41.19
Supporting services	27.47	28.57	26.93	20.48	24.03	29.32
Educational services	30.87	48.22	48.35	23.21	25.01	24.43
Medical, healthcare and social services	41.49	43.27	49.42	24.41	30.89	21.32
Arts, entertainment and leisure services	27.96	45.94	36.78	23.55	28.66	25.08
Other service industries	28.65	27.79	67.98	20.07	25.21	30.31

Note: The data presented in this table are based on the old definition of SMEs.
Source: DGBAS, *Taiwan Region Manpower and Employment Survey*, 2009 and 2010.

Table 4-2-2 Personnel Costs as a Percentage of Operating Costs and Operating Expenses in 2009

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	32.45	39.55	5.06	6.27
Mining and quarrying	17.80	44.16	3.09	3.97
Manufacturing	34.44	23.95	4.41	1.69
Electric power and gas	32.41	45.58	8.39	1.54
Water supply and pollution prevention	29.41	55.34	9.15	5.39
Construction	39.10	45.55	5.20	2.28
Wholesaling and retailing	43.73	34.27	9.45	3.29
Transportation and warehousing	37.82	46.62	12.12	4.35
Hotel and restaurant	37.10	38.19	16.63	17.92
Information, communications and broadcasting	45.02	30.92	21.72	9.29
Finance and insurance	23.21	43.99	10.66	1.43
Real estate	35.76	22.66	12.96	2.46
Professional, scientific and technical services	42.61	32.90	20.65	7.69
Supporting services	52.95	38.31	29.44	8.93
Educational services	47.35	43.08	34.89	23.33
Medical, healthcare and social welfare services	51.75	39.03	28.02	3.28
Arts, entertainment and leisure services	34.40	30.33	19.28	13.35
Other service industries	39.58	34.22	17.96	10.57
Total (all industries)	39.30	32.59	7.59	2.13

Note: Operating costs include business costs and operating expenses.
Source: Ministry of Finance Tax Data Center, Business income tax data for 2009.

2. Personnel Costs Account for 30–40% of SMEs' Operating Expenses

An enterprise's operating expenses include wages, rental, travel expenses, advertising expenses, water, electricity and gas charges, postal and telecommunications expenses, insurance, entertainment expenses, training expenses, etc. Operating expenses plus business costs give an enterprise's total operating costs. As operating cost structure varies from industry to industry, there is also significant variation in the share of operating expenses or operating costs held by personnel costs. In 2009, in the SME sector, personnel costs accounted for at least 30–40% of operating expenses in all industries. The share of personnel costs in hotel and restaurant, finance and insurance, educational services, medical, healthcare and social welfare services arts, entertainment and leisure services had decrease in 2009, while the share of other industries were increasing.

Personnel costs as a share of operating expenses were highest in the supporting services industry, and medical, healthcare and social services industry, at over 50%, respectively (Table 4-2-2), and lowest in the mining and quarrying industry, at 17.80%. Personnel expenses as a share of SMEs' operating costs (as opposed to operating expenses) tended to be significantly lower. Because of the high share of small and medium-sized manufacturing and construction firms' total costs accounted for by raw materials, the personnel cost is about half of the operating expenses in the service industry.

3. For Most Industries, 2010 Saw a Slight Fall in the Average Number of Hours Worked Per Week

In 2010, in the SME sector, the hotel and restaurant industry had the longest average working hours in Taiwan, at 48.44 hours per week. The wholesaling and retailing industry was in second place with 46.93 hours (Table 4-2-3).

Table 4-2-3 Working Hours per Week in 2009 and 2010 – by Industry

Unit: hours per week

Industry \ Item	2009			2010		
	SMEs	Large Enterprises	Government Employees	SMEs	Large Enterprises	Government Employees
Agriculture, forestry, fisheries and animal husbandry	39.68	41.60	42.17	40.01	45.33	40.02
Mining and quarrying	41.00	40.73	42.04	41.65	44.88	40.21
Manufacturing	40.36	42.42	41.18	42.41	43.68	40.19
Electric power and gas	43.74	42.61	40.41	43.30	41.53	40.35
Water supply and pollution prevention	41.75	42.18	41.54	42.69	42.06	40.36
Construction	38.82	41.60	41.31	39.64	43.61	39.59
Wholesaling and retailing	47.15	43.35	40.05	46.93	43.56	39.64
Transportation and warehousing	45.14	43.85	41.56	46.07	43.54	40.49
Hotel and restaurant	48.13	44.91	43.84	48.44	44.37	42.33
Information, communications and broadcasting	43.37	42.93	40.61	42.86	42.08	40.22
Finance and insurance	43.43	42.73	41.31	42.61	42.73	41.42
Real estate	46.70	46.31	41.14	46.30	45.22	41.12
Professional, scientific and technical services	41.87	43.35	39.99	42.28	42.13	40.19
Supporting services	43.46	50.04	40.67	43.85	47.33	39.36
Educational services	38.67	35.58	36.36	38.23	34.55	35.56
Medical, healthcare and social welfare services	45.13	44.46	42.23	44.74	43.23	42.03
Arts, entertainment and leisure services	43.94	44.88	41.36	45.92	45.68	40.49
Other service industries.	46.46	43.26	41.55	46.51	44.37	41.51

Source: DGBAS, Taiwan Region Manpower and Employment Survey, 2009 and 2010.
Note: The data presented in this table are based on the old definition of SMEs.

The industries with the shortest working hours were the construction industry (39.64 hours per week) and the educational services industry (38.23 hours). The trend towards higher average working hours across most industries that began in 2009 continued in 2010. Only the electric power and gas industry, wholesaling and retailing industry, information, communications and broadcasting industry, the finance and insurance industry, the real estate industry, educational services industry and the medical, healthcare and social welfare services industry saw a slight decrease in average working hours compared to 2009, indicating that the economy has improved.

III Manpower Cultivation in SMEs

1. A Substantial Increase in the Number of Enterprises Participating in Individual Training Plans

The gradual improvement in the economy compared to 2009 has led to the Council of Labor Affairs, Executive Yuan providing subsidies for individual enterprises and organizations to arrange training programs for their employees in line with operational needs ("individual training"), while also encouraging enterprises in related industries to join forces with one another to implement employee training on a joint basis ("joint training") with the result that such training has increased significantly. The number of enterprises participating in individual training peaked in 2006 at 1,551, and since then it has fallen to its lowest point in 2009 of 1,240. The number of individual training plans reached a historic high in 2010; the number of enterprises taking part, number of classes organized and number of employees undergoing training also reached new highs of 1,793 firms, 40,902 classes and 869,520 employees, respectively. As regards joint training (the "Joint Training Program to Help Business Enterprises Strengthen Their Human Resources"), the aim of this program is to encourage business enterprises to organize employee training on a collaborative basis with other companies or organizations in the same industry or related industries. The Council of Labor Affairs provides subsidies covering 40–70% of the cost of such training. The number of joint training plans reached a historic high of 126 in 2010 (Table 4-3-1).

Table 4-3-1 Provision of Assistance to Enhance Manpower Cultivation by Business Enterprises, 2004–2010

Item / Year	Individual Training Plans			Joint Training Plans			
	No. of Firms Receiving Subsidies	No. of Training Classes	No. of Training Participants	No. of Projects	No. of Firms Taking Part	No. of Training Classes	No. of Training Participants
2004	1,288	13,828	213,809	76	588	1,282	42,225
2005	1,471	22,115	394,997	89	1,146	3,062	104,153
2006	1,551	22,486	424,311	87	668	2,814	102,867
2007	1,307	26,953	547,805	102	1,891	2,692	108,389
2008	1,415	38,282	733,638	112	2,088	4,583	131,971
2009	1,240	40,544	864,001	119	1,342	5,163	140,487
2010	1,793	40,902	869,520	126	775	3,617	130,244

Source: Bureau of Employment and Vocational Training, Council of Labor Affairs, Executive Yuan, April 2011.

2. A Slight Decrease in the Number of SME Employees Participating in Professional Training in 2009

The government has sought to stimulate job creation and encourage workers to participate in professional training. According to data compiled by the Bureau of Employment and Vocational Training, Council of Labor Affairs, since 2007 there has been a steady increase in the number of people undergoing professional training. Although the number of trainees per annum broke through the 1.6 million mark in 2007, rising to a historic high of 1,776,253 in 2008, there was a slight decrease in the number of SME employees participating in professional training in 2009 when it fell to 1,640,825. The number of employees of large private- and public-sector enterprises with 200 or more employees undergoing professional training declined to 1,192,113 in 2009. The number of employees of smaller private- and public-sector enterprises with fewer than 200 employees was slightly more than 220 thousand (Table 4-3-2).

Table 4-3-2 The Number of Employees Participating in Professional Training, 2002–2009

Unit: persons

Item / Year	Total Instances of Participation in Professional Training	Employees of Public or Private Enterprises or Agencies with Less than 200 Employees	Employees of Public or Private Enterprises or Agencies with 200 or More Employees	Other
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
2005	1,090,745	164,146	718,483	208,116
2006	1,139,902	107,882	842,866	189,154
2007	1,623,920	190,664	1,273,910	159,346
2008	1,776,253	245,197	1,373,660	157,396
2009	1,640,825	226,807	1,192,113	221,905

Notes: 1. The "Employees of Public or Private Enterprises/Agencies with 200 or More Employees" category includes training organized by public and private enterprises and agencies.
2. The "Employees of Public or Private Enterprises/Agencies with Less than 200 Employees" category includes training organized by public and private enterprises and agencies, and also training provided by training facilities attached to universities, foundations, public training institutions, etc.
3. The "Other" category includes 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, Executive Yuan.

3. A Slight Fall in Spending on Professional Training as a Percentage of Total Operating Expenses in Most Industries

Despite the improvement in the economic environment in 2009, the share of total operating expenses accounted for by spending on professional training has not increased. Among SMEs, the ratios in the finance and insurance industry, professional, scientific and technical services industry, and medical, healthcare and social welfare services industry were all higher than 0.02%. However, the spending on professional training as a percentage of total operating expenses decreased significantly compared to 2009. Only the shares in the real estate industry, supporting services industry, and the arts, entertainment and leisure services industry increased slightly (Table 4-3-3).

Table 4-3-3 Expenditure on Training as a Percentage of Operating Costs and Operating Expenses in 2009

Unit: %

Enterprise Size / Industry	SMEs		Large Enterprises	
	Expenditure on Training as a % of Operating Expenses	Expenditure on Training as a % of Operating Costs	Expenditure on Training as a % of Operating Expenses	Expenditure on Training as a % of Operating Costs
Agriculture, forestry, fisheries and animal husbandry	0.06	0.01	0.01	0.00
Mining and quarrying	0.01	0.05	0.00	0.01
Manufacturing	0.12	0.18	0.02	0.01
Electric power and gas	0.09	0.15	0.02	0.01
Water supply and pollution prevention	0.10	0.72	0.03	0.07
Construction	0.15	0.22	0.02	0.01
Wholesaling and retailing	0.09	0.16	0.02	0.02
Transportation and logistics	0.12	0.29	0.04	0.03
Hotel and restaurant	0.05	0.16	0.02	0.07
Information, communications and broadcasting	0.18	0.58	0.09	0.17
Finance and insurance	0.24	0.22	0.11	0.01
Real estate	0.14	0.25	0.05	0.03
Professional, scientific and technical services	0.23	0.18	0.11	0.04
Supporting services	0.17	0.10	0.09	0.02
Educational services	0.17	0.38	0.13	0.20
Medical, healthcare and social welfare services	0.26	0.77	0.14	0.07
Arts, entertainment and leisure services	0.07	0.09	0.04	0.04
Other service industries	0.13	0.41	0.06	0.13
Total (all industries)	0.12	0.21	0.02	0.01

Source: Ministry of Finance Tax Data Center, Business income tax data for 2009.

IV SME Manpower Requirements

1. The Upturn in the Economy Has Led to Increased Demand for Manpower

The results obtained in the 2011 2nd Manpower Requirements Survey conducted over the period April 21–May 10, 2011 by the Council of Labor Affairs, Executive Yuan, that targeted business enterprises with 30 or more employees, showed that, with the upturn in the economy and the continued improvement in the job market, consumer demand has been rising. At the same time, ongoing innovation in hi-tech products has been stimulating demand, the world's leading hi-tech companies continue to outsource much of their production to Taiwanese firms, the restrictions on travel to Taiwan by tourists from China have been eased, and implementation of the Early Harvest provisions of the Economic Cooperation Framework Agreement (ECFA) has begun.

As a result of these factors, demand for manpower in Taiwan has continued to increase. It is anticipated that, by the end of July 2011, net manpower demand will have risen by 101,412 jobs compared to the situation at the end of April. The most pronounced increase in demand will be in the manufacturing sector, with a net increase of 49,035 (of which 14,000 will be in the electronics component manufacturing industry, and 6,900 will be in the metal products manufacturing industry), followed by the wholesaling and retailing industry, with a net increase

of 10,594, and the hotel and restaurant industry, with an increase of 6,797. The supporting services industry, specialist, scientific and technical services industry, the banking and insurance industry, the healthcare and social services industry, and the information, communications and broadcasting industry will all see a net increase of over 3,500 each. Most of the increased demand will be for craftsmen, machinery operators and assembly line workers (with a net increase of over 25,000), followed by technicians and assistant specialists (23,438) (Table 4-4-1).

Table 4-4-1 Anticipated Increase in the Number of Personnel Employed by Business Enterprises Over the Period from January 31, 2011 to April 30, 2011

Units: persons; %

Item / Industry	Net Increase in No. of Employees	Change in Manpower Requirements		Four Categories of Worker with Highest Demand			
		New Positions	Positions Eliminated	Specialist Personnel	Technicians and Assistant Specialists	Service and Sales Personnel	Craftsmen, Machinery Operators and Assembly Line Workers
All industries	101,412	110,124	8,712	15,741	23,438	15,866	25,122
Manufacturing	49,035	52,668	3,633	6,198	7,696	1,043	20,032
Pollution prevention and remediation	60	60	-	-	20	-	35
Construction	3,676	4,400	724	-	1,897	52	1,207
Wholesaling and retailing	10,594	12,040	1,446	68	3,791	3,316	1,357
Transportation and warehousing	2,558	2,755	197	20	314	-2	1,731
Hotel and restaurant	6,797	7,235	438	50	16	6,437	-
Information, communications and broadcasting	4,177	4,646	469	1,662	1,630	647	-
Banking and insurance	4,021	4,054	33	189	3,130	-	-
Real estate	2,171	2,275	104	24	1,679	140	38
Specialist, scientific and technical services	3,848	4,090	242	1,098	1,520	782	130
Supporting services	6,050	7,835	1,335	144	1,529	1,200	422
Healthcare and social services	5,939	5,591	12	5,655	214	20	8
Arts, entertainment and leisure services	2,179	2,215	36	-	6	2,153	20
Other service industries	307	350	43	-	-4	78	142

Source: Council of Labor Affairs, Executive Yuan

2. More Intense Competition for Human Talent

As a result of globalization, the main focus of international competition has shifted to the knowledge economy. Knowledge requires human talent to create it, accumulate it and transform it into value. Particularly in today's era of low profit margins, a firm's competitiveness depends largely on the quantity and quality of its human resources, and as a result competition for human talent has become a major element of companies' global business strategies, while national governments attach great importance to supporting the recruitment and cultivation of talented individuals in the business sector. Leading U.S. futurologist James Canton has noted that the global competition for talent is set to become the main factor affecting competitiveness; talent shortages are going to affect countries, companies and individuals alike. The field of human resources is coming to occupy a vital place within global competition. Taiwan is particularly

reliant on having high-quality human resources to compensate for its limited natural resources; human talent is a key source of strength for Taiwan in industrial competition. Being able to forecast future trends in the workplace and in the supply of and demand for human talent can help firms to secure the talent they need and to compete more effectively with their business rivals.

According to analysis of anticipated labor demand and utilization in the U.S. over the period 2015–2020 conducted by the RAND Corporation, due to the combined effects of the changing population structure, the rapid pace of technological innovation and the globalization of economic cooperation, the 21st century workplace will be characterized by less standardization in labor relations, and greater demand for personalized employment terms and conditions. At the same time, slower growth in the working-age population will make increased employment of women, the middle-aged and elderly, and disadvantaged groups inevitable. Employers will come to attach more importance to re-training and lifelong learning, in order to cope with the challenges posed by technological innovation and globalized competition. Future productivity growth will help to boost wages, but it will also contribute to growing disparities in income distribution; the gap between high income earners and low income earners can be expected to grow wider.

3. Manpower Demand in Taiwan in the Future Will be Heavily Concentrated in the Emerging Industries and ECFA-related Industries

With the signing of the Economic Cooperation Framework Agreement (ECFA) and the government's formulation of a strategy for promoting the development of emerging industries, growth in the demand for manpower in Taiwan in the future will be heavily concentrated in the ten key emerging industries, driven by a combination of domestic demand, the ECFA agreement, and the growing number of Chinese tourists visiting Taiwan. Cloud computing and "green" energy – the new "Two Trillion" industries – will also help to boost demand for human talent. According to the Survey of Supply and Demand in Specialist Human Talent in Key Industries, 2011–2013 compiled by the Industrial Development Bureau, Ministry of Economic Affairs, which analyzed demand for specialist human talent educated to junior college level or above in eight industries – semiconductors, imaging and display devices, information services, digital content, machinery, plastics, textiles and design – the key trends affecting manpower demand over the coming three years will include green energy and environmental protection, the adoption of new technologies (such as touch-screen control technology and cloud computing), and the opportunities presented by the opening up of the China market following the signing of the ECFA agreement.

Of the industries covered by the survey, the type of human talent for which there will be most demand in the semiconductor, imaging and display, and machinery industries is R&D and production engineers. There will be particularly strong demand for touch-screen display IC design engineers and specialists in the development of related applications. In addition, with four of Taiwan's leading LCD panel makers having been accused of anti-trust law violations, there will also be strong demand for legal affairs specialists in the fields of patent violation and anti-trust law. In the information services and digital content industries, demand will be greatest for software

design engineers, although there will also be a shortage of managerial, art design and sales and marketing talent; the information services industry in particular will need marketing talent capable of working efficiently in the Chinese market. In the textile and plastics industries, the type of talent most in demand will be marketing and managerial talent, with relatively little demand for R&D talent, while in the design sector there will be a shortage of specialist designers and of managerial talent with a background in design.

The trend towards green energy, energy conservation and carbon reduction is already creating demand for human talent in these fields. In the semiconductor industry, this includes demand for IC designers and process engineers for green applications; in the plastics industry, it includes specialists in biomass, environmentally-friendly and recyclable materials development, production and applications, environmental safety management talent, and green technology manufacturing and R&D talent; in the textile industry it includes specialists in environmentally-friendly, energy-saving dyeing and finishing technology R&D and testing, etc.

Regarding the supply and demand situation over the next three years for human talent educated to junior college level or above, the shortage of talent is most pronounced in the digital content industry; for other industries, the supply of human talent educated to junior college level or above is more or less adequate. However, there is a continuing problem with graduates who have not been trained in the skills that they will actually need in the workplace, and firms will have difficulty finding experienced managers and marketing personnel; there will also be a shortage of individuals with skills in multiple areas, and a shortage of innovative application talent. As a result, while the overall number of college graduates will be sufficient to meet demand, most enterprises will experience some degree of difficulty in recruiting people with the skills they need. More effort will be needed to enhance the overall quality of manpower in Taiwan.

CHAPTER 5

SME Innovation, R&D and Market Development

This chapter will analyze the results of a survey of the current status of innovation, R&D and market development among Taiwan's SMEs, in order to gain a clearer understanding of how SMEs have been responding to the changed circumstances.

I R&D Inputs of SMEs

When seeking to measure enterprises' innovation and R&D inputs, the most commonly used indicator is firms' R&D expenditure. This section will explore the R&D spending of the nation as a whole and of the corporate sector. At the same time, in order to gain a clearer understanding of the R&D inputs of the overseas operations of Taiwanese business enterprises, we will also analyze the original data from the 2010 *Survey of the Operational Status of Taiwanese-invested Businesses operating Overseas*, implemented by the Investment Commission, Ministry of Economic Affairs, so as to be able to provide a more comprehensive picture of the current state of the R&D inputs of Taiwan's business enterprises.

1. R&D Expenditure

(1) National R&D Expenditure

According to the data presented in the 2010 edition of Taiwan's *Indicators of Science and Technology*, in 2009 total R&D expenditure in Taiwan came to NT$367,174 million, representing an annual growth rate of 4.49%. 70.1% of this spending was in the business sector; 16.77% was undertaken by government, 12.75% was in the higher education sector, and just 0.37% was in the nonprofit sector. These data reflect the fact that the business sector has always accounted for the largest share of R&D spending in Taiwan (Table 5-1-1).

Table 5-1-1 R&D Spending by Sector, 2006–2009

Unit: NT$ millions

Item	2006	2007	2008	2009
All sectors	**307,037**	**331 386**	**351 405**	**367,174**
Business sector	207,238	229,126	248,363	257,405
Public sector	60,965	60,643	58,928	61,587
Higher education sector	37,565	40,400	42,905	46,823
Non-profit sector	1,270	1,218	1,209	1,359

Source: National Science Council, Executive Yuan, *Indicators of Science and Technology*, 2010.

(2) R&D Spending in the Business Sector

Within the business sector, manufacturing industry accounts for the largest single share of overall R&D spending. Using the definition of "manufacturing firms" specified by the 8th Revision of the R.O.C. Standard Industry Classification, total annual R&D expenditure in the manufacturing sector in 2010 was approximately NT$237,820 million, representing 92.39% of all business

sector R&D expenditure. The share held by the service sector was 7.30%; the combined total for all other industries (including electric power and gas, water supply, pollution prevention and construction) was just 0.31%. As a rule, manufacturing firms (and particularly those in hi-tech industries) have more need to undertake R&D than firms in the service sector or other industries, which is why R&D expenditure in the manufacturing sector is so much higher than that in other sectors.

Examination of the trends in R&D spending in each sector over the past few years shows a pronounced increase in R&D expenditure in the business sector, rising from NT$207,238 million in 2006 to NT$257,405 million in 2009 (representing an annual growth rate of 7.49%). The business sector's share of overall national R&D expenditure has also increased over the same period, from 67.15% in 2006 to 69.72% in 2009. In all sectors, the increase in business sector R&D expenditure is the highest.

Total R&D expenditure by SMEs (defined as enterprises with fewer than 200 employees) has risen for three years in a row, with a growth rate of 12.90% in 2007, 17.17% in 2008 and 2.05% in 2009. While R&D spending by large enterprises has also risen, the growth rate in 2008 (compared to 2007) was only 6.68%, significantly lower than the corresponding growth rate for SMEs. However, the growth rate in 2009 (compared to 2008) was 3.98%, significantly higher than the corresponding growth rate for SMEs. Overall, business sector R&D spending has continued to grow steadily every year (Table 5-1-2).

Table 5-1-2 Business Sector R&D Expenditure by Enterprise Size, 2006–2009

Unit: NT$ millions

Item	2006	2007	2008	2009
Total	**207,238**	**229,126**	**248,363**	**257,405**
SME Sub-total	33,159	37,437	43,864	44,764
0 - 99 employees	17,803	19,140	23,200	23,600
100 - 199 employees	15,356	18,297	20,664	21,164
Large Enterprises Sub-total	174,078	191,690	204,498	212,640
200 – 499 employees	27,417	31,614	36,039	35,401
500 or more employees	146,661	160,076	168,459	177,239

Source: National Science Council, Executive Yuan, *Indicators of Science and Technology*, 2010.

(3) R&D Expenditure by Taiwanese Enterprises' Overseas Operations

Table 5-1-3 is based on the original data from the *2010 Survey of the Operational Status of Taiwanese-invested Businesses Operating Overseas* undertaken by the Investment Commission, Ministry of Economic Affairs. The survey distinguishes between large enterprises and SMEs, and can be used to gain a broad understanding of the R&D inputs of the overseas operations of Taiwanese business enterprises. For these purposes, SMEs are defined as firms with fewer than 200 employees, and large enterprises as firms with 200 or more employees.

As can be seen from Table 5-1-3, in 2009 average R&D expenditure by large enterprises with overseas operations was NT$230.06 million, 5.93 times the average R&D spending of SMEs (NT$38.97 million).

Table 5-1-3 R&D Expenditure by the Parent Companies of Taiwanese-invested Enterprises Operating Overseas in 2009

Units: enterprises; NT$ millions; %

Enterprise Size	No. of Respondents	Average Annual Sales Revenue	No. of Respondents	Average Annual R&D Expenditure	Average Annual R&D Expenditure as a % of Annual Sales Revenue
Large enterprises	618	1,412,864	542	23,006	1.92
SMEs	205	136,358	149	3,897	2.35

Source: Investment Commission, Ministry of Economic Affairs, *2010 Survey of the Operational Status of Taiwanese-invested Businesses Operating Overseas*.

The data can be broken down to show R&D spending by Taiwan-based and overseas-based operations, to explore R&D spending by overseas operations. In 2009, the Taiwan-based operations of the total R&D expenditure of large enterprises fell from 87.63% to 75.24% (compared to 2008), while the figure for SMEs fell from 92.83% to 67.15%. These data show that Taiwanese enterprises kept their R&D in Taiwan (Table 5-1-4).

Table 5-1-4 Domestic Operations' and Overseas Operations' Shares of the Total R&D Expenditure of Taiwanese Companies Investing Overseas

Unit: %

Enterprise Size	Item	Share of Total Annual Sales Revenue	Share of Total Annual R&D Revenue
Large enterprises	Taiwan-based operations	61.39	75.24
	Overseas operations	38.61	24.76
SMEs	Taiwan-based operations	65.73	67.15
	Overseas operations	34.27	32.85

Source: Investment Commission, Ministry of Economic Affairs, *2010 Survey of the Operational Status of Taiwanese-invested Businesses Operating Overseas*.

2. Major Sources of Technology and Know-how for the Overseas Operations of Taiwanese Enterprises

An examination of the main sources of enterprises' technology and know-how can shed light on the extent to which Taiwanese companies investing overseas have "localized" their R&D operations.

(1) China:

For large enterprises, the parent company in Taiwan is the main source of technology and know-how (88.24% of enterprises), followed by R&D conducted locally by the company itself (32.35%). The corresponding percentages for SMEs are 81.08% and 24.32%, respectively. One point worth noting is that for 11% of large enterprises and 13.85% of SMEs the main source of technology and know-how in 2008 was a research institution in Taiwan. In 2009 the corresponding ratios were 8.64% and 8.78%, reflecting a slight decline. Meanwhile, 4.73% of the SMEs' main sources of technology were from the local R&D institutions in 2009, reflecting an increase of 3.19% compared to 2008 (Table 5-1-5).

(2) Other overseas regions:

For both large enterprises and SMEs, the main sources of technology and know-how for Taiwanese enterprises investing in regions other than China were the parent company in Taiwan

(77.81% of large enterprises and 23.51% of SMEs) and R&D undertaken locally by the company itself (62.96% of large enterprises and 17.28% of SMEs) (Table 5-1-5).

Table 5-1-5 Main Sources of Technology and Know-how for the Overseas Operations of Taiwanese Enterprises

Unit: %

Region and Enterprise Size / Technology Source	China		Other Overseas Regions	
	Large Enterprises	SMEs	Large Enterprises	SMEs
Parent company in Taiwan	88.24	81.08	77.81	62.96
R&D undertaken locally by the enterprise itself	32.35	24.32	23.51	17.28
Taiwanese research institute	8.64	8.78	5.63	11.11
Local research institute	3.68	4.73	1.99	1.23
Technology provided by local joint venture partner	2.57	3.38	2.65	2.47
Technology licensed from a company in a third country	3.86	3.38	2.98	2.47
Technology purchased locally	0.92	2.70	3.31	2.47
Technology transfer from Taiwan (OEM/ODM)	6.25	2.70	2.98	1.23
Technology transfer from a local company (OEM/ODM)	2.57	2.03	1.66	1.23
Other	3.13	5.41	11.59	16.05

Notes: 1. The total number of enterprises investing in China was 544 large enterprises and 148 SMEs.
2. The total number of enterprises investing in other regions was 302 large enterprises and 81 SMEs.
3. Respondents could give more than one source.

Source: Investment Commission, Ministry of Economic Affairs, *2010 Survey of the Operational Status of Taiwanese-invested Businesses Operating Overseas*.

It can be seen from the above analysis that, for both large enterprises and SMEs, and regardless of the region in which they are located, the Taiwanese parent company is the main source of technology and know-how for the overseas operations of Taiwanese business enterprises. This share is significantly higher than that held by the next most important source of technology and know-how – R&D conducted locally by the enterprise itself. In most cases, therefore, it is the Taiwan parent company that helps to maintain the technological edge enjoyed by the overseas operations of Taiwanese business enterprises; this is the key factor that has enabled Taiwanese firms to remain competitive despite the impact of economic globalization.

II Characteristics of SME Innovation and R&D Activity

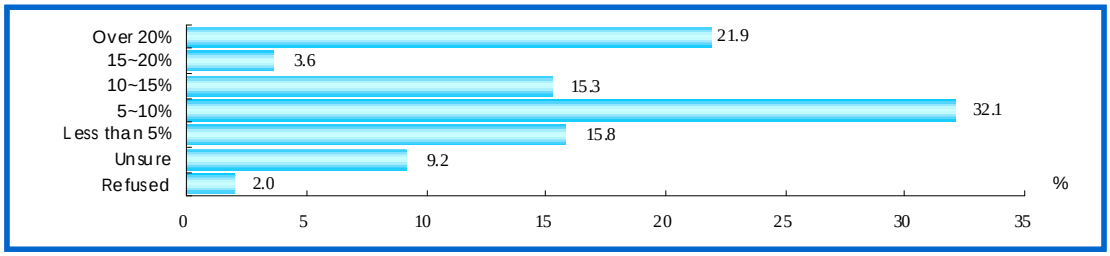
The data presented in this section are mainly based on the results obtained from the *2011 Survey of SME Innovation, R&D and Market Development in Taiwan*; the aim is to present an overview of the characteristics of the innovation and R&D activity undertaken by SMEs (specifically those in the manufacturing sector) in Taiwan. These data are supplemented by additional data from the *2010 Survey of the Operational Status of Taiwanese-invested Businesses Operating Overseas*, so as to present a more comprehensive picture of SME innovation and R&D.

1. Overview of the SMEs Surveyed

When asked whether their annual sales had risen or fallen in 2010 compared to 2009, 64.9% of the firms surveyed reported that their overall sales revenue had risen, 18.5% reported a fall in sales revenue, and 16.6% said that it had remained more or less the same as in 2009.

Of those SMEs that reported an increase in revenue, the largest share (32.1%) reported a rise of 5–10%, and 21.9% reported a rise of more than 20% (Figure 5-2-1).

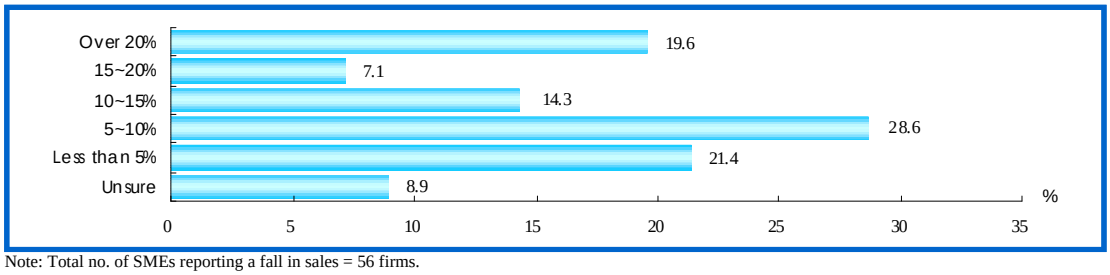
Figure 5-2-1 Extent of Sales Increase Posted by Those Firms That Reported a Rise in Annual Sales in 2010



Note: Total no. of SMEs reporting a rise in sales = 196 firms.
Source: Wu, Hui-lin and Tsungche Wei (2011),'The Service Strategy and Brand Value Creation in Small-Medium Manufacturers'.

Of those SMEs that reported a decline in annual sales revenue, the largest share (28.6% of the total) reported a fall of 5–10%; the next largest group comprised those reporting a fall of less than 5% (21.4% of the total). It can thus be seen that over half of the SMEs saw their annual sales revenue fall by 10% or less (Figure 5-2-2).

Figure 5-2-2 Extent of Sales Contraction Posted by Those Firms That Reported a Fall in Annual Sales in 2010



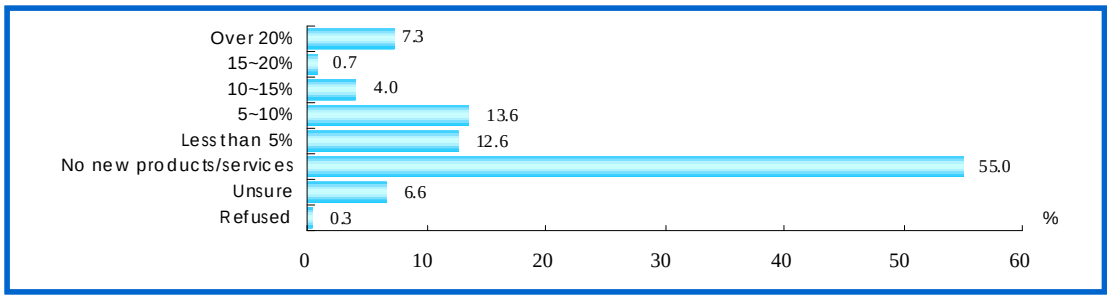
Note: Total no. of SMEs reporting a fall in sales = 56 firms.
Source: See Figure 5-2-1.

As regards the share of total annual sales in 2010 accounted for by new products and/or services, 55.0% of the SMEs surveyed reported that they had not launched any new products or services, and 13.6% reported that new products and/or services accounted for between 5-10% of total annual sales in 2009. In other words, for 80% of SMEs new products and/or services accounted for less than 10% of total annual sales in 2010 (Figure 5-2-3).

2. Innovation and R&D Concepts, Motivation and Characteristics

With respect to involvement in innovation and R&D activity, 55.3% of the SMEs included in the survey reported that they had not undertaken any innovation or R&D activity; only 44.7% of SMEs had been involved in this type of activity.

Figure 5-2-3 New Products (or Services) as a Share of Total Annual Sales in 2010

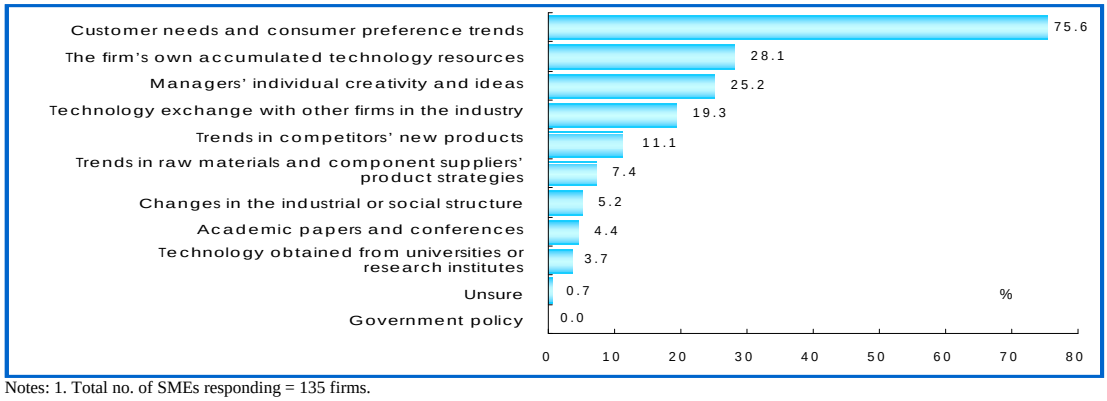


Note: Total no. of SMEs responding = 302 firms.
Source: See Figure 5-2-1.

(1) Sources of Innovation and R&D Concepts

Of those SMEs that had undertaken innovation and R&D activity in 2010, 75.6% reported that their sources of new product R&D concepts were based on customer needs and trends in consumer preferences. 28.1% reported that their R&D concepts were based on the technology resources that the company had accumulated over time, and 25.2% reported that their R&D concepts were derived from managers' individual creativity and ideas (Figure 5-2-4).

Figure 5-2-4 Sources of R&D Concepts for New Products and Services



Notes: 1. Total no. of SMEs responding = 135 firms.
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

(2) The Aspect of Innovation and R&D Activity That SMEs Value Most

When those SMEs that had undertaken innovation and R&D activity were asked which aspect of the new product and/or service development process they attached the most importance to, 43.0% said that it was achieving high quality. The next largest group (24.4% of the total) gave the opportunity to achieve high performance as the most important aspect. It is said that the aspect of innovation and R&D activity that SMEs value most is high quality and high performance.

3. Innovation and R&D Activity and Collaboration with External Partners

(1) The Extent of the Surveyed SMEs' Collaboration with External Partners

When an SME decides to undertake innovation and R&D activity, it may do so alone, or in collaboration with an outside partner. The survey results show that around 31.1% of SMEs collaborate with external partners on innovation and R&D, while nearly 70% do not.

(2) The Surveyed SMEs' Choice of Collaborative Partner

As regards the SMEs' choice of collaborative partner with respect to innovation and R&D activity, the survey results showed that the largest share of SMEs (23.8%) collaborated with materials suppliers or other companies in the same industry as their collaborative partners, while 19.0% used universities and other institutes of higher education, and 16.7% of SMEs collaborated with customers.

(3) SMEs' Objective in Collaborating with External Partners

As to the reason given by SMEs for choosing to collaborate with external partners on innovation and R&D, 50% said that the aim of collaboration with outside partners was to obtain operational resources that their company lacked, while 25% reported that the aim was to increase the level of technology by collaboration.

4. Management of Innovation and R&D Activity, and Problems Encountered

What are the organizational factors to which SMEs attach the most importance when undertaking innovation and R&D activity; what strengths and weaknesses do they feel they possess, what is their market positioning, and what problems do they encounter?

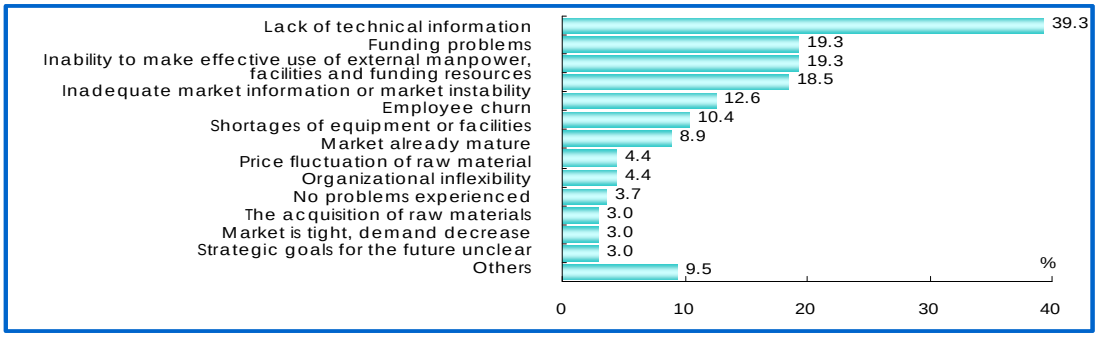
(1) The Organizational Factors to Which SMEs Attach Most Importance in Their Innovation and R&D Activities

What do SMEs that undertake innovation and R&D feel to be the most important organizational factors affecting these activities? The survey results showed that 45.2% of SMEs felt that close coordination and communication between employees and managers was the most important factor; the next most commonly listed factor was R&D flow activities (34.1% of SMEs), followed by managers' willingness to take on new challenges and to innovate (31.1%).

(2) Problems Experienced When Undertaking Innovation and R&D Activities

With regard to the problems that SMEs experience when engaging in innovation and R&D, 39.3% of the SMEs included in the survey reported shortages of technology and information as being a problem; the next most widely reported problems were funding problems(19.3%), the inability to make effective use of external manpower, facilities and funding resources (19.3%), followed by inadequate market information or market instability (18.5%) (Figure 5-2-5).

Figure 5-2-5 Problems Experienced by SMEs When Undertaking New Product/Service Innovation and R&D

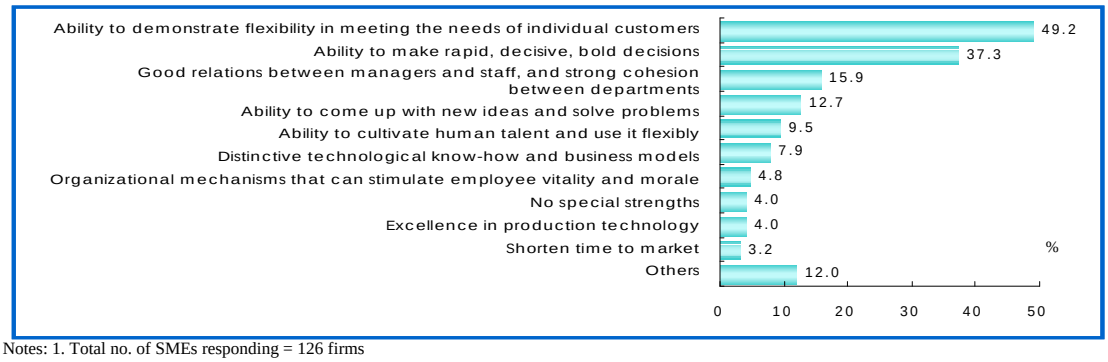


Note: Total no. of SMEs responding = 135 firms.
Source: See Figure 5-2-1.

(3) SMEs' Strengths and Weaknesses with Respect to Innovation and R&D

With regard to the particular strengths that SMEs which have undertaken new product/service innovation and R&D feel that SMEs possess in this respect, 49.2% point to the SMEs' ability to demonstrate flexibility in meeting the needs of individual customers, 37.3% point to SMEs' ability to make rapid, decisive, bold decisions, and 15.9% feel that SMEs have good relations between managers and staff, and strong cohesion between departments. (Figure 5-2-6).

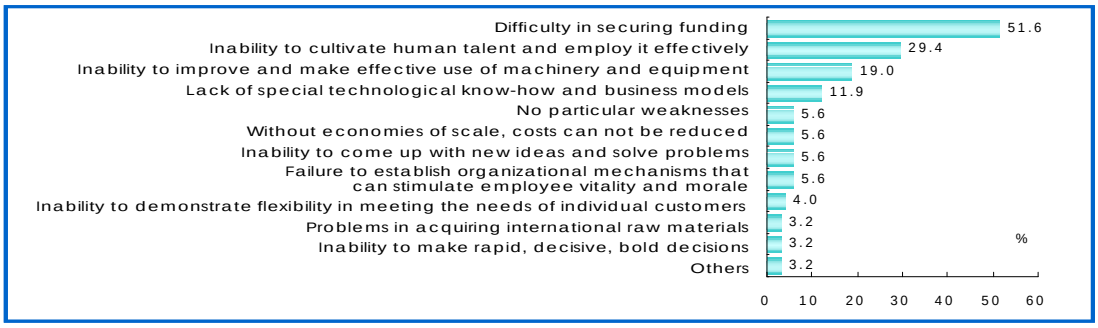
Figure 5-2-6 Areas Where SMEs Feel That They Have an Advantage over Large Enterprises with Respect to New Product/Service Innovation and R&D



Notes: 1. Total no. of SMEs responding = 126 firms
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

As regards the areas where SMEs were felt to be at a disadvantage compared to large enterprises vis-à-vis innovation and R&D, 51.6% of the firms surveyed felt that SMEs had more difficulty securing funding, 29.4% felt that SMEs lacked the ability to cultivate human talent and employ it effectively, and 19.0% suggested that SMEs were unable to improve and make effective use of machinery and equipment (Figure 5-2-7).

Figure 5-2-7 Areas Where SMEs Feel That They are at a Disadvantage Compared to Large Enterprises with Respect to New Product/Service Innovation and R&D

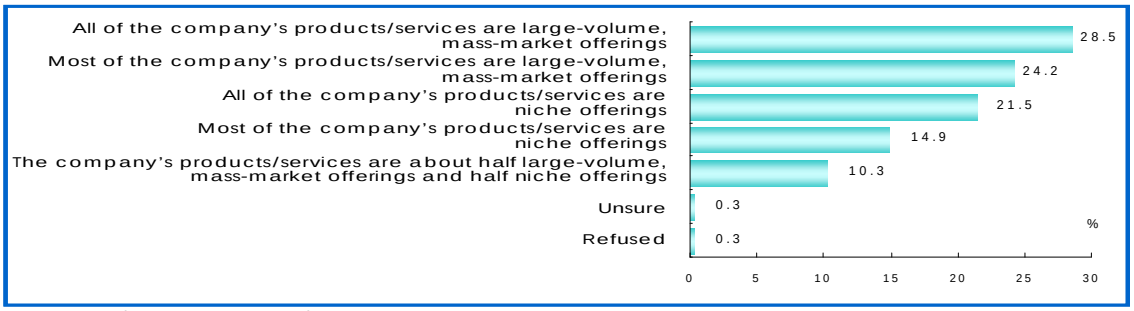


Notes: 1. Total no. of SMEs responding = 1126 firms.
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

(4) Main Products' Major Market or Niche Market

The survey results show that 28.5% of the SMEs surveyed felt that all of their company's main products fell under the category of large-volume, mass-market products/services, 24.2% felt that most of their company's main products fell under the category of large-volume, mass-market products/services, while 21.5% felt that they should be classed as niche products/services (Figure 5-2-8).

Figure 5-2-8 Market Positioning of SMEs' Main Products/Services



Note: Total no. of SMEs responding = 302 firms.
Source: See Figure 5-2-1.

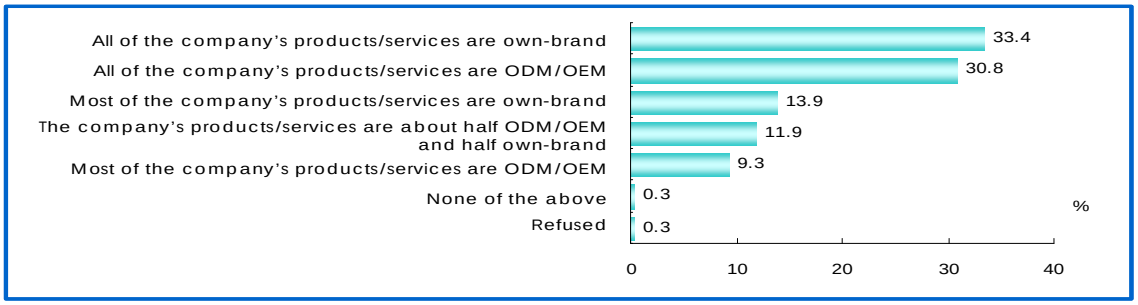
SMEs' products tend to be either all own-brand products or all ODM/OEM products. 33.4% of SMEs reported that they were all own-brand, and 30.8% reported that their products/services were all ODM/OEM products/services (Figure 5-2-9).

III SME Market Development

1. SME Customer Relations

This section will examine SME market development by looking at SMEs' collaboration with their customers, the state of e-business utilization among Taiwan's SMEs, overseas market development, and expansion into new industries.

Figure 5-2-9 SMEs' Main Products – Own-brand Versus ODM/OEM



Note: Total no. of SMEs responding = 302 firms.
Source: See Figure 5-2-1.

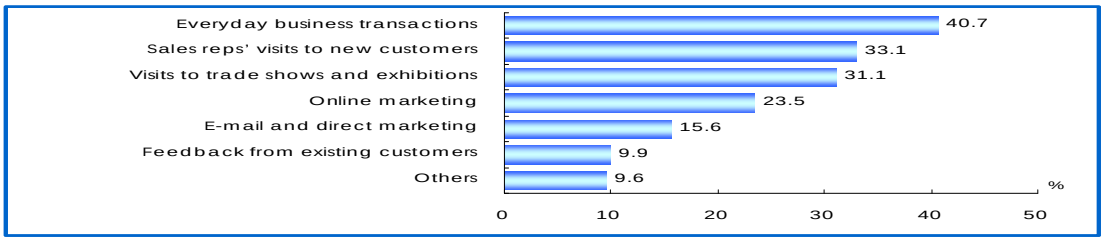
(1) Factors SMEs Consider When Planning Collaboration with Customers

Regarding SME market development, the first question that the SMEs included in the survey were asked concerned the factors to which they pay most attention when undertaking collaboration with customers. 65.9% of respondents reported that building a long-term relationship based on mutual trust was the most important factor; the second most widely given factor was transaction price, but this was given by only 15.2% of respondents, and was followed by customers' trust (6.6%).

(2) How SMEs Identify Customer Needs

The ways in which SMEs go about collecting information related to customer needs are shown in Figure 5-3-1. 40.7% relied on the information obtained through everyday business transactions, 33.1% said their main source of information about customer needs was sales representatives' visits to new customers, 31.1% obtained information mainly through visits to trade shows and exhibitions, and 23.5% relied on the Internet.

Figure 5-3-1 The Methods Through Which SMEs Obtain Information about Customer Needs



Notes: 1. Total no. of SMEs responding = 302 firms.
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

2. E-Business Utilization by SMEs

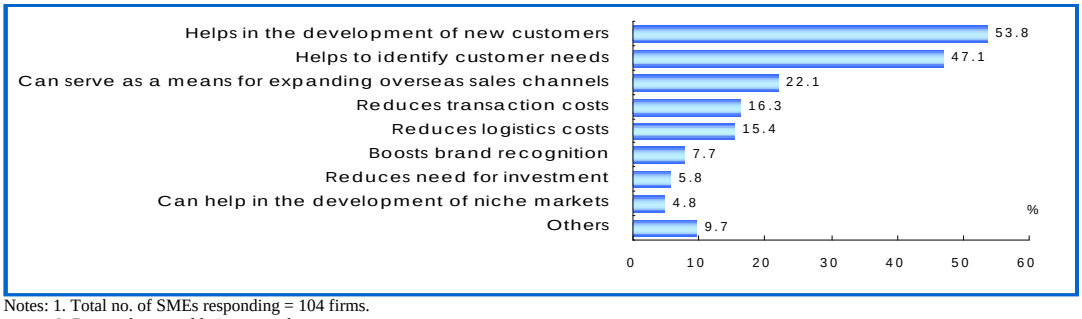
(1) E-Business Adoption

This section examines the use of e-business by SMEs as a tool for market development. The survey's results showed that 65.6% of SMEs were not yet using e-business; only 34.4% had adopted it, showing a slight increase of 3% compared to the previous year.

(2) Benefits of e-Business Adoption

When those SMEs that had already adopted e-business were asked what benefits it had brought them, 53.8% said that it helped in the development of new customers, 47.1% said that it helped them to identify customer needs, and 22.1% reported that it was an effective means of expanding overseas sales channels (Figure 5-3-2).

Figure 5-3-2 What SMEs Believed to be the Benefits of e-Business Adoption



Notes: 1. Total no. of SMEs responding = 104 firms.
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

3. SMEs' Overseas Market Development

Nearly seventy percent (68.2%) of SMEs reported that they were already engaged in developing overseas markets (using a definition of "developing overseas markets" that includes both exporting products to overseas markets and actually investing in those markets).

(1) Motivation of Development Overseas Market

As for those SMEs that were already engaged in developing overseas markets, 60.7% of SMEs wanted to expand the local market, followed by matching customer requirements (48.5%), and responding to customer plans to expand overseas markets (12.1%).

(2) Methods Used to Secure Export Orders and Develop Overseas Markets

When those SMEs that were engaged in developing overseas markets were asked what they felt to be the most effective methods of developing overseas markets and securing export orders, 48.1% believed making use of recommendations and introductions provided by customers and partner companies in Taiwan to be the most effective method, 42.7% gave participation in domestic and international trade fairs as the most effective method, and 21.4% believed making effective use of the networks of contacts possessed by trading companies and logistics service providers was the most effective method (Figure 5-3-3).

(3) Measures That the Government Can Adopt to Help SMEs Develop Overseas Markets

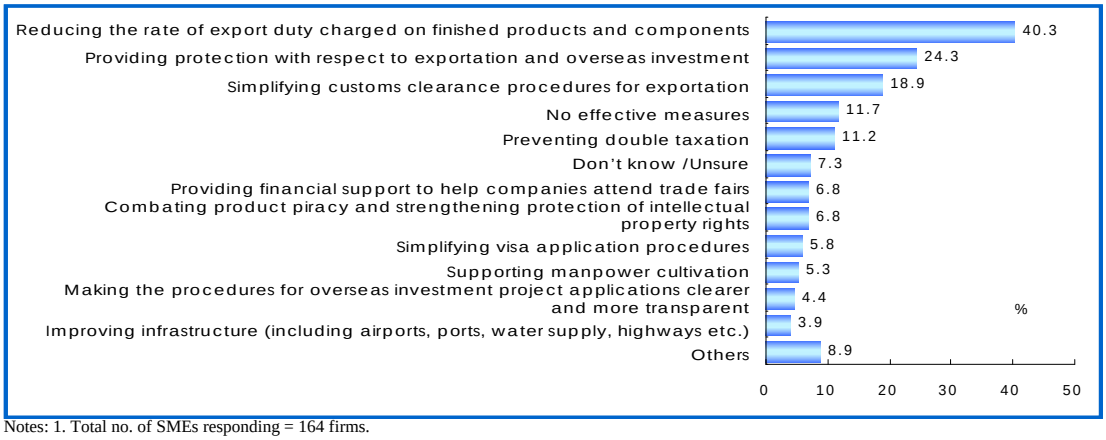
What did those SMEs that are already developing overseas markets feel to be the most effective measures that the government could adopt to support overseas market development by SMEs? 40.3% of SMEs felt that the government should reduce the rate of export duty charged on finished products and components as the single most important measure; 24.3% felt that the government should provide protection with respect to exportation and overseas investment, and 18.9% wished that the government could make the customs clearance procedures that exporters and firms

investing overseas need to go through simpler and more convenient (Figure 5-3-4).

Figure 5-3-3 What SMEs Felt to be the Most Effective Methods of Developing Overseas Markets and Securing Export Orders

Notes: 1. Total no. of SMEs responding = 206 firms.
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

Figure 5-3-4 What SMEs Felt to be the Most Effective Measures the Government Could Adopt to Help SMEs Develop Overseas Markets



Notes: 1. Total no. of SMEs responding = 164 firms.
2. Respondents could give more than one answer.
Source: See Figure 5-2-1.

CHAPTER 6

Promoting the Adoption of Innovation-based Operation by SMEs in the Manufacturing Sector

With the negative impact of the global financial crisis gradually coming to an end, and growing demand in the emerging economies, Taiwan has begun to see an increase in export orders, and the production capacity utilization rate of Taiwan's manufacturing industry has been rising. The industrial production index in March 2011 stood at 138.90, a record high (up from 136.58 in December 2010, which was itself a record figure). Year-on-year (compared with the situation in March 2010), the industrial production index was up 13.82% in March 2011. The manufacturing sector saw an increase of 14.37%, confirming that production capacity utilization in manufacturing is picking up. According to the *Survey of the Current State of Manufacturing Industry Operations – 2010* published by the Department of Statistics, Ministry of Economic Affairs (MOEA), approximately 23% of the firms included in the survey reported that they were planning to expand the scale of their domestic operations; the larger the firm, the more likely it was to report plans to expand. The MOEA has also carried out a questionnaire survey of the strategies that business enterprises have adopted over the last two years to transform and upgrade themselves. The results of this survey showed that medium-sized and small firms were most likely to have adopted a transformation strategy based on "product transformation" (i.e., changing the type of products manufactured, while remaining in the same industry); 32.3% of medium-sized firms and 30.72% of small firms had adopted this type of strategy. The next most widely reported transformation strategy was "changing the method of production" (through automation or by outsourcing production, etc.); this type of strategy was reported by 15.51% of medium-sized firms and 14.34% of small firms. The third most widely adopted transformation strategy was "diversification", reported by 8.16% of medium-sized enterprises and 8.14% of small enterprises. It can thus be seen that the transformation strategies adopted by Taiwan's SMEs in the aftermath of the global financial crisis mainly emphasize the strengthening of R&D and production capabilities in the firm's existing business areas, and firms use this as a foundation for developing potential new markets.

The industry-specific data on SMEs in 2009 presented in the 2010 *White Paper on Small and Medium Enterprises in Taiwan* show that, while manufacturing firms account for only 10.55% of Taiwan's SMEs, they account for 34.07% of total SME sales, a figure surpassed only by the wholesaling and retailing industry (with a share of 39.77%). Manufacturing SMEs also account for 32.46% of total employment by SMEs, more than any other sector. These data give some idea of the key role that manufacturing continues to play in the development of the SME segment as a whole.

