ENTREPRENEURSHIP IN TAIWAN:
TURNING POINT TO RESTART

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OVERVIEW

During the last four decades, the successful development of Taiwanese small and medium-sized enterprises (SMEs) has become the most important part of Taiwan's economic legend. The key players are the many Taiwanese businessmen, sometimes called "black-hand bosses," who were once machinists and apprentices but eventually became successful employers. They embody the dreams and stories of blue-collar workers who may be undereducated and short of capital but can gain fortune through hard work in untidy and uncomfortable factories. The spirit of entrepreneurship among skilled employees has led to the establishment of millions of SMEs that fulfill this dream. This process has become a reality over and over again across the island. These SMEs exhibit flexibility, vigor and ambition, providing the unique characteristics of Taiwanese entrepreneurship. In addition, such entrepreneurship not only absorbs labor surplus from the agricultural sector but also plays a crucial role in the expansion of Taiwanese exports. With their flexibility, these SMEs have been able to grasp business opportunities and face up to intense global market competition. Moreover, until the IT sector increased their market share, they dominated other larger companies in terms of export share for over two decades.

What are the driving forces for these SMEs' dramatic achievement? In an effort to uncover these forces and provide some basis for future predictions, we first review the growth pattern for SMEs and the status of entrepreneurship in Taiwan. In the second section, we explore the role of SMEs in Taiwan's economic development, using start-ups index analysis and international comparison. The structural change of entrepreneurship will also be illustrated in this section. We introduce cultural factors in the third section. Two outstanding roles, those of the "black hand boss" and the "boss's wife," and the function of the "business network" are crucial for understanding the cultural aspect. In the fourth section, the business environment is reviewed. We point to the adverse conditions and analyze factors influencing SME development in the early days. In addition, the challenges of globalization and the WTO are discussed in this section. In the fifth section, we investigate the role of Taiwan's government in enhancing SMEs' growth. Conclusions and recommendations comprise the final section.

THE PATH OF TAIWANESE SME DEVELOPMENT

THE ROLE OF SMES

SMEs are prevalent in almost all the economies in the world, although their relative importance may differ from country to country. The share of SMEs in Taiwan's overall economy has been very high but has varied from period to period in the process of development. From the census data in Table 1, which shows the scale of the manufacturing industry based on the number of employees, enterprises that employed one to nine persons accounted for an overwhelming majority of the total number of the industry, i.e. 90.73 percent in 1954. That share declined significantly to 70 percent by 1996. In contrast, medium-sized enterprises, which employed 10 to 49 persons and 50 to 99 persons, grew at a significant pace; this is an indication that enterprise scale was steadily expanding. In particular, enterprises that employed 10 to 49 persons increased rapidly from 8.02 percent in 1954 to 22.38 percent in 1966 and then more slowly to 25.20 percent in 1996. The share of enterprises that employed 50 to 99 persons registered a slower growth rate, from 0.68 percent in 1954 to 4.71 percent in 1986, and subsequently declined to 2.87 percent in 1996. Overall, the total number of enterprises that employed fewer than 99 persons was 99.43 percent of the total manufacturing sector in 1954; this percentage decreased only slightly to 98.07 percent in 1996.

As far as Taiwan's SMEs are concerned, the Small and Medium Enterprise Administration, Ministry of Economic Affairs, first offered a definition in 1967. Enterprises were categorized as SMEs with 1) a paid-in capital of less than NT$5 million (approximately US$125,000 at the 1967 exchange rate) or fewer than 100 regular employees for the manufacturing industry, or 2) annual sales of less than NT$5 million (US$125,000) or fewer than 50 regular employees for commerce, transportation and other services. Six amendments were subsequently made as economic development progressed and the SME structure and financial status changed to meet the requirements of policy guidance. Currently firms that have legally completed company registration or commercial registration and meet the following requirements are recognized as SMEs (modified in May 2000):

- In the case of manufacturing, construction, mining and quarrying enterprises, paid-in capital must be less than NT$80 million (around US$2.4 million), or the number of regular employees must not exceed 200.
- In the case of forestry, agriculture, fishing, animal husbandry, hunting, plumbing, electrical, gas and fuel oil, commerce, transportation, warehousing, courier, finance, insurance, real estate, industrial and commercial service, and personal service enterprises, sales must be less than NT$100 million (around US$3 million) for the previous year, or the number of regular employees must not exceed 50.

After 40 years of development, Taiwan's SMEs have achieved a certain level of success since 1967. Compared to other newly industrializing countries (NICs), including South Korea, Singapore and Hong Kong, Taiwan's SMEs excelled in providing employment opportunities (Table 2). During the last 20 years, these NICs have stimulated their economies primarily through an export expansion strategy. But while other countries' SMEs still focus mainly on the domestic market, Taiwanese SMEs have been involved in global competition, especially in the manufacturing sector. Compared with larger enterprises, Taiwan's SMEs have been subjected to an inferior market condition, which comes from the government's policy and results in a disadvantaged position in the domestic market. This situation forced these SMEs to explore the global market, and they thus became a significant contributor to Taiwan's economic development.