Collation of the original data obtained in the 2001 and 2006 Industry, Commerce and

Service (ICS) Censuses conducted by the Directorate-General of Accounting, Budget and Statistics (DGBAS) of the Executive Yuan reveals that, in the manufacturing sector as a whole, the value-added rate fell from 32.47% to 29.26%, while for SMEs in the manufacturing sector there was a decline from 30.66% to 26.58%. The decline in SME value-added has thus been more pronounced, starting from what was already a lower base than that of manufacturing industry as a whole. The questionnaire survey of manufacturing SMEs conducted by CIER in 2010 and 2011 (the results of which are discussed in Chapter 5 of Part One of this *White Paper* shows that the percentage of manufacturing SMEs reporting that all of their production takes the form of contract manufacturing fell from 40.2% in 2010 to 30.8% in 2011; the share reporting that most of their production was contract manufacturing increased from 8.2% to 9.3%. The percentage of firms reporting that all of their production was own-brand production fell from 37.9% to 33.4%, while the percentage reporting that most of their production was own-brand production rose from 7.2% to 13.9%; the percentage reporting that their production was about half own-brand manufacturing and half contract manufacturing rose from 6.5% to 11.9%. These data show a trend for the gradual replacement of contract manufacturing by own-brand production. These surveys also addressed the question of manufacturing firms' expansion into the service sector. 73.9% of the SME respondents in the 2010 survey reported that they had not yet made any forays into the service sector, suggesting that the servitization of manufacturing is still just getting off the ground, at least in the SME segment.

The data presented above show that Taiwan's manufacturing sector SMEs are still largely involved in traditional contract manufacturing operations; their ability to expand into high-value-added service industries and create value through brand development remains limited. This is the main reason why the value-added rate of manufacturing sector SMEs remains lower than that of manufacturing firms as a whole. SMEs have continued to focus on "hardware" R&D, and have not achieved any significant enhancement of their "soft" innovation capability. The key issue that will determine whether Taiwan's SMEs can enjoy a new "golden age" is thus whether SMEs are able to leverage servitization and branding to build a new, innovation-oriented operational model that can help them to transform themselves into high-value-added producers.

Starting in the late 1980s, Taiwan's manufacturing sector gradually reoriented itself away from labor-intensive industries towards capital-intensive industries. Manufacturing SMEs' limited access to market and technology information slowed the rate at which they were able to adopt hi-tech volume production techniques, which in turn constrained their ability to develop new markets. At the same time, the trend in manufacturing industry as a whole was away from large-volume production and towards flexible, sustainable manufacturing of customized products. This trend has made the servitization of manufacturing an even more important issue for Taiwan's manufacturing sector SMEs. If one thinks in terms of the "Smile Curve" concept developed by Stan Shih, the founder and former chairman of Acer, it is apparent that servitization can help small and medium-sized manufacturers to enhance their own brand value. In a work published in 2004, Stan Shih pointed out that building up a brand is a long-term process, and that brand value can be viewed as the product of brand positioning and brand recognition; as a rule, large enterprises focus on brand positioning, while SMEs seek to build up their brand recognition. However, strengthening brand recognition can be an expensive undertaking, making it a major

challenge for SMEs, which are often cash-strapped. Over the last few years, a large number of scholars and experts have advocated the concept of collaborative marketing, suggesting that enterprises that complement one another's strengths can make use of collaborative marketing to share human resources and provide joint services, thereby achieving more impressive marketing results at lower cost, and successfully enhancing their brand recognition.

To summarize, the present chapter will focus on servitization and own-brand development in its examination of the obstacles that Taiwan's small and medium-sized manufacturing firms face in their efforts to develop innovation-based operation, and of the solutions that they may need to adopt.

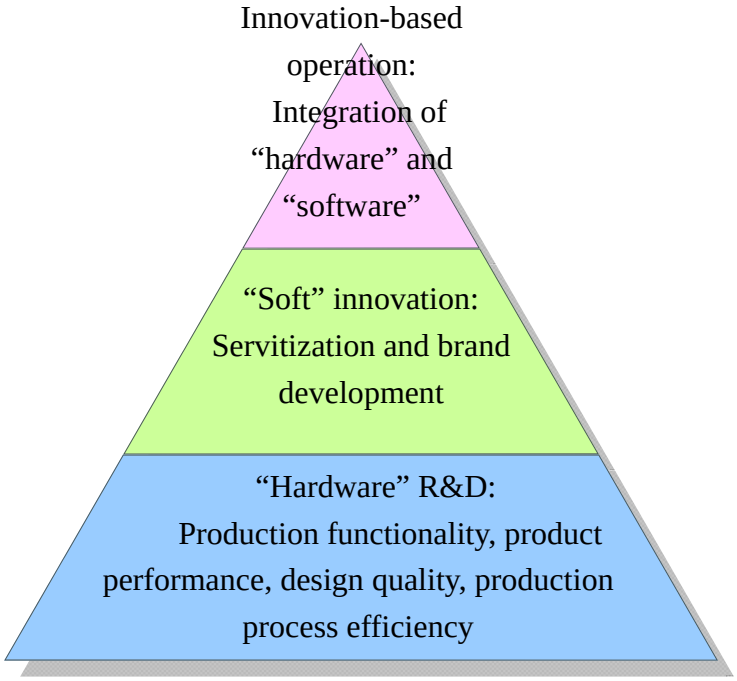
I Key Issues Affecting the Adoption of Innovation-based Operation by SMEs

In his *Theorie der Wirtshaftlichen Entwicklung*, published in 1912, the famous Austrian economist J.A. Schumpeter first introduced the concept of "innovation" (*neue combination*). Schumpeter suggested that the combination of production factors in new ways by entrepreneurs and the adoption of innovative new forms of business behavior is an important driver of economic development. As Schumpeter saw it, innovative behavior could include: (1) the production of new goods; (2) the adoption of new production methods; (3) the development of new markets; (4) the discovery of new materials or new sources of semi-finished products; and (5) the emergence of new forms of industrial organization. From this point of view, innovative business models may involve more than just product and technology innovation in the narrow sense; they may also involve the provision of new services and the creation of new brands.

The "A-U Model" proposed by Abemathy and Utterback (1978) describes the innovation process in manufacturing as encompassing both product innovation and process innovation. The relative incidence of these will depend on the emergence or otherwise of a "dominant design." Until a dominant design emerges, product innovation will be more common; once a dominant design has appeared, process innovation will become the main innovation model. In the case of manufacturing industry, this means that the innovation model embraces more than just the product itself; it also covers innovation in the way that production is organized. A report by IBM Global Business Services (2007) listed some of the aspects of the current global business environment that force enterprises to innovate, including: the trend towards a "flat Earth," the diversification and speeding up of innovation, the rapid pace of change in information technology, product digitalization, large-scale population movements, unforeseeable change, etc. This transformation of the wider environment means that innovation can no longer be confined to technological change; it must also include change in the enterprise as a whole. The report suggests that, for manufacturing industry, innovation includes: (1) innovation relating to products and services (product innovation); (2) innovation relating to business processes (process innovation); (3) innovation relating to business models (IBM Global Business Services, 2007). The concepts of business process innovation and business model innovation are clearly closely linked to servitization and branding.

To summarize, the adoption of innovation-based operation by manufacturing firms may involve the integration of "hardware" R&D and "soft" innovation. In more concrete terms, enterprises need to build on the foundation provided by product and process innovation by promoting servitization and the enhancement of brand value; only then will it be possible to build innovative systems suited to today's needs and achieve the goal of creating high value-added (Figure 6-1-1). By comparison with large enterprises, Taiwan's SMEs have the advantage of flexibility and the ability to tailor service provision to the needs of individual customers. If Taiwan's SMEs are to move forward along the path towards innovation-based operation, the key issue they will need to address is that of building a new brand image through differentiation and developing new "soft" service capabilities.

Figure 6-1-1 The Innovation-based Operation Pyramid for the Manufacturing Sector



Source: Wu, Wei et al., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

From the mid-1980s onwards, the business environment in Taiwan underwent significant changes, attributable to rising labor costs, the growing complexity of product technology, the decline in export competitiveness caused by the rise in the value of the New Taiwan Dollar, and the trend towards large-scale, internationalized business operation. In comparison with large enterprises, with their extensive resources, Taiwan's SMEs found it much harder to secure contract manufacturing orders from overseas vendors, and the challenges they faced grew more and more severe. In the future, SMEs that wish to develop new markets or maintain their market share in existing markets will not be able to rely solely on playing an ancillary role in large enterprises' efforts to develop international markets; they will also need to think about how they can leverage servitization and own-brand development to deepen their interface with customers.

In the following sectors, we use the concepts of servitization and brand development to explore the challenges facing Taiwan's SMEs as they seek to develop innovation-based operation, and the possible solutions to these challenges. This discussion is supported by analysis of the results obtained in the *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation*, conducted by CIER in May 2011.

II Manufacturing Servitization in the SME Segment

This section examines the background to, and significance of, the efforts to promote servitization among Taiwan's SMEs (particularly those in the manufacturing sector), using the results from the *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* to analyze and explore the current status of manufacturing servitization among SMEs, and to seek to identify the major obstacles that SMEs are encountering in this regard. The *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* also examined the measures being adopted by the government to support the promotion of servitization, considering how effective these measures have been and what type of measures should be adopted in the future.

1. The Promotion of Manufacturing Servitization in the SME Segment – Background and Significance

(1) The Background to Manufacturing Servitization

Analysis undertaken by the Department of Industrial Technology, MOEA, notes that Taiwan's manufacturing sector had for many years focused on product manufacturing technology, becoming particularly competitive in the areas of OEM (Original Equipment Manufacturing) and ODM (Original Design Manufacturing). Business operations in the manufacturing sector therefore took the form of leveraging Taiwan's abundant labor supply to undertake assembly work according to the product specifications and designs provided by the customer, or else undertaking product design and manufacturing on the customer's behalf before the customer goes on to sell the product under its own brand. However, profit margins on ODM and OEM production have been falling steadily, making it increasingly difficult for manufacturers to stay in business. The ongoing process of economic globalization and the resulting intensification of international competition have put Taiwanese manufacturers into a position where they are forced to compete against the economic might of the emerging economies with their reserves of cheap labor. At the same time, the growth of Taiwan's own economy and the changes in the conditions of production (including rising production costs) have resulted in a situation where Taiwan is caught between the advanced nations, with their high technology, and the emerging economies, with their abundant labor supply and low production costs. With the original source of competitive advantage for Taiwan's manufacturing industry having been weakened, there is an urgent need to identify ways for the manufacturing sector to overcome these difficulties.

Numerous scholars have noted that, whereas in the past most of the manufacturers that succeeded in building up significant economies of scale were multinational corporations with

their headquarters in one of the advanced nations, today, as a result of the ongoing industrialization of the emerging economies, large-scale manufacturing is no longer confined to the advanced nations. Many business enterprises in emerging economies have the technology and other capabilities needed to undertake large-volume manufacturing at low cost, with low prices. This situation has in some cases resulted in over-capacity. Even in the case of advanced, cutting-edge products, manufacturers can expect to have their product replicated by competitors within a very short space of time after launching it. Those manufacturers that rely solely on manufacturing for their profits have consequently found themselves embroiled in a vicious circle of ever-worsening price competition. What this means for Taiwan is that if Taiwanese manufacturers continue to focus solely on product manufacturing, they will at best only be able to maintain their existing level of competitive advantage. Small and medium-sized manufacturers, with their smaller scale of operations, will find it particularly hard to survive in the new era of low profit margins.

If Taiwan's manufacturers are to avoid being trapped in a spiral of vicious price competition, it is vitally important for SMEs in particular to think how they can differentiate themselves by integrating value-added services with their products, and how they can establish and develop their own brands to enhance value-added and boost production value, while creating new value for customers. As a rule, firms in the manufacturing sector tend to be very product-focused in their thinking; interaction between manufacturers and customers is largely a one-way process of the manufacturer receiving orders from the customer. What manufacturing industry needs today is to adopt a service-centric approach, engaging in ongoing, bidirectional communication with the customer, while at the same time shifting away from the large-volume production model of the past towards more flexible, customized manufacturing operations, supported by the provision of consulting services and advice. The concept of manufacturing servitization exactly matches the upgrading and transformation that Taiwan's SMEs need to undertake. In the following sections we examine in more detail exactly what manufacturing servitization entails.

(2) The Significance of Manufacturing Servitization

The Manufacturing Servitization Plan constitutes an important part of the *Innovative Technology Applications and Services (ITAS)* program formulated by the Department of Industrial Technology, Ministry of Economic Affairs. The Plan defines "manufacturing servitization" as integrating products, services, support, knowledge and customer self-help; service is the single most important aspect, with an emphasis on customer-centric operation. Within the process of manufacturing servitization, three overlapping stages can be identified:

1. Products or services: A company provides either products or services, but not both.
2. Products and services: A company provides *both* products *and* services; manufacturing firms provide additional services, and service sector firms make use of a wider range of products to provide services.
3. Products, services, support, and customer self-help.

Manufacturing servitization is thus a "cross-sectoral" concept in which the manufacturing sector's past focus on manufacturing alone is replaced by the integration of the manufacturing and service sectors. To bring about manufacturing servitization and thereby enhance the

efficiency and service capabilities of Taiwan's manufacturers, the Department of Industrial Technology, MOEA formulated the *Manufacturing Servitization Promotion Plan*, which divides manufacturing servitization into three categories:

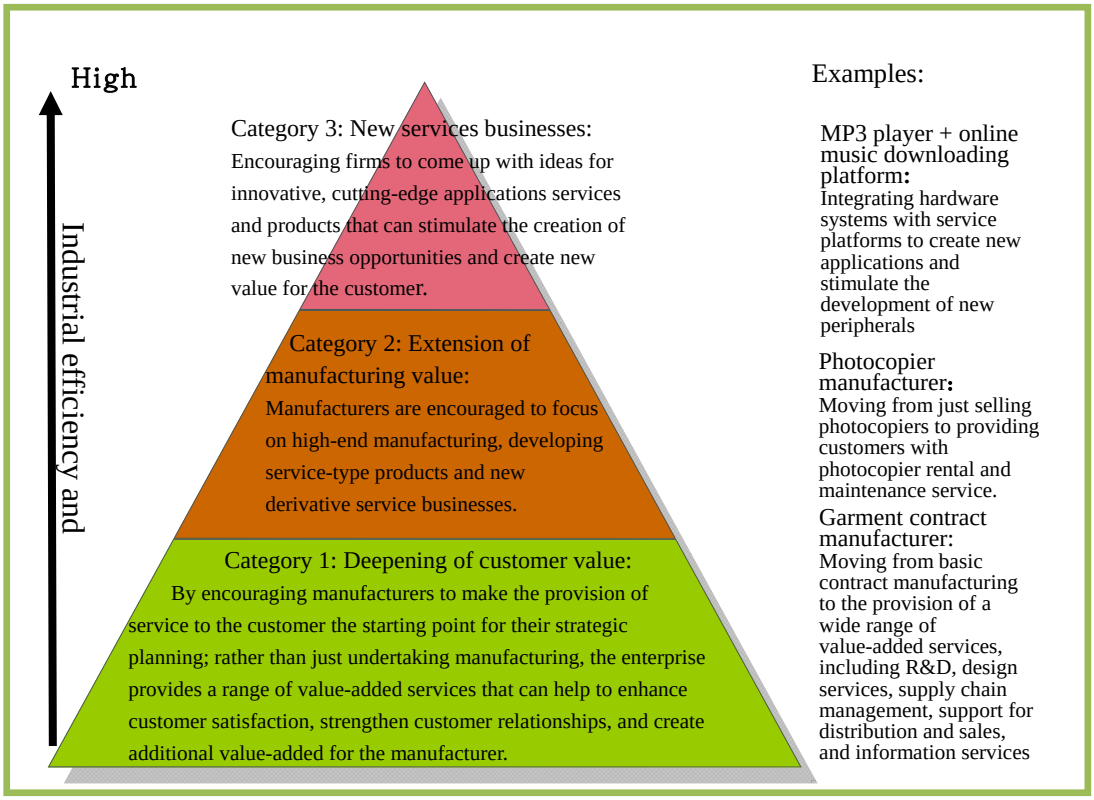
1. Deepening of customer value: This involves encouraging manufacturers to make the provision of service to the customer the starting point for their strategic planning. Rather than just undertaking manufacturing, the enterprise provides a range of value-added services that can help to enhance customer satisfaction and thus create additional value-added for the manufacturer. Taking garment manufacturers as an example, instead of merely providing basic contract manufacturing service, a firm can offer a wide range of value-added services that might include R&D, design services, assistance with distribution and sales, etc.
2. Extension of manufacturing value: Here, manufacturers are encouraged to focus on high-end manufacturing, developing service-type products and new derivative service businesses. In the case of a photocopier manufacturer, this might involve offering photocopier rental and repair services.
3. New service businesses: This involves encouraging firms to come up with ideas for innovative, cutting-edge applications services and products that can stimulate the creation of new business opportunities and create new value for the customer. In the case of a manufacturer of MP3 players, this might involve integrating hardware systems with service platforms, for example by creating an online music downloading platform, thereby stimulating the development of peripheral products or opportunities for cross-industry collaboration. This and the above two categories are displayed in graphic form in Figure 6-2-1 below.

Based on an extensive review of the literature, Wu, Peng, et al. (2010) suggests that business enterprises can approach manufacturing servitization from three angles:

1. Using ICT to Strengthen Manufacturing and Service Capabilities: The effective utilization of information and communications technology (ICT) can help business enterprises to reduce production costs and enhance the quality of service provision. Taking the use of remote monitoring in the machinery manufacturing industry as an example, the adoption of a remote monitoring service makes it possible for a central control panel to detect problems with machine operation, and then implement online problem rectification. Even if online correction is not possible, remote monitoring can still be used to determine which component has malfunctioned, so that a repair team can be sure they have brought the right tools and replacement parts when they arrive to conduct repairs, ensuring that there is no unnecessary waste of time and effort.
2. Product-Service Systems: The term "Product-Service System" is used to refer to the combination of products and services in an integrated package. With this business model, the enterprise's profits are not derived solely from product sales per se, but rather from meeting consumers' needs by providing particular services and functions; it is this which creates the product value. Taking the launch of the Kindle e-reader by Amazon (the world's largest online book retailer) as an example, users of Kindle just need the e-reader device and Internet access to be able to download books, newspapers and magazines, subscribe to blogs or send and receive e-mail, etc. For the consumer, Kindle's value lies

in the fact that the user can access Amazon's e-book services and functions to meet their reading needs.

Figure 6-2-1 The Content of the Manufacturing Servitization Promotion Plan



Source: Dept. of Industrial Technology, Ministry of Economic Affair

3. Bringing Services Online: By making use of Internet technology, business enterprises can provide a wider range of services in a more efficient, timely manner. One example of this is the adoption of 3D "virtual fitting" services by clothing firms. The clothing company creates a virtual fitting environment in which the consumers can create their own personal 3D avatar or model, either by being scanned or by entering their own measurements manually. They can then "try on" clothes virtually, while also examining the clothing combinations that other consumers have chosen. This helps to enhance customer satisfaction with the purchasing process.

As can be seen from the above, manufacturing servitization involves taking the product as the foundation for developing a wide range of value-added services and new business models that can create more value from products. However, as noted in a report on the MOEA's Plan for Promoting the Cultivation of Specialist Talent, while around 80% of Taiwanese manufacturing firms are involved in service provision, less than 20% of manufacturing enterprises derive 20% or more of their revenue from services. Clearly, the overall level of servitization in Taiwan's manufacturing sector is still too low.

The following section uses an examination of manufacturing servitization in the SME segment to explore the obstacles that Taiwan's small and medium-sized manufacturing firms are

experiencing as they strive to achieve innovation-oriented operation, and how these obstacles can be overcome. The analysis presented below is based on data from the *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation*, conducted by CIER in May 2011. This survey used stratified (by region) random sampling, with a total of 305 completed questionnaires. The population was taken from the 2006 *Industry, Commerce and Service Census*, which includes data on a total of 128,754 companies. For the purposes of the *Survey*, the industry categories used in the *Census* were analyzed to identify those firms that fell under the category of SMEs; for those firms where the determination of SME status could not be made in this way, interviews were conducted to verify whether the firm in question was in fact an SME, and what industry it belonged to. With regard to the regional distribution of manufacturing SMEs, as the original *Census* database included a breakdown by county/city, this was used as the basis for stratified random sampling, to determine which firms should be the subject of interviews. The chi square test was used to gauge whether the sample used was sufficiently representative of the wider population; there was no statistically significant difference between the regional distribution of the sample and that of the population, indicating that the results obtained with the sample should also apply to the population as a whole (Tables 6-2-1 and 6-2-2). The distribution by capitalization of the firms included in the survey is shown in Figure 6-2-2.

Table 6-2-1 Regional Distribution of the Survey Population and Effective Sample

Region	Population (no. of firms)	Population (share)	Effective sample (no. of firms)	Effective sample (share)
Northern Taiwan	52,157	40.5	127	41.6
Central Taiwan	50,707	39.4	119	39.0
Southern Taiwan	25,890	20.1	59	19.3
All Regions	128,754	100.0	305	100.0

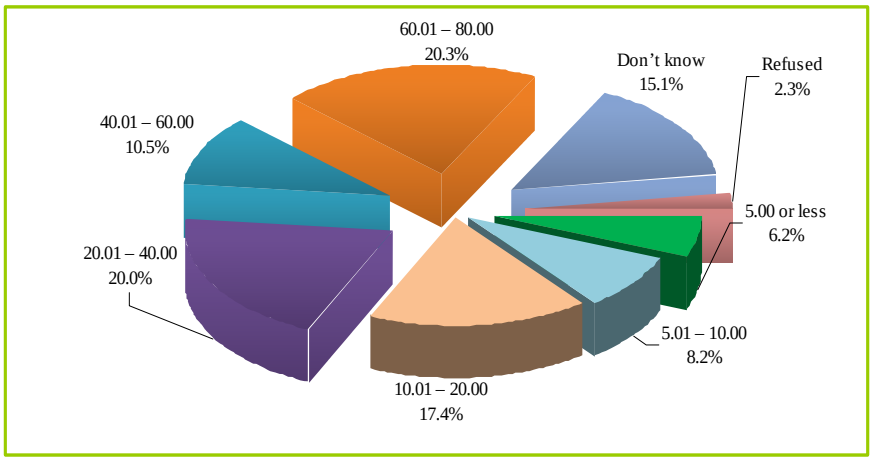
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

Table 6-2-2 Distribution of the Effective Sample by Region and Number of Employees

Employees / Region	All Firms	5 or Fewer Employees	6 – 29 Employees	30 – 54 Employees	55 – 99 Employees	100 or more Employees
Northern Taiwan	127	4	51	41	24	7
Central Taiwan	119	8	42	29	25	15
Southern Taiwan	59	2	16	16	15	10
All Regions	305	14	109	86	64	32
Share of total	100.0	4.59	35.74	28.20	20.98	10.49

Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

Figure 6-2-2 Distribution of Surveyed Firms by Capitalization



Notes: 1. No. of SMEs that completed the questionnaire: 305 firms.
2. Unit: NT$ millions.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

2. The Promotion of Manufacturing Servitization in the SME Segment – Current Situation and Difficulties Encountered

To develop a better understanding of the current status of manufacturing servitization promotion in the SME segment, and of the problems that have been encountered, CIER implemented a questionnaire survey in April 2011, from which the following results were obtained:

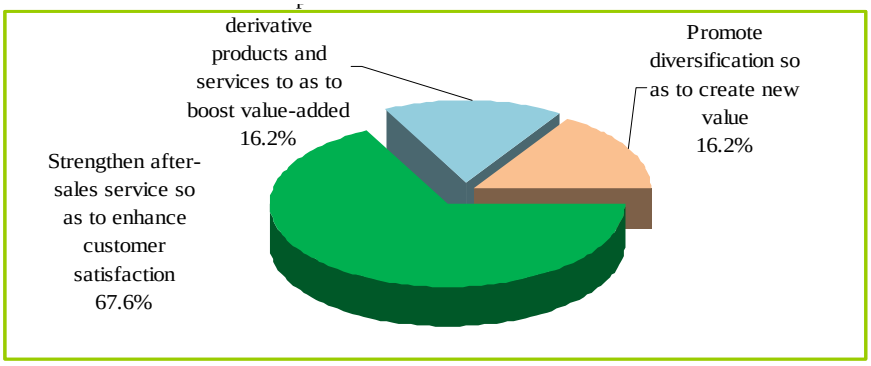
(1) Relatively Few SMEs Have Moved into Service-related Business Areas

When asked whether they had expanded into service-related business areas (such as the provision of after-sales maintenance service, product design services, market research, consulting services, product leasing service, wholesaling, online sales, etc.), 24.3% of the SMEs included in the survey reported that they had expanded into one or more of these areas, but 75.7% stated that they had not.

(2) The Main Motivation for Expanding into Service-related Business Areas is to Enhance Customer Satisfaction

The survey results showed that, for 67.6% of respondent firms, the biggest motivation for expanding into service-related business areas was to strengthen after-sales service provision and thereby enhance customer satisfaction. The next most widely reported main sources of motivation were the desire to create new value through diversification, and the wish to boost value-added by developing derivative products and services (each of which was reported as being the main source of motivation by 16.2% of firms). It can thus be seen that, for SMEs in the manufacturing sector, the main reason for wishing to expand into service-related business areas is the desire to improve after-sales service, and thus raise the level of customer satisfaction (Figure 6-2-3).

Figure 6-2-3 Main Source of Motivation for SMEs Wishing to Expand into Service-related Business Areas

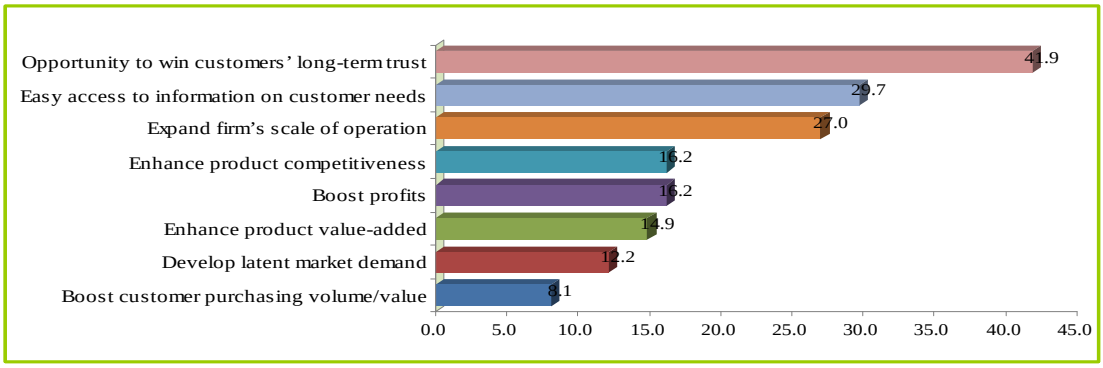


Note: No. of SMEs that responded to the question: 74 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(3) The Benefits to SMEs from Expanding into Service-related Business Areas

What benefits does expanding into service-related business areas have for SMEs? As shown in Figure 6-2-4, 41.9% of firms felt that expanding into service-related business areas could help to secure long-term trust from customers; 29.7% believed that it could help firms to secure more information about customer needs, 27.0% felt that it could contribute towards expanding the company's scale of operation, and 16.2% believed that it could help to enhance the competitiveness of their products and boost profits.

Figure 6-2-4 The Benefits to SMEs from Expanding into Service-related Business Areas (respondents could select more than one benefit)

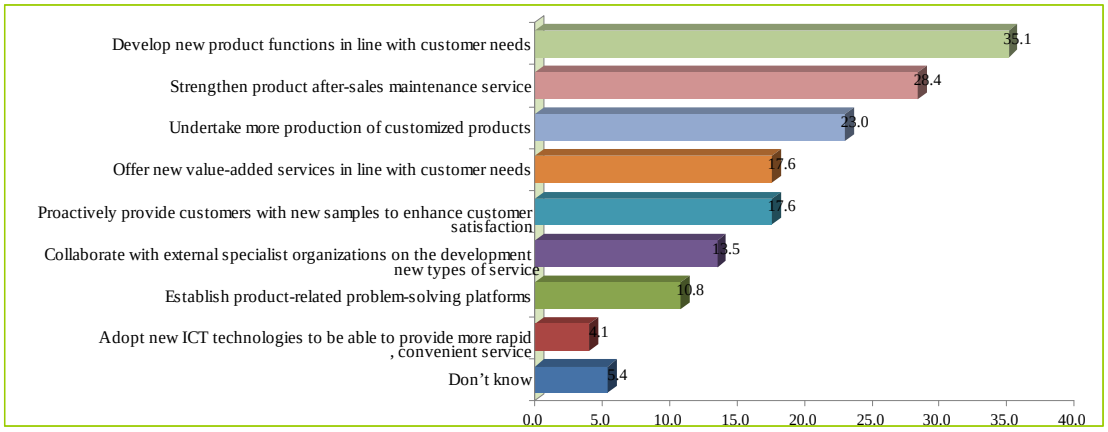


Note: Number of SMEs that responded to the question: 74 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(4) Possible Strategies for SMEs Seeking to Develop Service-related Business Areas

As regards the strategies that SMEs plan to adopt in the future to develop service-related business areas, 35.1% of respondent firms stated that they would be focusing on improving product functionality in line with customer needs. The next largest group comprised those firms planning to strengthen after-sales maintenance service provision (28.4% of all respondents). 23.0% of SMEs intended to focus on increasing production of customized products; 17.6% planned to provide value-added services in line with customer needs, and 17.6% intended to provide customers with samples of new products (Figure 6-2-5).

Figure 6-2-5 Strategies that SMEs Plan to Adopt in the Future to Develop Service-related Business Areas (respondents could select more than one strategy)



Note: Number of SMEs that responded to the question: 74 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

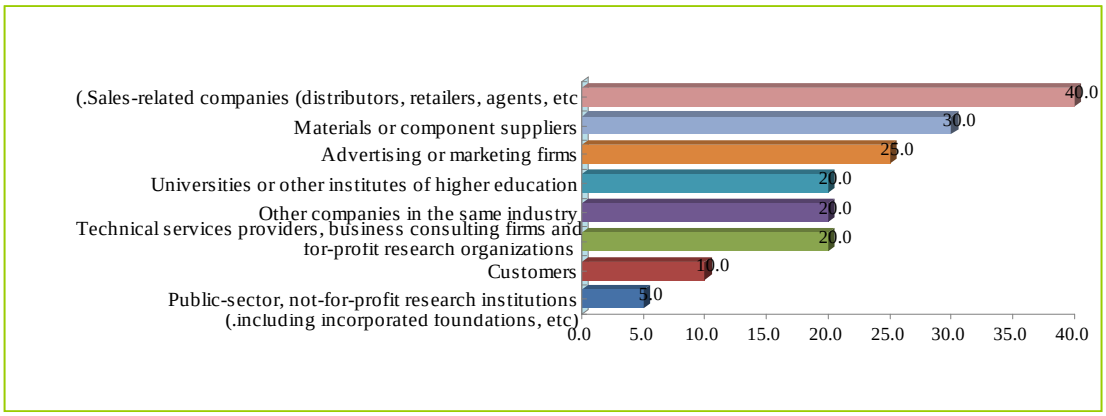
(5) SME Collaboration with External Organizations on the Development of Service-related Business Areas

To what extent do SMEs collaborate with external organizations when working to develop service-related business areas? The survey results showed that 27% of respondent firms had collaborated with external organizations, while 73% had not done so.

As to which external organizations those SMEs reporting collaboration with external organizations had been working with, the survey results showed that 40% of firms reported working with sales-related companies (including distributors, retailers and agents); another 30% reported collaborating with materials or component suppliers, and 25% reported working with advertising or marketing firms (Figure 6-2-6).

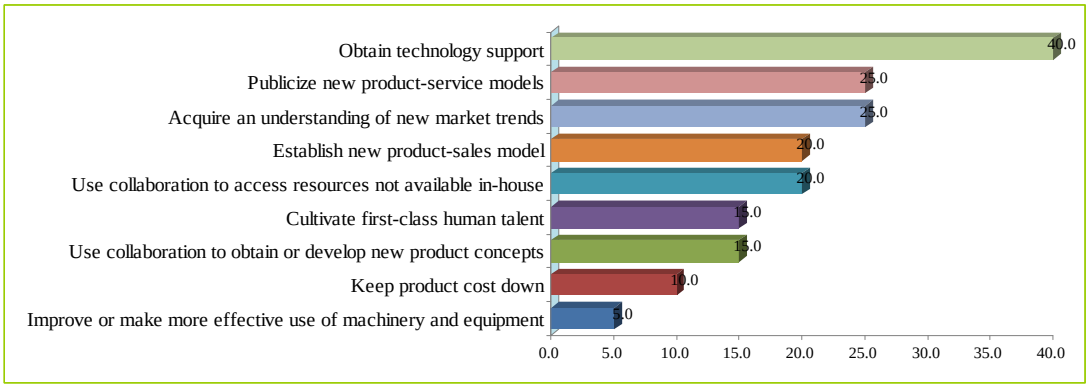
The survey went on to ask those SMEs that had collaborated with external organizations on the development of service-related business areas what the purpose of this collaboration was. 40% of firms stated that they engaged in such collaboration in order to gain access to technology support; 25% reported that the collaboration was intended to help publicize their new products or new service models, and the same percentage stated that it was intended to help them understand new market trends. 20% of firms stated that collaboration with external organizations was intended to help them establish a new product-sales model, and 20% stated that it was to give them access to resources that they themselves lacked (Figure 6-2-7). It can thus be seen that the main motivation for collaborating with external organizations on service-related business area development is to obtain technology that the firm in question does not itself possess in-house.

Figure 6-2-6 Types of External Organization with Which SMEs Collaborated on the Development of Service-related Business Areas (respondents could select more than one category)



Note: Number of SMEs that responded to the question: 20 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

Figure 6-2-7 SME's Motivation for Collaborating with External Organizations on the Development of Service-related Business Areas (respondents could select more than one motivation)

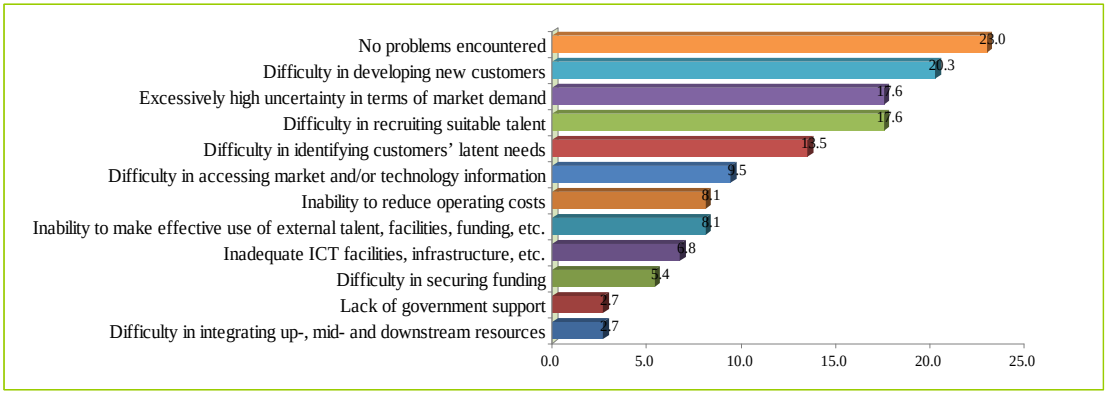


Note: Number of SMEs that responded to the question: 20 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(6) Difficulties Encountered by SMEs in Developing Service-related Business Areas

As regards the problems encountered by SMEs when working to develop service-related business areas, the highest percentage (23.0%) of firms reported that they had not encountered any difficulties. 20.3% of firms reported having trouble developing new customers; 17.6% had had problems due to excessive uncertainty in terms of the level of market demand, and the same percentage had experienced difficulty in recruiting suitable human talent (Figure 6-2-8). Overall, while a high percentage of SMEs had not experienced any particular difficulties in the development of service-related business areas, the potential for problems in terms of developing new customers, recruiting suitable talent, etc. should not be ignored.

Figure 6-2-8 Difficulties Encountered by SMEs when Seeking to Develop Service-related Business Areas (respondents could select more than one problem)



Note: Number of SMEs that responded to the question: 74 firms.
Source: Wu and Wei., Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation (2011).

III SMEs' Branding Innovation

In this section, we examine the background to and significance of SMEs' efforts to develop their own brands. The survey results from the *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* are used to analyze the current status of own-brand operation by Taiwan's SMEs, and to identify the problems that SMEs are experiencing in this regard. The survey also addressed the measures that have been implemented by the government in the past to promote branding innovation and own-brand operation, and the results obtained by the survey in regard to this issue are used to review the implementation of the relevant measures, and to consider how they may evolve in the future. In the following section, we begin by looking at the background to SME brand development, and its significance.

1. Branding Innovation in the SME Sector - Background and Significance

(1) The Background to SME Adoption of Branding Innovation

The Directorate-General of Budget, Accounting and Statistics (DGBAS), Executive Yuan has announced that the Taiwanese economy grew by 10.88% in 2010. This shows that the economy has recovered strongly from the two-year global crisis that began in 2008, and would suggest that the SME sector too has been experiencing growth. For many business enterprises, the first step towards renewed growth is to promote branding innovation, thereby enhancing product value-added.

Taiwan's SMEs have for many years relied on an OEM (Original Equipment Manufacturing) business model, under which they have had very little scope to increase value-added. Promoting branding innovation, and going on from there to build a new kind of enterprise structure, is thus a task of the utmost urgency and importance. In point of fact, for most contract manufacturing firms, the majority of orders are derived from just a handful of customers (usually large enterprises); the contract manufacturer's business operations are confined to B2B

(business-to-business), and there is no opportunity to develop B2C (business-to-consumer) marketing and sales operations. For this reason, SMEs tend to ignore the consumers' actual needs, which can result in a situation where high productivity is combined with low consumer satisfaction; this can ultimately have a severe negative impact on a company's balance sheet. If Taiwanese SMEs wish to transform themselves into high-value-added enterprises, they need to focus on branding innovation and on bringing their operations into line with consumers' needs.

As a rule, building a successful brand is a time-consuming, expensive business. The reason why so many enterprises are still willing to commit themselves to branding innovation activities is that the branding innovation process can help firms to win customers' trust and enhance customer loyalty, rendering customers more willing to purchase the enterprise's high-value-added products and services. Once a firm has succeeded in building a strong brand, then that enterprise then needs to provide high-quality products and after-sales service on an on-going basis, in order to maintain customer loyalty and achieve sustainable operation.

Many case studies of successful SME brand development have shown that the key to winning over consumers and building mind share within a short space of time is usually branding innovation capability. In more concrete terms, business managers who possess branding innovation ability are able to make effective use of external resources such as the Internet, the media and distribution channels to enhance the visibility of their products or services within the marketplace in a short space of time and at low cost, enabling consumers to rapidly become familiar with the special features of these products and services. Based on her analysis of examples of successful brand development, Sara Chang (who chaired the 2010 "Branding Taipei" project) suggests that brand development is a four-stage process: brand positioning, brand building, brand promotion, and brand transformation. The first task, at the brand positioning stage, is to decide what special characteristics the company's products will have, in line with consumers' real needs. The firm needs to decide which customer segment it will be targeting, in order to be able to differentiate itself from its competitors by offering consumers something they cannot get from rival firms. At the next stage – that of brand building – the firm needs to emphasize the superior functionality of its products, using the emotional angle to win over consumers. Once the brand promotion stage has been reached, the emphasis is on making effective use of word-of-mouth marketing, as well as the media, to achieve and maintain the kind of healthy interaction with consumers that is so vital in the Internet era. Finally, at the brand transformation stage, the enterprise needs to consider whether its existing brands still have value, and make any necessary adjustments to brand positioning.

(2) The Significance of Branding Innovation

In his book *Re-engineering Acer*, Stan Shih, the founder of the successful Acer brand, notes that "Viewed in conservative, passive terms, branding can help an enterprise to maintain stable operation over the long term; viewed more dynamically, once a brand has build up its brand image and sales system, then when it launches a new product, if the positioning of the new product is in conformity with the company's existing brand, then the firm can leverage its existing brand image and sales network to create synergy, achieving double the impact for the same effort. However, when using brand building to enhance value-added, you need to bear in

mind that the key aspect of value innovation does not lie in technology development, but rather in concern for consumer needs; one needs to adopt a "peer-to-peer" approach." Stan Shih goes on to point out that branding is in and of itself a long-term process of accumulation, while brand value can be seen as the product of combining brand positioning with brand recognition. Large enterprises tend to emphasize brand positioning, while SMEs are more likely to concentrate on building brand recognition. Brand positioning can be thought of as the residual value left over after costs have been subtracted from the price of a product or service; the higher this residual value is, the better the brand positioning, and the more brand value that will be created. The enterprise's R&D and manufacturing capabilities have a particularly important role to play here. By contrast, brand recognition can be raised through physical exposure of the product or service, and by "virtual" exposure in the media.

The results obtained in the *2010 Taiwan Global Brand Value Survey* implemented by the Bureau of Foreign Trade, MOEA are shown in Table 6-3-1 below. The top ten most valuable Taiwanese brands were, in order: Acer, HTC, ASUS, Trend Micro, Master Kong, Want-Want, Maxxis, Giant, Synnex, and Transcend. The top five in this list all had brand value in excess of US$1 billion, which is the most impressive performance since the survey began. When the Bureau of Foreign Trade first launched the "Branding Taiwan" initiative in 2006, its target was to have at least five Taiwanese brands with brand value in excess of US$1 billion by 2012; the fact that this target has been achieved two years ahead of schedule shows that the brand development efforts of Taiwanese companies in international markets are already starting to bear fruit.

One thing that enterprises that have succeeded in building a strong brand have in common is that they all work actively and systematically to develop brand positioning and increase brand recognition. For example, many hi-tech manufacturers have focused on identifying important trends in the markets for smartphone products, 3D blu-ray disk players and Windows 7 OS software, helping them to develop a clear market positioning strategy, and to roll out new-generation products that conform to market demand. At the same time, companies such as Acer, HTC, ASUS and Gigabyte that already possess strong brands have been leveraging advanced digital media to develop online communities and communicate with consumers through a wide range of channels, thereby enhancing brand recognition. SMEs that are interested in branding innovation can learn useful lessons from companies such as these, which have already built successful brands.

As can be seen from the above, the most important factors affecting the building of brand value are brand positioning and brand recognition. In the process of brand positioning, externally, a firm needs to identify market needs and target customer groups; internally, it needs to clarify its own core brand philosophy, and attempt to bring across the unique character and symbols of its own brand. When it comes to building brand recognition, the challenge is to ensure that the brand image that the company wants to get across to consumers is embodied in every aspect of R&D, manufacturing, marketing and service provision, while formulating effective methods to publicize the firm's brand image. Given the rapid progress that Chinese and Southeast Asian companies have made in upgrading their manufacturing capabilities, in the future Taiwan's SMEs will no longer be able to rely on contract manufacturing capabilities as their main source of

competitive advantage; instead, they will need to integrate external resources, grasp opportunities to achieve branding innovation, and work actively to develop potential new market segments.

Table 6-3-1 Taiwan's Top Ten Global Brands in 2010

Ranking	Brand	Company Name	Brand Value (US$ millions)	Brand Value (NT$ millions)
1	Acer	Acer Inc.	1401	44706
2	HTC	HTC Corporation	1371	43727
3	ASUS	ASUSTeK Computer Inc.	1285	41007
4	TrendMicro	Trend Micro Inc.	1228	39169
5	MasterKong	Tingyi Holding Corp.	1066	34014
6	Want-Want	Want China Holdings Ltd.	482	15382
7	Maxxis	Cheng Shin Rubber Industrial Co., Ltd.	391	12476
8	Giant	Giant Manufacturing Co., Ltd.	291	9282
9	Synnex	Synnex Corporation	276	8794
10	Transcend	Transcend Information Inc.	240	7646

Sources: TAITRA; *Business Next* magazine.

(3) Government Assistance Measures

The government has introduced a large number of measures to help SMEs develop their own brands. These include: the Branding Taiwan initiative developed by the Bureau of Foreign Trade, MOEA; the Plan for Helping Taiwanese Brands to Develop Overseas Marketing Activities (also developed by the Bureau of Foreign Trade); the Joint Brand Development and Endorsement Plan for Supporting the Growth of Industrial Clusters (another Bureau of Foreign Trade initiative); TAITRA's Plan for Promoting Strategic Alliances with Leading International Brands, etc. The aim of these programs is to use resource integration to help enterprises establish their own brands, while building an environment conducive to brand development, and helping enterprises to grow value-added. In addition, the Small and Medium Enterprise Administration, MOEA has introduced the Project for the Provision of Guidance to Help SMEs Formulate Marketing Management Plans, with the goal of using diagnostic service and other guidance methods to help SMEs establish and strengthen branded marketing management systems. The policies that have been adopted by the government to support SME branding innovation are listed in Table 6-3-2 below.

2. Branding Innovation in the SME Sector – Current Situation and Problems Encountered

This section examines the current state of branding innovation among Taiwan's SMEs, the difficulties they are encountering, and possible strategies for promoting branding innovation in the future, based on analysis of the results obtained in the 2011 *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation*.

Table 6-3-2 Policy Measures Adopted by the Government to Help SMEs Develop Their Own Brands

Agency	Name of Project / Plan	Main Objectives
Bureau of Foreign Trade, MOEA	Branding Taiwan plan	To integrate resources to help business enterprises establish their own brands, create an environment conducive to brand development, and help Taiwanese enterprises develop international brands.
Bureau of Foreign Trade, MOEA	Plan for Helping Taiwanese Brands to Develop Overseas Marketing Activities	To help Taiwanese business enterprises develop competitive advantage in design and manufacturing, develop overseas distribution channels, and build international brand image.
Bureau of Foreign Trade, MOEA	Joint Brand Development and Endorsement Plan for Supporting the Growth of Industrial Clusters (already completed)	To help Taiwanese brands undertake overseas marketing and develop international markets.
Bureau of Foreign Trade, MOEA	Plan for Promoting Strategic Alliances with Leading International Brands (already completed)	To support the coordinated development of international brands, and effective brand strategy formulation and management, in line with the government's promotion of local industrial clusters and provision of guidance to support the development of traditional industries.
Small and Medium Enterprise Administration, MOEA	Project for the Provision of Guidance to Help SMEs Formulate Marketing Management Plans (already completed)	To make use of diagnostic services and other guidance methods to help SMEs establish and strengthen branded marketing management systems; to ensure the effective allocation of government marketing resources through the distribution of marketing resources handbooks and the provision of an 0800 hotline, thereby providing SMEs with customized branded marketing management service.

Sources: The MOEA and TAITRA websites; the *White Paper on Small and Medium Enterprises in Taiwan, 2010.*

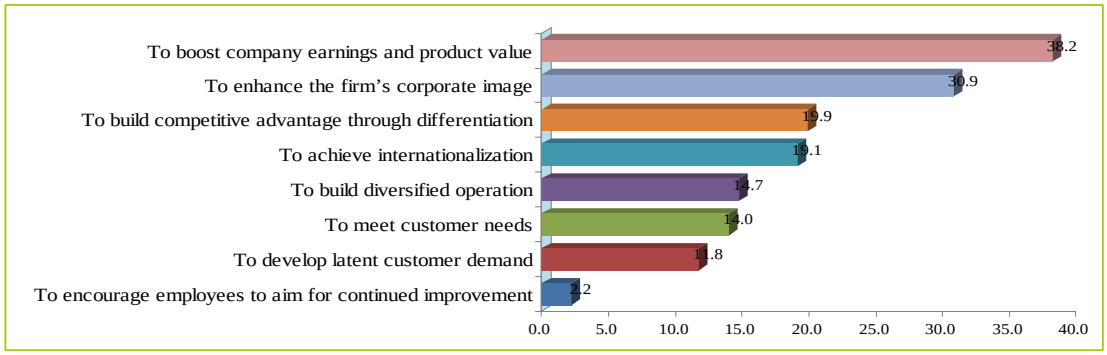
(1) The Current State of SME Branding Efforts

55.4% of the survey respondents reported that their company did not have any own-brand products; 44.6% reported that their company did have own-brand products.

(2) The Main Motivation for Undertaking Branding Innovation is to Boost Earnings and Product Value

When SMEs were asked what their motivation was for undertaking branding innovation activities, 38% reported that it was in order to boost earnings and product value. The next most widely reported sources of motivation were, in order: to enhance the firm's corporate image (30.9% of firms), to build competitive advantage through differentiation (19.9%), and to achieve internationalization (19.1%) (Figure 6-3-1).

Figure 6-3-1 Sources of Motivation for Undertaking Branding Innovation (respondents could give more than one source of motivation)

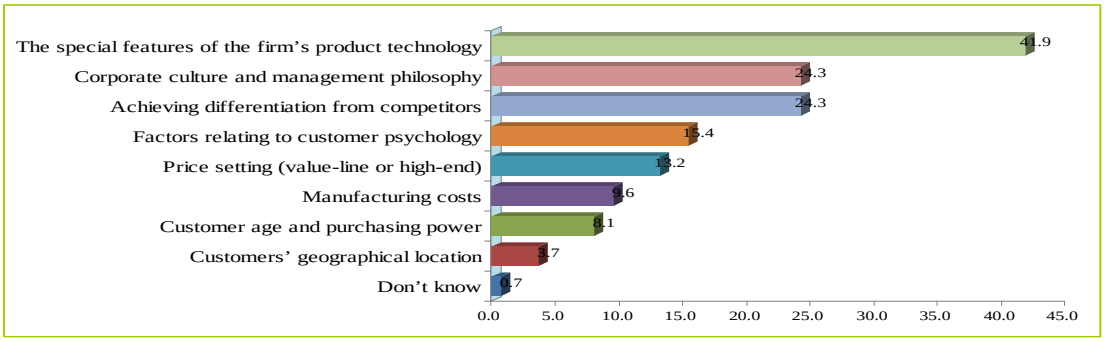


Note: Number of SMEs that responded to the question: 136 firms.
Source: Wu, Wei et al., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(3) The Main Factor that SMEs Take into Consideration When Undertaking Branding Innovation is the Special Features of the Firm's Product Technology

With regard to the main factors that SMEs take into account when undertaking branding innovation, the survey results showed that the factor most widely taken into consideration was the special features of the firm's product technology (including product characteristics, functionality and industrial design, etc.), with 41.9% of firms reporting this factor. The next most widely reported factors were the desire to differentiate the firm's products from those of its competitors (24.3%), and the company's corporate culture and management philosophy (24.3%) (Figure 6-3-2).

Figure 6-3-2 The Main Factors Taken into Consideration by SMEs When Developing their own Brand (respondents could give more than one factor)



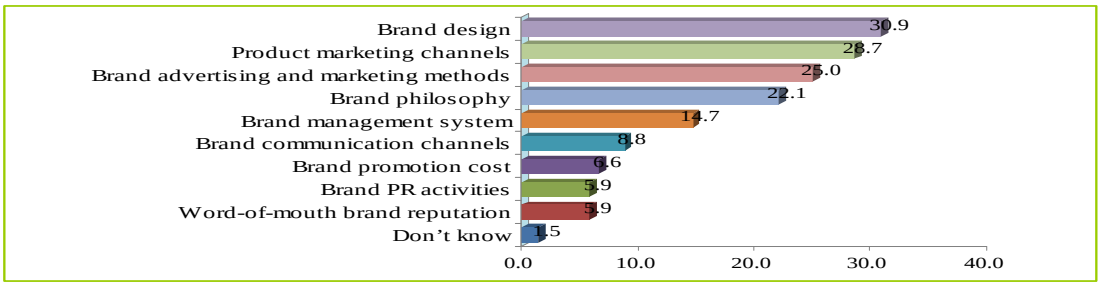
Note: Number of SMEs that responded to the question: 136 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(4) Brand Design is the Factor that SMEs Believe Has the Most Impact on Brand Recognition

When those SMEs that were engaged in branding innovation activities were asked which factor they believed had the most impact on brand recognition, 30.9% said they attached most importance to brand design (including brand name, logo, color scheme, packaging, etc.). Product marketing channels was in second place, with 28.7%, followed by brand advertising and

marketing methods (e.g., television, magazines, direct mail, blogging, word of mouth, etc.) with 25% (Figure 6-3-3).

Figure 6-3-3 The Factors that SMEs Felt Had the Most Impact on Brand Recognition (respondents could give more than one factor)

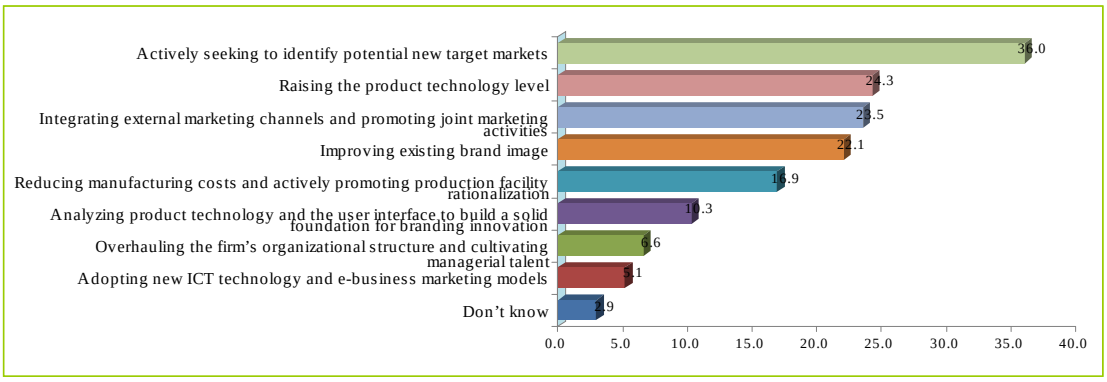


Note: Number of SMEs that responded to the question: 135 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(5) SMEs Believe that the Most Important Aspect of Branding Innovation Strategy is Actively Seeking to Identify Potential Target Markets

When those SMEs that were involved in branding innovation were asked about their future branding innovation development strategy, 36% stated that identifying potential target markets was the most important aspect of their branding innovation strategy. 24.3% gave enhancing the product technology level (in terms of performance, functionality, quality, etc.) as the most important aspect, followed by integrating external marketing channels and promoting joint marketing activities (23.5%) and improving existing brand image (22.1%) (Figure 6-3-4).

Figure 6-3-4 Main Focus of SMEs' Future Branding Innovation Development Strategy (respondents could give more than one aspect)



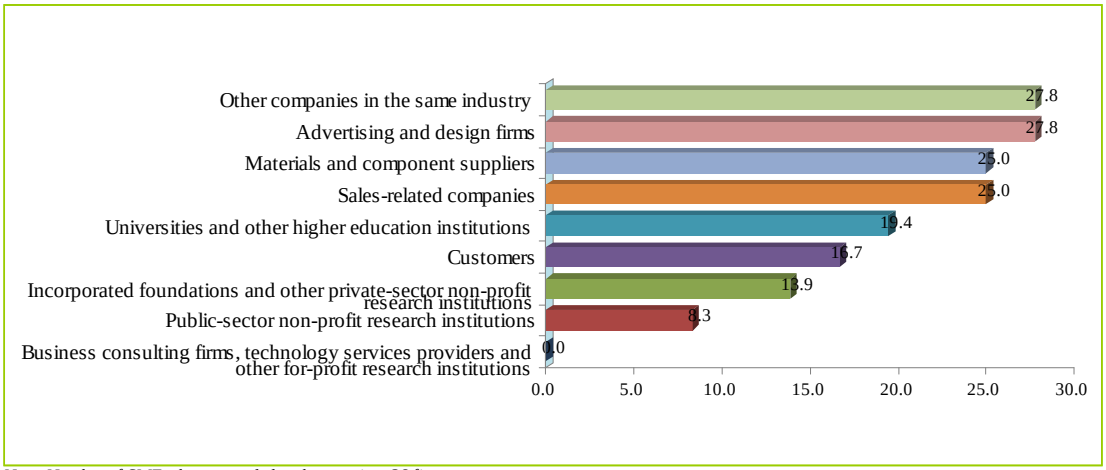
Note: Number of SMEs that responded to the question: 136 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(6) Collaborating on Branding Innovation with External Organizations

When an SME engages in branding innovation activity, it may carry out R&D independently or in collaboration with an external organization. The survey results showed that only 26.5% of SMEs had engaged in collaboration with external partners. As regards the types of external organization with which SMEs collaborated, 27.8% reported collaborating with other companies

in the same industry, and the same percentage reported collaborating with advertising and design firms; 25% reported collaborating with material or component suppliers and 25% reported collaborating with sales-related companies (Figure 6-3-5).

Figure 6-3-5 Types of External Organization with Which SMEs Collaborate (respondents could give more than one category of organization)

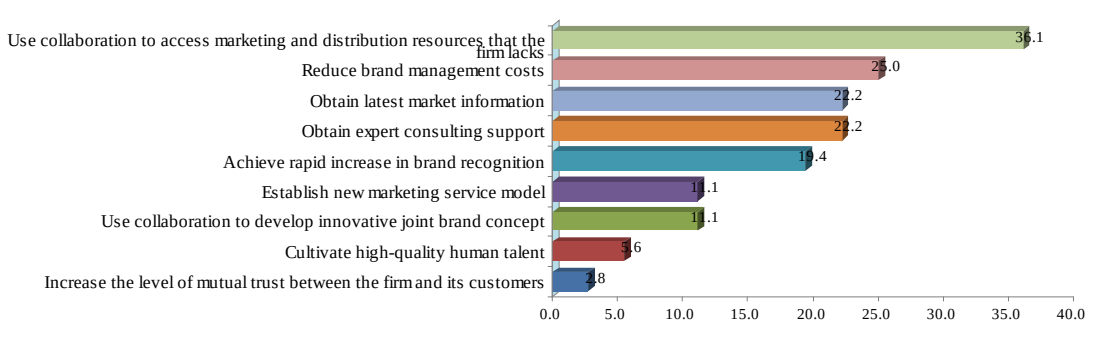


Note: Number of SMEs that responded to the question: 36 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(7) SMEs' Main Motivation for Collaborating with External Partners on Branding Innovation is to Obtain Access to Marketing and Distribution Resources

The survey results showed that the most widely reported source of motivation for collaborating with external organizations on branding innovation was to obtain access to marketing and distribution resources that the SME lacked (36.1% of firms). The next most widely reported source of motivation was the desire to reduce brand management costs (25%), followed by the desire to gain access to the latest market information (22.2%) and the desire to benefit from specialist consulting support (22.2%), and the desire to achieve a rapid increase in brand recognition (19.4%) (Figure 6-3-6).

Figure 6-3-6 SMEs' Main Sources of Motivation for Collaborating with External Organizations on Branding Innovation (respondents could give more than one source of motivation)

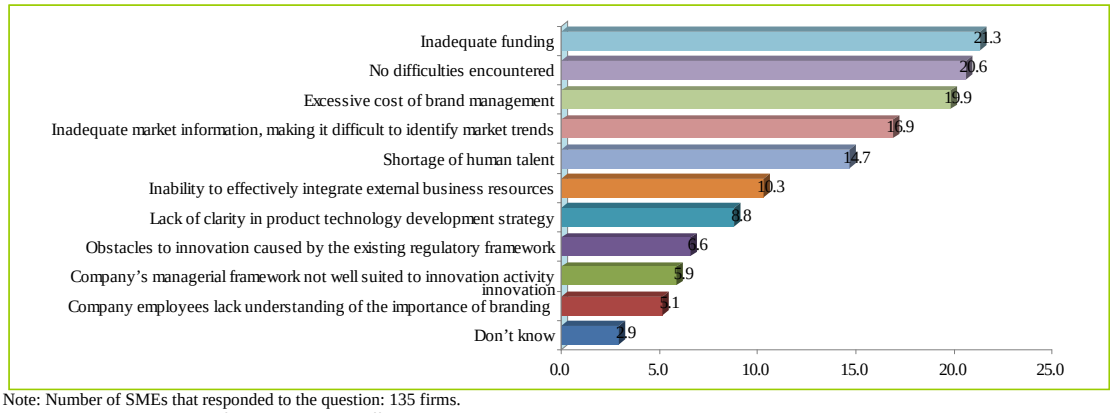


Note: Number of SMEs that responded to the question: 36 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

(8) Difficulties Encountered by SMEs When Undertaking Branding Innovation Activities

As regards the difficulties that those SMEs with their own brand have encountered when working to develop branding innovation activities, 20.6% of these firms reported experiencing no significant difficulties. 21.3% said that they had had problems with inadequate funding, and 19.9% said that the cost of brand management was excessively high. 16.9% reported having problems with regard to access to market data, and 14.7% reported suffering from a shortage of human talent (Figure 6-3-7).

Figure 6-3-7 Difficulties Encountered by Those SMEs that Engaged in Branding Innovation Activities (respondents could give more than one problem)



Note: Number of SMEs that responded to the question: 135 firms.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

IV SMEs' Ability to Recruit and Cultivate Innovation-oriented Managerial Talent

1. Areas in Which Manufacturing SMEs have Been Recruiting New Employees in Recent Years

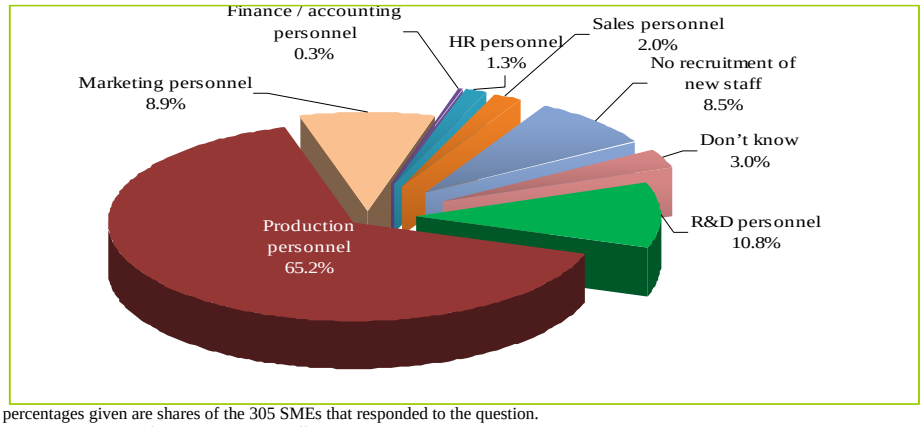
To gain a clearer understanding of the current status of innovation-oriented management talent recruitment and cultivation by SMEs, we first need to identify the fields in which SMEs have been recruiting new employees over the last few years. The survey results showed that 65.2% of SMEs had recruited new production personnel, 10.8% had recruited new R&D personnel, and 8.9% had recruited new sales personnel (8.9%) (Figure 6-4-1). These data show that Taiwan's small and medium-sized manufacturing firms are making an ongoing effort to boost their production capacity in the aftermath of the global financial crisis.

2. The Capabilities that Manufacturing SMEs Want their Employees to Possess

The survey went on to look at the qualities that small and medium-sized manufacturing firms valued in their employees. The results showed that 29.2% of respondent firms wanted their employees to possess specialist expertise; 23.9% wanted them to be familiar with a variety of

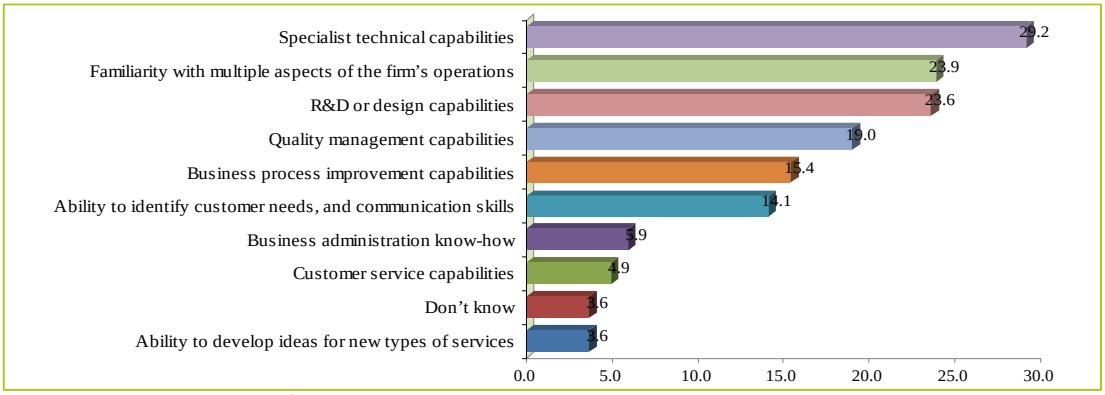
different aspects of operations, and 23.6% wanted them to possess R&D or design capabilities (Figure 6-4-2).

Figure 6-4-1 Areas in Which Manufacturing SMEs have been Recruiting New Employees in Recent Years



Note: The percentages given are shares of the 305 SMEs that responded to the question.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

Figure 6-4-2 The Capabilities that Manufacturing SMEs Look For in Their Employees (respondents could give more than one type of capability)

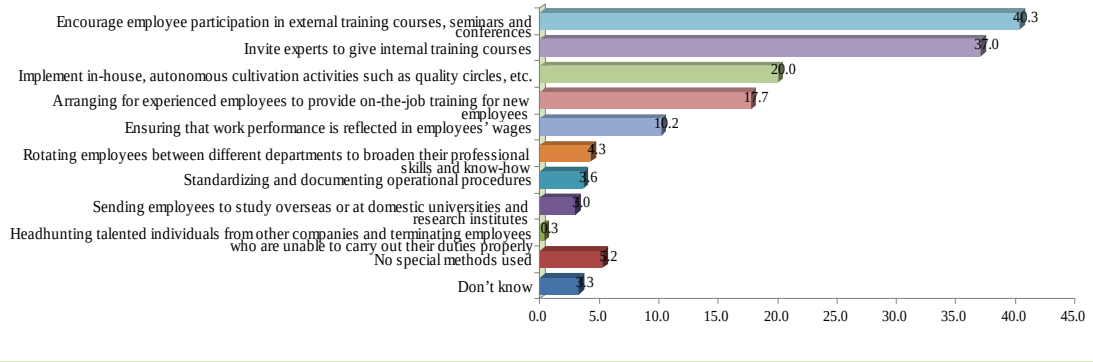


Note: The percentages given are shares of the 305 SMEs that responded to the question.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

3. Methods Adopted by Manufacturing SMEs to Enhance Employees' Capabilities

Figure 6-4-3 presents the data regarding the methods adopted by small and medium-sized manufacturing enterprises to improve their employees' capabilities and skills. 40.3% of firms reported that they encouraged employees to attend external training courses, seminars and conferences. 37.0% of SMEs invited experts to give in-house training courses, and 20.0% implemented in-house, autonomous cultivation activities such as quality circles and self-directed learning activities.

Figure 6-4-3 Methods Adopted by Manufacturing SMEs to Upgrade Employees' Capabilities (respondents could give more than one type of method)



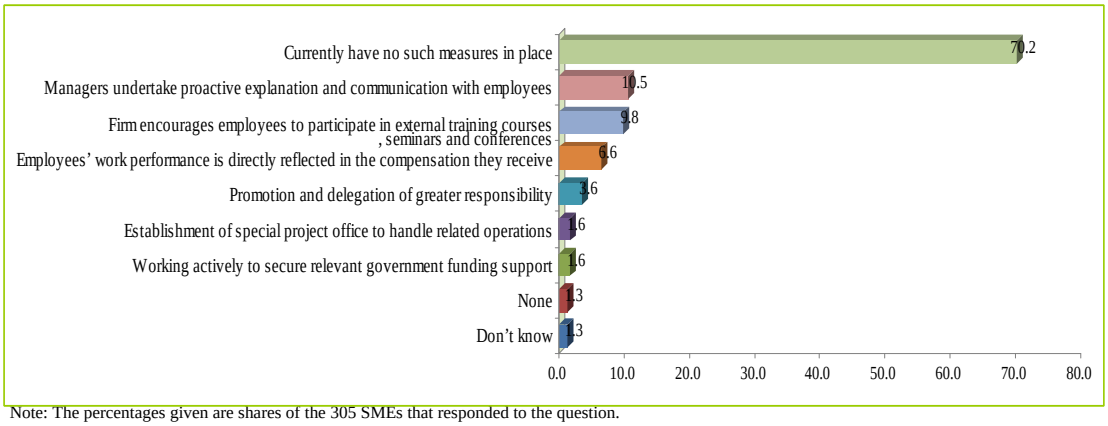
Note: The percentages given are shares of the 305 SMEs that responded to the question.
Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

4. Methods Adopted by Manufacturing SMEs to Strengthen Employees' Enthusiasm for Service-type Operations and Brand Development

Finally, as regards the methods adopted by small and medium-sized manufacturing enterprises to render employees more willing to participate actively in service-type operations and brand development, 70.2% of firms reported that they had no measures of this kind in place. The next highest share – 10.5% – stated that they engaged in proactive explanation and communication with employees regarding this type of activity, and 9.8% reported that they encouraged employees to participate in external training courses, seminars and conferences (Figure 6-4-4).

To summarize the survey results presented above regarding SME recruitment and cultivation of innovation-oriented talent, the main fields in which manufacturing SMEs in Taiwan have been recruiting new personnel over the past few years are, in order: production, R&D, and marketing, while the main types of capability that SMEs expect their employees to possess are, in order: specialist capabilities, familiarity with multiple areas of operation, and R&D and design capability. As regards the ways in which firms work to enhance employee capabilities, the main methods are, in order: encouraging employees to participate in external training courses, seminars and conferences, inviting external experts to give training courses within the company, and implementing autonomous in-house cultivation activities. Finally, with regard to the methods adopted by SMEs to encourage employees to participate enthusiastically in service-related operations and brand development operations, a high percentage (approximately 70%) of firms reported that they had not adopted any special measures to achieve this goal. Around one tenth of firms engaged in proactive explanation and communication with employees, and a similar share encouraged employees to participate in external training programs, seminars and conferences. There is thus still considerable room for improvement in this area.

Figure 6-4-4 Methods Adopted by Manufacturing SMEs to Enhance Employees' Enthusiasm for Participation in Service-related Operations and Branding Operations (respondents could give more than one method)



Note: The percentages given are shares of the 305 SMEs that responded to the question.

Source: Wu and Wei., *Survey of Taiwanese SMEs' Efforts to Develop Innovation-based Operation* (2011).

V Strategies and Recommendations

1. Strategy Recommendations for SMEs

On the basis of the survey results presented above, it is suggested that small and medium-sized manufacturing firms in Taiwan may want to consider adopting the following strategies for building innovation-oriented operations through servitization and brand development.

(1) Making the Deepening of Customer Value the Foundation for Enhancing Manufacturing Value Extension and Developing Innovative New Service Businesses

While the percentage of Taiwanese SMEs that are engaged in manufacturing servitization is currently still relatively low, broadly speaking, SMEs have already come to recognize the important role that servitization can play in helping them to boost product value-added. Among those SMEs that are already involved in service-related business areas, the main sources of motivation are, in order: the desire to strengthen after-sales service so as to enhance customer satisfaction, the wish to use diversification to create new value through service innovation, and the desire to develop derivative products and services that can boost the firm's value-added. It is noticeable that the percentage of SMEs hoping to improve after-sales service is quite high, at 67% of the total; it would thus appear that the primary objective of Taiwanese SMEs in undertaking manufacturing servitization is the desire to strengthen value-added service quality and to deepen the value provided for customers. The main benefits that SMEs expected to derive from their expansion into the service sector included, in order: winning the long-term trust of customers, obtaining readier access to information regarding customer needs, and the opportunity to expand the firm's scale of operations. Basically, Taiwan's SMEs are hoping that manufacturing servitization can help them to achieve a deepening of their collaboration with customers. As regards the strategies being adopted by SMEs to bring about manufacturing servitization, the main strategies are, in order; improving product functionality in line with customer needs, strengthening product after-sales maintenance service provision, and enhancing

the level of customization that the firm can provide in its products. It would thus appear that SMEs are still hoping to retain product technology as the core element in their development of value-added services. It can thus be seen that, currently, the process of manufacturing servitization among Taiwan's SMEs is still at the stage of deepening customer value and strengthening the interface with the customer. In the future, SMEs should seek to build on this foundation to speed up their development of new services and products and innovative new service business areas, so as to be able to achieve the two goals of enhancing customer satisfaction and building high-value-added operation.

The *White Paper on Small and Medium Enterprises in Japan* includes a case study of Tohnichi Manufacturing Co., Ltd. which should offer useful lessons for SMEs in Taiwan. Tohnichi, a manufacturer of torque wrenches, is a typical SME which currently has a workforce of around 130. Since its establishment in 1949, Tohnichi has developed a wide range of different types of torque wrench, which are marketed under the "TOHNICHI" brand; the company currently has a market share of around 70% in the Japanese torque wrench market. In addition to its product showroom and laboratories, which provide a number of customer service functions, in 1999 Tohnichi also established a "Torque Center" to provide training courses for customers, including training in torque wrench calibration and maintenance, the correct methods for using torque wrenches, and specialist know-how related to periodic inspections of machinery and equipment, etc. Tohnichi also publishes a "Torque Handbook" on a regular basis, which presents the latest news and information regarding torque wrenches and on tool management in general. Besides providing Tohnichi's customers with a useful source of specialist technical information, this publication also helps to educate the general public about the importance of implementing periodic inspections and calibration on a regular basis. Tohnichi's "Torque Handbook" was the recipient of the 1999 MITI Industrial Advertising Award. So far, a total of seven issues of the handbook have been published, and it has come to constitute an important reference work for people working in related industries. Taking the desire to enhance the value that it provides for customers as its starting point, Tohnichi has succeeded in developing new service-related business areas, creating synergy through the integration of technology and services; this is a model that Taiwanese SMEs may want to consider imitating.

(2) Creating New Opportunities for Collaboration with External Organizations to Achieve Joint Service Development

Regarding the extent to which Taiwan's SMEs collaborate with external organizations on the implementation of manufacturing servitization, and the objectives of such collaboration, the survey results showed that only 27% of SMEs had experience of collaborating with external organizations in this area. Among those SMEs that had collaborated with external organizations, the main types of organization with which they had collaborated were, in order, sales-related companies, materials and component suppliers, and advertising and marketing firms. The most commonly reported motivations for collaboration with external organizations are to gain access to technology or operational resources that the SME in question does not possess in-house, for PR purposes, or to establish new services or sales models. It can thus be seen that Taiwan's SMEs are still very much feeling their way when it comes to making effective use of external resources

to develop service-related business areas; even when they do collaborate with external organizations, their aim is basically to integrate services with the existing product value chain, so as to enhance the economic benefit that can be derived from their existing product technology. In the future, SMEs should be working actively to develop collaboration with external service providers and specialist organizations and firms, seeking to overcome the constraints imposed by the existing product value chain to achieve cross-industry service development.

(3) Ongoing Exploration of Potential Customers' Needs, and Ensuring that the Knowledge Obtained is Promptly Reflected in New Product R&D and Brand Design Activities

The survey results showed that approximately 45% of Taiwan's SMEs have engaged in branding activities, most commonly with the aim of boosting corporate earnings, enhancing product value in line with customer needs, or strengthening the firm's image. SMEs anticipate that branding innovation can help them to build competitive advantage through differentiation, while also contributing to the internationalization of their operations. The factors that SMEs give particular weight to when designing their brand include the special characteristics of their firm's product technology, differentiating themselves from competitors, and corporate culture and management philosophy. When it comes to enhancing brand recognition, the factors that SMEs emphasize most are brand design, product distribution channels, and brand advertising and marketing methods.

The biggest problems that SMEs encounter when engaging in branding innovation activities include shortage of funding, and excessively high brand management costs, although 20% of firms said that they had experienced no particular difficulties in this regard. When those SMEs that were already undertaking branding innovation were asked how they would go about formulating their branding innovation strategy for the future, they responded that they intended to focus on actively identifying potential target customer groups, raising the level of their product technology, achieving greater integration with external marketing channels, and promoting joint marketing activities. It would thus seem that the basic strategic thinking behind the current branding innovation efforts of Taiwan's SMEs emphasizes the ongoing collection of information regarding the needs of potential customers, and then ensuring that this information is promptly reflected in new product R&D and brand design activities.

(4) Leveraging External Marketing and Distribution Resources to Get Brands Off the Ground Quickly

Around 26% of the SMEs included in the survey had collaborated with external organizations in the course of their branding innovation efforts. The most common types of external partner were other companies in the same industry and advertising and design firms, followed by materials and components suppliers, and sales-related companies. Among those SMEs that had collaborated with external organizations on branding innovation, the most widely reported sources of motivation were the opportunity to access marketing or distribution resources that the SME did not itself possess in-house, a desire to reduce brand management costs, and the opportunity to access the latest market information and expert consulting services. It would appear that those SMEs which undertake branding innovation in collaboration with external organizations realize the importance of marketing and sales partnerships to successful brand development. The survey

results suggest that the question of how SMEs can forge collaborative relationships with external marketing and distribution partners will be one of the most important issues determining whether or not SMEs succeed in gaining access to the latest market information and in integrating marketing resources effectively, so as to achieve a steady improvement in the early stages of brand development.

2. Policy Recommendations for Government

(1) Stepping Up the Publicization of the Government's Policy Measures Relating to the Promotion of Manufacturing Servitization and Branding Innovation

With regard to the methods used by SMEs to enhance employees' enthusiasm for participating in service-related operations and brand development operations, 70% of the firms covered by the survey reported that they did not currently have any measures of this type in place, suggesting that small and medium-sized manufacturing still lacks awareness of the importance of servitization and branding – the two main factors behind innovation-based operation. In the future, the government will need to make a more active effort to spread awareness of the various policy measures being implemented in this area by different government agencies, and to undertake in-depth exploration of the question of whether the measures that are currently in place actually meet SMEs' real needs. In this regard, the conducting of large-scale questionnaire- or interview-based surveys on an annual basis can help to provide a clearer understanding of which government assistance measures SMEs have been applying for, while also encouraging SMEs to be more proactive about seeking support from the relevant government agencies.

(2) Building Platforms for the Exchange of Information Relating to Manufacturing Servitization and Branding Innovation, etc., and Strengthening the Provision of Guidance and Consulting Services Relating to Assistance Measures

To raise the percentage of small and medium-sized manufacturing firms that undertake manufacturing servitization and branding innovation, in the future the government will need to establish a platform for the exchange of information on related issues, while at the same time working to strengthen the provision of guidance and consulting services relating to the application for government assistance measures, so as to encourage the sharing of experience between SMEs and to get SMEs to make effective use of the service resources available from the government. For example, the government could establish an "Innovative SME Management Blog"; both SME managers and representatives of government agencies would be able to contribute content to the blog, and to raise issues for joint discussion. Through this process of discussion, SMEs and government agencies would be able to work together to identify strategies for improving the provision of support measures for the development of innovation-based operation by SMEs.

(3) Manufacturing Servitization Should be Included in the Government's Strategy for Service Sector Development, to Help Small and Medium-sized Manufacturing Firms Develop New Target Markets

The survey results used in this chapter indicate that the main problems encountered by small and medium-sized manufacturing firms when seeking to expand into service-related business areas include difficulties in developing new customer segments, an excessive degree of uncertainty

regarding market demand, difficulty in recruiting suitable human talent, and difficulty in identifying latent customer demand. Incorporating the concept of manufacturing servitization into the policies that the government is currently implementing to promote the development of the service sector would help manufacturing SMEs to develop new target markets, while also encouraging the service sector to make more effective use of scientific and engineering knowledge, thereby creating a healthy fusion of manufacturing and services. One example of how this could be achieved is offered by the “Service Productivity & Innovation for Growth” consortium established by Japan’s Ministry of Economy, Trade and Industry (METI) as a collaborative venture between government, industry and academia to promote the development of the service sector.

The main task of “Service Productivity & Innovation for Growth” is to provide support for the raising of innovation capability and productivity in different service industries, with the main support items including expanding the scope of application of scientific and engineering knowledge in the service sector, and encouraging companies in the service sector to adopt manufacturing sector management know-how and improvement methods, etc. The idea is that there is a great deal that the service sector can learn from manufacturing in terms of management know-how. In Taiwan, the government could work through academic think-tanks to establish a “Manufacturing and Service Product Matching Platform” that would help to integrate the knowledge accumulated by SMEs in both the manufacturing and service sectors in such a way as to create useful synergy.

CHAPTER 7

Building "LOHAS Taiwan" through Service Industry Innovation

Recent decades have seen a rapid transformation of the global economy, as well as ongoing social change. Like most other mature economies, Taiwan has evolved from an agricultural society into an industrial society, and from there into a country whose economy is dominated by the service sector. Up until the 1980s, many of today's emerging economies (which had abundant supplies of cheap labor) had yet to make a serious effort to develop manufacturing industry; as a result, Taiwan enjoyed a high level of international competitiveness during this period, with flourishing export industries. By 1986, manufacturing industry accounted for 45.83% of Taiwan's GDP.

However, the late 1980s saw significant changes in the economic environment, both in Taiwan and overseas. The upward revaluation of the New Taiwan Dollar, rising wages, the relaxation of restrictions on imports, tariff reductions and growing environmental consciousness combined to create a significant rise in production costs for manufacturers, who consequently found their competitiveness being eroded. At the same time, China and the other emerging economies were working actively to develop export-oriented industries. The competitiveness of Taiwan's traditional industries declined, and manufacturing industry's share of GDP fell, while the share held by the service industries increased, rising to just below 70% by 2001; the service sector had clearly come to occupy the dominant position within the Taiwanese economy.

Despite the very high share of overall GDP held by the service sector, over the last few years growth in the service industries has been slower than growth in the manufacturing sector. As a result, by 2010 the service sector's share of GDP had fallen back to 67%. The level of value-added in the service industries tends to be far higher than in manufacturing; efforts to boost value-added should therefore help to strengthen the status of the service sector within the economy.

What steps can be taken to boost value-added? In the era of the knowledge economy, capital and labor are no longer the key factors they were in the past; innovation is now the key to boosting value-added, enhancing competitiveness and driving economic growth. During this period of rapid economic transformation, both the advanced nations and developing nations have come to attach considerable importance to innovation. In Taiwan, the difficulty of promoting innovation in the service sector is exacerbated by the extent to which small and medium enterprises (SMEs) dominate the service sector. The Taiwanese government has for many years now been working hard to create a business environment conducive to service industry innovation. The current situation where growth in the service sector lags behind the manufacturing sector makes it even more important to find ways to boost the success rate of innovation in the service industries and create the environment needed to support innovation, so

that the service sector as a whole can make a bigger contribution towards enhancing Taiwan's national competitiveness in this new era.

Given the rise of the emerging economies, it is clear that Taiwan needs to adopt an economic development strategy that emphasizes knowledge-intensive innovation. Economic development today involves far more than just traditional manufacturing industry; the key drivers of growth for Taiwan in the future will be the innovation economy and environmental protection-related demand. In other words, Taiwan's traditional economic development model based on contract manufacturing will need to be replaced with a new development model oriented towards consumer demand. Consumers' attitudes and consumer rights have already emerged as important factors affecting economic development.

Service sector innovation can make it possible for consumers to enjoy innovative, healthy, happy lifestyles, while having faith in business enterprises' commitment to consumer-oriented development and to creating value for consumers. This in turn will help to strengthen Taiwan's "national brand," showcasing Taiwan's new economic development model (with its emphasis on the service sector) as well as new lifestyles and new types of cultural value. Taiwan will become a "LOHAS" (Lifestyles of Health and Sustainability) paradise for both consumers and business enterprises; this is the ultimate goal of service sector innovation. In this chapter, we will present an overview of the current state of service sector innovation in Taiwan, before going on to establish an analytical framework based on a review of the literature in this area and exploring the key factors that can be identified in case studies of service industry innovation. We will also examine the policies that Taiwan has adopted to promote service sector innovation, and compare these strategies with the methods adopted to achieve this goal in other parts of the world, so as to be able to put forward policy suggestions for the reference of government agencies and contribute to the building of an outstanding LOHAS environment for businesses and consumers in Taiwan.

I Overview of the Current State of Service Sector Innovation in Taiwan

The concept of "innovation" was first developed by Schumpeter in the 1930s. Schumpeter pointed out that innovation makes it possible for business organizations to create maximum value from their assets. "Innovation" embodies the idea of "change," or in other words the adoption of new concepts or ideas in particular technologies, products or services. Schumpeter's innovation concept was first taken up in the field of R&D, and quickly became a major focus of interest in both academia and the business world.

However, innovation is difficult to measure. For the most part, R&D inputs have been used as a proxy for innovation. According to data published in Taiwan's 2006 Industry, Commerce and Service Census, as of 2006 only 0.56% of firms in Taiwan's service industries undertook any R&D activity, compared to 4.61% of manufacturing firms. As a share of sales revenue, R&D in the service sector amounted to just 0.22%, which again was far lower than the corresponding figure for the manufacturing sector (1.43%) (Table 7-1-1). The Indicators of Science and

Technology published by the National Science Council notes that, in 2009, expenditure on R&D in the service sector amounted to just 0.15% of Taiwan's GDP, compared to 1.89% for manufacturing sector R&D. Clearly, the level of investment in R&D in the service sector is far too low.

Table 7-1-1 Expenditure on R&D in the Service Sector and Manufacturing Sector

Industry	No. of Firms at Year-end (firms)	R&D Activity					
		No. of Firms Undertaking R&D		Expenditure on R&D (NT$ millions)			
		Firms	As Share of All Firms (%)	Total Expenditure	Expensed	Capitalized	As Share of Annual Sales Revenue (%)
All sectors	1,105,102	12,088	1.09	334,100	297,575	36,525	0.76
Manufacturing sector	226,048	7,143	3.16	285,426	261,452	23,973	1.31
Service sector	879,054	4,945	0.56	48,674	36,123	12,552	0.22
By industry type							
Manufacturing sector	148,017	6,819	4.61	282,219	258,704	23,515	1.43
Traditional industries	132,982	4,668	3.51	52,982	47,723	5,260	0.55
Non-traditional industries	15,035	2,151	14.31	229,237	210,982	18,255	2.26
Service sector	879,054	4,945	0.56	48,674	36,123	12,552	0.22
Knowledge-intensive industries	113,682	2,618	2.3	31,266	20,401	10,865	0.42
Non-knowledge-intensive industries	765,372	2,327	0.3	17,408	15,722	1,687	0.12

Source: Directorate General of Budget, Accounting and Statistics, Executive Yuan (2008), *2006 Industry, Commerce and Service Census.*

According to the 2007 *Taiwan Technological Innovation Survey 2*, those service sector firms that do undertake innovation activity tend to have the following characteristics:

1. Whether one uses a broad definition of the "service sector" or a more narrow definition, service sector firms are most likely to engage in organizational innovation, followed by marketing innovation and product innovation (Table 7-1-2).
2. The larger the company and the larger the scope of its markets (in international terms), themore likely it is for that firm to be engaged in product innovation, product imitation, process innovation, process imitation, marketing innovation and organizational innovation.
3. The main source of innovation for those service sector firms that undertake product innovation is in-house R&D; for those firms that undertake process innovation, both in-house R&D and external sources are important. The biggest disparity between the service sector and the manufacturing sector in this regard is that the purchasing of machinery is not an important source of innovation for service sector firms.
4. When undertaking collaborative innovation, service sector firms are most likely to collaborate with universities and government agencies. Service sector firms are relatively unconcerned with securing patent protection; they tend to rely on the frequent launch of new models and new products in order to maintain competitiveness, unlike the situation in the manufacturing sector where control over key materials and components can be an important source of profits.

Table 7-1-2 Innovation and Imitation in the Service Sector – Basic Statistics

Service Industry Category	Product Innovation	Product Imitation	Process Innovation	Process Imitation	Marketing Innovation	Organizational Innovation
Service Sector (broadly defined)						
No. of innovating or imitating firms	789	474	612	502	1,332	1,834
As share of total (%)	14.5	8.7	11.2	9.2	24.4	33.6
Service Sector (narrowly defined)						
No. of innovating or imitating firms	543	317	398	372	961	1,397
As share of total (%)	14.1	8.2	10.3	9.7	25.0	36.3

Source: Wu Szu-Hua et al. (2009).

II Analytical Framework for Examining Innovation in the Service Sector

The basic thinking underlying the European Union's *Community Innovation Survey 4* and the *Oslo Manual 2005* views innovation as involving the use of new technologies and new management methods to enhance firms' sales revenue; the scope of innovation may include new materials, new processes, new products, new markets and new forms of organization, but it must have some impact on the firm's sales revenue. Most service sector firms are in industries where the barriers to entry are relatively low; innovative business models offer these firms a way to boost sales and raise value-added, thereby helping firms to differentiate themselves from their competitors.

The concept of the "business model" first appeared in management studies in the mid-1970s. However, it was only with the introduction of e-commerce platforms in the mid-1990s that the business model concept came into widespread use in the business world, a development which in turn attracted renewed attention in academia. Despite all the discussion of business models that has taken place since then, there is still a lack of agreement as to how exactly the concept should be defined. Broadly speaking, scholars distinguish between four main categories of business model: firm revenue-oriented, customer value-oriented, firm activity and structure-oriented, and mixed. With the mixed orientation category, a business model can provide increased profits and other benefits for a firm while also creating value for customers; the emphasis here is on the simultaneous integration of both intra-organization and inter-organization processes, activities, networks and structures.

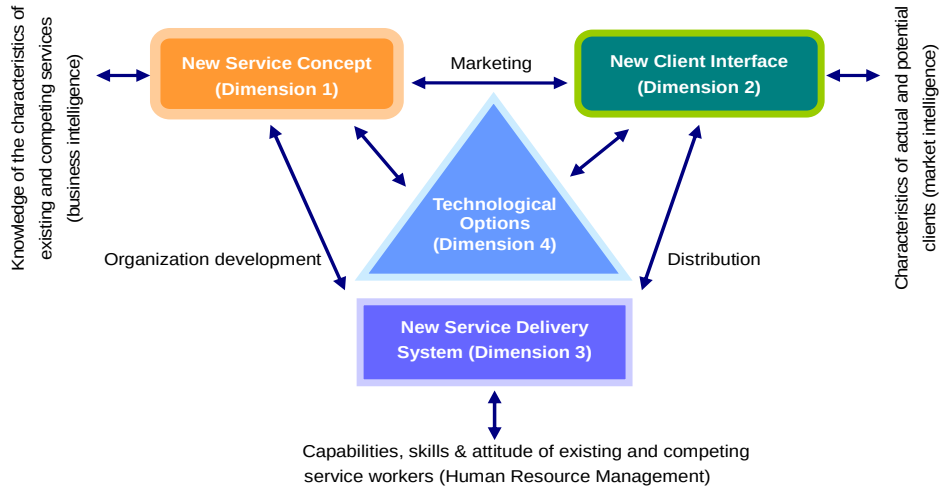
A wide variety of different types of innovation can be distinguished. Schumpeter suggested that there were five indicators that could be used to gauge whether or not a given firm was engaging in innovation activity: new products, new methods of production, the opening of new markets, new sources of supply of raw materials or half-manufactured goods, and the establishment or destruction of a monopoly. Most scholars today divide innovation into three broad categories: product innovation, technology innovation, and knowledge innovation. Alternative classification schemes include the division into organizational innovation, technology innovation and knowledge innovation, into concept innovation (service innovation), product

innovation, process innovation, technology innovation (knowledge innovation) and marketing innovation, or into enterprise innovation, organizational innovation, strategy innovation, and diffusion innovation.

As regards service innovation, this category of innovation can be divided into six models: new to the market services, new to the company services, new delivery processes, service modifications, service line extensions, and service repositionings. The service innovation process involves more than just technology, organization, process and product innovation; it also involves a shift away from a production-oriented stance towards a new, consumer-centric focus on customer needs. For this reason, business model innovation usually involves innovation in more than one item.

Based on our review of the literature, in the present study it was decided to adopt the four dimensions of service innovation identified in Bilderbeek (1998) to provide the framework for analyzing innovation. These four dimensions are: the service concept, the client interface, the service delivery system, and technological options. While "service concept" is a highly abstract concept, it is clearly closely related to the other three dimensions. The main focus in the relationship between service concept and client interface lies in how service innovation is handled, while for the service delivery system the emphasis is on the arrangement of internal organization that can allow service providers to develop and provide innovative new services, enabling work to progress smoothly. While technological innovation is not a prerequisite, in practice there tends to be a very close relationship between technology innovation and service innovation. The innovation framework described above is shown in Figure 7-2-1 below.

Figure 7-2-1 The Four Dimensions of Service Innovation



Source: Bilderbeek (1998).

III Case Studies of Service Sector Innovation

As the service sector includes a wide range of different industries, the present study uses the framework proposed by Bilderbeek (1998) to analyze case studies of innovation in SMEs in Taiwan's cultural and creative industries, specialist consulting services industry, wholesaling and retailing industry and other service industries.

1. The Cultural and Creative Industries

(1) The Ten Drum Art Percussion Group

The Ten Drum Art Percussion Group was founded in the spring of 2000 with the aim of preserving and developing traditional Taiwanese culture, focusing in particular on the handing down of drumming traditions. The name "Ten Drum" embodies the philosophy of the group's founder, as the Chinese character for "ten" resembles a pair of crossed drumsticks, symbolizing the desire to instill greater energy and vitality into Taiwan's drumming traditions. The name also reflects the desire to draw inspiration and energy from all quarters, bringing the various different elements together to form a coordinated, united whole, and leveraging the vitality of the group's members to create a new artistic miracle that has firm roots in Southern Taiwan and yet has the potential to attract worldwide interest. All of the pieces performed by the Ten Drum Art Percussion Group are based on Taiwanese folk traditions, stories from Taiwanese history, and inspiration taken from the Taiwanese landscape. The group's unique works have won widespread popularity both in Taiwan and overseas.

The Ten Drum Art Percussion Group has been selected to receive national sponsorship on several occasions, and has given numerous overseas performances. The Group performed at the ceremony held to mark the reception of the Olympic Flame in 2000, and in 2002 it performed at Daejeon as part of the celebrations held to accompany the 2002 World Cup. In 2004, the Group won inclusion in the *Guinness Book of Records* for organizing a drumming concert that had 1,000 drummers. As part of its efforts to promote drumming, the Group collaborated with U.S. company Remo on the development of a Taiwanese drum design based on Taiwanese aboriginal drums and decorated with totemic symbols of the Ami tribe, as well as the world's first triangular drum. In addition, as part of its efforts to promote drumming, the Ten Drum Art Percussion Group has helped to set up 105 drumming clubs in schools and residential communities. The Group has also collaborated with an animation company on production of the world's first drumming-themed cartoon (*Mu-er Saves Her Mother*), and has been involved in the design of a set of "Eight Arhats" game cards to help promote the art of drumming.

(2) Wind Records Co., Ltd.

Wind Records Co., Ltd. was established in 1988 with the aim of creating and publishing high-quality music. The company's founders intended that every album released by Wind Records would embody a genuine sense of vitality and joy, and that the music would be linked to the rhythms of daily life; the firm's management philosophy is based on the concept "Wind Records – Moving the World." In 2004, Wind Records was honored by the Council for Cultural

Affairs as an outstanding representative of the music industry (one of the "Ten Major Cultural and Creative Industries"). Many of the company's recent recordings have won Golden Melody Awards. Whether in recording, production or planning, Wind Records has maintained a consistent reputation for respecting the views of the artists.

When it was first established, Wind Records focused mainly on producing recordings of Buddhist music, and on developing new sales channels besides conventional record stores. The company made a vigorous effort to cultivate its sales force, and to develop special themed retail outlets and distinctive series of recordings. Wind Records sought to develop "concept music" (such as music related to the environment, and music designed to promote health and relaxation) that would not depend on the cultivation of individual artists; as a result, the company was able to maintain a steady stream of sales revenue. In recent years, with the downturn in the economy and the increased level of pressure in daily life, people need ways to relax and unwind. Through its "Music Prescriptions" platform, Wind Records aims to make music more than just something that people listen to, but also a way to combat stress and help people achieve physical, mental and emotional equilibrium.

Working in collaboration with a psychological consulting firm, Wind Records has been working to cultivate "Musical Health Managers," who combine the principles of medicine and psychology with the structure of music (including the basic musical tones) and bio-feedback instruments to develop musical "prescription" tailored to meet individual customers' needs. It is anticipated that this service will help to prevent health problems from developing and contribute to getting people into better shape. The ultimate goal is to make it possible for consumers to implement self-diagnosis online, and then to replicate this business model in other health-related industries.

2. Specialist Consulting Services

(1) Carstar Car Information Consultant Co., Ltd.

With the rapid pace of change in automotive technology and the introduction of a wide variety of new types of car, from around 2004 onwards those car repair shops affiliated with car distributors began to computerize their operations. This created a situation where other car repair shops, which had previously been able to rely on accumulated experience and the handing down of know-how through the apprentice system, found it increasingly difficult to implement repairs on many new models. Faced with this global trend towards e-enablement, Carstar Car Information Consultants Co., Ltd. (which has been in existence for nearly 17 years) decided to develop new, mobile diagnostic systems, integrating technology consulting, diagnostic instruments, maintenance databases, technology training courses and remote, real-time support. Carstar's new system leveraged the types of written materials on which car repair shops had relied in the past to develop online maintenance databases and remote, real-time technical support systems, creating a comprehensive Car Repair Technical Support Platform.

Carstar's Car Repair Technical Support Platform standardizes the individual manufacturers' vehicle data. With this new platform, the speed at which data for new models can be integrated has been increased from around 10 models per year to approximately 400 models in less than two

years. As the Car Repair Technical Support Platform already includes all necessary information, platform users can find solutions to problems online. This rapid, convenient, timely service is bringing Taiwan's car repair shops into a new era of Internet-enabled automotive repair. The high level of integration that the Car Repair Technical Support Platform provides ensures that repair shops can check information online in an instant, saving a great deal of time and effort. Adoption of this platform also helps to give repair shops a more professional image and win drivers' trust, thereby enabling them to secure repeat business.

(2) Hanaqua Tech Inc.

Up until now, there has been no aquaculture business or IT service provider in the world capable of meeting all of the information platform needs of the aquaculture industry or helping aquaculture firms to adopt a comprehensive range of e-enabled services. Hanaqua Tech Inc. has leveraged its extensive experience in the aquaculture sector and the know-how that it has accumulated to introduce a International Online Data Management and Trade Expert System and establish the "E-Aqua" aquaculture information platform. With these systems, Hanaqua is able to help aquaculture firms both in Taiwan and overseas to adopt product traceability and e-enabled management system solutions. This makes it possible to record the whole process of aquaculture production and distribution, in line with the requirements of international aquaculture product traceability systems, and also helps companies to choose high-quality feed sources, improve the efficiency of their cultivation methods, and achieve an overall enhancement of aquaculture facility management, etc.

The International Online Data Management and Trade Expert System uses electronic sensor and monitoring equipment to monitor the entire aquaculture production and delivery process. Computerized data collection makes it possible to integrate monitoring and control data with the converged IT system platform, helping aquaculture firms to make their operations more transparent and more internationally competitive. The "E-Aqua" aquaculture information platform can be used to help aquaculture firms identify the best sources of feed, improve operational management, strengthen on-site management, etc. This information platform also incorporates water quality management, feed input management and abnormality warning transmission functions. Besides enabling aquaculture firms to improve their operational procedures, E-Aqua can also help firms to develop the international market for certified marine products by familiarizing overseas aquaculture companies and importers with the operations of Taiwanese firms, enhancing the international exposure of the latter, and reinforcing Taiwanese marine products' reputation for safety and hygiene.

With regard to the promotion of trade in marine products, Hanaqua is able to dispatch personnel to perform third-party quality control monitoring at marine products processing plants; the appraisal reports and related product photos can then be uploaded onto the E-Aqua platform. Through this platform, Hanaqua can implement third-party quality monitoring on behalf of overseas importers, using procedures that are fully transparent to both the overseas importer and the Taiwanese supplier. There is no need for the overseas buyer to send personnel to Taiwan, or to spend large sums of money on third-party verification; the payment of a small fee to Hanaqua gets them the same level of service that they would have to pay through the nose for from a

conventional verification body. Hanaqua's services are making a major contribution towards stimulating the internationalization of Taiwan's aquaculture sector and the creation of new value in the aquaculture industry through innovation.

(3) Jacksoft Commerce Automation Ltd.

Computer-aided auditing techniques are already in widespread use by business enterprises and government agencies in many parts of the world. These technologies help to enhance the efficiency of organizations' internal controls, improve operational performance and reduce operating costs. In particular, the passage of the Sarbanes Oxley Act in the U.S. in response to the Enron scandal has stimulated rapid growth in the global compliance market; other countries such as Japan, Canada and the U.K. all either have laws similar to Sarbanes Oxley in place already or will do soon.

In Taiwan, the computer-aided auditing sector is still just getting off the ground. In the past, the market for computer-aided auditing in Taiwan was mainly confined to larger stock market and OTC-listed corporations. However, the revised *Regulations Governing the Establishment of Internal Control Systems by Public Companies* that came into effect on December 19, 2005 stipulated that all publicly quoted companies must, at a minimum, include information and communications security auditing operations in their annual auditing plan. This means that, regardless of whether a publicly quoted firm is in the financial sector or the manufacturing sector, and regardless of whether or not it is listed on the stock market, it must strengthen its information risk appraisal and management operations, and implement asset and risk management operations at regular intervals. In addition, a spate of scandals in recent years – including the Procomp scandal and Rebar scandal – have led to the imposition of more onerous legal responsibility, creating increased demand for products of this type, and making this an ideal time to move into the computer-aided auditing market.

Jacksoft Commerce Automation Ltd. realized that auditing personnel need extensive computer-aided auditing know-how and tools to help them carry out their work. Through the use of a knowledge network based sharing mechanism, Jacksoft is able to help business enterprises to automate their auditing operations and live up to clients' expectations. Jacksoft adopted a website promotion strategy whereby customers can download service content easily off the Jacksoft website; in this way, Jacksoft is able to provide service to customers at any time, in any location, and customers have the option of obtaining support and consulting services while remaining anonymous, if they so wish. In addition, Jacksoft's Automated Auditing Knowledge Network facilitates mutual assistance and the sharing of know-how. Network members have the opportunity to discuss case studies and new techniques, while strengthening their own reputation for professional expertise and enhancing the corporate governance of their firm (which in turn can contribute to creating new value for the firm).

3. The Wholesaling and Retailing Industry

(1) Sinjang Corporation

To help overcome the problem of excessive variation and uncertainty in price and vehicle quality that has plagued the second-hand car market in Taiwan for many years, Yulon Group member

company Sinjang Corporation adopted the Automobile Inspection System that has been in use in Japan for over two decades, integrating this system with the Yulon Group's 40 years of experience in automotive engineering to develop the Sinjang Automobile Value Evaluation (SAVE) system. The aim of SAVE is to provide both vendors and buyers with greater transparency with regard to car condition, and with a basis for appraising a fair value for vehicles.

The SAVE certification system is the first independently-developed, systematic vehicle quality certification system to be introduced in any Chinese-speaking country. Rigorously trained appraisal personnel undertake a thorough evaluation of vehicle condition, with additional checking to ensure that each car has not suffered flood damage (a common problem in Taiwan due to frequent heavy rains) or been fitted with an engine from another car. SAVE thus makes for a higher level of transparency. If a car has passed SAVE certification, the buyer can be sure of three things: the car has not suffered flood damage, the chassis and engine both belong to the same car, and the car has not been involved in any serious accidents. SAVE also provides a one-year (or 20,000 km) warranty with respect to the engine, transmission and steering. With SAVE, consumers can enjoy a much higher degree of peace of mind when buying a second-hard car.

Sinjang Corporation has collaborated with leading IT company Acer to develop a POS (Point of Sale) electronic vehicle auction system with six key features: transparent bidding, support for repeat bidding, support for advance bidding from remote locations, completion of trades within 30 seconds, availability of market price information, and the facility for guaranteed purchase if required. Auctions are conducted at the Sinjang Auto Auction (SAA) centers in Taipei, Taichung and Kaohsiung. SAA has developed into Taiwan's largest second-hand car auction service, with a market share of 82%.

(2) A&A Textile Co., Ltd.

Consumers throughout the world are increasingly eager to buy products that are not only comfortable and fashionable with high value-added, but which are also environmentally friendly. Responding to this trend, textile retailers and branded vendors have been working to develop new, "green" products. However, in the case of denim cloth, which has always used natural cotton as the main material, this is challenging. The problem is that organic denim material tends to feel rough, and often includes particles of cotton seed husk, along with black spots. A&A Textile Co., Ltd. adopted a fiber complex called "Tencel" developed by Lenzing Fibers Co., Ltd. which, when added to the weft of organic cotton material, gives the cloth a smoother texture.

The supply chain in the textile industry is long and complex, and as a manufacturer of base fabric, A&A Textile does not really come into direct contact with end users, nor is it in a position to control the profit margins of middlemen or take major initiatives to expand the market. A&A Textile therefore decided to become a supplier of semi-finished fabric to the Lenzing Group, operating as one of Lenzing's satellite firms, thereby providing it with indirect access to international markets. A&A Textile has thus been able to leverage the resources that the Lenzing Group possesses as a leading international fiber brand, as well as the Group's marketing network.

This has made it possible for A&A Textile to develop a "total solution" for its environmentally friendly denim fabric products that encompasses both product development and international marketing, and to emerge as an important player in the international supply chain for "green" denim fabric products.

Becoming one of the Lenzing Group's satellite firms and a qualified supplier of fabric to Lenzing has enabled A&A Textile to supply its products to over 100 customers, including many leading brands. The precise, accurate information that these international corporations are able to provide regarding consumer demand has enabled A&A Textile to make significant improvements in terms of new product R&D and production, procurement operations, and delivery. Both A&A Textile and its customers have experienced a rise in profits of over 10%, while at the same time A&A Textile's time to market for developing new products has been reduced, and lead time for deliveries to customers has been shortened by 2 – 4 months.

Through this channel, A&A Textile has been able to build up a high reputation among suppliers, and among consumers (who often ask specifically for A&A Textile denim fabric when buying clothes), and has succeeded in entering the own-brand market.

4. Other Industries

(1) Sinying Bus Company, Ltd.

By 2011, Sinying Bus Company, Ltd. had been in existence for over 60 years, and had carried a total of more than 200 million passengers during that time, on a network of routes that covered Tainan County, Tainan City, Chiayi County and Chiayi City. However, it was difficult for a bus company in a predominantly rural area such as this to build economies of scale, and over the last ten years the number of passengers carried has fallen by around 13 – 15% every year. In 2006, the company's buses carried only 900,000 passengers in the whole year, compared with the 1.61 million passengers a *day* carried by bus companies in the Taipei metropolitan region.

To avoid being forced out of business, Sinying Bus Company decided to embark on a program of transformation that would leverage its existing strengths as a public transport provider. It established Singing Travel Co., Ltd. and Man Lien Marketing Ltd. to facilitate coordinated development of regional tourism resources, planned the integration of tourist bus services with regular bus routes, and created a range of special travel packages, along with a new ticket sales system and a membership card system, with the aim of building an interactive marketing platform that integrates travel, leisure and special discounts with users' needs. Active promotion of travel agency business has been combined with the marketing of local specialties, in an effort to provide service to a wider range of consumers. The company has also branched out into theme park operation, and into environmental services.

The single most important aspect of internal transformation is changing the mindset of the company's employees. The challenge is to get employees to understand the difference between mass transportation and segmented transportation, and to make the necessary psychological adjustments, so as to enhance service quality. With this aim in mind, Sinying Bus Company has not only worked to improve the "hardware" infrastructure for its personnel (e.g., by upgrading drivers' rest stops), but it has also introduced a new corporate philosophy based around six key

tenets – Service, Enthusiasm, Efficiency, Responsibility, Discipline, and Honor – and has worked to instill these tenets into the hearts of all of the company's employees, through memorization at managerial meetings, monthly meetings for all employees, and special education and training activities. In addition, whereas in the past the auditing of drivers was basically confined to checking on whether drivers were giving free rides to friends and relatives, now more effort is being placed on improving driver courtesy, service standards, and driving behavior. As a result, not only has there been a concrete improvement in service quality, but drivers are now also able to provide meaningful input into discussions about the company's future development.

(2) Baby Boss Taiwan Corporation

Baby Boss Taiwan Corporation is a member of the Taiwan SECOM Group. In 2008, the company established Baby Boss City, which occupies an area of approximately 7,600 square meters, with the aim of creating a venue where children could use career-related role playing to learn about work, earning a living and managing one's income, while at the same time learning how society operates. The vision behind this project was for the people who will be running Taiwan in the future to have a fun way of learning about careers, and about jobs that they might be interested in doing in the future.

Baby Boss City is a like a miniature town, with its own streets, stores, parks, government offices and schools, with vehicles of all kinds travelling through the town. Children can try out 70 different jobs in 50 different industries, including being a magician, doctor, astronaut, firefighter, pizza chef, police officer, reporter, artist, singer, hair stylist, model, flight attendant, cake maker, TV newscaster, etc. The facility offers carefully planned "training programs" and "hands-on experience" for children aged 3 to 15.

The first step for everyone who comes to Baby Boss City is to decide what job they want to do. If you work hard, you can earn "pay" in the form of "BabyBucks," which can be used to buy things you want. Alternatively, you can save it in the bank; the staff at the bank will issue you with a bank card, and you get paid interest twice a year. If you want to spend money, you can draw some out from the ATM machines located in Baby Boss City. Through this experience of working, children become familiar with the concept of needing to work in order to earn money, while also having an opportunity to explore their own interests, and develop healthy values and a healthy attitude towards money.

By collaborating with other brands, Baby Boss has been able to enhance its visibility in the public eye. For example, the Baby Boss logo is now used on a variety of products, with new product concepts being developed at an R&D center located within Baby Boss City. By integrating fashion design, children's clothing, hotel operation, music, art and media, Baby Boss has been able to attract widespread attention, and build successful cross-industry collaboration.

It is readily apparent from the case studies outlined above that innovation in the service sector is often multi-faceted. A new service model will often be accompanied by a new service philosophy, the development of a new customer interface, the adoption of a new service delivery system, or the development of new application technology, with the aim of growing market share, enhancing customer loyalty or cutting costs, so as to enhance profitability. The evidence

presented above supports the general view found in the literature regarding modification of the service value chain to create new value through innovation.

IV Major Government Policies in Taiwan Relating to Service Sector Innovation

Since 2000, the government has been working actively to promote service sector innovation in Taiwan, with the introduction of around a dozen major policy initiatives to help companies in the service industries to innovate. These policy measures can be divided into two broad categories – awards, subsidies and funding support, and tax breaks – which are discussed separately below.

1. Awards, Subsidies and Funding Support

(1) The Statute for Industrial Innovation

The purpose of the *Statute for Industrial Innovation*, which was enacted in 2010, was to "promote industrial innovation, improve the industrial environment, and enhance the competitiveness of industry." It applies to all industries within the agricultural, manufacturing and service sector. The part of the *Statute* which relates most closely to innovation is Article 9, which states that the central government authorities may provide grants and guidance to help with "promotion of industrial innovation and R&D … encouraging enterprises to establish innovation and R&D centers, assisting in the establishment of innovation and R&D institutions … [and] helping local industries to innovate."

(2) The Law for the Development of the Cultural and Creative Industries

To promote the development of the cultural and creative industries, the Taiwanese government promulgated the *Law for the Development of the Cultural and Creative Industries* in 2010. Article 12 of this Law stipulates that the central government authorities may provide suitable assistance, incentives and subsidies to stimulate product and service innovation and R&D.

(3) "Assist Service Sector Technology Development" Plan

In November 2004, the Executive Yuan approved the *Service Industry Development Roadmap and Action Plan*. On October 7, 2005, in accordance with the provisions of Paragraph 2, Article 22-1 of the *Statute for Industrial Upgrading*, the government promulgated the *Measures for the Provision of Guidance for Promoting R&D in the Commercial Sector*, which served as the basis for the *Assist Service Sector Technology Development Plan*. The Commerce Department, Ministry of Economic Affairs provided successful applicants with R&D subsidies of up to NT$2.5 million per year, or NT$5 million over two years, with the aim of encouraging service providers to invest in the development of new services, new business models, new marketing models and new business application technologies, so as to enhance the competitiveness of the service sector as a whole.

Since 2010, the Commerce Department, Ministry of Economic Affairs has been providing limited subsidies to build on the results achieved over the previous four years in the *Assist Service Sector Technology Development Plan*, in line with the overall objective of "facilitating

service sector R&D, innovation and value creation," so as to encourage Taiwanese firms to undertake the establishment of new service outlets both in Taiwan and overseas, integrate and develop their sales and distribution channels, develop and maintain new customer service systems, establish own brands, and engage in transnational operation. It is anticipated that these subsidies will help the service sector to enhance its innovation capability, boost production value, develop new business opportunities, and strengthen its international competitiveness.

Four categories of subsidy are available, depending on the nature of the R&D project: Innovative Concept Planning Project, Corporate Innovation and R&D Project, Cross-industry Alliance Joint R&D Project, and Value-added Innovative Application Project. The subsidy period and maximum amount of subsidy varies between these subsidy categories, as shown in Table 7-4-1 below.

Table 7-4-1 Service Industry Innovation and R&D Project Subsidy Categories and Content

Subsidy Category	Innovative Concept Planning Project	Corporate Innovation and R&D Project	Cross-industry Alliance Joint R&D Project	Value-added Innovative Application Project
Subsidy Period	Up to 3 months	Up to 1 year	Up to 2 years	Up to 2 years
Maximum Amount of Subsidy	The total amount of subsidy per project is capped at NT$150,000.	The total amount of subsidy per project is capped at NT$2.5 million.	1. The total amount of subsidy per project is capped at NT$20 million. 2. The total amount of subsidy per year is capped at NT$10 million. 3. The amount of subsidy that may be received by the enterprise leading the project is capped at NT$2.5 million per year. The amount of subsidy that may be received by other members of the alliance is capped at NT$2 million per year.	1. The total amount of subsidy per project is capped at NT$5 million. 2. The total amount of subsidy per year is capped at NT$2.5 million.

Source: Wang, Su-wan and Tsai, Chin-hung (2011), Using Service Industry Innovation to Build "LOHAS Taiwan".

(4) Loans for Promoting Industrial R&D

In accordance with the provisions of Paragraph 2, Article 22-1 of the *Statute for Industrial Upgrading*, the Ministry of Economic Affairs has formulated the *Measures for the Provision of Loans for Promoting Industrial R&D*, to make available low-interest loans for companies in the Internet sector, manufacturing sector, technical services sector and distribution sector to help them undertake R&D or enhance their ability to provide technical services. By helping firms to secure R&D funding, the idea is to speed up the R&D process, thereby contributing to the raising of value-added in industry. Loans are capped at 80% of the total value of a project, and no individual loan may exceed NT$65 million.

(5) Preferential Loans for Promoting Service Sector Development

To encourage service sector firms to enhance their service provision capability and/or expand their scale of operations, thereby boosting service sector value-added, enhancing the sector's competitiveness and promoting industrial upgrading, special financing support is available with

respect to key factors affecting service industry development, including R&D, human resources, logistics, branding, advertising and marketing. Loans are capped at 80% of the total value of a project, and no individual loan may exceed NT$100 million.

2. Tax Breaks

(1) The Statute for Industrial Innovation

In accordance with the provisions of Article 10 of the *Statute for Industrial Innovation*, up to 15% of the total amount that a firm spends on R&D in any given year may be treated as a business income tax deduction for the current fiscal year; such a deduction may not exceed 30% of the firm’s total business income tax liability for that year. The aim of this measure is to promote innovation in industry.

(2) The Act for Promotion of Private Participation in Infrastructure Projects and the Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development

Besides the Statute for Industrial Innovation, Article 37 of the Act for Promotion of Private Participation in Infrastructure Projects and Article 29 of the Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development both provide for tax breaks for investment in R&D for private-sector firms that participate in public construction projects; details are given in Table 7-4-2.

If a private-sector firm simultaneously invests in a major tourism and leisure-related infrastructure project and in a major transportation-related project (such as warehouse automation management facilities and systems R&D), it can benefit from both tax breaks at the same time. The scope of applicability of the *Act for Promotion of Private Participation in Infrastructure Projects* is broader; whereas the *Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development* applies only to transportation-related projects, the *Act* provides for tax breaks for expenditure on R&D relating to pollution prevention facilities, healthcare facilities, cultural and educational facilities, sporting facilities, and major commercial and technological facilities.

Neither the *Act for Promotion of Private Participation in Infrastructure Projects* nor the *Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development* contains a “sunset clause”; they make it possible for a firm to claim a deduction against business income tax for the current fiscal year equivalent to between 5% and 20% of expenditure on R&D, and since the deduction can be spread over four years if it is not possible to take it all in one year, the terms are more attractive than those provided by the *Statute for Industrial Innovation*, which provides for a deduction equivalent to 15% of spending on R&D which must all be taken in one year.

Table 7-4-2 Tax Breaks for Investment in R&D

Item	Act for Promotion of Private Participation in Infrastructure Projects	Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development
Regulatory authority	Public Construction Commission, Executive Yuan	Ministry of Transportation and Communications (MOTC)
Eligible recipients	Private-sector firms that participate in major public construction projects. The term "major public construction projects" is used to refer to public construction that is inherently important and on a relatively large scale; the precise scope shall be determined by consultation between the regulatory authority and the Ministry of the Interior, Ministry of Finance and other relevant central government competent authorities.	Private-sector firms that participate in transportation infrastructure projects. The term "transportation infrastructure projects" is used to refer to projects planned by the government, where private-sector investment and construction is permitted, as well as projects where the government undertakes construction and the private sector is permitted to engage in investment and operation, in addition to projects planned by the private sector where government approval is required for construction to take place.
Scope of applicability to the service sector	Types of major public construction project related to the service sector: • Transportation construction and shared utilities (items relating to logistics providers: warehouse automation management facilities and systems) • Pollution prevention facilities • Healthcare facilities • Cultural and educational facilities • Major tourist-related projects • Sports facilities • Major commercial and technological facilities	Types of transportation infrastructure project related to the service sector: • Major tourism and leisure facilities • Motor vehicle transportation related projects (e.g., warehouse automation management facilities and systems, which is related to the logistics services industry) • Rail transport industry (e.g., warehouse automation management facilities and systems, which is related to the logistics services industry)
Tax breaks for R&D expenditure	Article 37 Private-sector firms may deduct up to between 5% and 20% of total expenditure on R&D and manpower cultivation relating to major public construction projects when calculating business income tax liability for that fiscal year. Where the full deduction cannot be taken in that fiscal year, it may be spread out over the following four fiscal years. The total amount of deduction taken in any one fiscal year may not exceed 50% of the firm's taxable income for that year; this restriction does not apply to the final year's deduction.	Article 29 Private-sector firms eligible for the incentive may deduct up to between 5% and 20% of total expenditure on R&D and manpower cultivation projects when calculating business income tax liability for that fiscal year. Where the full deduction cannot be taken in that fiscal year, it may be spread out over the following four fiscal years. The total amount of deduction taken in any one fiscal year may not exceed 50% of the firm's taxable income for that year; this restriction does not apply to the final year's deduction.

Source: Wang, Su-wan and Tsai, Chin-hung (2011), Using Service Industry Innovation to Build "LOHAS Taiwan".

(3) The Statute for Developing Tourism

Article 49 of the *Statute for Developing Tourism* stipulates that "the provision of tax breaks for private-sector enterprises engaged in the travel and tourist hotel businesses shall be handled in accordance with the provisions of Articles 36 to 41 of the *Act for Promotion of Private Participation in Infrastructure Projects*. Investment in R&D in these areas is therefore also eligible for tax breaks.

V The Challenges Affecting Service Industry Innovation, and an Examination of the Measures Adopted by the Government to Promote It

This section examines the problems currently affecting service sector innovation in Taiwan, and the measures adopted by the government to stimulate innovation in the service industries.

1. Challenges Affecting Service Industry Innovation

According to the results obtained in the first Taiwan Technological Innovation Survey (TTIS) in 2003, the main reasons for the relative lack of investment in R&D in the service industries include: shortage of technical and R&D personnel; insufficiently flexible corporate organization; excessively high levels of economic risk; limited access to market information; inflexible laws and standards; consumers' lack of enthusiasm for new products and services (Table 7-5-1).

Table 7-5-1 Major Obstacles to Innovation Activity by Business Enterprises

Unit: %; N = 1096

Obstacle to Innovation Activity		All Sectors	Manufacturing Sector	Service Sector
Economic factors	Excessively high economic risk	28	18	40
	Cost of technology innovation is too high	21	22	19
	Lack of funding sources	13	14	11
Internal factors	Insufficiently flexible corporate organization	25	12	42
	Shortage of technical and R&D talent	44	41	48
	Inadequate access to technical information and/or inability to achieve a technical breakthrough	22	29	12
	Inadequate access to market information	26	14	40
External factors	Inflexible laws and standards	25	13	40
	Consumers' lack of enthusiasm for new products and services	27	17	39
	Competitors have already launched similar product or committed patent rights violation	11	13	8
Other factors		17	8	30

Source: National Science Council (2003), *TTIS-1*.

The service sector is characterized by relatively low barriers to entry in terms of technical know-how and key technologies. It is often relatively easy for competitors to imitate (and improve on) new products, new processes and new business models. At the same time, the nature of consumer demand is constantly changing, making it difficult for service providers to accurately identify what consumers want. These characteristics of the service industries tend to discourage firms from investing in R&D and innovation. In the manufacturing sector, innovation can be carried out in the laboratory, but in the service sector new ideas have to be tried out directly on the consumer. Service industry innovation is thus a considerably more challenging undertaking than manufacturing sector innovation.

A survey conducted by the U.K.'s National Endowment for Science, Technology and the Arts (NESTA) found that, when it comes to innovation, service sector firms make relatively little use of R&D as such; the main focus in their innovation efforts is on helping customers to solve problems and finding ways to meet their needs. As a result, the issue of patent protection is relatively unimportant for most firms in the service sector. What is important is having highly

skilled, knowledgeable personnel; for firms at the lower end of the scale, the opportunity to form strategic alliances with suppliers, consulting firms and other enterprises can also contribute significantly towards successful innovation. Organizational change – whether in the form of corporate restructuring, the adoption of new management techniques or the introduction of a new collaborative strategy – also helps to drive innovation, a fact which is often overlooked. Information and communications technology (ICT) can also contribute towards raising efficiency, enhancing quality and developing innovative new services; it is in fact one of the most important foundations for innovation activity. The NESTA survey found that all of these factors were of more importance to service sector innovation than traditional indicators such as R&D expenditure; it is just that it can be hard to identify their impact when looking at the current state of service industry innovation. The case study analysis presented in Section III above confirms that organizational change and ICT have an important role to play in service industry innovation.

2. An Examination of the Policies Adopted by the Government to Stimulate Service Sector Innovation

While Taiwan has already put a number of measures in place to promote innovation in the service industries, there are several problems relating to these measures:

(1) Lack of Clarity with Respect to Service Sector Firms' Eligibility for Tax Breaks

In the past, the main emphasis in the enactment and implementation of the *Statute for Industrial Innovation*, the *Act for Promotion of Private Participation in Infrastructure Projects* and the Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development has been on promoting innovation in the manufacturing sector, and on encouraging investment in "hardware" infrastructure. This has created problems regarding the applicability of these statutes to service sector innovation. For example, government regulations regarding tax breaks for innovation stipulate that, to be eligible to receive such tax breaks, a firm must have a dedicated R&D department and dedicated, full-time R&D personnel. Most companies in the service sector do not meet these criteria, making it difficult for them to benefit from the tax breaks that are available for innovation activity. As a result, the service sector lags well behind the manufacturing sector in terms of both the number of applications to make use of these tax breaks, and the size of the tax breaks granted (Table 7-5-2). The inclusion of provisions governing subsidy and guidance measures in the *Statute for Industrial Innovation* was intended to help mitigate this situation.

(2) Complex Funding and Subsidy Regulations

The government has implemented a large number of measures to help companies in the service sector innovate. However, small and medium enterprises (SMEs) are hobbled by their limited resources, and often find it hard to find exactly what support is available from the government. According to the results obtained in the 2003 TTIS survey, of those service sector firms engaged in technology innovation, 57% were not clear as to what funding support was available from the government; clearly, the government needs to do more to publicize the help that companies in the service industries can obtain in this regard. Furthermore, the general attitude towards government assistance measures among service sector firms is that the application procedures are complex, and the amount of funding provided is too limited; overall, these measures are not enough to convince SMEs that are uncertain about investing in innovation to take the plunge (Table 7-5-3).

Table 7-5-2 Utilization of Tax Breaks for R&D Expenditure, 2004 – 2007

Tax Break Provision	Industry	No. of Applications to Make Use of the Tax Break				Total Value of Tax Breaks Applied For (NT$ millions)				Total Value of Tax Breaks Approved (NT$ millions)			
		2004	2005	2006	2007	2004	2005	2006	2007	2004	2005	2006	2007
Statute for Industrial Innovation, Article 6	Agriculture, forestry, fisheries and animal husbandry	4	5	3	2	74	99	71	68	74	99	71	68
	Mining and quarrying	1	0	0	0	0	0	0	0	0	0	0	0
	Manufacturing	**1,441**	**1,436**	**1,686**	**1,897**	**95,926**	**93,307**	**115,292**	**138,651**	**95,926**	**93,307**	**115,292**	**138,651**
	Water, electricity and gas		0	0	0	0	0	0	0	0	0	0	0
	Construction	11	17	24	22	70	140	212	246	70	140	212	246
	Wholesaling and retailing	**261**	**305**	**314**	**342**	**4,032**	**4,919**	**5,012**	**6,383**	**4,032**	**4,919**	**5,012**	**6,383**
	Hotel and restaurant	1	0	0	0	0	0	0	0	0	0	0	0
	Transportation, warehousing and communications	8	12	9	7	42	**2,092**	**1,826**	**1,678**	42	**2,092**	**1,826**	**1,678**
	Banking and insurance	17	11	5	3	56	24	12	16	56	24	12	16
	Real estate and leasing	4	2	3	5	0	18	73	96	0	18	73	96
	Specialist, scientific and technical services	**243**	**286**	**262**	**298**	**8,703**	**7,432**	**10,228**	**17,178**	**8,703**	**7,432**	**10,228**	**17,178**
	Educational services	1	1	2	1	5	7	23	19	5	7	23	19
	Cultural, sporting and leisure services	5	8	6	8	63	34	21	24	63	34	21	24
	Other service industries	5	8	6	8	27	26	21	30	27	26	21	30
	Other	16	15	16	13	300	299	224	609	300	299	224	609
Act for Promotion of Private Participation in Infrastructure Projects, Article 37	Manufacturing	0	0	1	4	0	0	152	9			NULL	NULL
	Specialist, scientific and technical services	0	1	0	0	0	0	0	0		NULL		
Measures for Stimulating Private Sector Participation in Transportation Infrastructure Development, Article 29	Manufacturing	0	1	1	0	0	3	99	0		NULL	NULL	

Note: "Null" indicates no data for that item.
Source: National Tax Administration, Ministry of Finance.

Table 7-5-3 Analysis of Taiwan's Current Subsidy Programs

Item	Characteristics	Review
Scope	Broad	The government appears to have too many different subsidy programs in place.
Targets	Project-level / Broad	The application review process is complex, requiring the provision of an excessively large volume of documents; SMEs are likely to find it difficult to fill out a subsidy application, necessitating the provision of guidance in advance.
Application unit	Single enterprises or joint applications	There have been few joint applications, a situation which is not in conformity with the government's policy objectives.
Upper limit on subsidies		The maximum amount of subsidy falls off over time; the overall subsidy size is insufficient to serve as an effective incentive.
Funding sources	Technology Development Programs (TDPs)	Other sources could be made available?
Subsidy categories	Segmented according to the scope of responsibility of the individual agency	Difficulty in identifying innovative business models, and in finding suitable approaches to guidance or targets for guidance provision (particularly large-scale innovation projects that could serve as a model to others)
Timing	Preliminary review, followed by the provision of subsidies over the course of project implementation	Most projects involve the provision of subsidies for a period of one to three years.
Bottom up / Top down	Mainly bottom-up projects; few top-down, policy-driven projects	High barriers to top-down, policy-driven projects
Operational model	Outsourcing, and establishment of dedicated project offices	The application review process is complex, requiring the provision of an excessively large volume of documents; SMEs are likely to find it difficult to fill out a subsidy application, necessitating the provision of guidance in advance.
Central government led / Local government led	Most projects overseen by central government agencies	Pronounced imbalance between North and South Taiwan.

Source: Wang, Jiann-Chyuan, Learning from the OECD Member Nations' Service Sector Innovation Policy.

(3) A Lack of Adequate Mechanisms for Promoting Collaboration between Industry and Universities

With the dawning of the era of globalization, and the rapid pace of change in the industrial structure, the knowledge economy has become the new economic mainstream. Innovation is a vital prerequisite to remaining competitive in today's fast-changing environment. The purpose of collaboration between industry and the university sector is to leverage close collaboration between the two sectors to facilitate joint R&D and innovation, and the sharing of research results, so as to achieve the "industrialization of knowledge and the knowledgeification of industry." Taiwan's industrial structure is dominated by SMEs, whose limited resources make it difficult for them to develop significant innovation capabilities. The existence or absence of sound mechanisms for collaboration between industry and academia can thus have a major impact on service sector innovation. Currently, the directors of most university start-up incubation centers are university professors carrying out the job on a part-time basis. As the professor's performance as incubation center director usually does not affect his or her academic promotion prospects, there is no real incentive for him or her to excel. At the same time, although the government does provide funding support for SME incubation centers, there are too many centers competing for a limited amount of funding, so the resources available to any given center are limited, making it difficult for them to grow and thrive. A further problem is the general lack of awareness of industry-academic collaboration within industry, coupled with the difficulty in

finding talented individuals with innovative ideas that can be adopted by the service sector, and a general lack of confidence in the potential of collaboration between industry and universities. Overall, efforts to promote collaboration between industry and academia in the service sector have so far borne little fruit.

(4) The Government's Ability to Support Service Sector Innovation is Still Too Limited

Some of the statutes and initiatives that the government has adopted to stimulate innovation in the service sector have been in place for 10 years or more, and there are many large foundations, universities and colleges working to support innovation in the service industries. However, there are still very few institutions capable of providing useful guidance for innovation and R&D in the service sector, relative to the large number of business enterprises in the service industries. Some organizations are still working to build up their innovation support capabilities, some are able to provide assistance only with technological innovation, and others need to improve their business model.

(5) Difficulty in Obtaining Accurate Information about Consumer Behavior

For the results of an industry survey conducted by Forseeing Innovative New Digiservices of the Institute for Information Industry, over 66% of business enterprises in Taiwan agree that consumer demand is one of the key factors driving the development of Information Technology enabled Services. However, most SMEs simply do not have the capabilities needed to undertake research on consumer behavior and market trends. While the Industry & Technology Intelligence Service project that the government is currently implementing does include the carrying out of research with respect to a significant number of industries, most of these industries are in the electronics and IT sector, machinery and metallurgy sector, chemical manufacturing sector or biomedicine sector; as yet, no government resources have been allocated to studying market demand in the service sector.

VI Measures Adopted in Other Countries

Recognizing the important part that the service sector plays in the wider economy, most countries have adopted special policies and measures to support the service industries. The U.S. government has focused on strengthening protection of service sector firms' intangible assets, including trademarks, copyright, and business models. By contrast, Japan, Singapore and the U.K. have introduced initiatives specifically aimed at fostering innovation within the service sector. The following discussion is based on the analysis by Tu et al. (Chung-Hua, 2010).

1. Japan

Since 2004, the Japanese government has been working to speed up the promotion of R&D and innovation in the service industries. Key measures include the New Economic Growth Strategy introduced in June 2006, and the Economic Growth Initiative Plan formulated at the Integrated Fiscal and Economic Reform Conference in July 2006.

The revised version of the Economic Growth Initiative Plan which was announced in 2008 includes the following policy objectives with respect to service sector innovation: close

collaboration between the government and the Service Industry Productivity Association; active promotion of activities relating to Service Industry Productivity Enhancement; establishment and regulation of service sector certification systems; expanded implementation of the trials of Japan's Customer Satisfaction Index and related verification operations, and promoting formal adoption of this system in those industries where it is already in use on a trial basis; holding of an Asia Contents Business Summit; participation in the International Drama Festival to promote sales of Japanese TV programs in overseas markets, and implementation of related verification work.

To ensure that these policies can be properly implemented, Japan's Ministry of Economy, Trade and Industry has made use of a variety of policy tools, including outsourcing public projects to the private sector, subsidies, the establishment of special R&D institutions, policy investment, tax reform, and the establishment of new laws and regulations. However, influenced by the desire to ensure equal treatment for all industries, the government has made most use of outsourcing, and relatively little use of tax measures.

2. Singapore

Starting in 2000, Singapore began to make major adjustments to its industrial policy, adopting a new focus on using innovation to transform the country's national competitiveness, and giving particular emphasis to service sector innovation. This has included promotion of innovative new business areas and of new business start-up, while expanding the scope of policy incentives to cover newly-established small enterprises, and putting in place the infrastructure and systems needed to support service sector innovation.

The Singaporean government has recognized that, besides its more obvious economic benefits, the internal creativity of the service sector can also produce a significant spillover effect, in terms of culture, quality, lifestyles, tolerance, etc., helping to enrich society and improve the living environment, while also contributing to the formation of innovation clusters and of a new, innovation-friendly environment. Government policy has therefore shifted away from working to attract business enterprises to locate themselves in Singapore towards attracting human talent to Singapore. There have been significant new developments in terms of infrastructure, including the establishment of new R&D facilities, the putting in place of clearly worded intellectual property protection laws, new measures relating to high-risk investment, etc. The Singaporean government has also adjusted both its education and immigration policies to encourage Singaporean citizens to stay in Singapore and to attract high-caliber foreign immigrants who will help to foster even higher levels of creativity. With these goals in mind, at a meeting of the Singapore Economic Development Board's International Advisory Council held in April 2009 it was proposed that Singapore should adopt a "Host to Home" strategy, whereby Singapore would become a true "home" for businesses, human talent and innovation activities.

3. The U.K.

The *Innovation Nation 2008* white paper that the British government published in 2008 confirmed the government's definition of innovation as the successful application of new ideas to products, services, business processes and models, marketing and advanced technology, and put forward a

vision for building an environment conducive to innovation that will help the U.K. to build itself into an "Innovation Nation." The measures that the British government has adopted to support innovation in the service sector include:

(1) Maintaining Market Openness and Flexibility

Competition helps to drive innovation; new entrants often bring new ideas into the marketplace. Maintaining market openness and flexibility is thus of the greatest importance. The white paper suggests that the British government could use procurement or regulation to influence the market, while adopting a transparent, consistent policy to demonstrate clearly to industry the government's support for innovation, and providing the statistical information needed for business operation and innovation.

(2) Recognizing the Importance of ICT

The rapid evolution of information and communications technology (ICT) has been another important driver of innovation. In particular, knowledge-based services that involve the accessing, storage, analysis and management of large quantities of information or data are dependent on having the right tools and ICT infrastructure in place. Not only will the British government be working to strengthen the U.K.'s ICT infrastructure, the Technology Strategy Board (TSB) will be focusing on the development of knowledge-intensive services and the technologies needed to support them; it was also intended that the TSB would collaborate with the Regional Development Agencies on technology transfer and diffusion.

(3) Strengthening Firms' Leadership and Management Skills

The development and delivery of complex services, and the ability to respond rapidly to change in the fast-evolving service sector marketplace, requires a large pool of leaders and managerial talent. The government will be providing business enterprises with planning support and with examples of best practice, to help firms cultivate this category of human talent.

(4) Helping Firms to Secure Funding

The British government provides information about funding sources, to help SMEs secure the financing they need and to make it possible for start-ups with high growth potential to obtain seed capital.

VII Creating "LOHAS Taiwan" through Service Sector Innovation

According to the World Economic Forum, by 2009 Taiwan had already evolved from an "efficiency-driven economy" into an "innovation-driven economy." Careful observation of the situation in other parts of the world suggests that "innovation-driven economies" have the following characteristics: (1) Consumers are usually eager to enjoy a high-quality lifestyle and high-quality services. (2) Industry displays a high level of enthusiasm for innovation, and seeks to use R&D to enhance the distinctiveness and value-added of products and services. (3) First-class ICT infrastructure has been put in place, supporting a diversified service R&D environment. (4) Efforts

are being made to build an innovation and R&D environment that emphasizes technology-enabled services, facilitating the gradual transformation into a "service innovation economy."

As suggested by the above characteristics, in today's world innovation is a vital strategy for business enterprises in both the manufacturing and service sectors. The government's responsibility is to create a business environment conducive to innovation, to facilitate ongoing business development. Given the current situation in Taiwan, where the economy is dominated by the service sector but growth rates are low, the need to find ways to support service sector innovation has become an important challenge for the government. With this in mind, the Ministry of Economic Affairs has adopted the "Innovation Economy, LOHAS Taiwan" policy vision, with the aim of leading Taiwan's economy up to a new stage of development.

Based on the above discussion of the nature of service sector innovation, the challenges faced by service sector firms that seek to innovate, the measures adopted by the Taiwanese government to promote service sector innovation, and the experience of other countries in fostering innovation in the service industries, we put forward the following suggestions as to how Taiwan can enhance the innovation capability of its service industries, so as to build Taiwan into a country in which both business enterprises and ordinary citizens can prosper and flourish.

1. Formulation of a Service Sector Innovation Strategy

To promote innovation in Taiwan's service industries, the government should draw up a comprehensive service sector innovation strategy, including suitable incentive measures and tools for stimulating innovation. In formulating this strategy, the government should examine the methods adopted by other countries with respect to human talent cultivation, funding, markets, information, the legal and regulatory framework, etc. The main reason why efforts to support service sector innovation in Taiwan thus far have taken the form of a "scattergun" approach with multiple different individual projects and plans being administered separately is the lack of a single, unified agency with overall responsibility for promoting service industry innovation. The government may want to consider taking advantage of the proposed governmental reorganization of 2012 to review its approach to building a "LOHAS" (Lifestyles of Health and Sustainability) environment in Taiwan, so as to provide new opportunities for service sector development.

2. Setting a Minimum Target for Service Sector R&D Subsidies

According to data compiled by the OECD, as of 2006 business enterprise R&D performed in service industries accounted for just 0.13% of Taiwan's GDP, far lower than the corresponding percentages for the U.S. (0.56%), Singapore (0.50%), Canada (0.40%), the U.K. (0.25%) and Japan (0.22%). Clearly, spending on R&D in the service industries in Taiwan is far too low. The government must continue to provide the resources needed to support service sector R&D, for example by setting a minimum level of subsidies for service industry R&D in the government's science and technology budget.

3. Reviewing the Legal and Regulatory Framework within Which Service Sector Firms Operate

With the replacement of the *Statute for Upgrading Industries* by the *Statute for Industrial Innovation* as the key document underpinning Taiwan's industrial policy, there has been a shift away from industry-specific incentive measures towards function-specific measures, and a substantial change in the types of policy tools used away from tax breaks and towards the provision of guidance and subsidies. However, more needs to be done to improve the legal and regulatory framework for service sector innovation. The government should be working actively to review and adjust the relevant laws and regulations so that they meet the needs of service sector development, in line with the government's objective of fostering innovation in the service industries.

4. Establishment of Market Research and Service Sector R&D Centers

Currently, the government does not undertake any market research on consumer behavior that targets the service industries. At the same time, the ability of Taiwan's SMEs to undertake innovation activity without outside support remains limited. As of July 2010, there were a total of 122 incubation centers in Taiwan, with a reasonably even geographic spread throughout the country. If the government were to require these incubation centers to establish service sector market research and service industry innovation centers, so that they were able to provide service sector SMEs with the market information they need, and assist with the provision of funding, manpower and technology support for service industry innovation (possibly even helping with customer education and training), this would, without question, help firms in the service sector to keep their finger on the pulse of market trends and make full use of the new business opportunities that innovation can create.

5. Regular Holding of Cross-industry Alliance Business Matching Meetings

One major difference between the service sector and the manufacturing sector is that, in the service industries, innovation that relates to marketing and business models is generally more effective than technological innovation in helping firms to build up barriers to entry and to differentiate themselves from their competitors. One of the most common forms of marketing innovation employed by service sector firms is the cross-industry alliance. According to the results of an industry survey carried out by the Institute for Information Industry, 52% of firms felt that cross-industry alliances could contribute to the development of new service models and help firms to innovate successfully. The government should therefore begin to organize regular cross-industry alliance seminars and business matching sessions, so that the knowledge spillover effect can be used to help service sector firms innovate and develop new business opportunities.

6. Guidance Teams Should Make Use of Case Studies to Study Business Enterprises' Needs

The teams responsible for implementing government subsidy programs and guidance projects should use analysis of past projects to consider how best to strengthen the measures used to support innovation in the service sector, and as a basis for submitting recommendations to the relevant

government agencies. For example, when Hanaqua Tech Inc. found that the weak computer skills of aquaculture facility operators constituted an obstacle to the successful implementation of product traceability systems, the assistance of the Council of Agriculture was needed to come up with a solution to the problem. The government might also want to consider taking Baby Boss City as the inspiration for establishing a “vocational experience park” where university students and recent graduates would have the opportunity to explore where their real interests lie, thereby ensuring that the right people go into the right careers.

CHAPTER 8

Policies and Measures Adopted in Response to the Changing Global Environment

By the second half of 2009, the global economy was gradually starting to recover from the impact of the financial crisis. This recovery picked up speed in the first half of 2010; the upturn was significantly stronger than had been anticipated, and it continued into the second half of the year. While the pace of growth was expected to slow in 2011, with Global Insight Inc. forecasting lower growth than in 2010 and the IMF also predicting a slowdown, nevertheless, domestic demand in emerging economies such as China and India remained buoyant, and these economies continued to drive global growth.

As regards the situation in Taiwan, the Taiwanese economy posted strong growth in 2010, with particularly rapid expansion in the volume of foreign trade. The government's economic indicator data suggested that the economy was in fact overheating, or at least close to overheating. Unemployment fell, and price rises were relatively mild. Overall, it was clear that the economy as a whole was functioning normally again.

Following the signing of the Economic Cooperation Framework Agreement (ECFA) with China, Taiwan's future economic development will need to be coordinated with the progress made in the ECFA follow-up negotiations, to take full advantage of the business opportunities presented by China's Tenth Five-year Plan and by China's large domestic market, which in turn will help Taiwan to expand its trade within the Asia region. With regard to the firms and workers in those industries that are more oriented towards the Taiwanese domestic market, which are less competitive and vulnerable to the negative effects of trade liberalization, the government has formulated the *Adjustment and Support Plan to Adapt to Trade Liberalization*, in accordance with the provisions of Article 6 of the *Statute for Industrial Innovation*. The first section of this chapter will outline the key measures specified by the *Adjustment and Support Plan*.

During a year-end press conference in late 2010, Taiwan's Minister for Economic Affairs Shih Yen-hsiang stated that "Innovation Economy, LOHAS Taiwan" would be the underlying theme of the government's policy initiatives in 2011 (the 100th anniversary of the founding of the Republic of China in 1911), and that the government would be implementing six key strategies – enhancing the "soft power" of Taiwanese industry, boosting investment and consumption, building "green power," developing global business opportunities, encouraging new business start-up to create new jobs, and building a "LOHAS" environment – to drive economic growth. The concrete measures that the government will be implementing in this regard are outlined in Section II of this chapter.

The Ministry of Economic Affairs (MOEA) has formulated the *Measures for the Provision of Incentives to Encourage SME Innovation and Employment Creation*, in accordance with the provisions of Article 11 of the *Statute for Industrial Innovation*. These new regulations provide

for the granting of subsidies to SMEs that undertake innovation, overhaul their manpower structure, and create new jobs, with the aim of stimulating innovation and transformation in industry, while at the same time creating employment opportunities for Taiwan's citizens. Section III of this chapter examines the key aspects of these *Measures* in more detail.

I Strategies and Support Measures Adopted to Help Taiwanese Industry Adjust to the Impact of Trade Liberalization

Due to the small size of the Taiwanese domestic market, foreign trade and exports have played a particularly crucial role in Taiwan's economic development. The thinking behind the government's foreign trade policy is "strengthening linkages with the world, and participating in global economic integration activities." Over the last few years, there has been an increasingly pronounced global trend towards the signing of free trade agreements (FTAs) and regional trade agreements (RTAs). As of the end of 2010, Taiwan had signed just five FTAs, all with countries in Central America, which between them account for just 0.187% of Taiwan's total exports. Taiwan has so far been unable to negotiate any form of economic cooperation agreement with the U.S., with the European Union or with other countries in East Asia. This situation has had a serious negative impact on the competitiveness of Taiwanese products in Taiwan's main export markets.

In order to boost the growth of Taiwan's foreign trade, the government is working actively to try to negotiate economic collaboration agreements with Taiwan's major trading partners. The Economic Cooperation Framework Agreement (ECFA) with China was signed on June 29, 2010, and came into effect on September 12, 2010. It is anticipated that ECFA will bring benefits similar to those of an FTA; both Taiwan and China will be required to reduce tariffs and barriers to trade with respect to certain categories of product. Market opening and tariff reductions can help Taiwan to grow its exports to international markets; however, trade liberalization can be expected to have a significant negative impact on some of Taiwan's less competitive industries which are oriented mainly towards the domestic market, and on the workers in these industries.

With this problem in mind, the *Support Plan to Help Industry Adjust to the Impact of Trade Liberalization* was drawn up in accordance with the provisions of Article 6 of the *Statute for Industrial Innovation* and approved by the Executive Yuan on February 22, 2010; a revised version of the Plan was approved on December 7, 2010.

Article 6, Statute for Industrial Innovation

In the event that industry is affected by natural disasters, circumstances arising from the international economy or trade, or other significant environmental changes, the central government authorities shall provide supportive measures for industrial adjustment according to actual needs, in order to assist industry in recovering its competitiveness and to further enhance social stability.

The goal behind the formulation of the *Support Plan to Help Industry Adjust to the Impact of Trade Liberalization* is to facilitate the provision by the government of support measures to help industry adjust to the impact of trade liberalization resulting from the signing of an RTA or FTA between Taiwan and another country or region, thereby helping Taiwanese industry to enhance its competitiveness, while also contributing to the maintenance of social stability.

The *Support Plan to Help Industry Adjust to the Impact of Trade Liberalization* applies to the following categories of industries:

1. Industries requiring additional guidance: These are industries that are oriented primarily towards the domestic market, are relatively uncompetitive, and are particularly vulnerable to the impact of trade liberalization.
2. Industries that have been affected: These are industries that have seen a rapid increase in imports of products the import duty on which has been reduced as a result of trade liberalization, but which have not yet suffered any significant harm.
3. Industries that have suffered harm: These are industries that have suffered significant, obvious harm as a result of trade liberalization.
4. Industries that may be affected by trade liberalization: These are industries other than those in the three categories listed above that it is believed may be affected by trade liberalization.

Depending on the extent to which the industry and the people working in it will be affected, different types of adjustment support measures can be adopted. The key strategies and measures are outlined below:

1. Revitalization Guidance

With respect to industries that may be affected by trade liberalization, or may require additional guidance to adapt to it, the following types of adjustment support can be provided for those firms that pass the application review process:

(1) Industry Guidance

1. Industry upgrading and transformation guidance: Strategies here include strategic planning and industry guidance to cope with the impact of trade liberalization, and industrial upgrading guidance.

(1) Strategic planning and industry guidance to cope with the impact of trade liberalization: Key measures include comprehensive strategic planning to deal with the impact of trade liberalization, assistance with the formulation of negotiation strategies, analysis of the global trend towards FTA establishment and related promotion strategies, and the provision of both joint guidance and individual guidance for industries requiring guidance.

(2) Industrial upgrading guidance: Establishment of the public and shared facilities and infrastructure required by industry; promoting the formation of innovation alliances in traditional industries; establishment of industrial technology guidance teams and arranging for research institutes to “adopt” particular industries and provide them with guidance.

2. Industrial technology upgrading: Helping those industries in need of guidance to cope with the impact of trade liberalization to upgrade their technology and to innovate; encouraging universities to provide technological assistance for affected SMEs; promoting innovation and R&D activity among SMEs.
3. Providing SMEs with loan guarantees: This includes helping the SME sector to boost domestic investment, providing assistance to facilitate SME participation in public construction projects, promoting the provision of financing for key service industries, providing loans for start-ups, and promoting the provision of financing assistance for small retailers.
4. Supporting the development of SME industry clusters: Providing integrated guidance for SME cluster innovation, along with ICT guidance for local industry clusters, etc.
5. Assisting with the development of export markets: Using the Ministry of Economic Affairs' Trade Promotion Fund to arrange delegations to attend overseas trade shows, and to invite overseas buyers to Taiwan; establishing "Taiwan Pavilions" at trade shows to showcase Taiwanese products; helping business enterprises to attend major international specialist exhibitions held in Taipei; providing subsidies to help industry associations organize trade promotion activities overseas; providing guidance to help business enterprises develop their own brands; helping firms to access domestic and international business information; cultivating international marketing talent; promoting expanded use of the Internet; providing trade financing assistance, etc.

(2) Labor and Employment Related Services

The main measures being implemented in this area include: Establishment of unified employment services contact windows; organizing in-service training programs for workers; helping workers to arrange individual training courses; organizing local training and service networks; helping workers to obtain vocational certification; providing workers with free psychological counseling; arranging mental health seminars and on-site guidance services; providing training in business start-up and business management skills.

2. Strengthening the Fundamentals of the Affected Industries

With regard to those industries that have seen a rapid increase in imports of products the import duty on which has been reduced as a result of trade liberalization, but which have not yet suffered any significant harm, the following types of adjustment support can be provided for those firms that pass the application review process:

(1) Industry Guidance

1. Provision of "revitalization guidance" measures.
2. Raising the R&D subsidy levels available to firms in affected industries that participate in Technology Development Programs.
3. Providing special project adjustment measures to meet the needs of individual affected industries.

4. Providing low-interest loans for factory building and equipment upgrading: In accordance with the provisions of the *Measures for the Provision of Low-interest Loans to Assist Industries Affected by Trade Liberalization* formulated by the Executive Yuan Development Fund, over the period 2010 – 2019, NT$2 billion per year (for a total of NT$20 billion) will be made available for the provision of low-interest loans to industries that have been affected by trade liberalization; financial institutions will be commissioned to handle the processing of these loans.

(2) Employment Stability Measures and Assistance with Re-training and Re-employment

1. Provision of "revitalization guidance" measures.
2. Employment stability assistance: This includes the provision of income subsidies for workers already in employment, as well as subsidies for the re-designing of positions.
3. Employment support: The measures that will be implemented here include a lay-off reporting mechanism, assistance for employees who have been laid off, a re-employment consulting service, financial incentives for business enterprises to hire additional workers, the development of work experience opportunities, the provision of short-term employment stability measures, temporary worker subsidies, diversified employment development plans, transportation subsidies for job-seekers, subsidies to help job-seekers meet the cost of moving house, rental subsidies, etc.
4. Living assistance for the short-term unemployed: Living subsidies and re-employment bonuses.
5. Protecting workers' rights: Organizing seminars to discuss the rights of workers in industries affected by trade liberalization, and arranging settlement of labor disputes.
6. Assistance with new business start-up: New business start-up consulting guidance and suitability analysis, entrepreneur experience opportunities, start-up loans and interest subsidies.

3. Remedies for Injury

With regard to all import relief applications submitted in accordance with the *Rules for Handling Import Relief Cases* that are approved by the International Trade Commission, Ministry for Economic Affairs, the following are the main types of adjustment support that are available:

1. Border measures: Tariff adjustment, establishment of import quotas, etc.
2. In-country guidance measures:

(1) Provision of revitalization guidance, structural adjustment guidance, etc.

(2) Provision of special project adjustment measures in line with the special needs of individual affected industries.

(3) Provision of financing to help enterprises move into new business areas and develop new products: In accordance with the provisions of the *Measures Regarding the Provision of Loans to Help Enterprises in Industries Affected by Trade Liberalization to Upgrade and Transform Themselves*, the government will provide the following financing assistance for firms that are considering transforming themselves:

- Interest rate on loans: Variable interest rate set according to the interest rate on one-year Postal Deposits.
- Maximum amount of loans: Working capital loans are capped at NT$5 million; capital financing loans are capped at NT$10 million.
- Loan guarantees: Loan guarantees are available for up to 100% of the value of the loan; the charge for loan guarantees is set at 0.5% of the value of the loan.

3. Worker employment services and employment stability and re-training and re-employment support: Provision of revitalization guidance and structural adjustment guidance measures, etc.

4. Funding Sources

This project involves the coordinated provision of funding from the budgets of a number of government agencies, including the Ministry of Economic Affairs and the Council of Labor Affairs, etc., as well as various relevant foundations and funds, including the Executive Yuan Development Fund, the SME Guarantee Fund, the Trade Promotion Fund, the National Science Development Fund, Executive Yuan, etc. It is anticipated that a (provisional) total of NT$95.2 billion in funding will be provided over the ten-year period from 2010 to 2019. The individual budget allocations are shown in the table below(Table 8-1-1).

II Key Aspects of the “Innovation Economy, LOHAS Taiwan” Strategy

During a year-end press conference in late 2010, Taiwan’s Minister for Economic Affairs Shih Yen-hsiang announced that “Innovation Economy, LOHAS Taiwan” would be the underlying theme of the government’s policy initiatives in 2011 (the 100th anniversary of the founding of the Republic of China in 1911), and that the government aimed to adopt an innovative, open-minded approach to driving economic development, with the aim of benefiting ordinary citizens through the creation of a “LOHAS Taiwan.” The six key aspects of this strategy are: enhancing the “soft power” of Taiwanese industry, boosting investment and consumption, building “green power,” developing global business opportunities, encouraging new business start-up to create new jobs, and building a “LOHAS” environment. The aim is to lay the foundations for sustainable economic growth that lives up to citizens’ expectations, while also taking into account the effects of environmental change. The six individual strategies and the concrete measures through which they will be implemented are discussed in more detail below.

Table 8-1-1. Funding Sources for Support Measures Covered by the Support Plan to Help Industry Adjust to the Impact of Trade Liberalization

Adjustment Support Measure	Concrete Measures	Funding (NT$ billions)	Organizer
1. Revitalization Guidance	1-1. Industrial upgrading and transformation guidance	9.0	MOEA (Industrial Development Bureau and Dept. of Industrial Technology)
	1-2. Industrial technology upgrading	5.55	MOEA (Dept. of Industrial Technology)
	1-3. Provision of credit guarantees for SME financing	5.0	MOEA (Small and Medium Enterprise Administration)
	1-4. Assistance for SME industry cluster development	1.16	MOEA (Small and Medium Enterprise Administration)
	1-5. Assistance in developing export markets	3.64	MOEA (Bureau of Foreign Trade)
	1-6. Worker employment services	18.0	Council of Labor Affairs, Executive Yuan (Dept. of Labor Welfare, Dept. of Planning, Central Taiwan Division, Bureau of Employment and Vocational Training)
	Sub-total	**52.35**	
2. Structural Adjustment	2-1. Individual adjustment guidance for affected industries	3.35	MOEA (Dept. of Industrial Technology)
	2-2. Provision of low-interest loans for factory building and equipment upgrading	20.0	Executive Yuan Development Fund
	2-3. Employment stability and re-employment assistance	12.0	Council of Labor Affairs, Executive Yuan (Dept. of Labor Welfare, Dept. of Planning, Central Taiwan Division, Bureau of Employment and Vocational Training)
	Sub-total	**35.35**	
3. Relief for Industries that have Suffered Harm	3-1. Provision of financing to help enterprises move into new business areas and develop new products	1.0	MOEA (Small and Medium Enterprise Administration)
	3-2. Provision of employment-related services, and employment stability and re-employment assistance	6.5	Council of Labor Affairs, Executive Yuan (Dept. of Labor Welfare, Dept. of Planning, Central Taiwan Division, Bureau of Employment and Vocational Training)
	Sub-total	**7.5**	
	Total	**95.2**	

Note: The funding figures given may be adjusted on an ongoing basis in line with the progress made in trade liberalization and with the needs of industry.
Source: MOEA, *Support Plan to Help Industry Adjust to the Impact of Trade Liberalization* (Dec. 2010)

1. Enhancing the "Soft Power" of Taiwanese Industry

(1) Industrial Innovation – "Soaring Dragon Seizing Pearls"

The Ministry of Economic Affairs will be working to enhance Taiwan's innovation capability (the "Soaring Dragon") and help Taiwan's industries build competitive advantage ("Seizing Pearls"), thereby encouraging business enterprises to innovate and create value. With the vision of "building Taiwan into a model for innovation within the Asia-Pacific region," the Ministry's goal is for Taiwan to rank among the top five countries in the world for innovation by the end of the 2011 – 2015 timeframe, and for at least three Taiwanese firms to make it into the list of the 50 most innovative companies in the world. The concrete measures that will be adopted to achieve these aims include: the establishment of an Industrial Innovation Academy, the creation of an Industrial Innovation Promotion Service Platform, the adoption of model innovation management techniques, active promotion and publicization, the holding of awards activities for

industrial innovation, the publication of a list of the Top 100 innovative firms in Taiwan, the holding of a Technology Aesthetics Competition, etc.

(2) Promoting Design and Development in Taiwan

On December 10, 2010, President Ma Ying-jeou announced the commencement of the "Year of Taiwan Design – 2011" in a ceremony at the Taipei Sungshan (former) Tobacco Plant Cultural and Creative Park, marking the commencement of a new era for design in Taiwan. In October 2011, the Taipei World Design Expo will be held for the first time ever in Taiwan; leading up to the Expo, there will be a series of design-related activities, including the Design Magic Train (bringing design into rural areas), the Year of Taiwan Design Certification Program, the New Generation Design Camp, the Taiwan International Design Exhibition and other international exchange activities. The aim is to show the world how the whole nation is contributing to Taiwan's vitality in the design field.

(3) Helping Taiwanese Companies to Develop International Brands

The concrete measures being adopted to achieve the goal of "building Taiwan into an Asia Pacific Brand Management and Service Center" include: establishing an international brand promotion organization, the creation of an International Brand Development Academy, the promotion of company-wide brand management guidance, brand value appraisal promotion, helping Taiwanese firms to promote their brands in overseas markets, and building an environment conducive to successful brand development, etc. The goal is to achieve a doubling of the brand value of Taiwan's top ten international brands by 2020, to have at least 100 more Taiwanese brands that rank in the top three in terms of market share in overseas markets, and to have over 1,000 registered Taiwanese international brands, with a total of at least 10,000 business locations between them.

(4) Enhancing IT and Logistics Performance

The concrete measures being taken to realize the government's vision of building Taiwan into an "Asia Pacific Information and Logistics Center" (embodying a shift in the center of gravity of the Taiwanese economy away from manufacturing and towards technology-enabled services) include: promoting industrial information and logistics alliances, providing guidance for strengthening the e-enablement capabilities of firms in every link in the value chain, helping enterprises to create model "green" computer rooms, promoting backbone network development, reducing network interconnection fees, creating Innovative Service Parks, and encouraging world-class service providers to form strategic alliances with Taiwanese firms, etc.

2. Boosting Investment and Consumption

1. Promoting private-sector investment: The government will be working to strengthen its strategic investment promotion activities, integrating the relevant platforms with government support, enhancing the international influence of Taiwanese industry, and promoting the formation of industry clusters in emerging industries, etc. A target of NT$1.1 trillion in private-sector investment has been set for 2011.

2. Strengthening global investment promotion activities: The government will be working to encourage Taiwanese businesspeople operating overseas to invest in Taiwan (with a target of NT$45 billion in investment). It will also be promoting Chinese investment in Taiwan (with a target of NT$120 million), and encouraging Overseas Chinese and foreign companies to step up their investment in Taiwan (with a target of NT$7.4 billion).
3. Revitalizing existing business districts: The government will be seeking to restructure and strengthen the functions of existing business districts, strengthening their utilization of information and communications technology and their ability to attract shoppers, as well as getting more tourists to visit these business districts. By promoting service diversification, a shopper-friendly environment will be created.
4. Developing local economies to stimulate consumption: Local cultural festivals and traditional local celebrations will be integrated with the tourist industry and with distinctive local industries to arrange exhibitions of OTOP ("One Town, One Product") gifts and OTOP travel itineraries. Other special activities will include an Animation and Comics Day, a major drive to boost exports of local products, an Organic Leisure Day, the "Rich Harvest" Made in Taiwan Products Festival, and promotion of products developed by new start-ups. Extensive use will be made of the Internet, group purchasing, blogs etc. to create new business opportunities.

3. Building "Green" Power

1. Installation of LED traffic lights: It is anticipated that a total of 700,000 traffic lights throughout Taiwan will be converted to LED lights in 2011. This switchover to LED should save around 247 million kWh of electricity every year, thereby cutting carbon dioxide emissions by 153,900 metric tons, cutting the cost of electricity for traffic light operation by 73%, and saving NT$232 million on maintenance and repair costs. In addition, this program is also expected to stimulate the development of new LED applications and create around NT$1.4 billion in additional production value for the LED lighting industry.
2. Developing renewable energy: The main strategies in this area include expanding the scope of wind power from land-based facilities to include offshore wind farms, encouraging the use of land that would otherwise be left fallow for growing crops that can provide fuel for biomass energy projects, and the development of cutting-edge renewable energy initiatives (such as BIPV solar energy systems for buildings, and ocean thermal energy).
3. Development of the Penghu Islands as "low-carbon islands": The government is aiming to make the Penghu Islands a global model of low-carbon development, by integrating the use of renewable energy sources, energy conservation measures, green transportation, low-carbon buildings, environmental greenification, resource cycle improvement, low-carbon lifestyles and low-carbon education, etc. It is anticipated that over 55% of the Penghu Islands' energy needs can be met from renewable energy sources.
4. Promoting the development of an energy-saving society: The measures being adopted here include expanded distribution of water conservation pads, programs to find and fix leaking water pipes in schools and government offices, trial operation of toilet water conservation

fittings, the holding of water conservation competitions, and strengthening and expanding the reuse of rainwater, etc.

4. Developing Global Business Opportunities

1. Participating in regional economic integration: The Ministry of Economic Affairs will be working actively to overcome the various obstacles in this area, adopting a strategy of "Multi-faceted Contact, and Gradual Progress in Negotiating Agreements" and a step-by-step approach. Taiwan will be exploring any opportunities to sign agreements with, and communicate with, its major trading partners.

2. ECFA follow-up negotiations: Formal implementation of the Early Harvest provisions relating to trade in goods under the ECFA agreement commenced on January 1, 2011. On December 29, 2010, the Bureau of Foreign Trade, Ministry of Economic Affairs established an ECFA Service Center to coordinate the response to citizens' ECFA-related inquiries between the various related government agencies. With regard to the ECFA follow-up negotiations, several discussions were held last year on the subject of the investment protection agreement, and this will be one of the priority items for discussion at the 7th round of talks between the heads of the SEF (representing Taiwan) and ARATS (representing China). In addition, it was announced during the 1st scheduled meeting of the Cross-strait Economic Cooperation Committee in February 2011 that negotiations would be getting underway with regard to the three agreements on trade in goods, trade in services, and dispute resolution. To help Taiwanese firms benefit from the business opportunities that ECFA is creating, special presentations are being held, and Early Harvest product-related trade missions are being organized for representatives of Chinese firms to visit Taiwan and representatives of Taiwanese firms to visit China. The government is also providing assistance in this regard in terms of distribution channel development, branding guidance, business information, manpower cultivation, etc.

3. Securing business opportunities: In order to help Taiwanese companies develop global markets and global business opportunities, the government is continuing to implement the "New Cheng Ho Plan" (over the period from September 2008 to 2012), along with the Emerging Market Development Promotion Plan (2010 – 2012) and Green Trade Promotion Plan (2011 – 2013). The main measures adopted are as follows:

(1) Export market diversification and avoiding excessive reliance on too limited a number of markets: Taiwan will be working to strengthen its market share in the developed nations (Europe, North America, and Japan), while raising the share of total exports going to emerging markets to 23.5%, and working to develop business opportunities in China.

(2) Strengthening the international competitiveness and export capability of Taiwanese industry: The government will be encouraging both traditional and emerging industries to develop new markets; it will also be promoting overseas expansion by the service industries, encouraging firms to develop "green" trade business opportunities, and promoting the exploitation of business opportunities that relate to government purchasing.

5. Boosting Employment through New Business Start-up

1. Supporting SME business start-up: Provision of consulting services for new business start-up, establishment of a New Business Cultivation Academy, implementation of the Entrepreneur Success Program, provision of low-interest loans for SME business start-up, etc.

2. Promoting the development of the business services industry:

(1) Improving the business environment to help raise competitiveness: The government will be working to strengthen the provision of guidance resources to the business services industry (including funding support, technology guidance, and consulting services), working to help chain stores open additional branches (with an anticipated 500 new outlets in 2011, creating 3,000 new jobs), promoting the use of cross-industry tie-ups and online marketing to stimulate consumption, providing subsidies for innovation and R&D, and encouraging firms to invest in R&D and recruit more R&D-related personnel.

(2) Creating new service sector business opportunities: The government will be providing guidance to help business enterprises establish online stores (with an estimated 1,000 new online stores in 2011, creating 3,000 new jobs), organizing investment promotion presentations and domestic and international business matching mechanisms, stimulating an expansion in the scale of commercial investment, organizing an international food carnival, and arranging a comprehensive range of exhibition, marketing, competition and trade delegation activities, while also promoting the integration of local business districts with local culture and local festivals through joint marketing, etc.

6. Building a First-class LOHAS Environment

1. Improving water supply and water conservancy: The implementation strategy for achieving this goal will include improved river conservancy measures, flood prevention measures, dredging of rivers and reservoirs, and ensuring a stable supply of water in Southern Taiwan.

2. Maintaining consumer product safety: The implementation strategy for achieving this goal will include strengthening inspection of products already on the market, strengthening the incident reporting mechanisms, ensuring effective dissemination of information regarding unsafe products, and strengthening the management of imported products at the border.

3. Industrial safety and environmental protection: A joint supervision initiative will be established to facilitate public safety management by large petrochemical companies, along with the creation of a supervisory committee, joint auditing, and improved follow-up.

4. Management of unregistered factories: A special team will be established to oversee the management of and provision of guidance to unregistered factories, together with a guidance service team to organize presentations and set up a service hotline. The government will be promulgating the Measures Governing the Provisional, Post-facto Registration of Unregistered Factories, and will be accepting applications for post-facto registration; the government will also be speeding up the formulation of plans for helping unregistered factories to formalize and legalize their operations, and of principles to govern the establishment of special industrial districts to support this process.

CHAPTER 9

Assistance in Upgrading, Transforming and Enhancing R&D Capabilities

With constantly changing scenarios in international competition and cooperation in recent years, small and medium enterprises (SMEs) face operational bottlenecks and pressure to transform themselves. Under these circumstances they especially need to enhance their ability to innovate and conduct research and development to cope with the numerous challenges faced. Compared with large corporations, which have access to abundant capital and human resources, SMEs are at a disadvantage and therefore the government has provided a number of support measures to encourage SMEs to actively engage in innovation, transformation and upgrading so that the country's competitiveness in international markets can be enhanced.

This chapter is divided into four sections and discussion will be focused on the various government measures that have been taken in the period from 2010 to 2011 to help SMEs upgrade and transform as well as their corresponding accomplishments. These include: e-services guidance, enhancement of quality and management capability, upgrading of technologies, as well as improvements in research and development capacity.

I Promotion on e-Services

The Ministry of Economic Affairs (MOEA) has provided SMEs with a series of guidance programs on e-services based on their requirements and electronic workflow. The major projects for e-services guidance are the: Project for Bridging Industry Digital Divide, Industry-specific e-Commerce Business Operation Project, SME e-Services Corps Project, SME e-Learning Project (SME Online University), and SME Knowledge Management Promotion Project.

1. Promoting Digital Applications, Bridging Industry Digital Divide, and Gaining Access to Online Business Opportunities

The promotion of the "Bridging Industry Digital Divide Project" focuses on the digital development of rural industries. The main targets of this program are micro-enterprises with less than 20 employees. Local community-based training activities are provided through service teams in order to increase the ability of micro-enterprises in rural communities to conduct digital business, creating marketing effects "for common folk by common folk" and further extending online opportunities and continuing business development.

From 2005 to 2010, the achievements has included the formation of 172 e-community micro-enterprises and assisting more than 110,000 SMEs to upgrade their electronic application capabilities, and driving NT$2.85 billiion in business opportunities for the IT services industry.

2. Promoting SME in Industry Supply Chain Connectivity and Enhancing Industry Competitiveness

The "SME Industry Supply Chain Connectivity Promotion Project" developed by the SMEA focuses on providing assistance to supply chain system central vendors (manufacturing or service industries) and their collaborative entities and suppliers (mainly SMEs) or customers to build electronic connectivity and integrate the system's operations, thus enhancing the operational efficiency and robustness of the supply chain, and raising the overall competitiveness of the industry.

3. Enhancing e-Services Delivery Capability of SMEs via e-Services Corps Project

Since 2002, the SMEA has been actively promoting the "SME e-Services Corps Project", which brings together experts and scholars from industry and academia and IT services vendors to form guidance teams and provide suitable electronic process implementation solutions to SMEs based on their requirements and using cluster guidance approaches such as supply chain connectivity and cross-sector collaboration. The project also helps SMEs to improve their business processes and to improve their ability to deliver electronic services.

As of 2010, intensive guidance on electronic process implementation has been provided to a total of 4,800 SMEs in 67 industries, helping them with diagnostic consultation.

4. Promoting the Industry-specific e-Commerce Business Operation Project and Enhancing International Competitiveness

The "Industry-specific e-Commerce Business Operation Project" implemented by the SMEA aims to promote strategies to help SMEs enhance their digital marketing capability, providing guidance to enterprises or clusters in e-Commerce marketing companies and assisting export-oriented businesses and clusters to build Internet sales channels and to expand their presence in overseas markets. The main focuses of the work include: (1) Assisting industry associations to provide e-Commerce operation guidance; (2) Assisting international marketing and promoting, including International Internet Marketing and providing guidance on international network marketing business models.

5. Assisting SMEs to Implement Knowledge Management and to Improve Enterprise Competitiveness

In order to help SMEs respond to the advent of the knowledge economy and gain access to new opportunities through innovative approaches, the SMEA began the "SME Knowledge Management Promotion Project" in 2003 to bring together resources from industry, government and academia, as well as to accumulate and preserve core knowledge of enterprises, to shorten the learning time for employees, and to improve their problem-solving abilities.

The following services and promotion tasks have been carried out based on building a knowledge sharing environment for SMEs, assisting SMEs to apply KM, and expanding the effectiveness of the application of knowledge management for SMEs.

6. Promoting Value Chain Information Applications of Manufacturing Industry

The Industrial Development Bureau provides guidance via the "Manufacturing Industry Value Chain Information Technology Project" on innovative business operation models, improving business processes and utilizing information network technology, implementing the construction of new operational models and driving the development of smaller enterprises with inadequate IT infrastructure, and helping them to gain competitiveness in the industry. Types of guidance, eligibility and grant amounts are as follows:

1. operational headquarters information application: Application vendors are required to have companies set up abroad and Taiwan as their decision-making center and the value creation operational headquarters or headquarters with multinational operations ability. The government will provide up to NT$ 10 million in subsidies for two years (limited to costs incurred locally).
2. value chain information application: Applicants must be a central domestic manufacturers, whose upstream and downstream value chains are in Taiwan, and have implemented enterprise resource planning systems within the enterprise IT application infrastructure. The government will provide up to NT$ 5 million in subsidies for two years (limited to costs incurred locally).

   The applicant must provide no less than 50% of matching funds.

7. Guidance for Traditional Manufacturing Industries in Implementing Value-added ICT Applications

In view of the high degree of digital divide in traditional manufacturing industries and compared with the information and electronics industries, the Industrial Development Bureau has implemented the "Traditional Industries ICT Value-added Application Guidance Project." to help conventional industries introduce value-added applications, which promote the enterprise itself and the transformation of the system processes. In addition, the project also assists individual enterprises in the development of new products and services which bring in the ICT-related elements in order to add value and to encourage IT services vendors to develop ICT applications and solutions or service platforms.

8. Promoting Logistics Niche and Supply Chain Management Services

From 2009 on, the Department of Commerce, MOEA has implemented the "Logistics Niche Market and Supply Chain Services Promotion Project," to develop large-scale, global, and integrated logistics service, innovation providers with a view to providing supply chain management e –Services. At the same time, the Department also encourages the logistics industry to develop niche markets that require a high degree of specialization and high added values.

9. Implementing Intelligent Identification Application Service

In order to assist the business service provider develop new business and new business model, the Department of Commerce has implemented the "Implementing Intelligent Identification Application Service Plan" in 2011 to encourage the intelligent identification technology (RFID, bar code, LBS and NFC), communication network (3G, WiMAX), etc., to be applied on vehicles and the environment, thereby transmitting various kinds of information accurately to the back-end for analysis and processing through the information network. The following guidance has been provided based on implementing the model on intelligent identification services, the intelligent identification model demonstration line, and the integration services platform of intelligent identification. The goal is to establish Taiwan as a leader in the Asia-Pacific area in intelligent application services and create an environment of intelligence identification demonstration and services.

10. Promoting the Servitization of Industrial Logistics

In FY2011, the Commerce Department, Ministry of Economic Affairs began implementation of the Plan for Promoting the Servitization of Industrial Logistics, with the aim of putting in place an integrated model whereby industry would drive the upgrading of Taiwan's logistics sector to provide support for industry's logistics activities. By concentrating on those areas where Taiwan has the potential to develop trans-national logistics models, the Plan seeks to achieve two goals: helping Taiwanese industry to achieve a global presence, and helping the logistics sector to servitize its operations. The main global logistics models on which the Plan focuses include: strengthening supply chain logistics with respect to raw materials and components; marketing operations with respect to finished products; business process outsourcing (BPO) service logistics; and the overseas operations of Taiwanese businesspeople. The aim is to strengthen the logistics management capabilities of Taiwanese enterprises, and to encourage Taiwanese logistics service providers to collaborate with Taiwanese companies' overseas expansion plans, thereby helping to create new business opportunities for Taiwanese firms in the areas of manufacturing/production, global shipment, the utilization of Taiwan-made components by overseas manufacturing operations, international distribution, value-added transshipment, and overseas expansion.

11. Optimizing Business Innovation and Network Development, and Developing New Market Opportunities

To encourage business service providers to develop new market opportunities and provide new value for consumers, the Department of Commerce, Ministry of Economic Affairs has been implementing the Plan for Optimizing Business Innovation and Network Development. Companies wishing to submit subsidy applications under the Plan must be business service providers which share information and communications technology (ICT) with their business partners, and must also conform to at least one of the following:

1. Be engaged in trans-national operational management, the establishment of overseas business locations, the integration and development of distribution channels, the provision of customer service or the implementation of marketing operations for the purpose of developing new market opportunities.

2. Be engaged in business model innovation, or the formation of strategic alliances (either with companies in the same industry or companies in other industries) for the purpose of developing a diversified service model, expanding an existing service model or enhancing overall competitiveness.
3. Be engaged in the development of innovative new services, the restructuring of inter-firm business processes, service process improvement, or the development, strengthening or integration of new knowledge sharing channels or marketing channels, for the purpose of enhancing service capabilities or the value provided to consumers.

12. Promoting Chinese-language E-Commerce

Taiwan's e-commerce sector has enormous development potential, deriving competitive advantage from its innovative business models, unique products, strong ICT capabilities, and the influence of Chinese culture on Taiwanese lifestyles. The Department of Commerce, Ministry of Economic Affairs therefore decided to implement the Chinese-language E-Commerce Plan, with the aim of promoting sales of Taiwan's products and virtual services in the global Ethnic Chinese Chinese language market. The Plan involves the provision of assistance to help Taiwanese companies solve the problems relating to money flow, distribution, product certification, etc. that they need to overcome in order to be able to develop the wider Chinese language market, and to help cultivate international e-commerce talent, thereby helping to build Taiwan into an "innovation laboratory" for e-commerce.

II Improving Quality and Management in SMEs

In addition to competing with advanced countries over quality, Taiwan also faces challenges from Southeast Asian economies on price. SMEs must change their business philosophy and improve on product quality and create an image of quality products (brands) in order to be able to move away from low-value production activities and upgrade and transform themselves to reclaim their core competitive capabilities by engaging in high-value activities such as R&D, design and brand marketing.

1. Upgrading SME Quality

In order to assist SMEs in carrying out the requirements of quality management systems, training high-quality management talents, and creating a new quality image for Taiwan's SMEs, the SMEA has continued to promote the "SME Quality Management Upgrade Project," including industrial guidance, personnel training and information transmitted. The industrial guidance portion includes: quality service diagnosis, general enterprise guidance, top-quality enterprise guidance, and industry cluster guidance. Personnel training includes: organizing quality management awareness and application promotion seminars; international certification series, business management quality series, key industry management practices, tourism and leisure services series and other online courses; tailor-made corporate internal training programs to meet the manpower development needs of SMEs. Quality information transmitted includes: international quality information introduction, international quality information seminar,

domestic and overseas good quality business model demonstration and promotion and activities for quality week.

2. Assisting High-value Industries to Improve Quality and Enhance Competitiveness

In order to help the SMEs of the country's high-value industries (e.g., machine tools and machinery components, textile industry) to improve their manufacturing processes, deepen their quality commitment and enhance their capacity for R&D and innovation, as well as to assist 2nd- and 3rd-tier SMEs to connect with 1st-tier system manufacturers and to strengthen their connectivity with system customers to provide a foundation for entry into the global supply chain procurement cycle, the SMEA has advanced the "High-value Industries Quality and Capability Enhancement Plan."

3. Raising Competitive Advantage for SMEs' Qualia

A vision of SMEA has been the creation of a high-end qualia image for SMEs as well as to raise their overall qualia image and create synergy to promote industrial cooperation. Hence the "SME Qualia Promotion Project" is aiming at shaping corporate attractiveness and characteristics, enhancing enterprise value, and creating an economy with its own style and features. The priorities of the project include: qualia business diagnosis, top-qualia enterprise guidance, personnel training, and qualia idea conveyance and promotion.

4. Promoting System Supply Chain Collaboration and Enhancing Supply Chain Value and Quality Performance

In order to promote substantive cooperation between SMEs and large enterprise supply chain systems and provide guidance on value enhancement demonstration systems to drive business opportunities and give SMEs a chance to upgrade their technological capabilities, the SMEA has implemented the "System Supply Chain Value and Quality Efficiency Enhancement Guidance Project."

The project consists of the following tasks: (1) establishing a common quality improvement manual for both enterprises and guidance consultants; (2) providing guidance proposals and solutions for SME operational excellence and sustainable development; (3) establishing a model system for providing guidance to encourage substantive cooperation and value enhancement between SMEs and large enterprise system supply chains; (4) conducting exchange and demonstration of model systems and model release.

5. Providing Guidance to SMEs in Response to the International Green Supply Chain

To help SMEs respond to international green product directives and the green procurement requirements of major international manufacturers, establish a capability for green supply chain management, effectively adapting to customers' green supply chains and creating green business opportunities, the SMEA has promoted the "SME Response to the International Green Supply Chain Guidance Project" with the following priorities:

1. Providing guidance to SMEs that have been affected by European Union (EU) directives on green products (WEEE, RoHS, EuP, ELV, GHG, REACH and customers' green procurement requirements).
2. Providing guidance to enterprises on compliance with green product standards and certification and on deepening their quality control technology in order to provide products with stable quality in the long term.
3. Providing guidance on green supply chain system models and propagating the supply chain of SMEs.
4. Implementing cases in new directive guidance models and compiling teaching materials on model cases for follow-up and expanded applications.
5. Organizing green supply chain management classes for instructors and auditors, and also green supply chain expert forums, workshops and seminars to promote related concepts and applications.

6. Providing Guidance to SMEs on Energy Conservation and Reduced Carbon Emissions

In order to provide guidance for SMEs on energy conservation and reduced carbon emissions as well as to enhance the capacity of SMEs to respond to changes and explore new business opportunities, a "Project for Energy Saving and Carbon Emissions Reduction Consulting for SMEs" has been initiated with the following key tasks:

1. Helping SMEs with diagnosis of their manufacturing equipment on energy efficiency, greenhouse gas emissions, green products, low-carbon production and other issues, and providing consultation and recommendations on improving production efficiency, carbon footprint and energy consumption.
2. Guidance for energy-saving technology and reduction management: in-depth guidance is based on the requirements from the SMEs which are demanded by the supply chain and clients.
3. Demonstration of guidance for industries: Combining industry associations, research cooperation, inspection departments and scholars, etc., and compiling teaching materials based on model cases for SMEs and larger-scale industries.
4. Cultivating green elites: Working together with management, materials and technology specialists to hold related seminars to provide assistance to SMEs in cultivating environment protection professionals, energy-saving technologists, production cleaners and measurement lecturers for energy-saving and carbon reduction.

7. Promoting Innovation and Integration Services for Knowledge-intensive Service-oriented Clusters

In order to promote the upgrading of industrial technology and knowledge and to utilize cluster-based guidance models to help enterprises upgrade and transform themselves and to enhance their competitiveness, the SMEA has launched the "Knowledge-intensive

Service-oriented Cluster Innovation and Integration Services Project." Specific measures of the program include the following:

1. Helping SMEs in the formation of clusters with and providing integrated guidance via skill, technology, knowledge innovation, and value added, to help cluster member companies innovate new product contents, services and business models and thereby increase industry value.
2. Assisting service-oriented SMEs in the formation of clusters with the advantages of international competitiveness, and to provide a comprehensive support program via technology, innovation, culture, knowledge, e-Commerce and referrals from an industry cluster's perspective to help cluster member companies form a cluster with a tight value chain consisting of high added-value products and a high knowledge-based economy.
3. Assisting manufacturing-oriented SME clusters, combined with knowledge service providers, in providing customer-oriented service and innovative models: e.g., R&D services (product planning and engineering technology) and logistics services (warehousing, inventory checking, one-stop shopping), creating a business model to increase profitability via a combination of simple manufacturing and added service value

8. Serving SMEs by Organizing Manufacturing Sector Energy Conservation and Carbon Reduction Service Teams

In order to carry out the environmental policies of the government, the Industrial Development Bureau (IDB) continues to administer the "Taiwan Industrial Greenhouse and Energy Reduction Services Corps," utilizing professional technical guidance capabilities to provide guidance work such as advisory services on environmentally friendly practices to factories in the manufacturing sector, diagnostic services for SMEs, efficiency testing for energy-consuming equipment, improvement plans on energy usage and carbon emissions, as well as tracking and review.

9. Assistance with Sustainable Development of Industries and Response to International Environmental Standards

To provide support to industry on an effective response to international environmental guidelines/standards, product environmental information disclosure, corporate social responsibility reports and other requirements, the IDB has launched the "Industrial Sustainable Development and Response to International Environmental Standards Guidance Project." Details of the program are as follows:

1. Guidance category/technical cooperation category: 1. Guidance on product eco-design systems; 2. Guidance on Environmental Product Declarations (EPD); 3. Establishment of Product Category Rules (PCR).
2. Advisory services category/technical tools category: 1. EU EuP / ErP directive advisory services; 2. International environmental guidelines/standards advisory services; 3. Advisory services on non-compliant product disclosure in Europe and North America; 4. Corporate Social Responsibility report advisory services; 5. Chemical substance information management tools; 6. Integrated product green procurement assessment tools.

10. Improving the Working Environment for SMEs

In order to reduce industrial occupational hazards in the country, the IDB has implemented the "SME Working Environment Improvement Project" with the following key tasks: (1) Basic technical guidance on working environment improvement. (2) Guidance on the industrial park safety and health mutual aid system (SHMAS). (3) Guidance on risk management. (4) Research on regulations and monitoring of international safety and health trends. (5) Other policy awareness promotions and campaigns.

11. Enhancing the Quality of Business Services and Promoting Healthy Business Development and Global Deployment

In order to enhance the quality of services provided by the wholesale and retail enterprises as well as their self-improvement capabilities, the Department of Commerce, MOEA, has implemented the "Business services quality enhancement 4-year program (2008-2011)" so as to promote the sound development of the overall business environment. The main focuses of the project include: (1) Environment development readiness; (2) Headquarters operations readiness; (3) Human resources readiness; (4) Brand platform readiness; (5) Service quality readiness.

III Providing Technology Upgrading Assistance to SMEs

1. Providing Guidance on Real-time Technology to SMEs

In order to help SMEs upgrade and transform, the IDB has implemented the "Project for SME Real-time Technology Guidance" by utilizing existing mature technological capabilities of the corporate world, academic community and technical services industry to provide R&D, design, production, logistics, automation and electronic technologies necessary for upgrading the industry and to provide real-time, small scale, short-term technical guidance, so that the technology levels of SMEs can be upgraded and their competitiveness enhanced.

Unlike other long-term or large-scale research and development subsidy plans, the "Project for SME Real-time Technology Guidance" aims to provide small subsidies, in which the government is responsible for 80% of the funding to reduce the financial burden on industry. It is hoped that through the mature technologies and capabilities of the supporting institutions, the technological level of SMEs can be upgraded rapidly, and assistance can be provided to domestic SMEs to carry out comprehensive technology upgrading or transformation through expansion from only a few points initially.

In each individual guidance case, the company must secure at least 20% of the project's total costs, and the amount of the government subsidy is limited to a maximum of NT$200,000. For industries that are most vulnerable to the impact of free trade agreements such as the Economic Cooperation Framework Agreement (ECFA), each company under the project's guidance will be required to assume at least 5% of the project's total costs, with the government subsidy subject to a maximum of NT$237,500.

2. Providing Production and Sales Guidance for the Forestry Industry, and Helping the Industry to Transform and Upgrade Itself

The Forestry Bureau, Council of Agriculture, Executive Yuan has been implementing a Forestry Industry Production and Sales Guidance Plan, encompassing the development of innovative applications for domestic timber and bamboo, the development of new technology, and the provision of guidance to individual firms, while also providing subsidies to help county and city governments implement forestry production and sales promotion activities, and providing guidance and assistance to help forestry-related companies attend specialist international exhibitions (including construction materials exhibitions and food products exhibitions), with the overall goal of helping the forestry industry to upgrade and transform itself. The work tasks for 2010 included: (1) Development of innovative bamboo products manufacturing technology, with applications in both the food and textiles sector and the hi-tech sector. (2) Establishment of a CAS production and sales traceability and certification information system with respect to bamboo charcoal products. (3) Adoption of international certification to improve bamboo charcoal product quality management. (4) Formation of industry cluster alliances to develop emerging markets.

IV Enhancing SME Research and Development Capabilities

In order to encourage businesses to invest in R&D to enhance core strengths in international competition, the Ministry of Economic Affairs has offered many guidance measures and funding sources for innovative R&D, including the six major projects: Small Business Innovation Research Program (SBIR), Industrial Technology Development Program (ITDP), Innovative Technology Application & Service (ITAS) Program, Conventional Industry Technology Development (CITD), Leading Product Development Guidance Project, and the Assist Service Sector Technology Development Guidance Project. These are expected to increase the input of R&D, upgrade the industry and improve the competitiveness of the country. In the following paragraphs the purposes and guidance tasks of the six major projects will be explained further.

1. Small Business Innovation Research Program (SBIR)

To encourage and assist domestic SMEs to engage in active technology research and innovation or product development, the Small Business Innovation Research (SBIR) program has been launched in accordance with the “Incentive Schemes for Enterprises to Develop Industrial Technologies, MOEA.” Through grants and subsidies provided by SBIR, the risks and costs borne by SMEs engaging in innovation and R&D activities will be reduced. The program encourages SMEs to carry out active innovation and helps to expand private-sector investment in R&D so that the results and achievements will help the country further its economic development.

In order to help SMEs in industries that are oriented towards the domestic market, uncompetitive, or vulnerable to the impact of trade liberalization to upgrade and transform

themselves, the Ministry of Economic Affairs decided to include “technology upgrading and transformation” within the scope of “innovative technology” for the purposes of the Small Business Innovation Research (SBIR) program, to adopt a dedicated subsidy application format, application review standards and application review procedures, and to increase approved subsidy size by 15% (while ensuring that the overall cost of funding the program remains unchanged). The aim of these measures is to help SMEs overcome the problems that they may otherwise experience when trying to secure financing. In May 2010, the government began to accept applications from SMEs in 16 industries that are being negatively affected by the impact of trade liberalization: the ceramics industry, footwear manufacturing, wood and bamboo products manufacturing, agrochemicals manufacturing, garment manufacturing, bedding products manufacturing, the packaging materials industry, swimwear manufacturing, hosiery manufacturing, towel manufacturing, the stone materials industry, the lingerie industry, the woolen garments industry, home appliance manufacturing, the veterinary pharmaceuticals industry, and the pesticide manufacturing industry. As of the end of 2010, a total of 103 subsidy applications had been approved; the subsidies granted totaled NT$160,738,000, and led to a further investment in R&D of NT$309,528,000 by the SMEs concerned (with a combined total of 976 R&D personnel involved).

From the inception of the SBIR program in 1999 until June 2010, a total of 3,869 cases of innovation and R&D projects were approved and implemented, with government subsidies exceeding NT$7.8 billion and over NT$14.7 billion in private-sector investments. This has been instrumental in enhancing the technological capabilities of SMEs in this country and improving the industry’s competitiveness, as well as in providing assistance on upgrading and transformation to conventional industries.

2. Industrial Technology Development Program (ITDP)

To encourage enterprises to engage in technical innovation and research in applications, and to help enterprises build research capacity and institutions, nurture and utilize technology talents, as well as to foster exchange and collaboration between the industry, academia and research communities, the MOEA launched the “Industrial Technology Development Project” in 1999.

Since February 1999, when the project was first introduced, enterprises have been very enthusiastic in submitting applications. As of the end of 2010, a total of 687 projects had been approved out of 1,476 submitted applications, with 1,135 enterprises participating. (Table 9-4-2)

Table 9-4-2 Industrial Technology Development Program Implementation Performance

Unit: No. of projects; No. of enterprises; NT$

Item	2007	2008	2009	2010	1999-2010
No. of projects	64	60	87	103	687
No. of manufacturers	117	101	136	190	1,135
Total funding	3,711,547	3,283,720	4,690,017	5,796,572	56,240,465
Total subsidies	1,170,426	1,128,257	1,901,380	2,269,483	16,975,839

Source: Industrial Technology Development Program website at http://innovation1.tdp.org.tw.

Aspects of technological development cover the following fields: communications and optoelectronics (electronics and IT), machinery and aerospace, as well as materials, chemical

engineering, biotechnology and pharmaceuticals. As of December 2010, a total of 1,135 enterprises had been granted subsidies, of which 452 were SMEs (39.82%), which shows that technology programs have provided effective guidance for domestic SMEs on technological innovation and applied research.

Human talent is the foundation of technology development. The project has contributed to the increase in the number of domestic and overseas R&D personnel with advanced graduate degrees, the securing of national defense reserve officers, and the improvement of the R&D environment, as well as enhancing the training of R&D personnel. When submitted projects are being reviewed, the enterprises submitting the proposals are required to recruit additional high-level talent in relevant fields.

In the past four years, R&D personnel invested in by the ITDP has approached the 8,938 mark. The number of R&D individuals with advanced academic degrees (PhD and Master's degrees) totals 3,723, accounting for 41.65% of the total number of R&D personnel in all projects. The proportion of individuals with advanced degrees also exhibits an upward trend, which shows that the recruitment of top talent into the technology R&D industry has been effective and the scheme has been instrumental in enhancing the quality of R&D personnel in enterprises.

3. Innovative Technology Application & Service (ITAS)

Since 2008 the Ministry of Economic Affairs has been in support of the "twin engines" economic development requirements of high-value manufacturing and knowledge-oriented services and has launched the Innovative Technology Application & Service project in order to promote industry upgrading, enhance industrial value and encourage enterprises to engage in innovation and applications research, or to engage in the development of applications and services with technological content and implication, thus creating innovative business models.

The major themes of the Project in 2010 include: (1) promoting cross-sector system integration; (2) manufacturing and service promotion; (3) digital content and design information application promotion; (4) device service-based policy items; and (5) healthcare innovative service policy items.

From the Project's inception in 1999 to the end of 2010, a total of 383 projects have been approved out of 783 submitted applications, with 487 enterprises participating, of which 24% or 119 are SMEs.

4. Conventional Industry Technology Development (CITD)

"Conventional Industry Technology Development" is a government-funded program that provides enterprises with R&D subsidies which are used to encourage conventional industries to develop new products and new technologies to expand service offerings and make R&D endeavors more prevalent in conventional industries. The features of the program include:

1. New product development: the target under guidance should exceed those of other companies within the industry in terms of technological level.
2. Maximum subsidy of 50%.

3. Product development: maximum amount subsidized per case is NT$2 million.
4. Product design: maximum amount subsidized per case is NT$500,000.
5. R&D alliance: 1. maximum amount subsidized per case is NT$10 million; 2. maximum amount granted is NT$2.5 million to the leading enterprise and NT$2 million each for other individual companies.

5. Leading Product Development Guidance Project

The “Leading Product Development Guidance Project” promoted by the IDB aims to encourage enterprises with R&D potential to actively engage in the development of leading products and new products. Development projects that have been reviewed and approved will receive government subsidies (not exceeding 50% of the total project funding) so that the R&D risks faced by enterprises can be shared. Since May 1, 2011, the “Leading Product Development Guidance Project” has no longer been implemented.

6. The Market Application Development Subsidy Plan

The Market Application Development Subsidy Plan is being implemented to encourage business enterprises to develop innovative applications, integrated products and services that can create market value, using subsidies to speed up commercialization-directed R&D and enable companies to secure first-mover advantage, thereby creating new jobs, boosting exports and stimulating economic growth. Application is open to R&D plans that are aimed at new product commercialization, ramping up to volume production or new product launch, and which, through the integration of new product and service models, can contribute to the development of particular market niches and help Taiwan establish itself as a leading center for product innovation and R&D.

R&D funding is available for three stages: new product or service strategy planning (including market demand surveys), R&D and development (including application research and product development, a required item), and market testing and trial production. The idea is to support the development of product and services R&D plans (including innovative applications, the integration of products and services, and value-added business models) with the potential to create market value, and to complete the process of commercialization, ramping up to volume production, or product launch. The amount of subsidy granted may not exceed 50% of the total cost of the R&D project, and the project implementation period may not exceed two years.

7. The Digital Content Industry Development Subsidy Plan

The Digital Content Industry Development Subsidy Plan has been formulated in order to promote the development of the digital content industry, enhance the industry’s value creation, provide encouragement for innovative R&D and application development, and contribute to the development of related applications, services and business models, through the provision of subsidies. The scope of subsidy provision includes digital content industry innovative product development and application service development (including “thematic,” story-based local digital

content products, applications and services). The amount of subsidy available is capped at 50% of the total cost of project implementation.

8. Assist Service Sector Innovation and R&D Program

In order to foster the development of the commercial services industry and encourage enterprises to engage in research on "new service products," "new business model" and "new marketing models" or the development of "new business application technologies," the Department of Commerce has initiated the "Assist Service Sector" program to provide case-based subsidies, thus facilitating the introduction of new aspects and categories of business activities and enhancing the core competitiveness of the industry, while increasing its added value and creating a competitive advantage.

9. Provision of Subsidies for Agricultural Technology Development and for Brand Development and the Development of Innovative Business Models in the Agricultural Sector

To encourage business enterprises in the agricultural sector to invest in R&D and in the commercialization of technology-intensive products, in 2007 the Council of Agriculture began to accept applications from agricultural firms under the Agricultural Sector Technology R&D Subsidy Plan, with the aim of reducing the level of risk that agricultural sector enterprises are exposed to when they engage in R&D, thereby speeding up the commercialization of new technology and the enhancement of the overall competitiveness of the agricultural sector as a whole. Subsidy applicants must be agricultural sector enterprises engaged in the development of key agricultural technologies, agricultural brand development, the development of innovative new business models, or other R&D-related activities that can contribute to enhancing the innovation capability of the agricultural sector. The amount of the subsidy available is capped at 50% of the total cost of project implementation.

10. Provision of Subsidies for Agricultural Biotech Parks and Agricultural Biotech R&D and Technology and Product Commercialization

Given the trend towards the evolution of agriculture into a knowledge-intensive industry, business enterprises in the agricultural sector need to be undertaking R&D on an ongoing basis in order to create higher levels of value-added. In accordance with the provisions of Item 3, Paragraph 1, Article 7 of the *Statute for the Establishment and Management of Agricultural Technology Science-based Parks*, the Agricultural Biotechnology Park Administration, Council for Agriculture, Executive Yuan (hereafter referred to as "the Administration") has formulated the "Key Points Regarding Subsidies for the Promotion of R&D Among Enterprises Located in Agricultural Biotechnology Parks," with the aim of reducing the risk that firms located in Agricultural Biotechnology Parks are required to bear when they undertake R&D, encourage investment in R&D and the commercialization of new products and technologies, and bring about a gradual improvement in core technologies so as to enhance the global competitiveness of Taiwan's agricultural sector. The amount of the

subsidy available is capped at 50% of the total cost of project implementation, and at a maximum of NT$1 million per project.

11. Provision of Guidance to Firms Located in Agricultural Biotechnology Parks, to Strengthen Collaboration between the Agricultural Sector and Universities, thereby Enhancing the Competitiveness of the Agricultural Sector

The Council of Agriculture, Executive Yuan is implementing the Plan to Enhance the Competitiveness of the Agricultural Sector by Providing Guidance for Firms Located in Agricultural Biotechnology Parks to Strengthen Collaboration between the Agricultural and University Sectors, with the aim of helping those agricultural sector enterprises that have located themselves in Agricultural Biotechnology Parks to overcome obstacles related to technology, R&D, product development strategy, manpower cultivation, and access to technology services, by means of establishing a business matching platform that will help agricultural enterprises to make use of the R&D capabilities of Taiwan's universities and colleges, thereby helping firms located in Agricultural Biotechnology Parks to strengthen their competitiveness through collaboration with universities. The Plan involves integrating the technology development and R&D capabilities of 40 universities and research institutes, and the provision (free of charge) of tailor-made collaborative services to firms located in Agricultural Biotechnology Parks; the Plan will thus help agricultural enterprises to keep R&D costs down, reduce the time required to complete R&D projects, and put in place a strong support network for innovation and R&D activity by firms located in the Parks, thereby helping to strengthen the Agricultural Biotechnology Park industry cluster effect.

CHAPTER 10

Providing SME Financing and Investment Capabilities

SMEs generally find it difficult to obtain funding from the capital markets because of their small size, operational weaknesses, and lack of financial transparency; in addition, SMEs often lack assets that can be used as collateral. Currently, many SMEs in Taiwan possess unique technology and innovative products, but because most venture capital providers in Taiwan are focused on high-tech companies, the vast majority of SME owners still find it difficult to obtain financing. This situation has a direct negative impact on the SMEs' ability to grow; there is a clear need for the government to provide more in the way of financing guidance and credit guarantees.

The government should be working actively to establish effective financing guidance mechanisms. Besides encouraging SMEs to make use of the various types of policy loan that are available from the government, establishing "SME Financing Service Windows" at major banks to give SMEs better access to financing information, and encouraging SMEs to make full use of the various low-interest loan schemes that the government provides, the government should also be using the SME financing guidance system and the SME Troubleshooting Center to provide various types of guidance and information, to help SMEs with requests for emergency assistance, and to provide consulting services. In addition, the government should also arrange for financial institutions to provide financing help for SMEs that are experiencing financial difficulties, help SMEs to establish sound financial and accounting systems and to enhance their financial management capabilities, and use the SME Credit Guarantee Fund to provide credit guarantees, thereby increasing banks' willingness to extend loans to SMEs; this could be supported by investment in SME startup incubation, to help newly-established SMEs obtain the working capital they need.

In order to provide comprehensive assistance for SME development, and achieve a further strengthening of financing channels, the Ministry of Economic Affairs has also been working actively to provide innovative new value-added services with respect to SME credit guarantees, investment and guidance, including: helping SMEs to make effective use of their intellectual property to obtain financing, arranging the provision of direct credit guarantees by the SME Credit Guarantee Fund, providing assistance for business startup, launching the Phoenix loan scheme for micro-enterprises, using the Firefly mutual guarantee scheme to help SMEs in the upstream, midstream and downstream segments of particular industries to obtain loans at preferential interest rates, and organizing SME investment plans, etc., thereby giving SMEs a wider range of financing channels to choose from. In 2010-2011, the measures described in the following sections were implemented to strengthen SME financing and investment capabilities.

I Providing Financing Service and Assistance

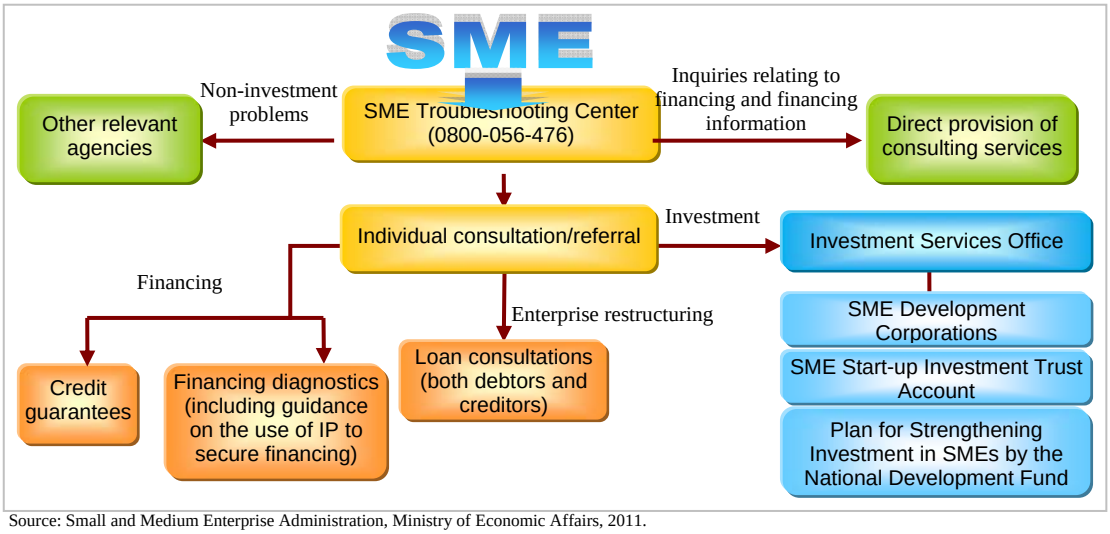
1. Establishment of the SME Financing Service Contact Windows, to Provide Investment and Financing Consulting Services

To help provide SME owners and managers with the financing information they need, and to expand the range of financing service channels available to SMEs, the SMEA has arranged for the establishment of SME Financing Service Contact Windows in the branches of major financial institutions. These Contact Windows provide inquiry and consulting services related to financing guarantees, investment and financial management. In all, 34 banks have established SME Financing Service Contact Windows. SMEs can use the Contact Windows to obtain comprehensive financial information, and to find out about the various types of low-interest loan that the government makes available to SMEs, thereby helping to solve SMEs' financing problems.

2. The SME Troubleshooting Centers – Providing Finance and Financing Consultation and Assistance

The SMEA has established the SME Troubleshooting Centers to provide SMEs with consulting services in line with their individual needs. The SME Troubleshooting Centers provide assistance in a wide range of areas, including financing diagnostics and consulting, and consultation, referral and guidance, etc., regarding loans (for both borrowers and creditors). The consultation mechanisms are outlined in Figure 10-1-1.

Figure 10-1-1 Finance and Financing Consultation Mechanism



Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs, 2011.

3. Integrating the Various Financing Services Organizations through the Establishment of a Financing Services Team

The Small and Medium Enterprise Administration, Ministry of Economic Affairs (MOEA) has established a Financing Services Team. Working through the SME Financing Guidance

Platform, the Team helps SMEs to put in place suitable accounting systems, so as to improve their financial structure, which in turn will make it easier for SMEs to obtain the working capital financing they need, thereby enhancing their competitiveness. The main services provided by the Financing Services Team include: (1) Provision of consulting services related to financial, accounting and financing problems, business plans, before SMEs submit loan applications, and provision of on-site consulting and guidance services related to financial management, and internal controls; (2) Provision of guidance to help banks monitor the status of loans granted to SMEs.

4. Helping SMEs to Use Their Intellectual Property to Obtain Financing

The special characteristics of intellectual property – including the fact that its value is difficult to measure and tends to fluctuate, and the relative difficulty of realizing the value of the intellectual property – have created a situation where financial institutions tend to be reluctant to accept intellectual property as collateral for loans. The Plan for Promoting the Use of Intellectual Property by SMEs to Obtain Financing has been formulated to help knowledge-intensive enterprises make effective use of their intellectual property to obtain the funding they need, with government guidance services and matching platforms being used to enhance enterprises' competitiveness and their ability to commercialize new products, while at the same time integrating the operations of the SME Credit Guarantee Fund to help reduce the credit risk that financial institutions are required to bear, thereby increasing financial institutions' willingness to extend credit to SMEs. The Plan's service content is as follows: (1) Supporting the diffusion of information related to the use of intellectual property for financing purposes; (2) Providing intellectual property management guidance; (3) Providing financial and accounting diagnostic and guidance services; (4) Providing technology visits guidance service; and (5) Providing enterprises with case studies and finding matching consultancy services.

II SME Financing and Credit Guarantees

As a rule, SMEs find it more difficult than large enterprises to secure working capital loans from financial institutions. The government has worked actively to encourage SMEs to apply for various categories of special loans, thereby helping to expand the range of financing channels available to SMEs, and has worked closely with the SME credit guarantee fund to provide SMEs with financing diagnostics and credit guarantees, in an effort to help resolve SMEs' funding difficulties.

1. Setting up the SME Financing Services Platform to Help SMEs Secure Financing

At a meeting of the SME Development Fund Managing Committee held in April 2008, the Committee approved the disbursal of NT$5 million from the SME Development Fund (along with an additional NT$5 million each from five banks – Taiwan Cooperative Bank, First Commercial Bank, Taiwan Business Bank, E.Sun Bank and Chinatrust Commercial Bank – for a total investment of NT$30 million) to establish an SME Financing Services Platform to make

it easier for SMEs to secure bank loans by providing clear, transparent details about SME operations that banks can use as a basis for decision-making when determining whether to grant loans to SMEs. If banks have a clearer picture of the business models that SMEs are using and of what their funding needs are, they are more likely to expand the provision of loans to SMEs, creating a win-win situation for SMEs (which often find it difficult to secure working capital), banks, and the government, which is seeking to provide active support to help SMEs achieve steady growth. The SME Financing Services Platform formally commenced operations on April 1, 2009.

2. Using Policy Loans to Help SMEs Obtain Financing for Special Projects

The government provides SMEs with various types of policy loans, either directly or through collaboration with banks. What distinguishes these loans from ordinary loans is that the loans are granted for specific purposes, and have preferential interest rates. Altogether, 24 different types of loan are available in 11 categories: SME upgrading loans, loans for the purchase of production equipment, business start-up loans, R&D loans, tourism development loans, export and overseas investment loans, recovery loans, small-value loans, international patent dispute loans, distribution services loans, and loans for entrepreneurs who have returned to Taiwan from overseas.

3. Implementation of the Fifth Stage of the Plan for Increasing Loans to SMEs by Domestic Banks

On July 1, 2005, the Financial Supervisory Commission (FSC) launched the Plan for Increasing Loans to SMEs by Domestic Banks, with the aim of helping SMEs to secure working capital loans by strengthening the banks' role as intermediaries; the target was to boost provision of loans to SMEs by at least NT$200 million per annum. To encourage the development of a long-term partnership relationship between SMEs and banks, and thus help SMEs to obtain working capital, the FSC decided that implementation of the Plan for Increasing Loans to SMEs by Domestic Banks should continue into a Fifth Stage (from January 1, 2010 to December 31, 2010). As of the end of December 2010, the total value of outstanding loans to SMEs by domestic banks stood at NT$3,676.5 billion, representing an increase of NT$472.2 billion (14.74%) compared to 2009. The SME Credit Guarantee Fund has provided support by offering credit guarantees that cover 50 – 90% of the total value of the loan.

To continue to create an environment conducive to smooth access to financing for SMEs, in 2011 the FSC has already begun implementation of a Sixth Stage of the Plan for Increasing Loans to SMEs by Domestic Banks. Special incentive measures are being used to encourage banks to increase loans to SMEs (while still maintaining appropriate risk control). The annual target has been set at NT$200 billion.

4. Provision of Credit Guarantees by the SME Credit Guarantee Fund

To help strengthen the provision of credit guarantees to SMEs, the government established the SME Credit Guarantee Fund in 1974. More recently, as part of the government's efforts to

ensure that the operation of the credit guarantee system and industry guidance system conform to the needs of the government's industrial policy (thereby facilitating effective policy implementation), on May 15, 2003 the Executive Yuan approved the replacement of the Ministry of Finance by the Ministry of Economic Affairs as the regulatory authority with oversight over the SME Credit Guarantee Fund; from this point on, the SME Credit Guarantee Fund was able to provide both direct and indirect credit guarantees.

(1) The Principles That Underlie the SME Credit Guarantee Fund's Operations, the Fund's Functions and Its Evolution over Time

The main purpose that the SME Credit Guarantee Fund was established to fulfill was to provide credit guarantees to SMEs, and to work closely with financial institutions in the development of financing guidance services for SMEs, helping SMEs to obtain the funding they need from financial institutions and thereby contributing to the healthy development of Taiwan's SME sector and promoting Taiwan's economic growth and social stability.

The SME Credit Guarantee Fund's main functions are as follows: (1) To implement the government's SME guidance policy, helping SMEs to overcome the difficulties that they experience when trying to provide the collateral needed to secure loans. (2) To make financial institutions more willing to provide loans to SMEs. (3) To maximize the efficacy of guidance projects undertaken by other SME guidance organizations.

(2) Expanding the Scope of Credit Guarantee Operations in Line with the Requirements of Government Policy

Besides undertaking regular SME credit guarantee operations, the SME Credit Guarantee Fund also collaborates with government policy implementation by providing a range of other credit guarantee services. As of the end of March 2011, the Fund was providing the following types of credit guarantee to meet the needs of various government policy initiatives (Table 10-2-1).

(3) Latest SME Credit Guarantees

Over the years, the SME Credit Guarantee Fund has been vigorous in its implementation of credit guarantee services in accordance with the government's SME guidance policy. In the last few years, the Fund has introduced a range of innovative new services in line with the changes in the financial environment and in customer needs.

1. Direct Credit Guarantees

In line with government policy regarding industrial development and the strengthening of SME financing, SMEs with significant R&D, operational or market development potential may now apply directly to the SME Credit Guarantee Fund for credit guarantees, which they can then use to secure financing from financial institutions. Over the period from 2004 to June 2011, a total of 1,030 direct credit guarantees were provided, with a combined value of NT$17,436 million, enabling the enterprises concerned to obtain financing that totaled NT$22,308 million.

Table 10-2-1 The Types of Credit Guarantees

Type of Credit Guarantee	Starting date	Name
Credit Guarantees for Entrepreneur Loans	October 1986	Credit Guarantees for Young Entrepreneur Loans
	May 2007	Credit Guarantees for Firefly Counterpart Guarantee Loans (merged with Micro-enterprise Start-up Loans)
	February 2008	Credit Guarantees for Firefly Counterpart Guarantee Fund Loans for People Who Have Been in Care
	February 2009	Credit Guarantees for New Taipei City Government's "Happy Start-up" Low-interest Loan Program
	August 2010	Credit Guarantees for Start-up Loans for the Jobless Based on Employment Insurance
	June 2011	Credit Guarantees for Taipei City Young Entrepreneur Financing Loans
Credit Guarantees for Firefly Counterpart Loans	January 2009	Credit Guarantees for Kaohsiung City Government's "Little Giants" Business Loans
	April 2009	Credit Guarantees for Taipei City SME Financing Loans
	June 2010	Credit Guarantees for SME Strategic and Innovative Financing Loans
	December 2009	Credit Guarantees for Travel Industry Loans
Credit Guarantees for Areas Damaged in Natural Disasters Loans	May 2006	Credit Guarantees for Disaster Recovery Loans
	October 2008	Credit Guarantees for Loans to Repair Buildings Damaged in Natural Disasters
	September 2009	Credit Guarantees for Home Repair Loans for Households Affected by Typhoon Morakot
	September 2009	Credit Guarantees for Loans for Enterprises Affected by Typhoon Morakot
	December 2009	Credit Guarantees for Loans to Tourism Industry Enterprises Affected by Typhoon Morakot
Credit Guarantees for Specific Industry Loans	February 2007	Credit Guarantees for Low-interest Loans for Film and TV Content Production
	May 2010	Credit Guarantees for Loans for Key Service Industries
	July 2010	Credit Guarantees for Loans to Help Industries Affected by Trade Liberalization to Upgrade and Transform
	November 2010	Credit Guarantees for Loans for Sports and Service Industry
	April 2011	Credit Guarantees for Low-interest Loans for Cultural and Creative Industry
Credit Guarantees for Boosting Employment Financing Loans	May 2010	Credit Guarantees for Small Retailer Loans
	July 2010	Credit Guarantees for SME New Business Start-ups
Other Credit Guarantees	October 1990	Credit Guarantees for Brand Development Loans
	July 2005	Credit Guarantees for Loans to Help Taiwanese Enterprises Fight International Patent Lawsuits Lawsuits
	January 2006	Credit Guarantees for Loans to Help SMEs Invest in Countries with Which Taiwan has Diplomatic Relations
	April 2011	Credit Guarantees for Innovation or R&D Loans for Industrial Upgrading

2. Credit Guarantees for Firefly Counterpart Guarantee Fund Loans

In March 2006, the SME Credit Guarantee Fund launched the Firefly Counterpart Guarantee Fund (FCGF) loan scheme, whereby leading enterprises would make donations that would be matched by equivalent funding from the SME Credit Guarantee Fund to provide credit guarantees for the leading enterprises' suppliers, customers, partner companies, distributors, and/or franchisees, thereby helping to ensure recovery of receivables, and providing encouragement for investment in innovation, R&D, activities that can boost product value-added,

and industrial upgrading. Well-known companies that have made donations under this scheme include China Steel, Chunghwa Telecom, New Land Developers Group, etc.

As of June 2011 a total of 10,687 credit guarantees had been provided under the FCGF scheme, with a combined value of NT$8,868 million, enabling the enterprises concerned to secure loans to the value of NT$9,441 million.

3. Batch-type Credit Guarantees

In order to help meet the needs of industrial development, and in response to the adoption of more diversified, more innovative product portfolios and loan policies by financial institutions, in January 2004 the SME Credit Guarantee Fund began providing batch-type credit guarantees that cover 100% of the value of a loan. To encourage financial institutions to make use of this facility, bank headquarters were allowed to apply to the SME Credit Guarantee Fund to undertake batch-type credit guarantee operations in line with their own management philosophy, and in accordance with their own regulations regarding loan purposes, loan size, loan repayment period, repayment method, etc., thereby creating innovative new channels of SME financing. Since the commencement of this program in June 2011, a total of 123,036 credit guarantees have been granted, with a combined value of NT$498,622 million, enabling SMEs to obtain loans worth NT$498,997 million.

4. Supply Chain Financing

To strengthen the collaborative relationship between the “center firms” of center-satellite systems and their upstream and downstream partner companies, while helping SMEs that serve as upstream or downstream “satellite” partner companies to strengthen their overall ability to secure financing, thereby strengthening the competitiveness of entire supply chains, implementation of the Supply Chain Loan Guarantees program began on a trial basis in March 2011. This program covers Supplier Accounts Receivable Loan Guarantees and Distributor Accounts Payable Loan Guarantees. During the trial period, the SME Credit Guarantee Fund is endeavoring to conform to the operational requirements of the banks that are collaborating on the project. Currently, only Supplier Accounts Receivable Loans Guarantees are being provided; the content of the program may be adjusted in the future depending on the results achieved in the pilot project and on actual market needs.

5. Speeded-up Subrogation – The Batch Agreement Subrogation Rate Plan

In line with the government’s policy of providing support for SMEs, since 2007 the SME Credit Guarantee Fund has adopted a new approach to subrogation that emphasizes analysis of relative importance, streamlined efficiency and the establishment of clear rules regarding auditing scope, to speed up the handling of subrogation cases and enhance subrogation efficiency (with respect to those cases where the extent of subrogation risk has already been clarified, and without putting the interests of the SME Credit Guarantee Fund at risk). It is anticipated that this will help to make financial institutions more willing to undertake SME credit guarantee business, thereby helping more SMEs to secure financing. The Fund is already continuing with the implementation of the Batch Agreement Subrogation Rate Plan (Stage Five); most of the

participating banks have expressed approval of the scheme, and have suggested that implementation of this program should be continued.

(4) Implementation by the SME Credit Guarantee Fund of the "Golden Lever" Project and Plan for Promoting Employment through Credit Guarantees

To help business enterprises cope with the recent changes in the economic climate, the Ministry of Economic Affairs has been leveraging the SME credit guarantee mechanism to make it easier for SMEs (which tend to suffer from a lack of resources) to obtain working capital loans, in line with the government's "Three Supports" policy (whereby the government supports the banks, the banks support business enterprises, and business enterprises support their employees). The "SME Credit Guarantee Fund Golden Lever Project" incorporates an expanded range of credit guarantee measures, including a raising of the max. guarantee coverage percentage, increasing the total amount of funding available for the provision of credit guarantees, increasing the maximum amount of credit guarantees available per enterprise, a raising of the standard subrogation rate for batch-type credit guarantees, and a reduction in credit guarantee handling fees. From late 2008, when implementation of the Project began, to the end of December 2009, a total of 248,371 credit guarantees were granted, worth a total of NT$462 billion, which enabled SMEs to obtain loans worth NT$613.1 billion. The Project has thus made a significant contribution towards combating the impact of the unfavorable business climate, and helping to mitigate the effects that the combination of a global financial crisis and economic downturn have had on SMEs.

To provide continued support for the implementation of the government's Economic Revitalization and Employment Promotion Policy Measures, helping business enterprises to obtain the working capital funding they need from financial institutions (thereby protecting existing jobs, and also creating new jobs), after reviewing the results achieved in the SME Credit Guarantee Fund Golden Lever Project, in 2010 it was proposed that a new Plan for Promoting Employment through Credit Guarantees should be implemented. While maintaining the original measures of the Golden Lever Project to provide smoother access to credit, this new scheme also brings business start-up loans within the scope of credit guarantee provision, freeing new start-ups from the requirement that credit guarantee recipients must have been in business continuously for a specified period of years. There is also a reduction in the charge rates for credit guarantees, etc. for those enterprises that achieve significant results in job protection and job creation. In 2011, it was decided that, to continue the provision of support for the government's employment creation policy, while at the same time taking into account the risks applying to SME financing and credit guarantees, a revised version of this program would be implemented up until December 31, 2011.The key results achieved are as follows:

1. Raising the max. guarantee coverage percentage, to encourage banks to make more credit guarantee referrals

Implementation of the SME Plan for Promoting Employment through Credit Guarantees began in January 2010. In fiscal 2010, the credit guarantee coverage percentage rose to 77.0% for

special project credit guarantees, and to 76.7% for credit guarantees obtained through financial institutions, up from 64.4% and 60.1%, respectively, in fiscal 2008.

2. The total funding that enterprises were able to obtain through the use of credit guarantees rose to its highest level in 36 years

Over the period from January to December 2010, the monthly total amount of funding that enterprises were able to secure using credit guarantees provided by the SME Credit Guarantee Fund exceeded NT$842 billion; in December 2010, the monthly amount reached NT$86 billion, the highest monthly total for any single month ever recorded in the 36 years that the SME Credit Guarantee Fund has been in existence.

3. Strengthening Financial Institutions' Willingness to Provide Loans, So That They Can Help Enterprises to Combat the Negative Effects of the Business Cycle

After bottoming out in late April 2009, the overall size of the credit guarantees provided to business enterprises by the SME Credit Guarantee Fund has begun to rise again. Total outstanding loans to SMEs by domestic banks began to rise again in late August 2009, indicating that the credit guarantees provided by the SME Credit Guarantee Fund have contributed to easing SMEs' financing difficulties.

4. Keeping the Number of New Past-due Loans under Control through Careful Management of Credit Guarantee Risk

The new past-due loans rate fell from 2.03% in 2009 to 0.96% in 2010, and by the end of June 2011 it had declined still further to a historic low of 0.85%. It can thus be seen that, while the volume of credit guarantees granted has been growing steadily, there has been no corresponding rise in the incidence of new past-due loans; the measures adopted to improve risk management have thus already begun to bear fruit.

(5) Establishment of the SME Credit Guarantee Fund College, and Torchbearer Fund of Guidance and Assistance, and Other Guidance Mechanisms

The SME Credit Guarantee Fund College and the Torchbearer Fund of Guidance and Assistance were established by the SME Credit Guarantee Fund as part of its efforts to create a comprehensive guidance mechanism framework. The idea is that, through the operation of these two mechanisms, besides providing credit guarantees the SME Credit Guarantee Fund will also be contributing to the exchange of knowledge and experience, thereby helping to raise the competitiveness of Taiwan's SMEs and improve their risk management and financial management capabilities.

1. The SME Credit Guarantee Fund College

Set up in July 2005, the SME Credit Guarantee Fund College currently comprises three platforms: the SME Credit Guarantee Fund College Forum, the SME Credit Guarantee Fund College Lectures, and the SME Credit Guarantee Fund College Courses. The SME Credit Guarantee Fund College Forum provides a venue for the exchange of ideas and knowledge between SMEs, successful entrepreneurs and academics; the SME Credit Guarantee Fund College Lectures provide an opportunity for sharing management knowledge and experience,

and the SME Credit Guarantee Fund College Courses give SMEs' financial managers the opportunity to discuss case studies, and to take advanced courses in risk management and financial management.

2. The Torchbearer Fund of Guidance and Assistance

The Torchbearer Fund of Guidance and Assistance was created to give full play to the Torchbearer spirit and allow the SME Credit Guarantee Fund College to operate at maximum efficiency. Using donations provided by enterprises that received credit guarantees from the SME Credit Guarantee Fund in the past and have since secured stock market or OTC listing, and from financial institutions that have signed agreements with the SME Credit Guarantee Fund, the Torchbearer Fund of Guidance and Assistance enables SMEs to obtain guidance for specialist guidance organizations, thereby helping to strengthen their financial and accounting systems, improve their operational capabilities and enhance their competitiveness, while at the same time reducing the level of risk that the banks and the SME Credit Guarantee Fund are required to bear. The Torchbearer Fund of Guidance and Assistance began operation in December 2006; by March 2011 it had raised a total of NT$12.8 million. Applications for funding assistance under the Torchbearer scheme have already been received from 96 firms; it is anticipated that this mechanism will help Taiwan's SMEs to strengthen their operational capabilities and performance, thereby enabling them to create more value.

(6) The Benefits Achieved in Terms of SME Funding

After 37 years of hard work, the SME Credit Guarantee Fund has achieved impressive results, whether in terms of expanding the types of enterprise and industry that are eligible to receive credit guarantees, introducing new types of credit guarantee, increasing the size of the credit guarantees provided, recruiting new financial institutions to collaborate with the Fund, and supporting the implementation of new SME financing measures. The total volume of credit guarantees provided has grown rapidly.

Funding is the lifeblood of any business enterprise; whether a firm can obtain sufficient funding is closely linked to whether that firms succeeds or fails. Funding may be raised internally or obtained from external sources. Due to their limited capitalization, SMEs are often forced to rely on external funding sources to raise working capital. At the same time, funding needs vary depending on the stage of development that an enterprise has reached and on the specific purpose to which the funds will be put. The SME Credit Guarantee Fund provides a wide range of credit guarantees to meet the needs of different types of business enterprise, and makes effective use of a variety of different credit guarantee delivery methods (including delegated credit guarantees, project loan credit guarantees, direct credit guarantees and batch-type credit guarantees) to help SMEs obtain smooth access to financing.

As of the end of June 2011, the SME Credit Guarantee Fund had helped a total of 307,720 enterprises. The total number of credit guarantees provided through financial institutions was 4,340,080 with a cumulative credit guarantee volume of NT$8,354.3 billion. The SME Credit Guarantee Fund has thus made a major contribution towards helping Taiwan's SMEs to grow, and towards the development of the economy as a whole. The number and value of credit

guarantees provided by the SME Credit Guarantee Fund over the last eight years are shown in Table 10-2-2 below.

Table 10-2-2 The Performance of the SME Credit Guarantee Fund in Credit Guarantee Provision, 2006-2011

Item / Year	Cumulative No. of SMEs in Receipt of Credit Guarantees	No. of Credit Guarantee Applications Accepted	Combined Value of Credit Guarantees (NT$ millions)	Total Amount of Financing Secured (NT$ millions)
2006	262,441	261,824	3,196.04	5,304.59
2007	273,215	238,801	2,906.11	4,952.57
2008	280,714	237,446	3,307.57	5,231.51
2009	290,572	254,807	4,752.48	6,312.07
2010	302,197	312,593	6,925.98	8,637.87
Jan. – June 2011	307,720	165,056	3,873.41	4,841.05
Cumulative Total (1974 – June 2011)	307,720	4,340,080	58,304.75	83,543.47

Source: SME Credit Guarantee Fund.

(7) The Results Achieved through the Provision of Credit Guarantees to SMEs

According to statistics compiled by the SME Credit Guarantee Fund, as of the end of 2010, 67.63% of the SMEs in receipt of SME credit guarantees had been granted guarantees of less than NT$2 million, 82.43% had been granted guarantees of less than NT$5 million, and 91.27% had been granted guarantees of less than NT$10 million. It can thus be seen that most credit guarantee resources are used to help firms obtain small-value loans.

The vast majority of SMEs that receive credit guarantees from the SME Credit Guarantee Fund find that, within a few years, they have grown sufficiently and their credit record has improved sufficiently that they no longer need credit guarantees; instead, they are able to raise money on the capital markets or obtain loans directly from banks. As of June 2011, 49 out of 166 winners of the Employment Contribution Award, and out of 211 SMEs that had won the National Award of Small and Medium Enterprises, 161 had previously been recipients of credit guarantees from the SME Credit Guarantee Fund. The same was true of 154 out of 212 winners of the Little Giant Award, 385 out of 662 winners of the Small and Medium Enterprise Innovation Research Award, and 11 out of 16 winners of the National Quality Award. Furthermore, 2,424 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, and 656 have secured stock market or OTC listing.

(8) The Results Achieved in the Provision of Different Types of Credit Guarantee by the SME Credit Guarantee Fund

In 2010, the SME Credit Guarantee Fund provided credit guarantees worth a total of NT$692.6 billion, helping approximately 139,800 enterprises to obtain NT$863.8 billion in bank loans. 305,463 of the credit guarantees were not supported by special project funds; these guarantees had a combined value of NT$676.6 billion, and helped SMEs to secure financing worth 842.8 billion from financial institutions. As of the end of 2010, the total amount of outstanding credit guarantees was NT$489.6 billion, representing an increase of 24.28% compared to the end of 2009; the amount of loans outstanding stood at NT$625.5 billion, representing an increase of

17.48%. The number and value of the various types of credit guarantees as of the end of June 2010 are shown in Table 10-2-3 below.

Table 10-2-3 The Cumulative Number of Cases and Value of Individual Types of Credit Guarantees as of June 2010

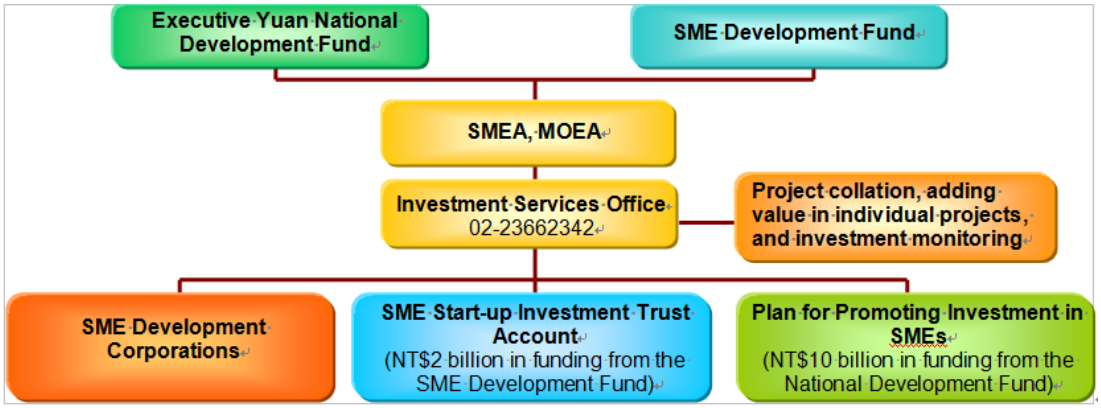
Type of Credit Guarantee	Cumulative No. of Guarantees Provided	Cumulative Value of Guarantees Provided (NT$ millions)
Credit guarantees for young entrepreneur loans	18,539	137.20
Credit guarantees for brand development loans	119	24.29
Credit guarantees for loans to help Taiwanese enterprises fight international patent lawsuits	9	1.41
Credit guarantees for disaster recovery loans	189	5.44
Credit guarantees for low-interest loans for film and TV content production	28	4.06
Credit guarantees for firefly counterpart guarantee fund loans	2,542	12.94
Credit guarantees for Kaohsiung City Government's "Little Giants" business loans	355	1.27
Credit guarantees for New Taipei City Government's "Happy Start-up" low-interest loan program	87	0.46
Credit guarantees for Taipei City Government's SME financing loans	1,335	11.71
Credit guarantees for Taipei City Government's strategic industry loans	60	0.69
Credit guarantees for home repair loans for households affected by Typhoon Morakot	88	1.20
Credit guarantees for loans for enterprises affected by Typhoon Morakot	539	36.94
Credit guarantees for loans to tourism industry enterprises affected by Typhoon Morakot	82	3.49
Credit Guarantees for Travel Industry Loans	25	0.73

Source: SME Credit Guarantee Fund.

III Strengthening Investment in the SME Sector

SMEs have always been the foundation on which Taiwan's economy rests, and they play an important role in ensuring social stability through job creation. To enhance the competitiveness of Taiwan's SMEs and create new financing channels for them, on March 26, 1993 the government promulgated the Regulations Governing the Establishment, Operation and Management of SME Development Corporations, with the aim of investing in the SME sector and providing SMEs with managerial and consulting guidance through the establishment of SME Development Corporations. In October 2003, to help SMEs overcome the difficulties that they often experience in securing equity investment, the SMEA established the SME Start-up Investment Trust Account system; in August 2007, the National Development Fund, Executive Yuan allocated NT$10 billion for use in this project, with the SMEA being commissioned to implement the Plan for Promoting Investment in SMEs. The SME investment architecture formed by these three measures (Figure 10-3-1).

Figure 10-3-1 Framework for Promoting Investment in the SME Sector



Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs, 2011.

1. The National Development Fund's Plan for Promoting Investment in SMEs

To stimulate investment in the SME sector by venture capital firms and other private-sector companies, on April 17, 2007 the National Development Fund, approved the Plan for Promoting Investment in SMEs; the Fund allocated NT$10 billion for investment in SMEs. This Plan is being implemented over a period of 10 years, with the actual investment taking place during the first seven years, with the remaining three years being devoted to the disposal of remaining investments. The formal launch of the Plan for Promoting Investment in SMEs took place on August 30, 2007.

Originally, under the Plan for Strengthening Investment in the SME Sector, venture capital firms were invited to invest in SMEs with significant growth potential at a 1:1 ratio with the Executive Yuan National Development Fund. In September 2010, the Implementation Measures for the Plan for Strengthening Investment in the SME Sector were revised, with adjustments made to the capital provision ratio, with the aim of promoting SME development, making it easier for early-stage SME start-ups to secure funding, and supporting the Executive Yuan's strategy of promoting service sector development to create more job opportunities in Taiwan:

1. For enterprises at the seed-capital / start-up stage, the capital provision ratio was set at a ratio of NT$3 from the Executive Yuan National Development Fund for every NT$1 provided by the venture capital firm.
2. For enterprises in the cultural and creative industries, the capital provision ratio was set at a ratio of NT$3 from the Executive Yuan National Development Fund for every NT$1 provided by the venture capital firm.
3. For enterprises in key service industries, the capital provision ratio was set at a ratio of NT$2 from the Executive Yuan National Development Fund for every NT$1 provided by the venture capital firm.
4. For enterprises that have added at least 30 new employees (in Taiwan) during the year prior to appraisal by the venture capital firm, the capital provision ratio was at a ratio of NT$2 from the Executive Yuan National Development Fund for every NT$1 provided by the venture capital firm.

It is anticipated that the measures outlined above will give venture capital firms more incentive to invest in emerging industries, encouraging private-sector firms to support government policy by investing in those industries the development of which the government is seeking to prioritize. As of the end of May 2011, investment had been secured for a total of 75 enterprises, with the National Development Fund providing a total of NT$2,237.28 million in investment and venture capital firms providing NT$1,732.95 million, for a combined total of NT$3,970.23 million. The program also succeeded in attracting NT$487.64 million in overseas investment from the U.S., Japan, etc., and served to stimulate an additional NT$15,544.3 million in domestic private-sector investment. It helped the business enterprises concerned to secure 418 intellectual property rights and 42 domestic and international awards, and helped protect 8,693 jobs. Overall, the program has had a significant positive impact on both the development of Taiwan's SMEs and job creation in Taiwan.

2. Establishment of the SME Start-up Investment Trust Account to Invest in SMEs with Significant Growth Potential

On May 29, 2003, the SMEA received approval from the Executive Yuan to transfer NT$2 billion from the SME Development Fund to establish the SME Start-up Investment Trust Account, with the funds in question to be entrusted to the custody of designated banks. Investment from the SME Start-up Investment Trust Account began in October 2003.

As of the end of May 2011, the SME Start-up Investment Trust Account had invested in 80 SMEs. The total investment by the SME Development Fund came to NT$1,518,300,000, with the asset management companies providing a further NT$1,679,210,000. The return on investment was: cash dividends – NT$83.70 million; profits from disposal of assets – just over NT$252.69 million.

3. Promoting Investment – the SME Development Corporations

In accordance with the SME Development Statute, the government set up the SME Development Fund, which in turn has established a number of SME Development Corporations. Besides helping SMEs to obtain funding through direct and indirect investment, these corporations also provide assistance with domestic and international technology collaboration, market and product development and management consulting services, as well as helping SMEs to formulate medium- and long-term funding plans.

Development corporations that have received funding from the SME Development Fund include: (1) Taiwan SME Development Corporation Ltd.; (2) Sunstar Ltd; (3) Trinity Investment Corporation.

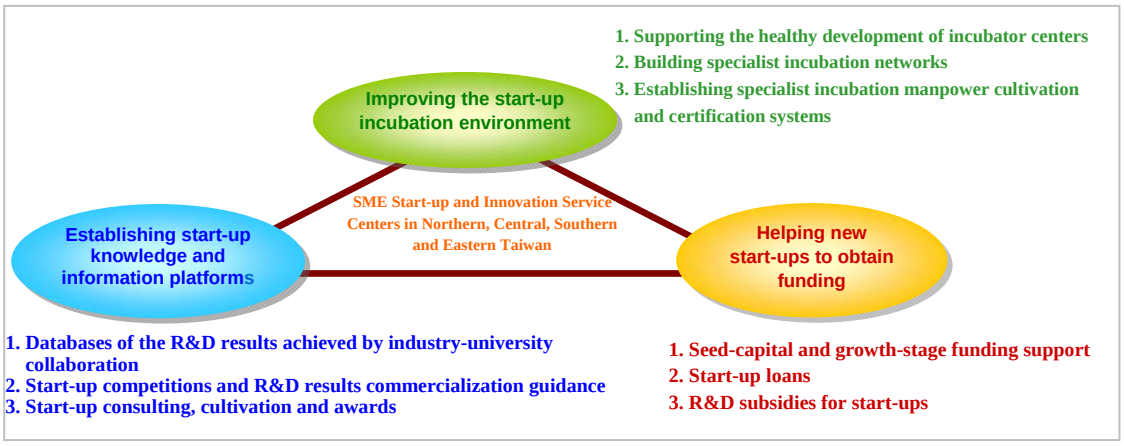
The distribution of the SME Development Corporations' investment by industry is: optoelectronics industry–18%; biotechnology–10%; electronic components manufacturing–28%; software and IC design–15%; other (including nanotechnology)–29%.

CHAPTER 11

Strengthening Business Start-up Capabilities and Promoting New Business Incubation

The Start-up Guidance Plan incorporates many sub-plans relating to new business start-up and incubation. It is being implemented through the SME Entrepreneurship and Innovation Service Centers in Northern, Central, Southern and Eastern Taiwan, creating regional service networks that expand local service provision capabilities to help Taiwanese micro, small and medium enterprises leverage innovation, technology and aesthetics to survive and prosper in the face of intense market competition. By the end of June 2011, guidance was provided to 8,672 firms (of which 3,845 were new start-ups), thereby leading to the creation of 23,043 new jobs, maintaining 32,772 existing jobs and stimulating private-sector investment worth NT$19.577 billion(Figure11-0-1).

Figure 11-0-1 The Start-up Guidance Plan – Core Strategies and Measures



In addition, the Female Entrepreneur Guidance Plan initiated by the SMEA, the “Free and Young Program” launched by the National Youth Commission and the Business Start-up Phoenix Plan initiated by the Council of Labor Affairs, provide women who are interested in starting their own business with access to managerial knowledge and resources, thereby reducing the time needed to get a new business off the ground, and strengthening female entrepreneurs’ capabilities to help them become outstanding female business owners. The main programs implemented by the government to promote new business start-up in 2010–2011 are outlined below.

I Improving the Start-up Incubation Environment

The Start-up Guidance Plan incorporates 16 sub-plans relating to new business start-up and incubation. It is being implemented through the SME Entrepreneurship and Innovation Service Centers in Northern, Central, Southern and Eastern Taiwan, creating regional service networks that expand local service provision capabilities to help Taiwanese SMEs leverage innovation, technology and aesthetics to survive and prosper in the face of intense market competition.

1. Establishing the SME Entrepreneurship and Innovation Service Centers Regional Service Network

SME Entrepreneurship and Innovation Service Centers have been established in Northern, Central, Southern and Eastern Taiwan which have been linked together to form an integrated network of physical service centers. The aim is to integrate the knowledge, human capital, funding and technology resources of each region, while linking together existing incubation centers and guidance measures related to start-up funding, start-up knowledge, specialist consulting services, etc., so that the Service Centers can play the role of local service networks for the provision of government guidance resources and for the development of regional expertise, thereby facilitating SME Entrepreneurship and Innovation.

As of June 2011, the SME Entrepreneurship and Innovation Service Centers had helped 197 regional service alliances and had handled a combined total of over 10,636 start-up consulting cases, had provided in-depth diagnostic service to 548 SMEs (including Taiwanese-invested companies operating overseas), and had promoted 108 industry-university collaboration projects, worth a total of NT$ 36.48 million. A total of 84 firms had been helped to apply for government subsidies, worth a total of NT$ 76.34 million.

2. Support for and Direct Operation of Incubation Centers

To help SMEs get established and undertake innovation, since 1997 the SMEA has been working with other government agencies, research institutions, universities and private-sector companies to implement the government's incubation center policy and encourage the establishment of new incubation centers. The Administration has used incubation centers to provide Taiwan's SMEs with the technology, knowledge, funding and other guidance and assistance they need for new business development, and has sought to build up business start-up learning mechanisms to help forge a knowledge-intensive entrepreneurial society.

An incubation center is a facility that cultivates new businesses, new products and new technologies, and helps SMEs to upgrade and transform themselves. It provides a wide range of resources in an efficient, integrated manner (including the provision of office space, access to equipment, R&D technology, help in finding funding, business services, management consulting, etc.), thereby reducing the costs and risk that new businesses need to bear in the start-up stage and in the early stages of R&D projects. By creating a first-class cultivation environment, incubation centers increase the likelihood that a new business will be a success. The following sections describe the current state of incubation center operation in Taiwan.

1. As of June 2011, there were a total of 131 incubation centers in Taiwan, located in 20 different counties and cities. Of this total, 73 incubation centers received subsidies from the SMEA in 2011; the combined total of subsidies received was NT$2,343 million.
2. In line with government policy and industry development needs, the Ministry of Economic Affairs has been directly involved in the establishment of a number of incubation centers in both northern and southern Taiwan, including the Nangang Software Incubator (ICT industry guidance), the NanKang Biotech Incubation Center (biotech industry guidance), the Tainan Science Park incubator (general innovation and research guidance for the biotech, electronics, information and precision machinery industries), and the Kaohsiung Software Incubator (focusing on digital content, software, IT-enabled services, etc.) and plans to establish the Hsinchu Biotech and Healthcare Science Park Incubation Center.
3. Geographical distribution of incubation centers, and distribution by incubation center type: As of June 2011, Northern Taiwan had the largest concentration of incubation centers, with a total of 59 centers; Incubation centers attached to universities are the largest single category, with 98 centers.
4. Regarding the industries that individual incubation centers seek to support, 28.35% of Taiwan's incubation centers are oriented towards supporting the information, communications and electronics industries, followed by the biotech field (14.83%), and electromechanical equipment manufacturing (13.44%). Education, culture and the arts account for 5.74% of the total, the environmental protection industry for 4.66%, the multi-media communications industry for 4.42%, raw materials for 4.05%, the healthcare field for 3.75%, and consumer goods for 3.67%.
5. Incubation center performance: In 2011, the government provided total funding of NT$141 million to incubation centers. As of June 2011, Taiwan's incubation centers had successfully cultivated 5,000 start-ups, and had increased the total capital by NT$66.5 billion, including 1,920 innovation-oriented start-ups. The total number of people working at firms located in incubation centers was 86,351. The cumulative total for patents secured by firms located in incubation centers over the years was 2,745; there have been 1,280 instances of technology transfer. 53 firms that had been cultivated in incubation centers have secured stock market or OTC listing.

3. Establishment of Industry-specific (ICT Applications, Biotech and Healthcare, Green Energy, and Cultural and Creative Industries) Incubation Networks

In 2008, the SMEA began implementation of a new "Creating Value through Industry-University Collaboration" plan. One of the key tasks to be undertaken under this plan was the promotion of networks of industry-specific incubation centers. In line with the Executive Yuan's "Six Key Emerging Industries" strategy, it was decided to focus on the creation of incubation networks for the biotech and healthcare industry, the green energy industry, the cultural and creative industries, and the ICT applications industry. The aim was to adopt an industry-specific approach towards encouraging individual incubation centers to collaborate and share resources with one another, strengthen incubation guidance capabilities, and provide firms at different stages of the

incubation process (pre-incubation, incubation, and post-incubation) with the specialist services they need in terms of technology R&D, IP strategy planning, market development, finance and financing, commercialization of R&D results, etc. The idea is that firms undergoing incubation do not need to move to another facility, or seek support from another organization, just because they have moved to a new stage in the incubation process; enterprises can obtain all the support they need from within the specialist incubation network.

The main items implemented by the government are outlined below.

1. Improved incubation networks: 1. Special training courses are being provided to upgrade the quality of specialist incubation networks in Taiwan, with the aim of leveraging the technology, management and marketing guidance capabilities of the network members to support the development of the industries concerned. 2. Network resources are being integrated to provide comprehensive guidance services to the industries concerned.
2. Guidance and service: 1. Providing Taiwan's SMEs with industry-specific consulting and diagnostic services. 2. Planning and designing practicable service models and processes, and using the implementation of these service models and processes to promote industry-specific industry-university collaboration projects, while also promoting the establishment of new start-ups in the areas concerned, and cultivating new groups of core SMEs.
3. Promoting the formation of incubation networks and organizing activities beneficial to industry upgrading, including manpower cultivation programs, procurement meetings, exhibitions, competitions, R&D results presentations, and assessment activities.

As of June 2011, 1,053 instances of industry-specific consulting, diagnostic and guidance service had been provided, and 440 industry-university collaboration projects had been initiated, worth a total of NT$216.35 million. In addition, 20 innovative specialist industry clusters had been launched (including digital cultural and creative industries, in-car communications, and care provision), and 144 firms had been helped to apply for government subsidies or guidance resources.

II Strengthening the Capacity of Industry-University Collaboration

In today's era of knowledge integration, the model for successful industrial development needs to move beyond linear growth and create new space for innovation and R&D. There is a clear trend towards collaboration between government, industry and universities, so as to bring this about. In 2007, the Executive Yuan began to integrate the resources of the Ministry of Education, the National Science Council, and the Ministry of Economic Affairs, through the establishment of the Inter-ministerial Working Group for Promoting Coordinated Collaboration between Industry and Universities. By integrating the resources of different government agencies, it has been possible to formulate comprehensive strategic planning of the operations of incubation centers, industry-university collaboration centers and technology transfer centers, thereby strengthening the linkages between industry and the innovation and R&D work undertaken by academic institutions, and maximizing the benefits created by industry-university collaboration.

1. Establishment of a Resource Integration Platform for Industry-University Collaborative Research Projects

(1) Establishment of an Integrated R&D Results Information Platform

Establishment of an integrated R&D results information platform based on industry and product classification, bringing together 32 industries and over 230,000 pieces of information on R&D achieved by academic research institutions in Taiwan in relevant fields, so that business enterprises can perform search targeting of specific industries or products, and employing a user-friendly interface that meets enterprises' needs. This would be an integrated, cross-technology, cross-institution R&D results database.

(2) Promotion of development plans within Sub-industry Clusters

Six sub-industry development planning reports have been completed, including those for LED lighting, Solar Cells, CMOS Image Sensors, Wireless Sensor Networks applied to Long Distance Care, 3D Display, and Radio Frequency Identification (RFID). The planning covered technology analysis, the analysis of the linkages between key technologies, the analysis of key patents, and the analysis of relevant R&D results, with respect to technology collaboration models and IP protection models, so as to stimulate the formation of industry clusters based on supply chain linkages, while also ensuring the effective utilization in industry of R&D results produced by universities and research institutes.

2. Promotion of SME Innovative Services Certification Subsidies and Grants, to Enhance SMEs' Innovative Service Development Capability

In line with national industrial development and technology policy, in 2010 the SMEA began to promote the SME Innovative Service Certification Plan, to encourage SMEs either located in or that had "graduated" from incubation centers and were in receipt of funding from the SMEA. Those firms that secure approval can obtain innovative service certification subsidies (or grants) of NT$300,000, which they can use to access customized, innovative services from the knowledge-intensive service organization.

As of 2010, a total of 90 cases had been approved, thereby leading to a value creation of NT$258 million, and 231 cases that were producing existing and new products or services. This was driven by a total of NT$75.39 million in R&D funding, that helped lead to a total investment of NT$99.09 million. Costs were reduced by a total of NT$50.49 million, and 170 new jobs were created, of which 45% were new applications, 69% were related to micro-enterprises, and 22% were in service industries.

3. Implementation of the Plan for the Provision of Assistance to SME Technology Development by the University Sector, to Speed Up the Transformation of SME R&D Activity

Faced with competition from emerging, low-wage economies, and with the trend towards internationalization and regional economic integration that globalization has brought, Taiwan's SMEs are experiencing serious challenges. In order to help SMEs to change and innovate, and to

adopt the new ways of thinking that will be needed to cope with the constantly changing global environment, in 2008 the Department of Industrial Technology, Ministry of Economic Affairs began implementation of the Plan for the Provision of Assistance to SME Technology Development by the University Sector, to help Taiwanese industry to upgrade itself by making effective use of the extensive R&D capabilities of the university sector. Expert diagnostic service is provided to help enterprises to develop their R&D activity, and to make use of the R&D subsidies available from the government. The idea is to make the university sector a long-term partner for enterprise development, thereby strengthening SMEs' core technology capabilities and enhancing the competitiveness of Taiwanese industry.

The Metal Industries Research and Development Center, which has been given responsibility for implementing the Plan for the Provision of Assistance to SME Technology Development by the University Sector, has brought together nearly a dozen foundations and institutes, including the Alliance of Innovation in Traditional Industry, along with 3,700 experts from almost 145 universities and colleges throughout Taiwan, to create an industry-university research value platform. Starting in Southern Taiwan, the program will gradually be expanded to include SMEs throughout the country. The industries to which guidance is being provided include the information, electronics, machinery, chemical, food products and biotechnology industries. By integrating innovative design, materials and manufacturing design with everyday household goods, the aim is to create value through innovation, achieving the maximum value-added effect from industry-university collaboration. As of December 2010, nearly 2,622 SMEs had benefited from the Plan. University and college experts had helped provide timely solutions to over 9,600 problems; assistance had been provided to help secure SME participation in 125 government research projects, involving a total of over NT$400 million in R&D funding; SMEs had been helped to install R&D equipment worth a combined total of over NT$1.2 billion; SMEs had been helped to secure orders worth approximately NT$3.8 billion, and more than 2,300 new jobs had been created.

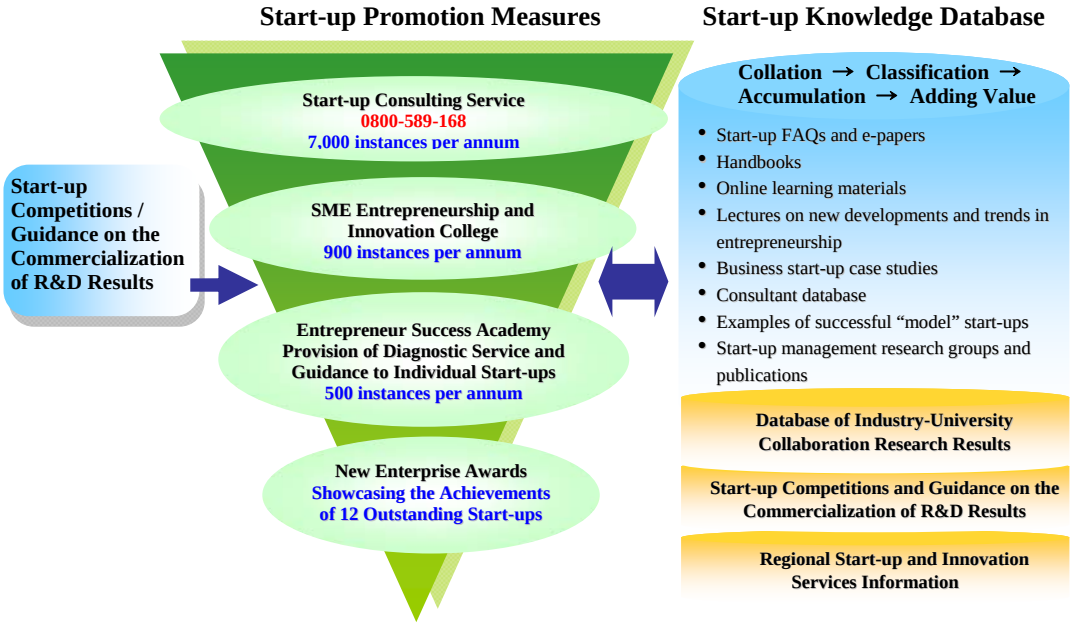
III Building an Environment Conducive to New Business Start-up

With the aim of building an environment conducive to the establishment and development of new businesses, in 2004 the SMEA launched the New Business Actualization Plan (Figure 12-3-1) to provide entrepreneurs with a comprehensive business start-up roadmap. The idea is that entrepreneurs can choose the guidance resources they need according to the stage that they have reached in the new business establishment process, thereby shortening the business start-up learning curve, helping to minimize the obstacles that need to be overcome, and increasing the likelihood that the new business establishment will be successful. Different guidance resources are provided depending on the stage that the enterprise has reached in the start-up and growth process. As of June 2011, a cumulative total of 61,636 instances of business start-up consulting had been provided, and training had been provided for 17,205 start-up managers. In addition, the Entrepreneur Success Academy had provided guidance leading to the successful establishment of

1,784 new businesses, a total of 10,044 new jobs had been created, and around NT$9.123 billion in private-sector investment had been stimulated.

In addition, the SMEA has established the Industry-University R&D Results Database, set up in 2009 to strengthen the commercialization of R&D results, and has promoted the Start-up Competition Commercialization Guidance Plan, whereby presentations, business matching and other follow-up commercialization value-added activities will be used to help groups that have won start-up competitions to achieve successful commercialization of their ideas (Figure 11-3-1).

Figure 11-3-1 Business Start-up Promotion Methods



Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs, 2011.

1. Guidance for the Commercialization of Award-winning Start-up Projects

In 2009, the SMEA of the Ministry of Economic Affairs launched the Plan for the Provision of Commercialization Guidance for Start-up Award Winners. The aim is to create systematic guidance mechanisms for creativity, innovation and business start-up, and to provide individual consulting and in-depth guidance services for the outstanding start-up projects with significant potential, as well as helping to match start-up projects with venture capital providers, thereby contributing to the emergence of more new businesses that are capable of creating significant economic value, and which can inject new vitality into Taiwan's SME sector. In 2010, 174 were selected to receive collaborative value-added guidance, and in-depth guidance and value-added commercialization services were provided for 53 start-ups. These efforts led to the successful establishment of 16 new firms and stimulated investment worth NT$6 million.

The project implementation method and key work items are outlined below.

1. Selection of high-quality start-up candidates: Identification of teams and individuals that have participated in domestic innovation, creativity or business start-up competitions, and selection of those projects offering the most development potential for inclusion in the Plan for the Provision of Commercialization Guidance for Start-up Award Winners so that follow-up collaboration can be implemented to help them create value.
2. Provision of guidance and value-adding activities for outstanding new start-ups: The SMEA will provide individual consulting and in-depth guidance for outstanding projects, including customized market opportunities analysis, IP analysis and assistance with related applications, help with the finalizing of technology application and service concepts, technology and service concept appraisal and development, operational plan optimization, financing method evaluation, guidance on securing entry to an incubation center, and other value-added services.
3. Provision of follow-up value-added services for new businesses and new business opportunities: The Administration will help high-quality projects to negotiate funding assistance from venture capital providers, and will provide follow-up value-added services to support new business start-up, the creation of value from IP, and the development of new business opportunities from technology licensing or technology transfer, etc.

2. Providing Information and Consulting Services to Support New Business Start-up

To help would-be entrepreneurs and the owners of existing small businesses to make their dreams a reality, the government provides business start-up information and consulting services. These services help citizens to carry out the preparatory work that is necessary when starting a new business, thereby increasing the likelihood that their entrepreneurial efforts will be successful, stimulating the growth of the entrepreneurial spirit in Taiwan, and making Taiwan an ideal location for SME development. The key work items of the Business Start-up Consulting Service Plan are as follows:

1. Start-up consulting services covering enterprise management, marketing, finance, legal affairs, intellectual property rights, human resources, etc.
2. An “Electronic Kitchen Window” by using a virtual marketing platform to help new businesses develop their distribution channels.
3. A Business Start-up Knowledge and Information Platform for a wide range of information relating to new business establishment, broken down by industry and function.
4. Business start-up e-papers relating to legal and regulatory issues, financing, general business news, and new concepts in business start-up on a monthly basis.
5. Business start-up periodicals by publishing various start-up management periodicals and handbooks.
6. Business start-up activities and lectures by holding conferences, seminars for the sharing of experience, international forums, etc.

3. Promotion of the SME Entrepreneurship and Innovation College

In response to the dawning of the new era of globalization and the knowledge economy, the SMEA has been promoting the SME Entrepreneurship and Innovation College project, which provides would-be entrepreneurs and owners of new businesses with an opportunity to undertake specialist training.

4. Providing Assistance and Guidance through the Entrepreneur Lab

The Entrepreneur Lab was established to provide assistance and guidance for would-be entrepreneurs and for SMEs that have been in existence for less than three years; it provides specialist consulting and guidance services to help entrepreneurs overcome the problems that they may experience when starting up or running a business. In-depth guidance is used to help new businesses get off the ground, with a wide range of activities to increase the likelihood of success when setting up a new business. The Entrepreneur Lab is helping to promote entrepreneurship, strengthen new business establishment capabilities, create new jobs and revitalize the private sector. The Entrepreneur Lab's key work areas are as follows:

1. In-depth individual guidance for start-up diagnosis and accompanying consulting services and for securing professional certification.
2. Technology guidance and matching services for start-ups, that having received individual guidance, are also in need of technology matching services and for incubation centers and industry-university collaboration centers.
3. Business matching activities to promote exchange among would-be entrepreneurs, start-ups and investors for collaboration.
4. Marketing and media promotion to help new businesses to get exposure in the media, thereby increasing their brand recognition and opening up new marketing opportunities.
5. Business Start-up Awards to showcase start-ups that have developed innovative technology or services.

5. Honoring Successful Start-ups through the Business Start-up Awards

The Business Start-up Awards are held on an annual basis to encourage new businesses to actively develop new technology, new designs, new products and new services. All new businesses that have been established within the last three years and that are lawfully registered as business enterprises in Taiwan may take part. The Awards are divided into four sections: Technology-intensive niche industries; Innovative traditional industries; Strategically-important knowledge-based service industries; and Micro-enterprises. The top three firms in each section receive prize money of NT$300,000, NT$200,000 and NT$100,000 respectively, along with trophies and commemorative plaques. As of June 2011, 10 of the prize-winners from the First to Ninth Annual Business Start-up Awards had gone on to secure a stock market or OTC listing or implement an IPO; 5 had been acquired by leading corporations; 8 had secured investment from a large enterprise or venture capital firm; 10 had received a new patent; and 20 had moved into an

incubation center. Overall, the results achieved through the holding of the Business Start-up Awards have been very impressive.

6. Provision of Guidance for Business Start-up

The Council of Labor Affairs is implementing the "2011 Business Start-up Consulting and Guidance Service Plan," with the aim of helping citizens to start their own businesses by organizing entrepreneurship training courses, providing consulting and guidance services, establishing start-up funding plan application review committees and providing follow-up guidance for loan provision. It is anticipated that the Plan will help to increase the success rate of new start-ups, and contribute to the creation of new kinds of job opportunity. The Plan's key measures include: the establishment of a nationwide, toll-free start-up consulting hotline (0800-092-957); the establishment of local consulting service contact windows; organizing entrepreneurship training activities and consulting services; holding team-building activities; the establishment of a Northern Taiwan entrepreneur loan review and coordination mechanism; the establishment and maintenance of a start-up case study database and related website; the provision of a telephone guidance service; the holding of "Phoenix" program exchange meetings and related promotional activities, etc.

IV Provision of Guidance for Female Entrepreneurial Activity

In 2007, the SMEA launched the Female Entrepreneurship Guidance Plan, which has helped many women to make their dream of starting their own business a reality. 2010 saw further integration of resources and capability expansion with the initiation of the Female Entrepreneur Cultivation Network Plan and Start-up Guidance Plan, which is specifically designed to provide a comprehensive range of resources and business matching platforms for female entrepreneurs. By promoting the dissemination of entrepreneurial experience and knowledge, the Plan aims to encourage female entrepreneurs to focus on innovative, knowledge-intensive fields.

In addition, the National Youth Commission has launched the Flying Goose Program to help solve the problems that women experience when starting their own business, increase the success rate of female entrepreneurs and improve the operational efficiency of female-owned businesses, while the Council of Labor Affairs, Executive Yuan has been implementing the BeBoss Plan, under which a range of different resources are provided to reduce the time that needs to be spent on preparation before starting a new business, and enable female would-be entrepreneurs to strengthen their own business start-up capabilities. Guidance measures implemented by the government in 2010–2011 that were of relevance to female entrepreneurs are outlined below:

1. Mechanisms for the Provision of Services to Female Entrepreneurs

(1) Free Consulting Service Hotline for Female Entrepreneurs

A toll-free hotline (0800-589-168) has been established to provide female entrepreneurs with friendly, expert consulting and guidance services. Consulting and guidance services are available over the phone, online, and in person.

(2) Compilation of the Female Entrepreneur Resources Handbook

The *Female Entrepreneur Resources Handbook* has been compiled to help women make effective use of the guidance resources that the government provides for entrepreneurs. The *Handbook* provides up-to-date information on government services and resources (including planning and loan information), so that female would-be entrepreneurs and new business owners can access the resources they need quickly and conveniently.

2. Strengthening Women's Business Start-up Capabilities

(1) Arranging Training Courses for Female Entrepreneurs

Working in concert with the SME Entrepreneurship and Innovation College, a set of training courses has been designed specifically for female entrepreneurs, so that women can increase their chances of successfully establishing their own business. In addition, grants are provided for research on female entrepreneurship, so that the resources of the university sector can be leveraged to gain a clearer understanding of the current state of female entrepreneurship in Taiwan, and put forward policy recommendations.

(2) Female Entrepreneur Incubation Alliance Seminars

To help female-owned businesses develop a clearer picture of the resources and services that incubation centers can provide for start-ups, arrangements are being made for female-owned firms located in incubation centers to share their experience with others, while also employing matching and referral services to help more female-owned business make effective use of incubation center resources.

(3) Helping Female-owned Businesses to Participate in Award Schemes and Obtain Subsidies

The SME Start-up and Innovation Service Centers work to identify female-owned enterprises with significant growth potential and help them participate in award programs and apply for government subsidies.

(4) Encouraging Female-owned Businesses to Participate in International Activities and Events

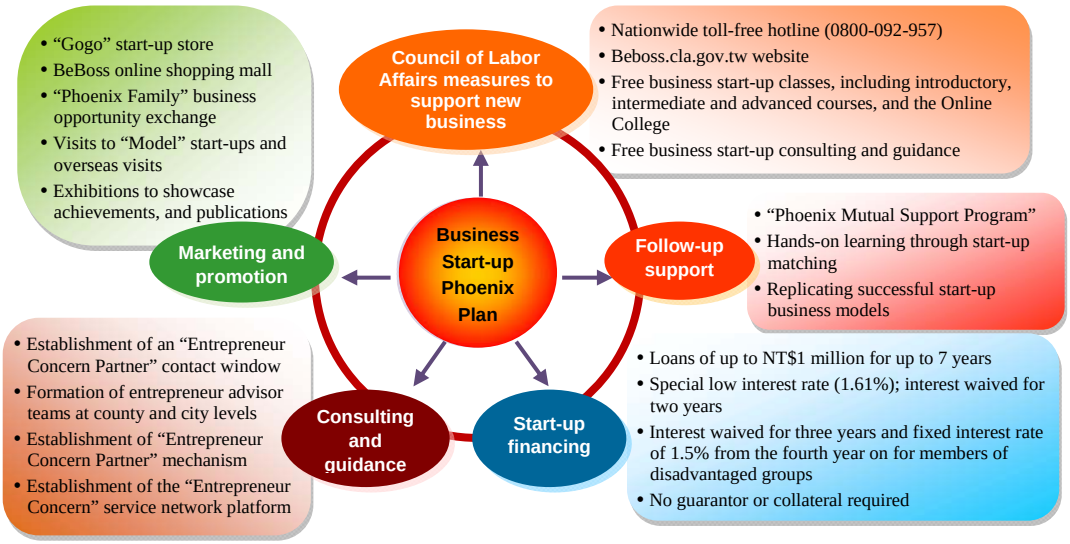
Assistance is provided to help Taiwanese female-owned businesses to participate in international female entrepreneurship activities, thereby helping female-owned businesses and entrepreneurs in Taiwan to keep pace with international trends. Examples of the type of activity that

female-owned businesses have been helped to take part in include the APEC Women Leaders' Network, the Global Summit of Women, the International Small Business Congress, etc.

(5) Council of Labor Affairs Measures to Support New Business Start-up – the Business Startup Phoenix Plan

The Council of Labor Affairs has launched the Business Startup Phoenix Plan to boost labor-force participation by women and the middle-aged, establish a business environment conducive to new business creation, and help women and the middle-aged to start their own microenterprises, thereby creating new jobs. The Plan also provides entrepreneurs with advisors, and help in securing credit guarantees and loans. The structure of the Business Startup Phoenix Plan and the implementation measures are shown in Figure 11-4-1.

Figure 11-4-1 Business Start-up Phoenix Plan – Implementation Measures



Source: Council of Labor Affairs, Executive Yuan, 2011.

(6) The National Youth Commission Flying Goose Program

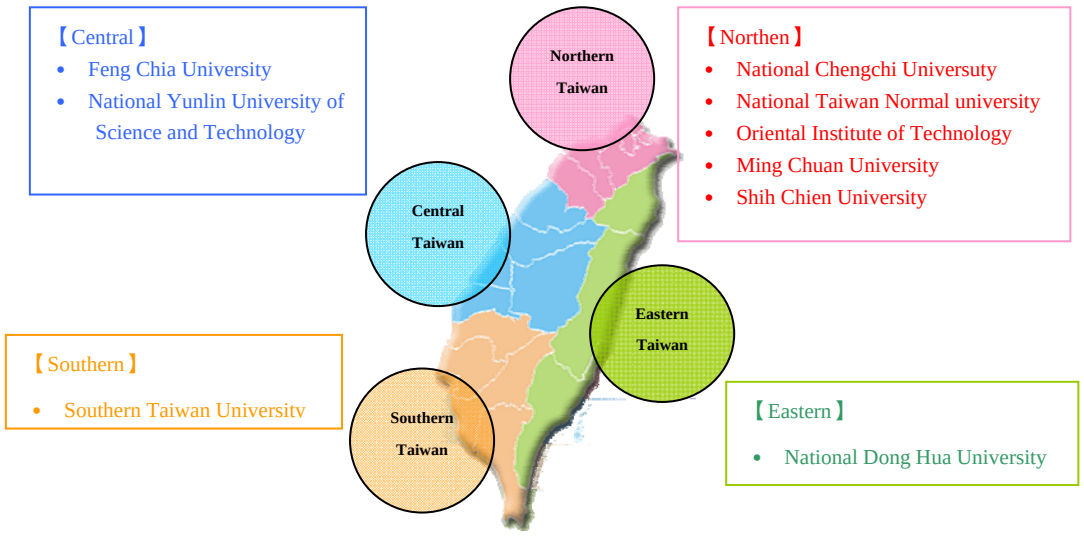
The National Youth Commission launched the Flying Goose Program to help solve the problems that women experience when starting their own business, increase the success rate of female-owned start-ups, and enhance their operational efficiency. Assistance is also provided to "graduates" of the scheme to help them strengthen their marketing and distribution networks, with the aim of promoting female entrepreneurship and boosting the capabilities of female-owned businesses, and female entrepreneurs are encouraged to participate actively in international exchange activities. In addition, efforts are being made to strengthen the function of local Flying Goose Program-affiliated mutual assistance and liaison mechanisms, and subsidies are provided to civic organizations that undertake activities aimed at strengthening the cultivation of female entrepreneurship. In 2011, a new marketing course was launched under the Flying Goose Program. A total of 8 classes will be offered with this course, which will focus on product marketing methods and hands-on practice; the aim is to cultivate the marketing knowledge and

capabilities of young female entrepreneurs. Around 640 people are expected to enroll in this course.

3. Organization of Mutual Assistance Networks for Female Entrepreneurs

The government is working to establish female entrepreneur networks through the establishment and promotion of the Female Entrepreneurship and Innovation Alliance, as well as related business matching activities and support for the formation of strategic alliances, with the aim of helping female entrepreneurs to expand their network of business contacts, and to make use of this network for mutual support and assistance, thereby helping female-owned businesses to achieve continuing growth, and creating new business matching opportunities. So far, the Alliance has been extended to include nine incubation centers in Northern, Central, Southern and Eastern Taiwan; these centers are pooling their limited resources to ensure that their efforts help as many female entrepreneurs as possible, using inter-center referrals to ensure that every aspect of female-owned businesses' needs is met. The Alliance is also organizing joint seminars and business start-up fairs, and employing physical activity platforms to integrate Alliance resources and extend its capabilities, so as to provide female entrepreneurs with a platform for start-up cluster development..

Figure 11-4-2 Incubation Centers of Female Entrepreneurship and Innovation Alliance



Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs, 2011.

4. Information Exchange Platforms for Female Entrepreneurs

The government provides female entrepreneurs with a range of online consulting services through the establishment of information exchange platforms and provision of e-business guidance for female-owned enterprises; one example is the Female Entrepreneurs program that has been established within the New Business Actualization Plan. In addition, female-owned businesses are encouraged to develop new business opportunities (both in Taiwan and overseas)

through websites such as the Women Village e-commerce site and the Women Business portal site.

5. Financing Support for Female Entrepreneurs

Funding is the most vital resource for female entrepreneurs. The following types of low-interest loans are available to women:

1. Young Entrepreneur Loans: The National Youth Commission, Executive Yuan provides Young Entrepreneur Loans for entrepreneurs aged between 20 and 45; to be eligible, they must be the owner of, or a shareholder in, a firm that has been in existence for less than five years.
2. Phoenix Micro-enterprise Loans: In 2009, the Council of Labor Affairs combined the existing Micro-enterprise Start-up Loan program and Phoenix Small-value Loans for Female Entrepreneurs program to create the Phoenix Micro-enterprise Loans program. These loans are available to women aged 20–65, and to men aged 45–65, who are the owners of or shareholders in a firm that has been in existence for less than two years; individual loans are capped at NT$1 million.

CHAPTER 12

Revitalizing Local Economies and Promoting the Development of New Business Opportunities

Over the last few years, the government has been actively working to promote the development of "local cultural industries". The Small and Medium Enterprise Administration, Ministry of Economic Affairs launched the Plan for Helping Local Cultural Industries to Create Value and an ICT Plan to revitalize regional economies through value-added creation. Other related initiatives include the Creative Lifestyle Industry Development Plan launched by the Industrial Development Bureau (IDB), and others. These projects seek to promote the development of local tourism, innovation and new business models, to encourage SMEs to actively participate in local cultural industry R&D, and to revitalize local economies by strengthening the competitiveness of local industries.

I Strengthening Local Industries

1. The Plan for Helping Local Cultural Industries to Create Value

The SMEA launched the Four-year Plan for Helping Local Cultural Industries to Create Value (2008–2012) in 2008. The Plan, which has the "One Town, One Product" (OTOP) concept as its goal, uses "Taiwan OTOP" joint branding to promote products that embody a high quality image for Taiwan's local cultural industries, aiming to promote both domestic and export sales and stimulate the development of local tourist industries. The Plan also involves identifying those local cultural industries that have significant potential for developing international markets and helping them to upgrade their individual value chains, creating "bright spots" on the map of Taiwan's local cultural industries that can help to strengthen Taiwan's overall national image.

The main contents of the guidance provided under the Plan in 2010 are as follows: (1) Provision of guidance to potential industries and regional industries. (2) Provision of guidance to thematic industries. (3) Establishment of the OTOP Local Cultural Industries website (http://www.otop.tw). (4) Establishment of Taiwan OTOP display centers. In 2010, the Taiwan OTOP display centers posted combined sales of NT$28.27 million.

2. The ICT Plan to Revitalize Regional Economies

To help Taiwan's SMEs upgrade and transform themselves, stimulate local cultural development, and build local cultural industry clusters, thereby developing a high level of local product brand recognition, the SMEA has launched an ICT Plan to revitalize regional economies through value-added creation. The basic vision underlying this project is the "humanistic application of technology, and building LOHAS lifestyles in Formosa."

The main contents of the guidance provided under the ICT Plan are as follows: (1) Local industry planning, formation, product value-added development, and marketing. (2) Establishing innovation and certification platforms. (3) Providing guidance to help 2,000 small enterprises and micro-enterprises in local industries to adopt ICT value-added services. (4) Helping local industries to develop diversified marketing and to internationalize their operations.

As of the end of June 2011, the main focus of the guidance provision had been to establish seven thematic industry clusters that are able to integrate physical operations with ICT in Hualien, Yunlin, Pingtung, Taipei, Changhua, Matsu and Kinmen. The implementation of such guidance had resulted in a total of over 4,000 small enterprises and micro-enterprises in local industries adopting ICT through value-added creation services.

3. The Architecture for the Utilization of the Local Industry Development Fund

In 2009, Executive Yuan established the Local Industry Development Fund to promote local economic prosperity by providing funding assistance in line with the development needs of local industries at the county and city level. It was anticipated that the Fund would help to transform the face of Taiwan's local communities, encouraging people to move back to their home areas from the big cities and from overseas, creating new job opportunities, and imbuing local economic development with new vigor.

The types of subsidies are as follows:

1. Individual funding support projects: The proposals are submitted by city and county governments covering only a single urban district, city, township or rural township. The total funding per project had been capped at NT$7 million over a three-year period. Plans are to be implemented over a period of 3 years.
2. Integrated funding support projects: The proposals are submitted by city and county governments covering 3 or more urban districts, cities, townships or rural townships. The total funding per project is capped at NT$ 20 million over a three-year period. Plans are to be implemented over a period of 3 years.
3. Regional funding support projects: The proposals covering the regional development plan are submitted by the central government. The total funding per project is capped at NT$ 20 million over a three-year period. Plans are to be implemented over a period of 3 years.

In fiscal 2011, a total of 96 applications were submitted for subsidies from the Local Industry Development Fund. Approval by the Minister of Economic Affairs and the public announcement of the subsidy recipients were completed in July 2011.

4. The Establishment of a Micro Park from the Subsidy of the Local Industry Development Fund

Based on the Ministry of Economic Affairs' approval of the *Key Points Regarding the Provision of Subsidies by the Local Industry Development Fund* and the *Key Points Regarding the Provision of Micro Park Subsidies by the Local Industry Development Fund*, the establishment of

the micro park is supported by the Local Industry Development Fund, central government agencies, municipalities and county (city) governments. The total funding per Micro Park is capped at NT$ 55.5 million. The remaining deficiencies in the development costs are to be budgeted for by the applicant.

5. Promoting Industry Cluster Development at the Local Level

Recognizing the global trend towards “industry tourism” and the need for Taiwanese industry to upgrade itself, in 2003 the Industrial Development Bureau and the Central Region Office launched the Factory Tourism Guidance Plan. By developing factory tourism, traditional factories would be transformed into “tourist factories” with significant cultural and educational value, giving the enterprises concerned an opportunity to restructure themselves, and giving the general public new tourism and leisure options that are both fun and educational; factories that already have distinctive local character will be able to develop new business models through tourism that enable people to learn while they are enjoying themselves.

6. Promoting the MIT Smile Mark Product Store

To promote the traditional retail market, the Central Region Office of the Industrial Development Bureau combined the Traditional Retail Market Renewal Improvement Plan and Response to Trade Liberalization to Strengthen the Industry Guidance Plan in 2010. A total of 10 MIT Smile Mark Product Stores are being set up in Chungli City, Chupei City, Chiayi County, and Taitung City, to extend MIT mark product sales channels and promote the traditional retail market activity.

7. The Creative Lifestyle Industry Development Plan

The Industrial Development Bureau launched the Creative Lifestyle Industry Development Plan to help domestic industries transform and upgrade themselves, create new jobs, help enterprises to integrate cultural and creative elements into their operations, promote the development of innovative new products, services, locations and activities, and stimulate the adoption of new business models that can contribute to value-added creation and the development of new business opportunities.

8. The Local Industry Innovation Engine Plan

In 2008, the Department of Industrial Technology introduced a Plan to stimulate the development of local industries in individual counties and cities within Taiwan, thereby contributing to regional prosperity. The Plan involves integrating the capabilities of 18 foundations and research institutes, including the Industrial Technology Research Institute, Academia Sinica, and the Institute for Information Industry, to leverage the division of responsibility and “industry adoption” system that links individual research institutes with particular counties and cities so as to facilitate planning for the development of high-value-added industries and industry clusters in individual counties and cities.

As of the end of 2010, implementation of the Plan had brought about the formation of 324 local R&D alliances, and had facilitated the formulation of 328 R&D subsidy plans, of which 329 had been approved by the relevant government authorities. These R&D alliances included a total

of over 652 enterprises; the total amount of R&D spending generated was NT$9.04 billion, of which the government provided NT$3.53 billion through subsidies, with the participating enterprises contributing NT$5.51 billion.

9. The Local Small Business Innovation Research (Local SBIR) Plan

The Ministry of Economic Affairs has doubled the amount of funding provided to municipal, county and city governments for the promotion of the projects. Since 2009, the Department of Industrial Technology has been working closely with individual municipal, county and city governments to implement the Local SBIR Plan. As of the end of 2010, a total of 647 applications were approved by the relevant government authorities. The total amount of spending generated was NT$ 418.56 million by the government, of which the Ministry of Economic Affairs provided NT$ 276.67 million through subsidies, with local government providing NT$ 141.89 million. The R&D participating enterprises contributed NT$ 751.77 billion.

10. The Local Business District Branding Development Plan

In 2008, the Department of Commerce launched the Four-year Plan (2008–2011). Applicants for participation in the Plan must be business district organizations, community development associations, community organizations, foundations or other registered civic organizations that have at least one year's experience in community building or special project guidance.

The Plan's service content will include: (1) Coordinating the operations of high-quality business districts towards the building of a strong brand image, and undertaking effective marketing of Taiwanese business district brands. (2) Cultivating local business talent, and building up the competitive advantage of local commercial environments. (3) Developing special tourist itineraries to link individual destinations together and integrate distinctive local activities with tourism, thereby helping to stimulate local economic development.

II Helping SMEs to Develop New Business Opportunities, Develop New Markets and Strengthen Their Marketing Capabilities

The SMEA, Bureau of Foreign Trade and Commerce Department have formulated a number of business development and marketing plans to help Taiwan's SMEs develop new business opportunities at home and expand into overseas markets. The aim of these projects is to assist SMEs in the development of new markets, in expanding their marketing and distribution channels (both in Taiwan and overseas), in raising the export competitiveness of their products, and in developing their own brands. The following sections examine the plans implemented in 2010–2011, focusing on the provision of assistance for market development and the provision of assistance for brand development.

1. Assistance with Market Development - SMEA

(1) Promoting Business Matching and Technology Development among SMEs

To help enterprises in both traditional industries and emerging hi-tech industries to develop the Taiwanese domestic market and access information related to high-value-added technologies and products, in 2007 the SMEA launched the "SME Business Matching and Technology Exchange Train" activity, whereby the Administration would provide active support to help SMEs obtain intensive exposure for their new products within a short space of time, giving the general public an opportunity to familiarize themselves with these new products, while at the same time building new channels for marketing collaboration, so that the inventors of new technology can quickly find funding support to commercialize it, or can access key technologies that they require for successful commercialization. In this way, the SME Business Matching and Technology Exchange Train initiative can contribute to ensuring that technology development conforms better to the market's needs, and encourages the use of online platforms and resources for product marketing and technology presentation.

(2) Providing Guidance to Help SMEs Develop Their International Marketing Capabilities

The SMEA has launched the SME International Marketing Promotion Guidance Plan to encourage Taiwan's SMEs to expand their international marketing activities, enable them to gain increased international exposure at minimal cost, and undertake collaborative development of overseas markets, thereby boosting the overall image of Taiwanese industry. The Plan's contents include the organizing of overseas marketing teams, the establishment of special display zones for SMEs at major international exhibitions and trade fairs held in Taipei, and helping SMEs to undertake international marketing over the Internet.

2. Assistance with Market Development – Bureau of Foreign Trade

(1) Promoting an Across-the-board Expansion of Exportation Capabilities – the New Zheng He Plan

The Bureau of Foreign Trade, Ministry of Economic Affairs launched the "New Zheng He Plan" to encourage Taiwanese business enterprises to emulate the fearless, pioneering spirit of the famous Chinese mariner Zheng He by stepping up their development of export markets in response to the difficulties created by the global financial crisis. Implementation of the Plan began in 2009; implementation is focused on a number of key areas, including funding, markets, industry development, and capability building. The services being provided in 2011 include:

1. Strengthening Export Financing and Insurance – Financial Trade Project: In order to keep assisting exporters in avoiding risks, developing overseas markets and promoting foreign trading cooperation. the Bureau of Foreign Trade launched a "Strengthening Output Insurance Preparation Project" and a "Stimulating Export Financing Project".
2. Strengthening the Development of Emerging Markets – the "Whale Trade Plan": The "Whale Trade Plan" is intended to strengthen Taiwanese companies' development of key emerging markets such as Vietnam, Indonesia, India, South Africa, Turkey, Brazil, Russia and the Middle East in six key regions: Central and Eastern Europe, Central and South

America, South Asia, the ASEAN member nations in Southeast Asia, the Middle East and Africa.

3. Developing New Purchasing Opportunities – the GPA Project: The Government Procurement Agreement Project is being implemented to strengthen the ability of Taiwanese companies to secure international tenders, by building up a diversified business opportunities network, organizing conferences on business opportunities related to government purchasing, securing new opportunities for Taiwanese firms to participate in government purchasing in other countries, and encouraging foreign companies that have secured government purchasing tenders to undertake purchasing in Taiwan, etc., thereby helping Taiwanese business enterprises to develop global government purchasing-related business opportunities.
4. Growing "Soft" Exports – The Service Industry Development Plan: The government has been implementing the Plan to Help Competitive Service Industries Develop International Markets, to help enterprises in Taiwan's cultural and creative industries, healthcare services industry, "green" construction industry and information services industry to enhance their international competitiveness and develop overseas markets.

(2) Developing Emerging Markets – the "Plan for Promoting the Development of Emerging Markets through High Quality and Reasonable Prices"

The "Plan for Promoting the Development of Emerging Markets through High Quality and Reasonable Prices" targets emerging markets such as China, India, Indonesia and Vietnam, focusing on four key aspects – market demand, innovation and R&D, production and design, and international marketing – and working to establish three major platforms: an Innovation, R&D and Production Platform, an International Marketing Integration Platform, and an Environment Building Platform. The Plan seeks to integrate different elements in the value chain (production technology, production, design, branding, international marketing, etc.) to provide comprehensive guidance and support for business enterprises. In addition, the Plan also provides for the carrying out of in-depth market research targeting emerging markets, with a view togaining a clearer understanding of consumer behavior in these markets, thereby helping Taiwanese firms to develop emerging markets more effectively.

(3) Responding to the Global Rise in Environmental Consciousness by Developing "Green Trade" Opportunities

In order to help Taiwanese companies to respond effectively to the global trend towards environmental protection and the formulation of new "green directives" and other environmental measures by countries all over the world, as well as the establishment of "green purchasing" criteria by major international corporations, and to help them develop "green trade" opportunities, starting in 2011 the government began implementation of a three-year "Green Trade Promotion Plan." Focusing on international marketing, the Plan encompasses three key strategies: provision of "green trade" guidance services, enhancing Taiwan's "green trade" competitiveness, and promoting "green trade" marketing. It is anticipated that implementation of these strategies will help Taiwanese firms to adapt successfully to the international trend towards growing environmental consciousness, thereby making it possible for them to develop new business

opportunities in the area of “green” products and services.

(4) Stepping Up Efforts to Encourage International Corporations to Undertake Purchasing in Taiwan

A variety of activities – including the Emerging Markets Purchasing Partner Conference, issuing of special invitations to foreign trade delegations and individual large foreign corporations, and encouraging buyers in emerging markets to undertake purchasing in Taiwan – will be used to get foreign buyers to come to Taiwan; a particular effort will be made to attract the interest of buyers in emerging markets and of large international corporations.

(5) Promotion of the “Trade Warriors” Plan to Provide Support for Overseas Market Development

The Bureau of Foreign Trade, has formulated the “Trade Warriors Plan” to help Taiwanese SMEs based in Taiwan to develop emerging markets overseas. TAITRA will be dispatching personnel to the countries concerned for periods of 14 to 21 days at a time. Before leaving, they will carry out intensive research on the markets concerned; on returning to Taiwan, they will give touring presentations throughout Taiwan in which they will provide businesspeople in Taiwan with detailed information about these overseas markets and the business opportunities that they offer.

(6) Encouraging Large International Corporations to Undertake Purchasing in Taiwan, to Speed up Taiwan’s Transformation into a Global Procurement Center

The Bureau of Foreign Trade will be inviting large foreign corporations to send trade missions to Taiwan and undertake purchasing in Taiwan, focusing in particular on the electronics and IT, machinery and consumer products industries, to speed up Taiwan’s transformation into a real “global procurement center.” TAITRA will be mobilizing its more than 50 overseas offices to encourage foreign companies to undertake purchasing in Taiwan. In 2010, a total of 764 procurement cases were handled, and there were 10,796 instances of service provision to Taiwanese companies.

(7) Provision of Consulting and Appraisal Services to Help Taiwanese Enterprises Interested in Developing Overseas Markets to Establish Business Locations in Other Countries

The Bureau of Foreign Trade, Ministry of Economic Affairs has also been implementing the Plan for Helping Business Enterprises to Establish a Global Presence. The Bureau provides consulting services and appraisal reports in line with businesses’ needs. The types of overseas business location that are covered by this Plan include: (1) Contact points and representative offices. (2) Sales offices. (3) Distribution warehouses. (4) Production locations. (5) Building collaborative relationships with local logistics service providers. The service content provided under the Plan includes: (1) Provision of feasibility studies and survey reports with respect to the establishment of overseas business locations; (2) Arranging visits to the countries concerned.

(8) Helping Companies to Develop Overseas Markets in Line with Their Own Specific Needs

The biggest problems that Taiwanese business enterprises encounter when trying to develop overseas markets or establish overseas business locations are: difficulty in recruiting suitable personnel; inadequate marketing capabilities; insufficient understanding of the characteristics of local workers; the excessively high cost of assigning Taiwanese personnel to work overseas, etc. With this in mind, TAITRA has launched the International Market Development Center sales promotion plan, whereby TAITRA personnel stationed at TAITRA's overseas offices provide assistance tailored to meet the needs of individual Taiwanese firms, helping them to develop overseas customers and identify business opportunities, and providing liaison and follow-up support.

Once a company has provided detailed information about its products and sales objectives, the personnel of TAITRA's overseas offices are responsible for assisting with customer development; they will provide regular written reports on sales promotion implementation status, and will help to arrange visits to potential customers (and visits by potential customers to Taiwan).

(9) Helping Taiwan's Machinery Manufacturers to Expand Their Distribution Networks, and Boosting Machinery Purchasing in Taiwan

The Taiwan Machinery Industry Distribution Channel Development Plan is being implemented to encourage overseas machinery distributors and agents that possess large-scale machinery display centers or distribution warehouses to increase their display of Taiwanese manufacturers' machinery products, and to expand the scale of their purchasing in Taiwan. The Plan seeks to encourage major overseas machinery distributors to undertake procurement in Taiwan, and to help Taiwan's machinery makers to expand their overseas distribution networks. The industries to which this Plan applies include: machine tools; plastics and rubber products machinery; packaging and printing machinery; woodworking machinery; textile machinery; food processing machinery; turnkey plant services; die-making, etc.

(10) Provision of Guidance to Specialist Textile Trading Companies, to Help Strengthen Their International Marketing Capabilities

The Bureau of Foreign Trade has been implementing the Plan to Provide Guidance to Specialist Textile Trading Companies, with the aim of helping Taiwan's textile firms to build partnerships with international buyers and overseas manufacturers, strengthening awareness of Taiwan's high-quality textile products among international vendors, expanding the supply chain of Taiwan's textile industry to include overseas locations, reinforcing the key position that Taiwan occupies within the global textile product supply chain, and helping textile firms to enhance their international marketing capabilities, thereby helping Taiwan to develop into a leading Asia-Pacific region textile order processing center.

(11) Helping Industry Associations to Undertake Trade Promotion Activities

The Subsidy Measures for Trade Promotion Activities have been drawn up in accordance with Paragraph 2, Article 20 of the *Foreign Trade Law* to help Taiwanese companies develop overseas

markets. It is anticipated that the provision of subsidies to industry associations will help to enhance the results achieved through trade promotion activities.

The following types of organization are eligible to apply for subsidies for the holding of trade promotion activities: (1) Industry associations whose members are involved in import-/export-related activities. (2) Foundations and civic organizations that are involved in areas related to foreign trade, or at least 50% of whose members have undertaken exportation in the past. (3) Universities, colleges and other academic institutions. (4) Financial institutions involved in providing exporter insurance.

(12) Providing Exportation-related Services and Guidance to Help Taiwanese Companies Develop Overseas Markets

The Ministry of Economic Affairs Exporter Services Team was established on February 1, 1999. In line with the Team's aim of providing proactive service, it has been implementing the Exportation-related Services and Guidance Plan. The guidance methods used are as follows: (1) Helping firms to identify export-related business opportunities and access business information. (2) Visiting industry associations and importers/exporters to find out what their problems are and how best to solve them. (3) Providing guidance to help firms develop markets with significant potential. (4) Publicizing the government's latest trade measures, financing tools, etc. (5) Strengthening the marketing capabilities of exporters to help them develop overseas markets.

3. Assisting with Brand Development

(1) The Branding Taiwan Plan

The Branding Taiwan Plan is being implemented to coordinate the provision of resources to help business enterprises establish their own brands, to build an environment conducive to brand development, to help Taiwanese companies to establish international brands, and to enhance the international value of Taiwanese brands. The Plan involves the implementation of a range of measures – including operating brand development venture capital funds, creating an environment in which brands can thrive, implementing brand value surveys, increasing the supply of specialist brand development talent, building branding guidance platforms, and strengthening the international image of Taiwanese brands and products – to support the development of brands by Taiwanese enterprises, with the ultimate goal of creating a business environment in which a wide range of different brands coexist.

(2) Improving the Brand Image and Packaging Design of Taiwan's Agricultural Exports

To strengthen the international competitiveness of Taiwan's agricultural products, the Council of Agriculture, Executive Yuan has formulated the Plan for Strengthening Agricultural Export Product Brand Image and Packaging Design, which involves providing guidance to Taiwanese exporters involved in the exportation of agricultural products, and helping them to enhance their brand image and improve product packaging design, thereby enabling Taiwanese agricultural products to build a reputation for high standards of quality and food sanitation (which in turn can be expected to contribute to increased export sales). To be eligible to receive assistance under this Plan, an exporter must submit a proposal listing at least six branding and packaging design

items where it requires assistance. The Council of Agriculture will bear two-thirds of the design expenses, up to a maximum of NT$500,000 per project; the exporter receiving guidance will be required to fund the remaining one-third of the design costs itself.

CHAPTER 13

Participation in International Affairs and Other Related Resources

I Participating in International SME Meetings and Events

The Small and Medium Enterprise Administration (SMEA) of the Ministry of Economic Affairs (MOEA) has been involved in the promotion of the internationalization of Small and Medium Enterprises (SMEs) and international cooperation. Through its active participation in regional SME and multilateral trade and economic cooperation organizations, the SMEA endeavors to strengthen bilateral SME development and cooperation on and exchange of SME guidance experiences, and to analyze SME guidance policies and measures and important issues around the world. The purpose is to help SMEs achieve growth, internationalization and a global deployment strategy. From 2010 to 2011, the SMEA hosted or participated in the following international SME meetings:

1. Participating and Hosting International Conference in 2010

(1) Hosting the APEC Experts' Meeting on the APEC SME Economic Crisis Monitor

The Experts' Meeting on the APEC SME Economic Crisis Monitor was organized by the APEC SME Crisis Management Center from May 21 to May 22, 2010, in Taipei. Members of the monitoring group were invited to the meeting to discuss the construction of an APEC SME crisis monitoring framework with consultants. A total of 17 domestic and foreign experts participated in discussions on the establishment of a crisis monitoring mechanism, including monitoring indicators, scope, newsletter compilation and other related tasks. After a series of discussions the experts reached a consensus on the development of monitoring indicators required by SMEs, which would be defined in APEC's official language (English). Taiwan would translate the newsletters into Chinese and make them available for download by domestic enterprises. The first issue of the newsletter was published in July 2010.

(2) Establishing an APEC SME Crisis Management Center and Organizing SME Crisis Management Symposia

The APEC SME Crisis Management Center was officially established on May 24, 2010, and was the first APEC Center based in Taiwan. The objectives of the Center are to assist SMEs of APEC member economies to manage a variety of cross-border financial risks and challenges as well as to enhance their emergency response capability in the face of economic crises. The APEC SME Crisis Management Center has the following five major functions: (1) distribution of the monthly newsletter APEC SME Economic Crisis Monitor; (2) analyzing the impact of major international events on SMEs, (3) organizing SMEs crisis management symposia, (4) creating the

Management Center website (www.apecscmc.org), and (5) providing SMEs in APEC member economies with crisis advisory services.

To provide assistance to SME business owners in the understanding of international economic development trends and crisis response strategies, the "Crisis Management Symposium for SMEs" was held on May 24, 2010, in Taipei. High-ranking officials in charge of SMEs in APEC member economies, renowned scholars and international experts were invited to present speeches and serve as forum panelists on the following topics: "Globalization and the Global Financial Crisis," "The Impact of the Global Financial Crisis on SMEs," "Post-crisis Opportunities and Risks Facing SMEs," "How SMEs Should Respond to the Impact of Trade Liberalization" and "Operating Mechanisms of Global Financial Markets."

(3) Participation in the 56th Annual Sessions of the ICSB Conference

The 54th ICSB Conference was held from June 21 to June 24, 2009 in Seoul. The theme of the conference was "The Dynamism of Small Business: Theory, Practice, and Policy." The 55th ICSB Annual Conference was held in Cincinnati, Ohio, from June 24 to June 27, 2010, with the theme of "Entrepreneurship Bridging Global Boundaries." Director Lai of the SMEA was invited as a keynote speaker. The 56th ICSB Conference was held from in Stockholm, from June 15 to June 18, 2011, with the theme of "Back to the future: Changes in perspectives of global entrepreneurship and innovation." In order to share our experiences in SME development and guidance outcomes, and expand our network with the international community, the participants included representatives of industry, government, academic and research community groups, and were involved in presenting keynote speeches, and publishing research papers related to entrepreneurship.

(4) Attending the 17th APEC SME Ministerial and Related Meetings

The 16th APEC SME Ministerial Meeting was held from October 2 to October 3, 2010, in Gifu, Japan. The theme of this meeting was "Strategy for Reinvigorating Economic Growth with Dual Engines: SMEs and the Asia-Pacific Economy" with the sub-themes: Improving the business environment of SMEs; Enhancing business support programs for SMEs; and Facilitating SME innovation and access to global markets.

During the conference, the Taiwan delegation read a paper on "The Impact of the Global Economic Crisis on SMEs, and the Response Strategies," explaining that Taiwan's economy was recovering from the crisis and using innovation to drive development, and outlining Taiwan's experience in helping its SMEs to cope with the global economic crisis through measures such as the enactment of the Statute for Industrial Innovation and reduction of the tax burden (with the business income tax rate being cut from 25% to 17%, and estate tax adjusted from a progressive rate of 50% to a straight 10% rate), etc. The Taiwan delegation also noted that Taiwan was looking forward to collaborating with other member economies, working together to promote the economic development of the Asia Pacific region.

(5) Hosting 2010 36th ISBC Conference

The 36th International Small Business Congress (ISBC) was held at the Taipei International Convention Center on October 4 – 7, 2010. There were a total of 848 participants (representing domestic and overseas companies, government agencies, universities and research institutes) from 62 countries. The theme of the Congress was "Stride Across the Uncertain Age to New Opportunities and a New Future"; the aim of the Congress was to explore how business enterprises can identify niches and opportunities in the aftermath of the global financial crisis and under the impact of climate change, and find ways to grow in the future. During the Congress, Lai Sun-Quae, Director-General of the Small and Medium Enterprise Administration, Ministry of Economic Affairs, gave an address in which he explained how SMEs in Taiwan have been responding to the changed business environment, and the new business opportunities and new issues that are emerging.

2. Participating and Hosting International Conference in 2011

(1) Participation in the 32nd Meeting of APEC's Small and Medium Enterprises Working Group (SMEWG)

The 32nd Meeting of APEC's Small and Medium Enterprises Working Group (SMEWG) was held on May 16 – 17 in Big Sky, Montana, in the U.S.A. This was the first time that Lai Sun-Quae, Director-General of the Small and Medium Enterprise Administration, Ministry of Economic Affairs, had chaired a meeting of the SMEWG. The discussion focused on how to encourage SME development, strengthen SMEs' innovation capabilities, and help SMEs to acquire the capabilities needed to internationalize their operations. Other topics included the need to make SMEs aware of the business opportunities available in the Asia-Pacific region, encouraging governments to reduce SMEs' operating costs through regulatory overhaul and greater transparency, and boosting SME job creation in the "green" industries. The Chinese Taipei delegation read seven papers during the meeting, which were warmly received.

(2) Participation in the 17th APEC Ministers Responsible for Trade Meeting and the 18th APEC SME Ministerial Meeting

The 17th APEC Ministers Responsible for Trade Meeting and the 18th APEC SME Ministerial Meeting were held on May 19 – 20 and May 21, 2011, respectively, in Big Sky, Montana, U.S.A. During the Meetings, Vice Minister Lin Sheng-Chung gave an address on problems related to the lack of internationalization capabilities and difficulty in identifying business opportunities in other countries, and an additional address on the formulation of the government's policy for supporting "green growth" by SMEs (Theme No. 4). Vice Minister Lin explained the various new policies that the Taiwanese government has introduced (such as the "New Cheng Ho Plan"), and outlined the Green Trade Promotion Plan which Taiwan will be implementing over the next three years to help its SMEs adjust to the new global trend towards "green growth," facilitating the securing of "green" business opportunities (in terms of both products and services) throughout the world..

(3) Holding of the "APEC Symposium on Enhancing SME Capacity to Manage the Risks Associated with Trade Liberalization"

The "APEC Symposium on Enhancing SME Capacity to Manage the Risks Associated with Trade Liberalization" was held in Taipei on August 16 – 17, 2011. The aim of the conference was to discuss ways of helping SMEs in APEC member economies that are involved in international trade to reduce or control risk, and to strengthen SMEs' ability to respond effectively to risk factors. The issues discussed included regulatory risk and the importance of a transparent business environment, risk deriving from exchange rate fluctuations, and financial risk related to difficulties in securing financing, etc. The conference was followed by the formulation of a set of "Principles for Guiding APEC SMEs in Dealing with Risk Related to Trade Liberalization," which it is hoped will serve as a useful reference for helping to overcome barriers to trade.

3. Signing a Memorandum of Agreement between Taiwan and South Africa on SMEs

To implement the resolutions adopted at the "Fifth Taiwan-South Africa Economic and Trade Consultative Meeting" and to enhance bilateral SME cooperation and development between Taiwan and South Africa, a Memorandum of Agreement between Taiwan and South Africa on SMEs was signed in October 2009 as the basis for the two countries to promote bilateral cooperation projects and personnel training. The memorandum provides a framework in which projects such as "The International Best Practice Exposure Program: Learning from the Taiwan Experience" will be implemented in each 3-year period to help members of South Africa's SME Bureau, Ministry of Trade and Industries, receive training in Taiwan. From 2009 to 2011, South Africa's SME Bureau has sent trainees to Taiwan three times thus far.

4. Participating in the GEM Research Project

To assist SMEs to participate in Global Entrepreneurship Monitor (GEM) entrepreneurial activity research, the SMEA sponsored SMEs in conducting the GEM survey, achieving the 2,000-sample Adult Population Survey (APS) and National Expert Survey (NES) in 2010. The SMEA also supported a survey on early-stage entrepreneurial activity in Taiwan, held from May to July 2011, through interviewing 36 experts on 9 topics, and collecting their professional points to be the basis of a survey within the entrepreneurial activity framework.

5. Attending Global Entrepreneurship Week

In 2010, Taiwan formally participated in Global Entrepreneurship Week (GEW) for the first time. In 2011, efforts were made to integrate GEW with other entrepreneurship-related activities in Taiwan; these related activities got underway in June 2011, with "Start-up Taiwan" as the activity logo. The aim was to create an atmosphere in which "every day is start-up day, and every week is start-up week," and to show the world just how strong Taiwan's entrepreneurial spirit and entrepreneurial capabilities are.

6. Hosting the Asian Association of Business Incubation (AABI) 17th General Assembly and International Conference on Business Incubation

In association with the Global Entrepreneurship Week (GEW) activities, the Asian Association of Business Incubation (AABI) 17th General Assembly and International Conference on Business Incubation will be held in Taiwan in mid-November 2011.

(1) The Asian Association of Business Incubation (AABI) 17th General Assembly

Taiwan was one of the founders of the Asian Association of Business Incubation (AABI), and is currently chairing the Association. The AABI's 17th General Assembly and International Conference are scheduled to be held in Taipei on November 15 – 18, 2011. The areas on which this year's General Assembly will be focusing include collaboration within international incubation center networks, key trends in the development of the incubation sector, and optimizing incubation projects. It is anticipated that hosting the General Assembly in Taiwan will provide an opportunity to "market" Taiwan to other countries in the Asia region, and to showcase the development of the incubation sector in Taiwan and the innovativeness and strengths of Taiwan's SMEs.

(2) The International Conference on Business Incubation

To help bring business incubation activity in Taiwan up to world-class standards, enable the business incubation sector to benefit from domestic and overseas incubation center management expertise, and help start-ups in Taiwan to develop an international outlook, an International Conference on Business Incubation is being held in Taipei on November 17, 2011. The main focus of this Conference will be on business incubation in the Asia-Pacific region, with the theme of "Cutting-edge Globalized Business Incubation – Key Trends in the Asia Region." The aim is to help would-be entrepreneurs appreciate the business start-up potential of the Asia region from the globalized perspective, while at the same time considering the future of global business incubation from an Asian point of view..

II Statistics on Government Resources Allocated to SMEs

It is explicitly stated in the Act for the Development of Small and Medium Enterprises that the government should clearly specify in the SME White Paper the amount of resources allocated to SMEs. In addition to the resources expended by the government on SMEs, this section will also contain statistics pertaining to the government's procurement of property, public works or labor from SMEs as well as special loans made available to SMEs. However, statistics on government guidance resources and financing are limited to those from agencies at the central government level. In this section, the statistics provided are on the basis of actual disbursement. The details are explained as follows:

1. Government Procurement from SMEs Reached NT$593 Billion

According to Government e-Procurement System statistics on awarded contracts, in 2010 the amount contracted or subcontracted by SMEs in government procurement totaled NT$ 593.00 billion, a substantial decrease of NT$214.94 billion from the NT$807.94 billion in 2009.

2. Assistance to SMEs Totaled NT$30.5 Billion

The statistics on resources allocated by the government for SME guidance purposes include funding to government agencies that have a significant relationship with SMEs, e.g., the Small and Medium Enterprise Administration, Industrial Development Bureau, Bureau of Foreign Trade, Department of Commerce, Department of Industrial Technology and Department of Investment Services, as well as training expenses of the Council of Labor Affairs, government contributions to the SME Credit Guarantee Fund and financial institutions' contributions to the SME Credit Guarantee Fund.

As for government agencies with a substantial involvement in providing guidance to SMEs, the amount was NT$38.26 billion in 2010, of which NT$28.81 billion was allocated to SMEs, representing 75.31% in the final accounts (Table 13-2-1). When viewed by government agency, the Department of Industrial Technology was ranked first with NT$12.62 billion in terms of allocation to SMEs, followed by the SMEA, with NT$8.13 billion. However, this includes the NT$5.6 billion of government contributions to the SME Credit Guarantee Fund. The next highest was the Industrial Development Bureau, with NT$ 3.95 billion.

Table 13-2-1 MOEA Resources and Funding Allocated to SMEs

Unit: NT$1,000; %

Annual Funding / Organizer	Fiscal Year 2010 Final Accounts	Total Amount Allocated to SMEs
Small and Medium Enterprise Administration (including SME Development Fund)	8,132,790	8,132,790 (100.00)
Industrial Development Bureau (industrial technology guidance and industrial park development and management fund)	5,837,313	3,946,733 (67.61)
Bureau of Foreign Trade (overseas marketing guidance and trade promotion fund)	4,446,884	3,546,932 (79.76)
Department of Commerce (promotion of trade modernization and commercial technology development)	1,396,974	569,116 (40,74)
Department of Industrial Technology (DOIT)	18,444,176	12,617,529 (68.41)
Total	**38,258,137**	**28,813,100 (75.31)**

Notes: 1. Figures in parentheses represent the percentages in the final accounts.
2. Funding allocated to SMEs contain the NT$6 billion donated to the SME Credit Guarantee Fund.
Source: Various government agencies.

When compared with 2009, the overall assistance funding for SMEs decreased by NT$129 million. With the exception of the decrease of NT$613 million from the SMEA, and the decrease of NT$1,028 million from the Bureau of Foreign Trade, the remaining agencies had relatively large increases in SME funding allocation, notably the Industrial Development Bureau, with the largest increase of NT$1,102 million. When viewed from the percentage of funding allocated to SMEs, MOEA funding for SMEs increased by 0.83% in 2009 in terms of overall funding (Table 13-2-2).

In 2010, in addition to the relevant government resources allocated to SMEs by agencies such as the MOEA, 40 financial institutions also contributed a total of NT$1.53 billion to the Small and Medium Enterprise Credit Guarantee Fund of Taiwan to enhance the Fund's strength. Therefore, total public and private sector guidance resources available to SMEs totaled NT$30.34 billion in 2010.

In the area of assistance in human resources investment, two options are available in the enterprise human resources upgrade project of the Council of Labor Affairs, namely, the individual type and the joint type. The funding for this project is NT$400 million, of which the individual type is available to individual enterprises, and business owners are encouraged to improve productivity and product quality via existing equipment and resources or professional training institutions. For the joint type, three or more enterprises are grouped together for the planning of employee training for the purposes of propagating and sharing training experiences and resources, while at the same time enhancing corporate human resources to facilitate the development of industry or regional upgrading. From the point of view of the overall upgrading of human resources, the funding for this project applicable to SME personnel training reached approximately NT$169 million, and government funding for providing guidance to SMEs totaled NT$30.51 billion.

Table 13-2-2 Increase/Decrease in MOEA Funding to SMEs

Unit: NT$1,000; %

Annual Funding / Organizer	Total Allocated to SMEs in 2009	Total Allocated to SMEs in 2010	Increase/ Decrease (%)
Small and Medium Enterprise Administration (including SME Development Fund)	8,746,115 (100.00)	8,132,790 (100.00)	-613,325 (0.00)
Industrial Development Bureau (industrial technology guidance and industrial park development and management fund)	2,844,245 (60.35)	3,946,733 (67.61)	1,102,488 (7.26)
Bureau of Foreign Trade (overseas marketing guidance and trade promotion fund)	4,575,190 (90.15)	3,546,932 (79.76	-1,028,258 (-10.39)
Department of Commerce (promotion of trade modernization and commercial technology development)	434,924 (31.11)	569,116 (40.74)	134,192 (9.63)
Department of Industrial Technology (DOIT)	12,342,153 (65.20)	12,617,529 (68.41)	275,376 (3.21)
Total	**28,942,267 (74.48)**	**28,813,100 (75.31)**	**129,167 (0.83)**

Note: Figures in parentheses represent the percentages in the final accounts.
Source: SMEA.

3. Providing SMEs with Special Loans Totaling NT$2.8 Billion

Eligible SMEs in Taiwan have access to the following six types of special loans: SME Upgrade Guidance Loans, Youth Entrepreneurship Guidance Loans, SME Development Fund Special Loans, Assistance for SMEs to Take Root Special Loans, Indigenous Integrated Development Fund Loans (Indigenous youth business loans, Indigenous economic industry loans, and Indigenous micro-business activities loans), and Micro Business Start-up Phoenix Loans (Council of Labor Affairs). A total of NT$2.77 billion in government-funded SMEs loans was made available in 2010 (Table 13-2-3).

Table 13-2-3 Special Loans to SMEs Funded by the Government in 2010

Unit: NT$100 million

Name of Loan	Eligible Applicant	Structure	Status	
			Total Loan Amount	Gov't Funding
SME Upgrade Guidance Loan	SMEs	Each loan is funded by the Development Fund, Executive Yuan (25%) and lending institution (75%)	58.24	14.56
Youth Entrepreneurship Guidance Loan	Youth aged 20-45 engaging in business start-ups	Each loan is funded by the Sino-American Fund (50%) and lending institutions (50%)	20.32	10.16
SME Development Fund Special Loan	SMEs	SME Development Fund	0.76	0.76
Assistance for SMEs to Take Root Special Loan	SMEs	Earmarked funds from CEPD Long-term Fund	42.56	0.00
Indigenous Integrated Development Fund Loans (Indigenous youth business loans, Indigenous economic industry loans, Indigenous micro-business activities loans)	Indigenous people	Fully funded by the Council of Indigenous Peoples	1.96	1.96
Micro Business Start-up Phoenix Loans	Women aged 20-65 and women aged 45-65	Loans provided by Banks' own funds and interests subsidized by the Council of Labor Affairs	5.26	0.23
Total			**129.10**	**27.67**

Source: Various government agencies.

III Manpower Training for SMEs

1. Digital Learning, Business Incubation, Business, Technology Personnel Training - SMEA

In order to solve the manpower shortage problem, the MOEA has allocated a generous budget to bring together experts from industrial, academic and research communities to plan projects for training qualified personnel. The following is a list of training programs carried out by various government agencies for 2010-2011.

(1) SME Online University

As of March 2011, the total number of visits to the SME Online University, which was founded in August 2006, had exceeded the 10 million mark, and the web platform had attracted participation from more than 360,000 trainees in a variety of training courses (http://www.smelearning.org.tw/). The website currently provides over 1,000 courses in five major faculties: information technology, financial management, marketing and distribution, human resources and general knowledge. The cumulative number of course participants has reached 2.2 million; some 650 SMEs have even adopted the website as their in-house training platform.

(2) Establishing an SME Entrepreneurship and Innovation College

The SME Entrepreneurship and Innovation College provides a channel through which aspiring entrepreneurs and new business owners can continue to receive training. The college's training options consist of both physical and online campuses, with the following four courses available:

1.Elite entrepreneurial program – required. 2.Elite entrepreneurial program – electives. 3.Elite entrepreneurial program - intensive program. 4. Internet entrepreneurial academy.

(3) Nurturing SME Business Leaders

The SME Business Leaders Research Project was established in 2002 to enhance the core operating capacity of domestic SMEs. After the program has ended, all trainees are invited to participate in the "SME Business Leaders Seminar," where economic and trade experts and entrepreneurs share their views on international trends and experiences in business management practices. Former trainees of the program are also invited to participate in the events in order to encourage further learning and pass on their experiences, thus effectively expanding the network of enterprise resources and building a community for business leaders.

(4) Develop Incubation and Certification of Professionals

The country's capabilities in nurturing new ventures and providing consulting services is shaped and enhanced through the organization of incubation and certification exams for professionals and with a forward-looking, specialized and diverse training system. This provides even more professional assistance in entrepreneurship, innovation and business operations as well as in improving the success rate of new enterprises and the competitiveness of SMEs.

(5) Training Information - Government Training Integrated Services Information Network

To bring together all the educational and training resources provided by government agencies in a more effective manner and to provide a single access point for citizens, businesses and training institutions, the SMEA completed the deployment of the Government Training Integrated Services Information Network (http://get.nat.gov.tw) in 2007, which contains information on 10 government training programs. It is hoped that this will strengthen the integration of inter-departmental information and services and further enhance the performance of government administrative services so as to reap the benefits of information integration via the exchange of information and services by various government agencies.

(6) Cultivation of SME Talent and Research on Key Trends Affecting SMEs

To enhance the quality of SMEs' human resources, and to strengthen their innovation capabilities, the Small and Medium Enterprise Administration, Ministry of Economic Affairs has been actively implementing the "SME Managerial Talent Cultivation and Trend-related Research Plan," with the aim of helping Taiwan's SMEs to improve their managerial efficiency and build strong core competencies. The managerial talent cultivation segment of the Plan involves organizing training courses for individuals who will shortly be taking over the running of an SME, innovation-related training courses, and training courses for senior managers of Taiwan-invested firms operating overseas, and other practical training courses, with the aim of giving SME owners and senior managers the specialist skills and international awareness they need to operate effectively. So far, a total of 89,439 SME owners and senior managers have received training under this Plan.

(7) Upgrading the Management Consultant Service Provision Capabilities Available for SMEs

In order to achieve an effective, across-the-board strengthening of the quality of guidance available to SMEs through the provision of management consulting services, thereby enhancing the international competitiveness of Taiwan's SME sector, besides continuing with the cultivation of specialist SME management consultants, in 2009 the government began implementation of the Management Consultant Services Technology Development Program. A variety of methods – including the carrying out of surveys into management consulting supply and demand, the establishment and maintenance of a website for management consulting industry information exchange and business matching, cultivation of high-end management consultants (including arranging on-the-job training provision overseas), promotion of strategic alliances in the management consulting industry, etc. – are being implemented to strengthen the overall service provision capabilities of Taiwan's management consulting sector, thereby enhancing the overall competitiveness of industry.

2. R&D and Management Technology Talent Training – Department of Industrial Technology, MOEA

(1) Training Cross-Sector International Management Talent (Cross-sector Technology Management Course)

Starting in 2000, in coordination with the Executive Yuan's initiative on scientific and technological personnel training, the MOEA selects, through DOIT, individuals with technological backgrounds in R&D or management for overseas training in intellectual property rights, technology transfer, investment appraisal and other professional courses, helping the industry to develop international management talent in the technology sector and accelerate the development of emerging industries. The program entered its 10th year in 2009, and during this 10-year period it has produced over 1,000 top industry talents.

The program will continue to run from 2010 to 2013 with a training approach that consists of domestic and overseas training sessions. For the domestic training, trainees will each be responsible for NT$20,000 in tuition and will receive a 50% subsidy from the government for the overseas training, while the underlying enterprise will be responsible for the remaining 50%.

(2) Training R&D Management and Business Strategy Professionals

The R&D management and business strategy professional training program is primarily aimed at training senior R&D personnel. The purpose is to provide training on the development of innovative business strategies and on the enhancement of key practices in management operating performance.

The design of the overall learning program focuses on three main areas: innovation and R&D strategic planning, innovation and R&D operational management, and product innovation practices. Coupled with overseas training in selected topics, seminars conducted by foreign experts and panel discussions as well as instructor-led domestic courses, trainees can also work on projects involving actual cases. As of 2010, a total of 1,018 R&D managers were cultivated,

633 trainees received training abroad, and 8,169 studied new knowledge and the practical affairs of foreign experts.

3. Professional Training Programs for Various Industries - Industrial Development Bureau, MOEA

(1) Training Programs for Industry Professionals (Total of 14 Projects)

The “Training Programs for Industry Professionals” introduced by the Industrial Development Bureau of the MOEA comprise the following 14 projects namely ,the manufacturing energy conservation and carbon reduction service team project, Intellectual property rights circulation and utilization project, Enterprise intellectual property management system promotion plan, Taiwan design industry take-off project, Network and communications industry promotion plan, Digital learning and archival industry promotion program, Software quality improvement (CMMI) project, Embedded software international supply chain project, Solar cell industry promotion plan, Communication safety industry promotion project, Healthcare and medical equipment industrial technology promotion project, Pharmaceutical industry, Food industry quality improvement guidance and promotion plan, and Textile-related industry in response of trade liberalization project,.

These projects aim to combine the efforts of experts from industry, academia and the research community to conduct analysis on various training programs, and to plan comprehensive training programs that meet the needs of industry according to industry trends and the characteristics of regional industry clusters.

(2) Training Semiconductor Talents - Semiconductor Institute

The Semiconductor Institute has developed two types of courses based on industry trends and requirements: medium-/long-term training courses and short-term professional training courses. The former are aimed at providing a 200-hour training program for anyone who wishes to enter the semiconductor industry; the latter are aimed at raising the technological expertise and level of knowledge of those already employed by the industry by providing technology or market-related courses.

(3) Training Blue-collar and White-collar Workers in the Machinery Industry

The Training Project for Blue-collar and White-collar Workers of the Machinery Industry is aimed at raising the quality of manpower in the machinery industry and providing the required technological expertise. The program is conducted in association with organizations with actual practical R&D and training experience in precision machinery. Medium level to advanced training courses in technology related to machine tools and components, molds, FPD and IC equipment, lasers, intelligent robotics and general machinery are provided.

(4) Manpower Training for Information Application Services

The “Training Program for Design and Technology Professionals in Textile and Related Industries” is a program that combines elements from the industry, academic and research communities. It provides the textile industry with the training to build up its R&D and design, marketing and management capabilities. Courses include: textile industry technology series,

footwear, bags, sports and leisure series, fashion design marketing and series, and high-quality textile application technology series. The government provides a maximum of 50% in tuition subsidy to each trainee (a maximum of 1/3 for overseas courses).

(5) Training for Design and Technology Professionals in Textile and Related Industries

The "Training Program for Design and Technology Professionals in Textile and Related Industries" is a program that combines elements from the industry, academic and research communities. It provides the textile industry with the training to build up its R&D and design, marketing and management capabilities. Courses include: textile industry technology series, footwear, bags, sports and leisure series, fashion design marketing and series, and high-quality textile application technology series. The government provides a maximum of 50% in tuition subsidy to each trainee (a maximum of 1/3 for overseas courses).

(6) Chemical Industry Talent Training

Based on industry requirements, plastics, rubber, polymers, resins, paper, cosmetics, petrochemical and other related industries have been selected to promote the Chemical Industry Technology Talent Training Program, combining expertise from professionals from the industry, academic and research communities to plan courses that meet industry needs. These training courses include: industrial technology, manufacturing processes, R&D technology, product application, and plant operations and maintenance. The government provides a maximum of 50% in tuition subsidy to each trainee.

(7) Digital Content Industry Talent Training

In order to help alleviate the shortage of human talent in the digital content industry through a combination of long-term, ongoing cultivation and short-term in-service training programs, the Industrial Development Bureau, Ministry of Economic Affairs has been organizing specialist training courses in the fields of computer animation, digital gaming, digital audiovisual content production, mobile applications, e-publishing, etc., with the aim of ensuring that an abundant supply of high-quality talent is available for the digital content industry, while also boosting the industry's production value and the number of people it employs. This program focuses on cultivating human talent with specialist expertise and practical abilities who will be competitive in the marketplace, including individuals with creative, technical, and integration skills, so as to contribute to the successful growth of the digital content industry. The government pays up to 50% of the total cost of tuition for trainees taking part in these training programs.

4. Fostering International Trade and Business Talent - Bureau of Foreign Trade, MOEA

To assist SMEs to secure trade, marketing and language professionals, each year the Bureau commissions the Taiwan External Trade Development Council (TAITRA) to conduct dedicated courses for both fresh graduates and experienced workers. For the 2010-2011 session, the focus of the training projects includes:

(1) Developing Exhibition Talents and Certification

The purpose is to introduce overseas expertise to this country, train exhibition industry professionals, as well as to provide high-caliber exhibition professionals to enhance the international competitiveness of Taiwan's exhibition industry through the establishment of a certification and examination system and MICE (Meetings, Incentives, Conferencing, Exhibitions) expertise database.

Aimed at professional knowledge and requirements of the MICE industry, the following three courses are offered: specialized talent courses, seed instructor courses, and the establishment of a certification system, bringing together scholars and experts in the domestic and international convention and exhibition industry as lecturers; publication of certification materials to develop the country's MICE industry certification and examination system; and coordinating with the various subprojects of the MOEA's Meet Taiwan program to establish a talent database, website and learning assessment mechanism so as to improve the quality of the country's professional MICE service system.

(2) Developing International Business Management Talent Training

Provides training for talents in international business, which is divided into foreign languages, international trade, overseas study and other courses, and includes the following subgroups: international trade (1 year), English language (1 year), MBA program (1 year), European languages (German, French, Spanish, Russian, Portuguese) / Korean / Arabic (2 years), English language (2 years) and Japanese (2 years).

(3) Training for International Trade

The program aims to provide trade professionals with solid skills in the English language and knowledge in international trade practices. Courses include international trade, marketing, law and import/export financial operations. Case studies and practical teaching sessions are also arranged. English language courses are taught mainly by foreign teachers and in small classes and they focus on practical knowledge and drills. The training process will be 6-months per term, and two terms will be offered each year

(4) Manpower Training for Master's Degree Holders in International Marketing

To address the need for international marketing talents in the foreign trade and business community and to accommodate the expectations of young workers with master's degrees who aspire to build a career in international marketing, a 210-hour professional course in international trade is offered to individuals from various backgrounds and with master's degrees. Courses include various international trade and marketing areas. The tuition for the 6-month term is NT$50,000, and two terms are offered each year.

(5) Developing Bachelor and Master's-level Business English Talent Training

Business English courses are offered to address the need for international business talents. The purpose is to enhance professional business English skills and capabilities, thereby enhancing competitiveness in the workplace. The classes are planned and taught by experts and focus on listening, speaking, reading and writing skills, as well as on social and cultural aspects necessary for

communication with international business people. The classes, taught by foreign instructors with international English teaching certification, are small and provide an interactive learning environment. The tuition for the 6-month term is NT$ 38,000, and two terms are offered each year.

(6) Training for Short-term International Business and Language Professional Jobs

This is aimed at providing international trade practices training and short-term foreign language training. Courses include various topics on international trade and languages. The course can last from 6 to 72 hours.

(7) Developing an International Trade Elite Service Network

The International trade elite service network is a dedicated website of the Training Center. The purpose is to recommend trainees who have completed courses at the Training Center to import/export companies in Taiwan, and serves as a recruitment platform for the industry.

A hiring enterprise may log into the website, register the company's basic information and publish its job vacancies. Upon successful registration at the website, the company must contact the website to receive permission to conduct recruitment. The Training Center also authorizes enterprises to conduct career fairs or recruitment seminars at various educational institutions.

(8) Incubation Program for Pioneering Business Elites in Emerging Markets

When expanding to emerging markets, Taiwanese enterprises are often faced with the problem of being too far away from the target markets and being unable to communicate with potential customers in their local language. Therefore there is often a need to recruit local marketing staff. This program aims to facilitate the short-term training of local target-market personnel in Taiwan for product marketing, taking advantage of local employees' language abilities and local knowledge and training them to become business representatives of Taiwanese corporations.

A database has been created by TAITRA on potential domestic and overseas pioneering business personnel, and is used to match the needs of corporations intending to recruit personnel in the target emerging markets. Those potential employees who have successfully passed the screening process will be invited to participate in training programs offered by Taiwanese companies.

This project targets these following 20 emerging markets: Brazil, Argentina, Mexico, Colombia, Chile, Russia, Poland, Hungary, Slovakia, Ukraine, Belarus, Turkey, Kazakhstan, United Arab Emirates, Iran, Saudi Arabia, India, Indonesia, Vietnam and Egypt.

IV Improving Legal Rights Adaptation

The SMEA actively launched regulation flexibility analysis in 2001, and promoted the related processes. The Regulatory Committee of the Executive Yuan called on all the government agencies in the repair business (Amendment) regulations to measure the size and characteristics of small and medium business to avoid the hasty implementation of the regulations, which would have resulted in small and medium enterprises being seriously affected. Before the operations in the Government's policy advocacy direction were implemented, the small and medium

enterprises were helped to adopt countermeasures, so that the small and medium enterprises would comply with the regulations. Relevant measures in this regard are discussed as follows:

1. Studies on Legal and Regulatory Issues Relating to SMEs

Research and analysis of legal and regulatory issues relating to SMEs which was undertaken in FY2010 included the following: with regard to the tax environment in Taiwan, feasibility study planning for a continuation of the previous fiscal year's research on unemployment insurance for entrepreneurs, and the drafting of proposals for revising the applicability of the definitions used in the *SME Development Statute*; analysis of the regulatory adjustments needed to accompany the implementation of the tocolysis leave system and the raising of the minimum wage; and examination of certain key regulations relating to healthcare issues in the industrial sector that may affect SME operations. The main proposals made on the basis of this research were as follows:

1. Given the need to build a first-class business environment, improving the tax environment in Taiwan constitutes a concrete means of enhancing Taiwan's national competitiveness.
2. With regard to the provision of unemployment insurance for unemployed entrepreneurs as a means of encouraging business start-up activity, provided that the system is properly designed, it should be possible to minimize ethical risk.
3. There is no urgent need to revise the criteria specified in the SME Development Statute; priority should be given to the provision of guidance with respect to small-scale business enterprise registration.
4. The implementation of the tocolysis leave system should be accompanied by suitable ancillary measures.

2. Status of SME-related Legislative Amendments

In 2010 various government agencies completed the enactment or amendment of 54 bills related to SMEs. It is understood that most of this legislation is neither adverse nor favorable to the development to SMEs, and only a few may infringe upon their interests.

3. Improving SME Knowledge of Regulations

In order to educate SMEs on regulations and other common knowledge, in addition to actively advocating the importance of legal knowledge, the SMEA has also provided consulting services to minimize the impact on SMEs with a lack of regulatory knowledge. In 2010 the results of promoting regulatory knowledge among SMEs were as follows:

(1) SME Regulatory Information and Advisory Services

1. Promoting SME regulatory information:The promotion of SME regulatory information included Establishing a legal information service website: http://law.moeasmea.gov.tw for SMEs that provides additional legal services and knowledge to safeguard their interests, and producing an "SME Regulation Advocacy Booklet"
2. Legal advisory services for SMEs: A total of 147 honorary consulting lawyers were hired in 2010 to provide legal advisory services, including telephone and website consultation,

serving 1,358 cases. Among them, there were 326 cases involving civil regulations, the largest category, followed by 271 cases that were related to labor laws-related. The third largest category was corporation and taxes regulations, consisting of 119 cases.

3. Promoting SME awareness in business legal knowledge: The SME business regulations and knowledge awareness promotion tour provided specific advisory channels to help SMEs deal with regulatory issues. In 2010 a total of 10 seminars on regulatory advisory services for SMEs were held in various cities and counties around the country. A total of 656 SMEs participated in the events.

(2) Promoting SME Awareness of Consumer Protection Legislation

1. Promotion of the awareness of consumer protection legislation: In 2010 a total of 11 SME consumer protection legislation awareness seminars were held.
2. Preparation of guidelines and handbooks: In 2010, the Small and Medium Enterprise Administration began the compilation of industry-specific versions of *The Consumer Protection Law – Handbook for SMEs*. The versions compiled in FY2010 included handbooks for SMEs in the travel industry and the food processing industry. Contents included the consumer protection issues most frequently encountered by SMEs in these industries, presented in case study fashion, focusing on how SMEs should approach the resolution of each type of dispute. Reflecting the recent increase economic and trading links between Taiwan and China, the handbooks also addressed consumer protection disputes involving Chinese tourists visiting Taiwan, the impact of harmful products illegally imported from China, etc. for the reference of SMEs.
3. Provide SMEs with advisory services on consumer protection issues: In order to reduce the number of consumer dispute incidents, a SME consumer protection awareness website has been set up to provide additional knowledge related to the law and other services so as to safeguard the interests of SMEs.

Appendix A

Act for Development of Small and Medium Enterprises

Publically announced in accordance with the presidential decree dated February 4, 1991.

Revised in accordance with the presidential decree dated May 21, 1997.

Revised in accordance with the presidential decree dated January 21, 1998.

Revised in accordance with the presidential decree dated December 27, 1990.

Revised in accordance with the presidential decree dated December 21, 2001.

Revised in accordance with the presidential decree dated December 17, 2003.

Revised in accordance with the presidential decree dated November 25, 2009.

Chapter 1 General Principles

Article 1

This Act is enacted for the furtherance of sound development of small and medium enterprises by helping them improve their operation environments, promoting mutual cooperation, and assisting them in striving for growth with their own efforts. With regard to matters not provided for in this Act, the provisions of other relevant acts and regulations shall apply.

Article 2

The term "small and medium enterprises" used in this Act shall refer to the enterprises which have legally completed company registration or commercial registration under the Act and conform to the standards for identifying small and medium enterprises.

The standards referred to in the preceding paragraph shall be drawn up by the central competent authority according to the category, capital stock, amount of operating revenue and the number of regular employees and shall be submitted periodically to the Executive Yuan for approval.

Other government authorities, which administer small and medium enterprise assistance and guidance may, in accordance with their respective operational requirements, formulate separate criteria with loose requirements for objects of assistance and guidance.

Article 3

The term "competent authority" used in this Act shall be the Ministry of Economic Affairs at the central government level, the provincial (municipal) government at the province (municipality) level, and the county (city) government at the county (city) level.

Where any of the matters set forth in this Act involves the functional duties of an authority in charge of a particular enterprise, the competent authority referred to in this Act shall handle such matters in coordination with the said authority in charge of such enterprise.

For enforcement of this Act, government at various levels shall set up or designate a government agency to provide assistance and guidance.

Article 4

For achieving the objectives of this Act, the competent authority concerned shall take appropriate assisting or encouraging measures in respect of the following:

1. Market research and development,
2. Furtherance of rationalization of business operations,
3. Promotion of mutual cooperation,
4. Acquisition and securing of production factors and technology,
5. Education and training of competent personnel, and
6. Other matters relating to the establishment or sound development of small and medium enterprises.

In formulating the policy, acts and regulations, and measures in the preceding paragraph, the competent authority concerned shall aim the contents at the furtherance of improvement and development of the business operations of small-scaled enterprises without unfair treatment in respect of financial and taxation systems and other related matters.

The central competent authority shall publish a white paper, at the end of each fiscal year, on small and medium enterprises given the enforcement status, the review results and the prospective development of the provisions of the preceding two paragraphs.

Article 5

For furthering small and medium enterprises to conduct market research and development activities, the assistance and guidance provided by the competent authority to small and medium enterprises shall be emphasized on the provision of information services, the creation of exclusive brands for their own products, arrangement of marketing channels and/or development of potential market.

Article 6

For furthering small and medium enterprises to rationalize their business operations, the assistance and guidance provided by the competent authority shall be emphasized on the following:

1. Research and development and development of new products,
2. Modernization and renovation of production facilities and improvement of production technology,

3. Improvement of the methods of operational management,
4. Expansion of market and acquisition of necessary information,
5. Conversion and adjustment of the field of business, and
6. Acquisition of resources and technical know-how for business operation.

Article 7

For encouraging mutual cooperation between small and medium enterprises, the assistance and guidance to be provided by the competent authority shall be emphasized on the following:

1. Verticle amalgamation of businesses of the trade and establishment and promotion of the satellite-factory system,
2. Horizontal amalgamation of businesses of the trade and establishment and promotion of joint production and marketing system,
3. Mutual fund or cooperative enterprise,
4. Technical cooperation and development of common technology,
5. Procurement of common equipment, and
6. Establishmant of strategic marketing points.

Article 8

For assisting small and medium enterprises to acquire and secure production resources and technology, the assistance and guidance to be provided by the competent authority shall be emphasized on the following:

1. Formation and accumulation of capital,
2. Capital accommodation,
3. Acquisition of land, plant building, equipment, business site and business information,
4. Personnel training and upgrading of labor productivity,
5. Securing the sources of agricultural and industrial raw materials and technical know-how,
6. Assisting small and medium enterprises to obtain fund from capital market, and
7. Upgrading of the level of services and technical skill.

Article 9

The central competent authority shall set up small and medium enterprise development fund, with the use thereof to be confined to the following:

1. To finance the operating expenses required for carrying out assistance plans,
2. To take part in investment and development projects or provide financing assistance and guaranty jointly with financial institutions under the condition that such financial institutions or credit guarantee institutions can not provide financing or guaranty under normal terms and conditions,

3. To make investment in small and medium enterprise development companies, or to take part in investment in small and medium enterprise with small and medium enterprises development companies, financial institutions and identified investment institutions.
4. To provide financial support to the juridical persons institutions that are incorporated to conduct the activities specified in Article 4 , and
5. Other purposes relating to the furtherance of sound development of small and medium enterprises and as specified in this Act.

For the income-expenditures, safeguarding and utilization of the small and medium enterprise development fund, a small and medium enterprise development fund management committee shall be formed, with its organization structure and the regulations for income and expenditure, safeguarding and utilization of the fund to be stipulated by the Executive Yuan.

Article 10

The small and medium enterprise development fund shall be derived from the following sources:

1. Appropriation from the annual budget programmed by the central government,
2. Appropriation from other special-case funds,
3. Donation from individuals or public and private business organizations or groups,
4. Interests accrued on the fund, and
5. Other associated income.

The donation referred to in item 3 the preceding paragraph may, when certified by the competent authority, be deductible from the total income of the current year, free from any restriction on the amount, in accordance with the Income Tax Act.

Article 11

The provincial (municipal) and the county (city) competent authority (henceforth referred to as “local competent authority”) may, taking into account of the specific development requirements of small and medium enterprises, under its jurisdiction, draw up assistance plan and formulate budget, and shall be responsible for the execution.

To carry out the assistance plan referred to in the preceding paragraph, the local competent authority may apply to the small and medium enterprise development fund for subsidy or assist the small and medium enterprises to obtain capital accommodation under special projects.

Article 12

The competent authority may, taking into account of actual requirements, cooperate with or consign to public and/or private research and service institutions, financial institutions, credit guarantee institutions, trade promotion institutions, industrial and/ or commercial organizations or other agencies for execution of the assistance activities under this Act; and shall set up separate assistance systems in connection with respectively the operations including financial

accommodation, operational management, production technology, research and development information management, industrial safety, pollution control, marketing, mutual cooperation, and quality reinforcement, etc.

The regulations governing establishment up and supervision of the assistance systems shall be drawn up by the central competent authority and submitted to the Executive Yuan for approval.

Article 12-1

In enacting or adjusting acts related to small and medium enterprises, governments at various levels shall review the operation scales or characteristics of small and medium enterprises to facilitate observance by small and medium enterprises.

The central competent authority shall periodically review the acts related to small and medium enterprises on term, and judge the adapt ability of small and medium enterprises, and the influence to small and medium enterprises, and take a review report to the Legislative Yuan yearly.

Chapter 2 Financing Facilities and Guaranty

Article 13

In order to meet the capital requirements for small and medium enterprises, the central competent authority shall coordinate with financial institutions and credit guarantee institutions to enhance their respective functions of providing financing and guaranty to small and medium enterprises.

In order to meet the capital requirements for small and medium credit guarantee institutions, the central competent authority shall allocate budget for donation to such credit guarantee institutions for the maintenance of their guarantee capacity. Financial institutions which contract with such credit guarantee institutions shall also cooperate with the donation whereas and the central competent authority may also solicit donation from private businesses.

The total amount of donation from various financial institutions mentioned in the preceding paragraph, taking into account the actual requirements, may be adjusted upward annually until reaching 35% of the total donation amount and be determined by the central competent authority according to the safekeeping amount, overdue ratio, substitute pay off amount, credit remainder, net value, profit and loss status, and the donated amount.

The central competent authority shall actively help small and medium enterprises get the loan from banks, and report the review results of each fiscal year to the Legislative Yuan.

Article 14

All banks throughout the Republic of China shall, within the scope of their respective business, elevate the ratio of financing facilities provided to small and medium enterprises and shall set up

small and medium enterprises assistance center in order to enhance the provision of relevant services.

Article 15

The competent authority shall coordinate various agencies to make ample budget available for providing special loans to small and medium enterprises, and instruc sponsoring banks to provide special or emergency financing facilities or to extend loans to meet with the requirements of enterprises implementing business converting projects or adapting to the change of economic situation; and to elevate, when necessary, the ceiling of such financing, loans and guaranty.

Article 16

The term "special financing" used in the preceding Article shall refer to the financing provided to small and medium enterprises carrying out any of the following projects:

1. Operational project for reinforcement of competiveness;
2. Research and development, pollution control or market expansion project;
3. Project for creation of new product(s) or upgrading the quality of product(s);
4. Factory relocation project which must be carried out so as to meet with the requirements of environment protection , urban planning, or road construction or other infrastructural projects sponsored by the government;
5. Any other special projects as approved by the competent authority.

Article 17

The term "emergency financing facilities" as used in Article 15 shall refer to the following financing provided to small and medium enterprises:

1. Loan provided as revolving fund in support of production and sales during the period of significant economic crisis;
2. Loan required for recovery of significant natural disaster; or
3. Other loan as required to cope with emergency events.

Article 18

The term "loans to meet with the requirements of enterprises implementing business converting projects or adapting to the change economic situation" used in Article 15 shall refer to any of the following loans extended to small and medium enterprises:

1. Loan provided as revolving fund in support of production and sales during the period of economic recession;
2. Loan required for procurement of replacement or additional machinery and equipment in the course of business conversion; or
3. Loan required for procurement of automation equipment for improvement of productivity.

Article 19

Funds appropriated from the small and medium enterprise development fund for participate in the loans or guaranties sponsored by financial institutions or credit guarantee institutions in accordance with the preceding three Articles; the ratio of such appropriations may be determined by the competent authority in accordance with the actual requirements.

With regard to the bad debts resulted from causes which are not attributable to the intentional act, gross negligence or malpractice of the personnel handing the relevant matters set forth in the preceding paragraph, they shall be fully indemnified from damage liabilities and exmpt from disciplinary measures, according to the provisions of item 1,Article 77 of the Audit Act.

Article 20

The competent authority concerned may coordinate the financial institutions and/or credit guarantee enterprises to give priority to small and medium enterprises, which have sound management, financial and accounting systems and have paid up all taxes due, in providing financing facilities and guaranties.

Article 21

Where the operation of a small or medium enterprise is affected or it has to move to another place in order to meet with the requirements of environmental protection, urban planning, or road construction or other projects sponsored by the government, the competent authority shall assist it to apply for operating revolving loan or relocation loan from financial institution, and assist it to acquire the land required for factory relocation, when it is deemed necessary.

Article 22

Where a small or medium enterprise suffers great damages caused by natural disaster, the competent authority shall coordinate the financial authority for tax exemption or reduction or other remedies.

Article 23

In order to prevent small and medium enterprises from involvement in domino effect resulted from the close-down of their respective related enterprises, the competent authority may coordinate and assist industrial associations to establish, either separately or jointly, mutual guaranty fund(s) for prevention of chain close-down of small and medium enterprises so as to provide credit guarantee in respect of special financing facilities for the small and medium enterprises having financial or operational difficulties in such cases.

The small and medium enterprise development fund may, when necessary, contribute to such mutual guaranty fund(s) at the initial stage upon its (their) establishment.

Chapter 3 Operation Management, Market and Product Development

Article 24

The competent authority may establish or assist the private sector to establish a small and medium enterprise guidance and service center, and may cooperate with relevant public and private institutions to provide small and medium enterprises with the following guidance and services:

1. Business operation diagnosis;
2. Improvement of the marketing and production technology, operation management and financial structure of small and medium enterprises;
3. Training of management or technical personnel of small and medium enterprises;
4. Production and market information and consultation services; and
5. Other relevant businesses activities.

Article 24-1

The competent authority may set up funds to assist in the development of local culture industries for local economic prosperity.

Article 25

For improvement of the operating efficiency and reinforcement of the competitiveness of small and medium enterprises, the competent authority may assist small and medium enterprises to jointly engage in activities such as production, marketing, procurement, transportation, cooperation in technology development, and research and development.

Article 26

The central competent authority may work jointly with relevant institutions, universities and colleges in the training of professionals in the fields of operation diagnosis and business administration so as to provide small and medium enterprises with guidance and services.

Article 27

The competent authorities may provide necessary assistance to various industrial associations or industrial and commercial organizations which have a dedicated service unit responsible for providing services to small and medium enterprises.

Article 28

For encouraging small and medium enterprises to manufacture quality and/or high value-added products or service, and to expand export market, the competent authority shall provide, in conjunction with institutions concerned, technical and marketing guidance and assist medium and small enterprises to participate in overseas exhibition, acquire market information, make joint

advertizing activities, trademark registration, patent application, or establish joint distribution warehouses abroad.

Where the plan of a small or medium enterprise for manufacturing quality and/or high value-added products or service planning has been evaluated and approved by the competent authority in conjunction with authorities concerned, the said small or medium enterprise may apply to the small and medium enterprise development fund to subsidize the expenses incurred in product and market developments.

Article 29

For upgrading the level of production skill of small and medium enterprises, the competent authority may entrust technical service institutions or retain technical experts to make research and development for new products or to acquire advanced technology for providing relevant guidance and services to various industries.

For transfer of new products or advanced technology, the competent authority may collect reasonable charges for amortization of costs incurred; If necessary, these charges may also be partly subsidized by the small and medium enterprise development fund.

Article 30

In order to assist small and medium enterprises for research and development, the competent authority may cooperate with appropriate technology research institutes in the establishment of institutes or places for exclusive use by small and medium enterprise conducting research , testing and development of technical skill and/or new products.

Small and medium enterprises may apply for use, by paying necessary charges, the equipment and facilities of the institutes or places set forth in the preceding to conduct experiment and research activities.

Article 31

The competent authority may, when it deems necessary, negotiate with public or private enterprises for appointment of their respective technical personnel, and support and assistance system to provide guidance in the fields of production skill or service know-how as required by small and medium enterprises.

Article 32

The central competent authority may establish or assist in the establishment of small and medium enterprise development companies to invest directly or indirectly in the small and medium enterprises having development potential and to provide consulting services and other relevant services in connection with domestic and/or overseas technical cooperation, market and product development or investment.

The central competent authority shall provide assistance to the institutes and juridical persons established for carrying out the activities specified in Article 4 of this Act.

The central competent authority may coordinate with the competent authority in charge of banking business under the Banking Act for approval of the participation of banks in the said small and medium enterprise development company so as to enable them to directly provide services referred to in the preceding paragraph.

The small and medium enterprise development fund may take part in the investment for capital formation of small and medium enterprise development companies.

The regulations governing the establishment and operation of the small and medium enterprise development companies and the standard and proportion of investment made by the small and medium enterprise development fund shall be stipulated by the Executive Yuan.

Chapter 4 Tax Remittance

Article 33

Where an investor provides a parcel of land in an industrial zone as his capital investment in a small or medium enterprise, and the said medium or small enterprise agrees to allow the investor to furnish the stock(s) of the said small or medium enterprise acquired by the said investor as the security for his payment of taxes, then the land value increment tax payable by the said investor may be paid in five equal installments in five consecutive years from the year in which the said parcel of land is committed to the investment.

The land to be invested under the preceding paragraph shall be used only by the said small or medium enterprise for its own. If the land is not used by the said small or medium enterprise for its own or is transferred to any other person, the outstanding land value increment tax shall be paid, in a lump sum, by the investor.

Article 34

Where a small or medium enterprise has moved, on account of any of the following causes, its factory or plant into an industrial zone, an industrial zone under an urban plan, or an industrial land designated in accordance with the act for Encouragement of Investment prior to the enforcement of this Act, the land value increment Tax payable on the sale or transfer of its original factory or plant site (land) shall be levied at the lowest tax rate:

1. Where the original factory land does not meet with the zoning requirements upon implementation of the urban planning or zoning plan;
2. Where the relocation of factory or plant is applied by the said small or medium enterprise and is approved by the competent authority due to the difficulties in making necessary improvement to meet with the requirements for pollution control, public safety or maintenance of natural landscape; and

3. Where the relocation of factory or plant implemented under the initiative assistance of the government.

Where the new factory land of a small or medium enterprise is transferred to anther party (or other partied) within three years after the factory relocation made under the preceding paragraph, the reduced portion of land value increment tax reduced while assessing such tax on the original factory land sold or transferred prior to the factory relocation shall be assessed supplementarily in accordance with the act.

Article 35

The research and development expenses and/or experiment expenses incurred by a small or medium enterprise in the improvement of production skill and/or development of new products may be deductible from the current year taxable income of the said small or medium enterprise. For any instrument and equipment used for research and development, experiment or quality inspection purposes, if its service life is more than two years, the depreciation thereof may be accelerated by one half (1/2) of the number of years applicable as listed in the table of service life of fixed assets annexed to the Income Tax Act. Balance of service life in a length of less than one year after the depreciation acceleration shall not be taken into account.

Article 36

A small and medium-sized enterprise may retain and withhold from distributing a surplus earning in an amount not exceeding double the amount of its paid-in capital. In case the retained and undistributed earnings exceed the aforesaid limit, any additional surplus earning retained in each year thereafter shall be free from the restriction stipulated in the Income Tax Act after as profit seeking enterprise income tax at the rate of 10% has been surcharged.

The retain and withhold from distributing a surplus earning after 1998 until then, shall obey the Income Tax Acts, and not apply to the preceding paragraph.

Article 36-1

Small and medium enterprises development companies may raise the preparation to investment loss, under 20% of the investment amount, so as to compensate for actual loss. If there is no actual loss situation within 5 years, they shall turn the raising preparation to be the benefit of the 5th year.

When corporations calculate the clearing accounts income due to cancellation, rescission, revocation, mergence, or transference with Article 75, of the Income Tax Act, the accumulate remaining amount from the investment loss preparation within the preceding paragraph, shall turn to be the benefit of the same year.

Chapter 5 Public Procurement Projects or Public Works

Article 37

Governments at various levels and government-owned enterprises shall assist small and medium enterprises to acquire business opportunities in making public announcements for procurement projects or construction of public works.

Article 38

For making public announcement for procurement projects, construction of public works or for entrustment of research and development tasks, government at various levels and government-owned enterprises shall, based on actual requirements, establish qualification requirement and registration system in respect of small and medium enterprises eligible for acting as a supplier or bidder.

Chapter 6 Supplementary Provisions

Article 39

The Executive Yuan may form a Small and Medium Enterprise Policy Deliberation Committee to be in charge of planning and reviewing the small and medium enterprise development policy. The organizational rules shall be stipulated by the Executive Yuan.

Article 40

This Statute shall come into force from the date of promulgation.

Appendix B

Standards for Identifying Small and Medium Enterprises

Approved by Executive Yuan Order Tai (80) Jing #33054 on October 19, 1991. Promulgated by Ministry of Economic Affairs Order Jing (80) Chi Tzu #059364 on November 25, 1991.

Revision approved by Executive Yuan Order Tai (84) Jing #32284 on September 4, 1995. Revision promulgated by Ministry of Economic Affairs Order Jing (84) Chi Tzu #84029087 on September 27, 1995.

Revision approved by Executive Yuan Order Tai (89) Jing #10056 on April 8, 2000. Revision promulgated by Ministry of Economic Affairs Order Jing (89) Chi Tzu #89340202 on May 3, 2000.

Revision approved by Executive Yuan Order Yuan Tai Jing #0940022741 on June 14, 2005. Revision promulgated by Ministry of Economic Affairs Order Jing Chi Tzu #09400561550 on July 5, 2005.

Revision approved by Executive Yuan Order Yuan Tai Jing #0980048943 on August 17, 2009. Revision promulgated by Ministry of Economic Affairs Order Jing Chi Tzu #09800639470 on September 2, 2009.

Article 1

The Standards have been drawn up in accordance with the provisions of Paragraph 2, Article 2 of the Small and Medium-sized Enterprise Development Statute (hereinafter referred to as the "Statute").

Article 2

The term "SME" as used in the Standards shall mean an enterprise which has completed company registration or business registration in accordance with the requirements of the laws, and which conforms to the following standards:

1. The enterprise is an enterprise in the manufacturing, construction, mining or quarrying industry with paid-in capital of NT$80 million or less.
2. The enterprise is an enterprise in the industry other than any of those mentioned in the Sub-paragraph immediately above and had its sales revenue of NT$100 million or less in the previous year.

For the purpose of business guidance, each of the government agencies may, in relation to such specific business matters, base their standards for identifying a SME on the number of regular employees as noted below, in which case the restrictions noted in the previous Paragraph shall not apply:

1. The enterprise is an enterprise in the manufacturing, construction, mining or quarrying industry and the number of its regular employees is less than 200.
2. The enterprise is an enterprise in the industry other than any of those mentioned in the Sub-paragraph immediately above and the number of its regular employees is less than 100.

Article 3

The term "small-scale enterprise" as used in Paragraph 2, Article 4 of the Statute shall mean a SME with less than 5 regular employees.

Article 4

The term "sales revenue" as used in the Standards shall be determined based on the figure as approved by the tax authorities in the year immediately prior to the year of determination. If the approval has not been given by the tax authorities, the determination shall be made in accordance with the following provisions:

1. Sales revenue shall be based on the operating revenue noted on the income tax declaration form for the most recent year bearing the "Documents Received" seal of the tax authorities.
2. If the enterprise is unable to obtain the document referred to in the Sub-paragraph immediately above, Sales revenue shall be based on the sales value noted on the sales and tax declaration form for the full year of the most recent year, with commissioned sales and non-operating income deducted.
3. In the case of sale representatives required to pay business tax by the tax authorities according to the laws, sales revenue shall be presumed to be NT$80 million or less.

If the enterprise was established in the previous year and less than one year has elapsed since business registration, or if business registration took place in the current year, sales revenue for the full year shall be calculated on the basis of the conversion from the figure already declared for each period.

Article 5

The "number of regular employee" as used in the Standards shall be based on the average monthly number of insured persons for whom labor insurance registration has been made with the Labor Insurance agency for the Taiwan and Fukien Region in the most recent 12 months.

Article 6

An enterprises shall be deemed to be a SME if any of the following is applicable:

1. In the case of a SME which has received guidance for expansion, where after expansion the size of the enterprise exceeds the standards listed in Article 2, such enterprise shall continue to be deemed to be a SME for two years immediately after the date of expansion.
2. In the case of a SME which has received guidance for merger, where after the merger the size of the enterprise exceeds the standards listed in Article 2, such enterprise shall continue to be deemed to be a SME for three years immediately after the date of the merger.
3. Where a guidance agency, guidance system or relevant agency undertakes the provision of collective guidance for SMEs in a given industry, if some of the enterprises exceed the standards listed in Article 2, and if the guidance agency, guidance system or relevant agency determines that there is good reason for providing joint guidance, such enterprises shall be deemed to be SMEs during the period of collective guidance.

Article 7

These Standards shall come into effect on the date of promulgation.

Appendix C

SME Statistics by Industry

Table C-1 Number of Enterprises by Industry, 2008-2010

Units: Number of enterprises; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Total	**2008**	**1,263,846**	**100.00**	**1,234,749**	**97.70**	**29,097**	**2.30**
	2009	**1,258,260**	**100.00**	**1,232,025**	**97.91**	**26,235**	**2.09**
	2010	**1,277,585**	**100.00**	**1,247,998**	**97.68**	**29,587**	**2.32**
Agriculture, Forestry, Fishing and Animal Husbandry	2008	11,004	100.00	10,974	99.73	30	0.27
	2009	11,169	100.00	11,129	99.64	40	0.36
	2010	11,386	100.00	11,344	99.63	42	0.37
Mining and Quarrying	2008	1,479	100.00	1,455	98.38	24	1.62
	2009	1,424	100.00	1,403	98.53	21	1.47
	2010	1,391	100.00	1,370	98.49	21	1.51
Manufacturing	2008	136,568	100.00	131,829	96.53	4,739	3.47
	2009	134,881	100.00	130,017	96.39	4,864	3.61
		134,994	100.00	129,983	96.29	5,011	3.71
Electricity and Gas Supply	2008	388	100.00	266	68.56	122	31.44
	2009	396	100.00	278	70.20	118	29.80
	2010	424	100.00	293	69.10	131	30.90
Water Supply and Remediation Services	2008	6,985	100.00	6,691	95.79	294	4.21
	2009	7,019	100.00	6,785	96.67	234	3.33
	2010	7,172	100.00	6,894	96.12	278	3.88
Construction	2008	93,508	100.00	92,272	98.68	1,236	1.32
	2009	93,735	100.00	92,507	98.69	1,228	1.31
	2010	95,657	100.00	94,415	98.70	1,242	1.30
Wholesale and Retail Trade	2008	664,222	100.00	648,376	97.61	15,846	2.39
	2009	656,076	100.00	642,235	97.89	13,841	2.11
	2010	662,467	100.00	646,101	97.53	16,366	2.47
Transportation and Storage	2008	31,563	100.00	30,586	96.90	977	3.10
	2009	31,154	100.00	30,329	97.35	825	2.65
	2010	31,166	100.00	30,181	96.84	985	3.16
Accommodation and Food Services	2008	110,435	100.00	110,182	99.77	253	0.23
	2009	113,703	100.00	113,447	99.77	256	0.23
	2010	117,521	100.00	117,207	99.73	314	0.27

Table C-1 Number of Enterprises by Industry, 2008-2010 (continued)

Units: Number of enterprises; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Information and Communication	2008	15,906	100.00	15,253	95.89	653	4.11
	2009	15,985	100.00	15,360	96.09	625	3.91
	2010	16,555	100.00	15,862	95.81	693	4.19
Finance and Insurance	2008	16,227	100.00	13,646	84.09	2,581	15.91
	2009	16,058	100.00	14,102	87.82	1,956	12.18
	2010	16,100	100.00	14.035	87.17	2,065	12.83
Real Estate	2008	20,799	100.00	19,638	94.42	1,161	5.58
	2009	21,214	100.00	20,092	94.71	1,122	5.29
	2010	23,176	100.00	21,975	94.82	1,201	5.18
Professional, Scientific and Technical Services	2008	35,908	100.00	35,301	98.31	607	1.69
	2009	35,966	100.00	35,397	98.42	569	1.58
	2010	37,146	100.00	36,505	98.27	641	1.73
Support Services	2008	27,110	100.00	26,822	98.94	288	1.06
	2009	27,423	100.00	27,147	98.99	276	1.01
	2010	27,999	100.00	27,683	98.87	316	1.13
Education	2008	667	100.00	662	99.25	5	0.75
	2009	933	100.00	927	99.36	6	0.64
	2010	1,137	100.00	1,130	99.38	7	0.62
Human Health and Social Work Services	2008	329	100.00	323	98.18	6	1.82
	2009	352	100.00	344	97.73	8	2.27
	2010	394	100.00	386	97.97	8	2.03
Arts, Entertainment and Recreation	2008	23,055	100.00	22,955	99.57	100	0.43
	2009	22,578	100.00	22,487	99.60	91	0.40
	2010	22,397	100.00	22,301	99.57	96	0.43
Other Services	2008	67,693	100.00	67,518	99.74	175	0.26
	2009	68,194	100.00	68,039	99.77	155	0.23
	2010	70,503	100.00	70,333	99.76	170	0.24

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.

2. For the purposes of this table, SMEs are defined as enterprises in the manufacturing, construction and mining and quarrying industries with paid-in capital of NT$80 million or less, and enterprises in other industries which posted annual sales revenue of NT$100 million or less in the previous fiscal year.

Source: Ministry of Finance Tax Data Center, VAT data, 2008-2010.

Table C-2 Total Sales Value by Industry, 2008-2010

Units: NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Total	**2008**	**35,239,137**	**100.00**	**10,462,696**	**29.69**	**24,776,441**	**70.31**
	2009	**29,981,803**	**100.00**	**9,189,463**	**30.65**	**20,792,340**	**69.35**
	2010	**36,239,637**	**100.00**	**10,709,005**	**29.55**	**25,530,632**	**70.45**
Agriculture, Forestry, Fishing and Animal Husbandry	2008	30,574	100.00	16,284	53.26	14,290	46.74
	2009	32,436	100.00	16,825	51.87	15,611	48.13
	2010	38,884	100.00	18,326	47.13	20,558	52.87
Mining and Quarrying	2008	53,342	100.00	43,907	82.31	9,435	17.69
	2009	43,951	100.00	35,034	79.71	8,916	20.29
	2010	48,313	100.00	37,813	78.27	10,500	21.73
Manufacturing	2008	13,267,949	100.00	4,000,466	30.15	9,267,483	69.85
	2009	10,456,268	100.00	3,131,140	29.95	7,325,128	70.05
	2010	13,482,749	100.00	4,072,627	30.21	9,410,122	69.79
Electricity and Gas Supply	2008	655,982	100.00	3,763	0.57	652,219	99.43
	2009	671,938	100.00	3,889	0.58	668,050	99.42
	2010	773,073	100.00	3,515	0.45	769,557	99.55
Water Supply and Remediation Services	2008	167,426	100.00	53,898	32.19	113,529	67.81
	2009	139,577	100.00	48,887	35.03	90,690	64.97
	2010	178,359	100.00	56,259	31.54	122,101	68.46
Construction	2008	1,870,473	100.00	1,139,154	60.90	731,319	39.10
	2009	1,772,663	100.00	994,645	56.11	778,017	43.89
	2010	1,962,639	100.00	1,120,723	57.10	841,917	42.90
Wholesale and Retail Trade	2008	12,385,623	100.00	3,885,387	31.37	8,500,236	68.63
	2009	10,938,212	100.00	3,654,849	33.41	7,283,363	66.59
	2010	13,139,161	100.00	3,986,557	30.34	9,152,605	69.66
Transportation and Storage	2008	1,003,499	100.00	245,586	24.47	757,913	75.53
	2009	884,290	100.00	229,935	26.00	654,355	74.00
	2010	1,059,266	100.00	250,518	23.65	808,748	76.35
Accommodation and Food Services	2008	327,241	100.00	235,287	71.90	91,954	28.10
	2009	324,152	100.00	243,558	75.14	80,594	24.86
	2010	369,476	100.00	269,507	72.94	99,970	27.06

Table C-2 Total Sales Value by Industry, 2008-2010 (continued)

Units: NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Information and Communication	2008	780,113	100.00	94,771	12.15	685,342	87.85
	2009	780,409	100.00	90,962	11.66	689,448	88.34
	2010	853,621	100.00	97,102	11.38	756,519	88.62
Finance and Insurance	2008	2,839,933	100.00	176,238	6.21	2,663,695	93.79
	2009	2,140,811	100.00	192,787	9.01	1,948,023	90.99
	2010	2,268,459	100.00	197,876	8.72	2,070,583	91.28
Real Estate	2008	798,123	100.00	147,218	18.45	650,905	81.55
	2009	745,093	100.00	143,520	19.26	601,574	80.74
	2010	867,849	100.00	157,187	18.11	710,662	81.89
Professional, Scientific and Technical Services	2008	570,004	100.00	170,083	29.84	399,921	70.16
	2009	556,988	100.00	156,592	28.11	400,396	71.89
	2010	640,896	100.00	175,298	27.35	465,598	72.65
Support Services	2008	241,561	100.00	106,387	44.04	135,174	55.96
	2009	246,748	100.00	102,544	41.56	144,204	58.44
	2010	294,066	100.00	113,018	38.43	181,048	61.57
Education	2008	5,175	100.00	3,410	65.89	1,765	34.11
	2009	6,241	100.00	4,186	67.06	2,056	32.94
	2010	6,902	100.00	4,965	71.93	1,937	28.07
Human Health and Social Work Services	2008	2,849	100.00	1,561	54.79	1,288	45.21
	2009	3,749	100.00	1,653	44.10	2,096	55.90
	2010	4,366	100.00	1,842	42.19	2,524	57.81
Arts, Entertainment and Recreation	2008	71,371	100.00	42,741	59.89	28,630	40.11
	2009	75,548	100.00	42,642	56.44	32,906	43.56
	2010	72,341	100.00	43,624	60.30	28,717	39.70
Other Services	2008	167,899	100.00	96,555	57.51	71,344	42.49
	2009	162,729	100.00	95,815	58.88	66,914	41.12
	2010	179,217	100.00	102,249	57.05	76,968	42.95

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.
2. For the purposes of this table, SMEs are defined as enterprises in the manufacturing, construction and mining and quarrying industries with paid-in capital of NT$80 million or less, and enterprises in other industries which posted annual sales revenue of NT$100 million or less in the previous fiscal year.

Source: Ministry of Finance Tax Data Center, VAT data, 2008-2010.

Table C-3 Domestic Sales Value by Industry, 2008-2010

Units: NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Total	**2008**	**25,762,915**	**100.00**	**8,817,989**	**34.23**	**16,944,927**	**65.77**
	2009	**22,179,910**	**100.00**	**7,873,111**	**35.50**	**14,306,799**	**64.50**
	2010	**26,216,138**	**100.00**	**9,088,972**	**34.67**	**17,127,166**	**65.33**
Agriculture, Forestry, Fishing and Animal Husbandry	2008	27,187	100.00	14,407	52.99	12,780	47.01
	2009	28,241	100.00	14,856	52.60	13,385	47.40
	2010	33,769	100.00	16,016	47.43	17,752	52.57
Mining and Quarrying	2008	52,674	100.00	43,613	82.80	9,061	17.20
	2009	43,520	100.00	34,796	79.95	8,724	20.05
	2010	47,718	100.00	37,500	78.59	10,219	21.41
Manufacturing	2008	7,040,619	100.00	2,835,244	40.27	4,205,374	59.73
	2009	5,540,738	100.00	2,263,079	40.84	3,277,659	59.16
	2010	7,183,762	100.00	2,928,313	40.76	4,255,449	59.24
Electricity and Gas Supply	2008	640,473	100.00	3,666	0.57	636,807	99.43
	2009	658,770	100.00	3,784	0.57	654,986	99.43
	2010	758,789	100.00	3,422	0.45	755,367	99.55
Water Supply and Remediation Services	2008	160,513	100.00	51,772	32.25	108,742	67.75
	2009	134,125	100.00	47,338	35.29	86,787	64.71
	2010	168,561	100.00	54,632	32.41	113,929	67.59
Construction	2008	1,831,773	100.00	1,126,498	61.50	705,275	38.50
	2009	1,635,776	100.00	984,966	60.21	650,810	39.79
	2010	1,801,239	100.00	1,108,468	61.54	692,771	38.46
Wholesale and Retail Trade	2008	9,717,270	100.00	3,446,768	35.47	6,270,502	64.53
	2009	8,646,425	100.00	3,243,563	37.51	5,402,862	62.49
	2010	10,160,204	100.00	3,552,451	34.96	6,607,753	65.04
Transportation and Storage	2008	698,547	100.00	236,540	33.86	462,008	66.14
	2009	662,590	100.00	220,630	33.30	441,959	66.70
	2010	754,294	100.00	241,349	32.00	512,945	68.00
Accommodation and Food Services	2008	325,483	100.00	235,152	72.25	90,331	27.75
	2009	322,875	100.00	243,448	75.40	79,427	24.60
	2010	367,833	100.00	269,379	73.23	98,454	26.77

Table C-3 Domestic Sales Value by Industry, 2008-2010 (continued)

Units: NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Information and Communication	2008	692,135	100.00	88,584	12.80	603,551	87.20
	2009	697,871	100.00	84,549	12.12	613,322	87.88
	2010	759,262	100.00	91,159	12.01	668,103	87.99
Finance and Insurance	2008	2,836,069	100.00	175,663	6.19	2,660,406	93.81
	2009	2,136,177	100.00	192,353	9.00	1,943,824	91.00
	2010	2,266,254	100.00	197,233	8.70	2,069,021	91.30
Real Estate	2008	793,730	100.00	146,860	18.50	646,871	81.50
	2009	736,622	100.00	143,797	19.52	592,825	80.48
	2010	859,734	100.00	156,609	18.22	703,125	81.78
Professional, Scientific and Technical Services	2008	474,061	100.00	164,207	34.64	309,854	65.36
	2009	451,111	100.00	150,464	33.35	300,647	66.65
	2010	510,715	100.00	168,598	33.01	342,117	66.99
Support Services	2008	235,661	100.00	105,330	44.70	130,331	55.30
	2009	243,319	100.00	101,656	41.78	141,663	58.22
	2010	288,708	100.00	111,759	38.71	176,949	61.29
Education	2008	5,049	100.00	3,394	67.22	1,655	32.78
	2009	6,154	100.00	4,171	67.78	1,983	32.22
	2010	6,836	100.00	4,957	72.51	1,879	27.49
Human Health and Social Work Services	2008	2,693	100.00	1,540	57.20	1,152	42.80
	2009	3,414	100.00	1,557	45.60	1,857	54.40
	2010	4,255	100.00	1,779	41.81	2,476	58.19
Arts, Entertainment and Recreation	2008	71,176	100.00	42,640	59.91	28,536	40.09
	2009	75,433	100.00	42,538	56.39	32,895	43.61
	2010	72,078	100.00	43,453	60.29	28,625	39.71
Other Services	2008	157,802	100.00	96,110	60.91	61,692	39.09
	2009	156,751	100.00	95,566	60.97	61,185	39.03
	2010	172,126	100.00	101,894	59.20	70,231	40.80

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.
2. For the purposes of this table, SMEs are defined as enterprises in the manufacturing, construction and mining and quarrying industries with paid-in capital of NT$80 million or less, and enterprises in other industries which posted annual sales revenue of NT$100 million or less in the previous fiscal year.

Source: Ministry of Finance Tax Data Center, VAT data, 2008-2010.

Table C-4 Export Sales Value by Industry, 2008-2010

Units: NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Total	**2008**	**9,476,222**	**100.00**	**1,644,707**	**17.36**	**7,831,515**	**82.64**
	2009	**7,801,893**	**100.00**	**1,316,352**	**16.87**	**6,485,541**	**83.13**
	2010	**10,023,499**	**100.00**	**1,620,033**	**16.16**	**8,403,466**	**83.84**
Agriculture, Forestry, Fishing and Animal Husbandry	2008	3,387	100.00	1,876	55.39	1,511	44.61
	2009	4,195	100.00	1,969	46.94	2,225	53.06
	2010	5,115	100.00	2,309	45.14	2,806	54.86
Mining and Quarrying	2008	668	100.00	294	44.03	374	55.97
	2009	431	100.00	238	55.36	192	44.64
	2010	594	100.00	314	52.76	281	47.24
Manufacturing	2008	6,227,331	100.00	1,165,222	18.71	5,062,109	81.29
	2009	4,915,530	100.00	868,061	17.66	4,047,470	82.34
	2010	6,298,987	100.00	1,144,314	18.17	5,154,673	81.83
Electricity and Gas Supply	2008	15,509	100.00	97	0.63	15,412	99.37
	2009	13,168	100.00	105	0.79	13,064	99.21
	2010	14,284	100.00	93	0.65	14,190	99.35
Water Supply and Remediation Services	2008	6,913	100.00	2,126	30.75	4,787	69.25
	2009	5,452	100.00	1,549	28.42	3,903	71.58
	2010	9,798	100.00	1,627	16.60	8,171	83.40
Construction	2008	38,700	100.00	12,656	32.70	26,044	67.30
	2009	136,887	100.00	9,679	7.07	127,208	92.93
	2010	161,400	100.00	12,255	7.59	149,145	92.41
Wholesale and Retail Trade	2008	2,668,353	100.00	438,619	16.44	2,229,734	83.56
	2009	2,291,787	100.00	411,286	17.95	1,880,501	82.05
	2010	2,978,957	100.00	434,105	14.57	2,544,852	85.43
Transportation and Storage	2008	304,951	100.00	9,046	2.97	295,905	97.03
	2009	221,700	100.00	9,305	4.20	212,395	95.80
	2010	304,972	100.00	9,169	3.01	295,802	96.99
Accommodation and Food Services	2008	1,758	100.00	135	7.69	1,623	92.31
	2009	1,277	100.00	110	8.58	1,167	91.42
	2010	1,643	100.00	128	7.78	1,515	92.22

Table C-4 Export Sales Value by Industry, 2008-2010 (continued)

Units: NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Information and Communication	2008	87,979	100.00	6,187	7.03	81,791	92.97
	2009	82,539	100.00	6,413	7.77	76,125	92.23
	2010	94,359	100.00	5,942	6.30	88,417	93.70
Finance and Insurance	2008	3,864	100.00	575	14.88	3,290	85.12
	2009	4,634	100.00	434	9.37	4,200	90.63
	2010	2,204	100.00	643	29.16	1,561	70.84
Real Estate	2008	4,393	100.00	358	8.16	4,034	91.84
	2009	8,471	100.00	-277	-	8,748	-
	2010	8,115	100.00	578	7.12	7,538	92.88
Professional, Scientific and Technical Services	2008	95,943	100.00	5,876	6.12	90,067	93.88
	2009	105,877	100.00	6,128	5.79	99,749	94.21
	2010	130,181	100.00	6,700	5.15	123,481	94.85
Support Services	2008	5,901	100.00	1,057	17.92	4,843	82.08
	2009	3,429	100.00	888	25.90	2,541	74.10
	2010	5,358	100.00	1,259	23.50	4,099	76.50
Education	2008	125	100.00	16	12.37	110	87.63
	2009	87	100.00	14	16.43	73	83.57
	2010	65	100.00	8	11.56	58	88.44
Human Health and Social Work Services	2008	157	100.00	21	13.31	136	86.69
	2009	335	100.00	96	28.78	239	71.22
	2010	111	100.00	63	56.82	48	43.18
Arts, Entertainment and Recreation	2008	195	100.00	101	51.77	94	48.23
	2009	115	100.00	104	90.22	11	9.78
	2010	263	100.00	171	65.20	91	34.80
Other Services	2008	10,096	100.00	445	4.41	9,651	95.59
	2009	5,977	100.00	248	4.16	5,729	95.84
	2010	7,092	100.00	355	5.00	6,737	95.00

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.
2. For the purposes of this table, SMEs are defined as enterprises in the manufacturing, construction and mining and quarrying industries with paid-in capital of NT$80 million or less, and enterprises in other industries which posted annual sales revenue of NT$100 million or less in the previous fiscal year.

Source: Ministry of Finance Tax Data Center, VAT data, 2008-2010.

Table C-5 Total Employment by Industry, 2008-2010

Units: Thousand persons; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share	Govern-ment	Share
Total	**2008**	**10,403**	**100.00**	**7,966**	**76.58**	**1,479**	**14.22**	**958**	**9.21**
	2009	**10,279**	**100.00**	**8,066**	**78.47**	**1,173**	**11.41**	**1,040**	**10.11**
	2010	**10,493**	**100.00**	**8,191**	**78.06**	**1,253**	**11.94**	**1,049**	**10.00**
Agriculture, Forestry, Fishing and Animal Husbandry	2008	535	100.00	529	98.82	1	0.25	5	0.93
	2009	543	100.00	537	98.97	1	0.12	5	0.91
	2010	550	100.00	545	99.08	1	0.10	5	0.83
Mining and Quarrying	2008	6	100.00	5	85.62	0	0.39	1	14.00
	2009	5	100.00	4	85.24	0	0.88	1	13.88
	2010	4	100.00	4	86.59	0	0.65	1	12.76
Manufacturing	2008	2,886	100.00	2,191	75.93	666	23.07	29	1.00
	2009	2,790	100.00	2,111	75.65	651	23.33	28	1.02
	2010	2,861	100.00	2,127	74.34	705	24.63	29	1.03
Electricity and Gas Supply	2008	28	100.00	2	7.54	3	12.34	22	80.12
	2009	29	100.00	3	10.67	2	7.19	24	82.15
	2010	29	100.00	3	10.88	3	8.78	23	80.34
Water Supply and Remediation Services	2008	71	100.00	28	39.62	2	2.91	41	57.47
	2009	73	100.00	27	36.72	0	0.68	46	62.60
	2010	78	100.00	29	37.79	1	1.36	47	60.86
Construction	2008	842	100.00	823	97.73	10	1.14	10	1.13
	2009	788	100.00	769	97.64	8	1.05	10	1.31
	2010	797	100.00	779	97.73	9	1.10	9	1.17
Wholesale and Retail Trade	2008	1,770	100.00	1,652	93.31	109	6.18	9	0.51
	2009	1,735	100.00	1,669	96.20	55	3.19	11	0.61
	2010	1,747	100.00	1,682	96.26	54	3.11	11	0.63
Transportation and Storage	2008	414	100.00	275	66.46	85	20.59	54	12.95
	2009	402	100.00	289	71.83	55	13.68	58	14.49
	2010	404	100.00	295	73.11	53	13.11	56	13.78
Accommodation and Food Services	2008	687	100.00	659	95.95	28	4.01	0	0.05
	2009	693	100.00	677	97.62	16	2.27	1	0.11
	2010	727	100.00	708	97.37	19	2.56	1	0.08

Table C-5 Total Employment by Industry, 2008-2010 (continued)

Units: Thousand persons; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share	Govern-ment	Share
Information and Communication	2008	203	100.00	119	58.68	83	40.98	1	0.34
	2009	207	100.00	147	71.16	59	28.38	1	0.46
	2010	208	100.00	148	71.34	58	27.14	1	0.52
Finance and Insurance	2008	411	100.00	228	55.50	169	41.09	14	3.41
	2009	413	100.00	310	75.01	86	20.80	17	4.19
	2010	428	100.00	315	73.69	96	22.34	17	3.97
Real Estate	2008	74	100.00	68	92.02	5	6.16	1	1.82
	2009	68	100.00	64	94.35	2	3.27	2	2.38
	2010	75	100.00	70	93.75	3	3.39	2	2.86
Professional, Scientific and Technical Services	2008	317	100.00	238	75.16	49	15.38	30	9.45
	2009	315	100.00	248	78.55	37	11.77	31	9.68
	2010	325	100.00	258	79.36	38	11.58	29	9.07
Support Services	2008	231	100.00	194	84.10	36	15.42	1	0.47
	2009	232	100.00	212	91.55	19	8.14	1	0.31
	2010	236	100.00	217	91.81	19	7.98	0	0.21
Public Administration and Defence; Compulsory Social Security	2008	343	100.00	0	0.00	0	0.00	343	100.00
	2009	382	100.00	1	0.16	0	0.03	381	99.82
	2010	389	100.00	0	0.00	0	0.00	389	100.00
Education	2008	605	100.00	208	34.47	86	14.27	310	51.26
	2009	613	100.00	217	35.38	65	10.62	331	54.00
	2010	619	100.00	218	35.27	69	11.20	331	53.53
Human Health and Social Work Services	2008	355	100.00	157	44.15	124	34.99	74	20.86
	2009	368	100.00	185	50.31	107	29.18	75	20.51
	2010	386	100.00	192	49.56	116	30.09	79	20.35
Arts, Entertainment and Recreation	2008	98	100.00	76	77.96	10	10.57	11	11.47
	2009	96	100.00	76	79.28	5	4.93	15	15.79
	2010	98	100.00	76	77.62	6	5.64	16	16.74
Other Services	2008	528	100.00	513	97.13	13	2.39	3	0.48
	2009	527	100.00	519	98.66	5	0.87	2	0.47
	2010	532	100.00	525	98.59	5	0.91	3	0.49

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.
2. For the purposes of this Table, SMEs are defined as firms in the manufacturing, construction and mining and quarrying industries with less than 200 regular employees, and firms in other industries with less than 100 regular employees.

Source: Ministry of Finance Tax Data Center, VAT data, 2008-2010.

Table C-6 Number of Paid Employees by Industry, 2008-2010

Units: Thousand persons; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share	Govern-ment	Share
Total	**2008**	**7,902**	**100.00**	**5,469**	**69.21**	**1,475**	**18.67**	**958**	**12.12**
	2009	**7,889**	**100.00**	**5,679**	**71.98**	**1,171**	**14.84**	**1,040**	**13.18**
	2010	**8,104**	**100.00**	**5,805**	**71.63**	**1,250**	**15.42**	**1,049**	**12.95**
Agriculture, Forestry, Fishing and Animal Husbandry	2008	81	100.00	75	92.20	1	1.64	5	6.16
	2009	84	100.00	79	93.36	1	0.75	5	5.89
	2010	83	100.00	78	93.92	1	0.64	5	5.44
Mining and Quarrying	2008	5	100.00	4	84.24	0	0.42	1	15.34
	2009	4	100.00	4	84.13	0	0.95	1	14.92
	2010	4	100.00	4	86.16	0	0.67	1	13.17
Manufacturing	2008	2,600	100.00	1,907	73.34	664	25.55	29	1.11
	2009	2,522	100.00	1,843	73.10	650	25.77	28	1.13
	2010	2,600	100.00	1,867	71.82	703	27.05	29	1.13
Electricity and Gas Supply	2008	28	100.00	2	7.47	3	12.35	22	80.18
	2009	29	100.00	3	10.67	2	6.88	24	82.44
	2010	29	100.00	3	10.38	3	8.83	23	80.79
Water Supply and Remediation Services	2008	65	100.00	22	34.37	2	3.16	41	62.47
	2009	66	100.00	20	30.09	0	0.75	46	69.16
	2010	70	100.00	21	30.62	1	1.51	47	67.86
Construction	2008	705	100.00	686	97.30	10	1.35	10	1.35
	2009	658	100.00	640	97.21	8	1.22	10	1.57
	2010	668	100.00	650	97.31	9	1.29	9	1.40
Wholesale and Retail Trade	2008	997	100.00	879	88.19	109	10.91	9	0.90
	2009	1,008	100.00	942	93.47	55	5.48	11	1.05
	2010	1,028	100.00	962	93.66	54	5.27	11	1.07
Transportation and Storage	2008	314	100.00	175	55.88	85	27.04	54	17.08
	2009	309	100.00	196	63.40	55	17.77	58	18.83
	2010	310	100.00	202	65.00	53	17.06	56	17.93
Accommodation and Food Services	2008	381	100.00	353	92.71	27	7.21	0	0.08
	2009	395	100.00	379	95.83	16	3.97	1	0.20
	2010	418	100.00	399	95.43	19	4.44	1	0.13

Table C-6 Number of Paid Employees by Industry, 2008-2010 (continued)

Units: Thousand persons; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share	Govern-ment	Share
Information and Communication	2008	192	100.00	108	56.32	83	43.33	1	0.36
	2009	196	100.00	136	69.58	59	29.94	1	0.48
	2010	196	100.00	136	69.66	58	29.79	1	0.55
Finance and Insurance	2008	407	100.00	224	55.08	169	41.48	14	3.44
	2009	409	100.00	306	74.83	86	20.94	17	4.23
	2010	424	100.00	312	73.49	95	22.50	17	4.01
Real Estate	2008	65	100.00	59	90.91	5	7.00	1	2.09
	2009	60	100.00	56	93.60	2	3.71	2	2.70
	2010	66	100.00	61	93.03	2	3.72	2	3.24
Professional, Scientific and Technical Services	2008	241	100.00	162	67.39	49	20.18	30	12.43
	2009	247	100.00	180	72.66	37	15.01	31	12.33
	2010	255	100.00	188	73.69	38	14.74	29	11.56
Support Services	2008	208	100.00	171	82.51	35	16.96	1	0.53
	2009	210	100.00	191	90.77	19	8.89	1	0.34
	2010	216	100.00	197	91.12	19	8.65	0	0.23
Public Administration and Defence; Compulsory Social Security	2008	343	100.00	0	0.00	0	0.00	343	100.00
	2009	382	100.00	1	0.16	0	0.03	381	99.82
	2010	389	100.00	0	0.00	0	0.00	389	100.00
Education	2008	567	100.00	171	30.15	86	15.21	310	54.63
	2009	582	100.00	186	31.95	65	11.18	331	56.87
	2010	588	100.00	187	31.87	69	11.78	331	56.35
Human Health and Social Work Services	2008	319	100.00	121	37.98	124	38.85	74	23.17
	2009	334	100.00	152	45.35	107	32.09	75	22.56
	2010	354	100.00	159	44.99	116	32.81	79	22.20
Arts, Entertainment and Recreation	2008	75	100.00	54	71.44	10	13.60	11	14.96
	2009	76	100.00	56	74.00	5	6.08	15	19.92
	2010	80	100.00	58	72.61	5	6.82	16	20.57
Other Services	2008	309	100.00	294	95.11	13	4.08	3	0.81
	2009	317	100.00	310	97.77	5	1.45	2	0.78
	2010	327	100.00	319	97.74	5	1.45	3	0.80

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.
2. For the purposes of this Table, SMEs are defined as firms in the manufacturing, construction and mining and quarrying industries with less than 200 regular employees, and firms in other industries with less than 100 regular employees.

Source: Ministry of Finance Tax Data Center, VAT data, 2008-2010.

Table C-7 Overview of Newly-established Enterprises in 2010 – by Industry

Units: Number of enterprises; NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Total	**Number of enterprises**	93,868	100.00	93,609	99.72	259	0.28
	Sales value	424,026	100.00	309,088	72.89	114,938	28.11
	Domestic value	236,646	100.00	170,476	72.04	66,170	27.96
	Export value	187,380	100.00	138,612	73.97	48,768	26.03
Agriculture, Forestry, Fishing and Animal Husbandry	Number of enterprises	460	100.00	460	100.00	0	0.00
	Sales value	388	100.00	388	100.00	0	0.00
	Domestic value	375	100.00	375	100.00	0	0.00
	Export value	13	100.00	13	100.00	0	0.00
Mining and Quarrying	Number of enterprises	76	100.00	74	100.00	2	2.63
	Sales value	285	100.00	285	100.00	*	0.00
	Domestic value	285	100.00	285	100.00	*	0.00
	Export value	0	100.00	0	0.00	*	0.00
Manufacturing	Number of enterprises	5,320	100.00	5,259	98.85	61	1.15
	Sales value	168,499	100.00	153,910	91.34	14,589	8.66
	Domestic value	30,033	100.00	22,968	76.48	7,065	23.52
	Export value	138,466	100.00	130,942	94.57	7,524	5.42
Electricity and Gas Supply	Number of enterprises	28	100.00	28	100.00	0	0.00
	Sales value	43	100.00	43	100.00	0	0.00
	Domestic value	43	100.00	43	100.00	0	0.00
	Export value	0	100.00	0	0.00	0	0.00
Water Supply and Remediation Services	Number of enterprises	556	100.00	556	100.00	0	0.00
	Sales value	1,442	100.00	1,442	100.00	0	0.00
	Domestic value	1,387	100.00	1,387	100.00	0	0.00
	Export value	55	100.00	55	100.00	0	0.00
Construction	Number of enterprises	7,815	100.00	7,798	99.78	17	0.22
	Sales value	20,117	100.00	20,105	99.94	12	0.06
	Domestic value	20,096	100.00	20,084	99.94	12	60.06
	Export value	22	100.00	22	100.00	0	0.00
Wholesale and Retail Trade	Number of enterprises	43,927	100.00	43,792	99.69	135	0.31
	Sales value	164,505	100.00	90,559	55.05	73,946	44.95
	Domestic value	116,229	100.00	83,477	71.82	32,753	28.18
	Export value	48,276	100.00	7.083	14.67	41,194	85.33
Transportation and Storage	Number of enterprises	1,253	100.00	1,244	99.28	9	0.72
	Sales value	4,731	100.00	3,522	74.45	1,209	25.55
	Domestic value	4,522	100.00	3,350	80.91	1,172	25.92
	Export value	209	100.00	172	6.57	37	17.70
Accommodation and Food Services	Number of enterprises	14,646	100.00	14,644	99.99	2	0.01
	Sales value	15,555	100.00	15,133	97.28	*	2.72
	Domestic value	15,555	100.00	15,132	97.27	*	2.71
	Export value	0	100.00	0	0.00	0	0.00

Table C-7 Overview of Newly-established Enterprises in 2010– by Industry (continued)

Units: Number of enterprises; NT millions; %

Industry \ Size		Total	Share	SMEs	Share	Large enterprises	Share
Information and Communication	Number of enterprises	1.872	100.00	1,868	99.79	4	0.21
	Sales value	4,423	100.00	3,707	56.70	716	16.19
	Domestic value	4,242	100.00	3,539	58.95	703	16.57
	Export value	181	100.00	168	31.89	13	7.18
Finance and Insurance	Number of enterprises	691	100.00	679	98.26	12	1.72
	Sales value	14,474	100.00	1,066	7.36	13,408	92.64
	Domestic value	14,473	100.00	1,065	7.36	13,408	92.64
	Export value	1	100.00	1	100.00	0	0.00
Real Estate	Number of enterprises	3,138	100.00	3,125	99.59	13	0.41
	Sales value	15,668	100.00	6,039	38.54	9,629	61.46
	Domestic value	15,668	100.00	6,039	38.54	9,629	61.46
	Export value	0	100.00	0	0.00	0	0.00
Professional, Scientific and Technical Services	Number of enterprises	3,545	100.00	3,542	99.92	3	0.08
	Sales value	5,816	100.00	5,029	86.45	*	13.55
	Domestic value	5,687	100.00	4,899	86.14	*	13.86
	Export value	129	100.00	129	100.00	0	0.00
Support Services	Number of enterprises	2,315	100.00	2,315	100.00	0	0.00
	Sales value	2,644	100.00	2,644	100.00	0	0.00
	Domestic value	2,621	100.00	2,621	100.00	0	0.00
	Export value	23	100.00	23	100.00	0	0.00
Education	Number of enterprises	226	100.00	226	100.00	0	0.00
	Sales value	286	100.00	286	100.00	0	0.00
	Domestic value	286	100.00	286	100.00	0	0.00
	Export value	0	100.00	0	0.00	0	0.00
Human Health and Social Work Services	Number of enterprises	55	100.00	55	100.00	0	0.00
	Sales value	58	100.00	58	100.00	0	0.00
	Domestic value	58	100.00	58	100.00	0	0.00
	Export value	0	100.00	0	0.00	0	0.00
Arts, Entertainment and Recreation	Number of enterprises	2,253	100.00	2,253	100.00	0	0.00
	Sales value	1,762	100.00	1,762	100.00	0	0.00
	Domestic value	1,760	100.00	1,760	100.00	0	0.00
	Export value	2	100.00	2	100.00	0	0.00
Other Services	Number of enterprises	5,692	100.00	5,691	99.98	1	0.02
	Sales value	3,329	100.00	3,112	93.45	*	6.55
	Domestic value	3,326	100.00	3,108	93.45	*	6.55
	Export value	4	100.00	4	100.00	0	0.00

Note: 1. The industries are classified according to the 8th revision of Industry Classification Standard.
2. For the purposes of this table, SMEs are defined as enterprises in the manufacturing, construction and mining and quarrying industries with paid-in capital of NT$80 million or less, and enterprises in other industries which posted annual sales revenue of NT$100 million or less in the previous fiscal year.

Source: Ministry of Finance Tax Data Center, VAT data, 2010.

Table C-8 Female Owned Enterprises in 2010 – Number of Enterprises and Sales Value by Industry

Units: NT$ millions; %

Item / Industry/Size		Number of Enterprises			Sales Value		
		Total	Women owned Enterprises	Women owned Enterprises' Share	Total	Women owned Enterprises	Women owned Enterprises' Share
Total	**Total**	**1,268,421**	**454,308**	**35.82**	**32,839,905**	**4,637,575**	**14.12**
	SMEs	**1,240,672**	**449,156**	**36.20**	**10,389,145**	**2,437,569**	**23.46**
	Large enterprises	**27,749**	**5,152**	**18.57**	**22,450,760**	**2,200,007**	**9.80**
Agriculture, Forestry, Fishing and Animal Husbandry	SMEs	11,339	2,509	22.13	18,321	3,663	20.00
	Large enterprises	42	9	21.43	20,558	3,728	18.13
Mining and Quarrying	SMEs	1,369	326	23.81	37,536	4,543	12.10
	Large enterprises	21	1	4.76	10,500	70	0.67
Manufacturing	SMEs	129,371	34,783	26.89	3,888,423	600,753	15.45
	Large enterprises	4,325	455	10.52	8,013,969	282,227	3.52
Electricity and Gas Supply	SMEs	283	62	21.91	3,447	592	17.18
	Large enterprises	126	13	10.32	755,767	5,720	0.76
Water Supply and Remediation Services	SMEs	6,883	2,090	30.36	56,186	16,862	30.01
	Large enterprises	273	61	22.34	120,306	21,101	17.54
Construction	SMEs	94,250	23,713	25.16	1,084,033	246,591	22.75
	Large enterprises	1,033	233	22.56	737,152	88,235	11.97
Wholesale and Retail Trade	SMEs	641,941	242,320	37.75	3,915,746	1,157,914	29.57
	Large enterprises	15,346	3,327	21.68	7,753,647	1,322,546	17.06
Transportation and Storage	SMEs	29,990	7,556	25.20	248,125	68,843	27.75
	Large enterprises	899	146	16.24	665,916	48,803	7.33
Accommodation and Food Services	SMEs	116,517	56,546	48.53	261,092	94,117	36.05
	Large enterprises	298	68	22.82	86,108	16,409	19.06

Table C-8 Female Owned Enterprises in 2010 – Number of Enterprises and Sales Value by Industry (continued)

Units: NT$ millions; %

Item / Industry/Size		Number of Enterprises			Sales Value		
		Total	Women owned Enterprises	Women owned Enterprises' Share	Total	Women owned Enterprises	Women owned Enterprises' Share
Information and Communication	SMEs	15,527	4,670	30.08	92,666	25,138	27.13
	Large enterprises	609	92	15.11	702,197	75,927	10.81
Finance and Insurance	SMEs	13,817	4,327	31.32	195,857	42,802	21.85
	Large enterprises	1,974	321	16.26	1,986,663	170,274	8.57
Real Estate	SMEs	21,858	6,356	29.08	156,117	38,054	24.38
	Large enterprises	1,179	244	20.70	697,776	99,738	14.29
Professional, Scientific and Technical Services	SMEs	35,961	12,710	35.34	168,771	51,796	30.69
	Large enterprises	546	91	16.67	342,084	39,190	11.46
Support Services	SMEs	27,585	10,816	39.21	111,417	36,445	32.71
	Large enterprises	284	54	19.01	144,632	13,709	9.48
Education	SMEs	1,109	380	34.27	4,899	953	19.46
	Large enterprises	6	0	0.00	1,818	0	0.00
Human Health and Social Work Services	SMEs	379	124	32.72	1,811	478	26.39
	Large enterprises	7	0	0.00	2,385	0	0.00
Arts, Entertainment and Recreation	SMEs	22,256	7,805	35.07	43,094	12,291	28.52
	Large enterprises	92	15	16.30	28,231	3,819	13.53
Other Services	SMEs	70,237	32,063	45.65	101,606	35,733	35.17
	Large enterprises	160	22	13.75	66,189	8,510	12.86

Note: The figure in total do not include those enterprises that owners are legal perons or foreigners for which gender cannot be identified.

Source: Ministry of Finance Tax Data Center,VAT tax data, 2010.

Table C-9 Female Owned Enterprises in 2010 – Domestic Sales Value and Export Sales Value by Industry

Units: NT$ millions; %

Industry/Size \ Item		Domestic Sales			Export Sales		
		Total	Women owned Enterprises	Women owned Enterprises' Share	Total	Women owned Enterprises	Women owned Enterprises' Share
Total	**Total**	**24,352,113**	**3,759,808**	**15.44**	**8,487,792**	**877,767**	**10.34**
	SMEs	**8,902,038**	**2,176,952**	**24.45**	**1,487,106**	**260,617**	**17.53**
	Large enterprises	**15,450,075**	**1,582,856**	**10.24**	**7,000,686**	**617,151**	**8.82**
Agriculture, Forestry, Fishing and Animal Husbandry	SMEs	16,012	3,038	18.98	2,309	625	27.07
	Large enterprises	17,752	3,431	19.32	2,806	297	10.59
Mining and Quarrying	SMEs	37,432	4,512	12.05	104	31	30.12
	Large enterprises	10,219	70	0.69	281	0	0.00
Manufacturing	SMEs	2,857,359	480,708	16.82	1,031,064	120,045	11.64
	Large enterprises	3,846,118	163,829	4.26	4,167,851	118,398	2.84
Electricity and Gas Supply	SMEs	3,387	592	17.49	60	0	0.00
	Large enterprises	744,431	5,720	0.77	11,336	0	0.00
Water Supply and Remediation Services	SMEs	54,559	16,437	30.13	1,627	425	26.13
	Large enterprises	112,752	20,293	18.00	7,555	809	10.71
Construction	SMEs	1,075,160	244,710	22.76	8,872	1,881	21.21
	Large enterprises	587,282	88,114	15.00	149,870	121	0.08
Wholesale and Retail Trade	SMEs	3,495,242	1,026,254	29.36	420,504	131,660	31.31
	Large enterprises	5,619,926	852,386	15.17	2,133,721	470,160	22.03
Transportation and Storage	SMEs	239,670	66,725	27.84	8,456	2,119	25.06
	Large enterprises	440,457	37,755	8.57	225,459	11,049	4.90
Accommodation and Food Services	SMEs	260,970	94,077	36.05	122	40	32.87
	Large enterprises	84,605	15,059	17.80	1,503	1,350	89.82

Table C-9 Female Owned Enterprises in 2010 – Domestic Sales Value and Export Sales Value by Industry (continued)

Units: NT$ millions; %

Industry/Size \ Item		Domestic Sales			Export Sales		
		Total	Women owned Enterprises	Women owned Enterprises' Share	Total	Women owned Enterprises	Women owned Enterprises' Share
Information and Communication	SMEs	87,247	23,902	27.40	5,419	1,236	22.82
	Large enterprises	620,608	62,994	10.15	81,589	12,933	15.85
Finance and Insurance	SMEs	195,261	42,615	21.82	596	187	31.45
	Large enterprises	1,985,265	170,189	8.57	1,398	86	6.12
Real Estate	SMEs	155,554	37,879	24.35	563	175	31.11
	Large enterprises	692,406	99,069	14.31	5,370	669	12.45
Professional, Scientific and Technical Services	SMEs	163,053	50,090	30.72	5,717	1,705	29.83
	Large enterprises	249,030	38,475	15.45	93,054	715	0.77
Support Services	SMEs	110,298	36,078	32.71	1,119	367	32.78
	Large enterprises	143,669	13,539	9.42	963	170	17.65
Education	SMEs	4,895	949	19.39	4	4	111.23
	Large enterprises	1,760	0	0.00	58	0	0.00
Human Health and Social Work Services	SMEs	1,748	477	27.31	63	1	0.81
	Large enterprises	2,338	0	0.00	48	0	0.00
Arts, Entertainment and Recreation	SMEs	42,938	12,251	28.53	155	40	25.48
	Large enterprises	28,139	3,738	13.28	91	81	88.72
Other Services	SMEs	101,252	35,658	35.22	353	74	21.06
	Large enterprises	64,909	8,195	12.63	1,279	314	24.58

Note: The figure in total do not include those enterprises that owners are legal perons or foreigners for which gender cannot be identified.

Source: Ministry of Finance Tax Data Center,VAT tax data, 2010.

Index

F

G

I

L