We can also derive some insight from international comparison, as portrayed in Table 3. Compared with other developed countries, although the SME ownership ratio (number of SMEs to national population) in Taiwan is lower than in Western countries, the SME employee ratio (ratio of people employed by SMEs to the national population) of Taiwan is the highest among these countries. In making these comparisons, it is important to take into account the different definitions of SME in each country. Taiwan has the strictest definition for SMEs, i.e., fewer than 200 employees. Therefore, the number of Taiwanese SMEs, and hence the ratio, would be increased if we were to use Japan's standard of 300 employees, or the U.S. and French standard of 500. When we use the number of employees as an index, the proof of Taiwan's achievement in SME development is very clear, as Table 3 shows.

STRUCTURE CHANGE IN SME DEVELOPMENT

When categorized according to the number of companies by sector in Table 4, we can see that for the past 40 years, SMEs have comprised a majority of companies in almost all manufacturing sectors except water, electricity, fuel and gas, which are public utilities, relatively large scale, and thus under strict state regulation and control. Besides, it is clear that the SMEs have occupied a substantial place in Taiwan's economy, whether in the manufacturing industry or in other industries. The importance of SMEs for Taiwan's overall economy is therefore self-evident.

Moreover, although the number of SMEs in relation to the overall number of enterprises has been very high, the importance of SMEs is striking if we consider the number of employees hired by SMEs compared to total employment in the economy, especially as large enterprises generally employed many more employees (Table 5). In the 1960s, the number of employees hired by SMEs accounted for a relatively small share of the total economy, except in the commercial and other business services, which in 1966 were 95 percent and 61.1 percent respectively, according to the census data. This was due to the fact that state enterprises dominated the economy in the early history of Taiwan's development.

Furthermore, Taiwan's economy has been highly dependent on foreign trade. The export industry has had a pivotal influence on Taiwan's development. Table 6 shows that SMEs accounted for 68.1 percent of Taiwan's total exports in 1981, and large enterprises 31.9 percent. The SMEs' domination of Taiwan's exports is explained by the fact that SMEs are export driven. In contrast, large enterprises mainly produced for domestic markets because of the policy of import substitution and thus protectionist measures for the domestic markets. Though the share of exports by SMEs exhibited a downward trend, it still registered a high proportion of 50.65 percent in 1995. In other words, SMEs have significantly contributed to Taiwan's total exports and, consequently, its rapid economic growth.

THE IMAGE OF ENTREPRENEURSHIP IN TAIWAN

Understanding Taiwanese entrepreneurship has not been easy. The number of start-up companies as a percentage of total enterprises may be a good indicator of entrepreneurship. The start-ups' percentage of Taiwan enterprises was first published in 1976. Using this index, which represents the growth of new companies, Taiwanese entrepreneurship can also be measured (Table 7). Hence, we can distinguish two major factors, which affect the development of entrepreneurship.

One is the economic performance of Taiwan; that is, the higher the GDP growth rate, the higher the start-up rate. Rising expectations lead the population to set up businesses of their own, and vice versa. This has been the experience of Taiwan (Figure 1).

Another factor is the speed of structural change in the economy. Within the manufacturing sector, the IT industry grew with remarkable speed as compared with other industries. During the decade between 1991 and 2000, in contrast with the sharp decline of traditional products, the contribution of electrical products to national export volume doubled from 10.8 percent to 21.3 percent. Besides, the share of industry in GDP reached its historical peak of 47.1 percent in 1986. On the contrary, the contribution of the service sector to GNP rose steadily, as it became the largest sector in the economy (Figure 2).

These trends are illustrative of the development of entrepreneurship in Taiwan. The percentage of start-ups decreased for the first time in the early 1980s, as Table 7 shows. This is due to the new Taiwan dollars' rapid appreciation, which reduced the desire to establish enterprises. After that, the quick development of the IT sector not only boosted the economy of Taiwan to achieve double-digit growth rates again but also helped regain the passion to start anew after 1986.

The percentage of start-up companies in the manufacturing sector was maintained at around 30 percent until the early 1980s. When the industrial structure turned to high-tech industries, it became more difficult to set up a manufacturing company. Compared to the traditional manufacturing sector, high-tech industries require more capital and technology. This deters aspirations to establish a new factory and redirects entrepreneurship to the service sector instead.

CULTURAL/DEMOGRAPHIC FACTORS

APPEARANCE OF BLACK HANDS

Cultural factors help shape the different faces of entrepreneurship. An old saying "Better to be the head of a chicken than the tail of an ox" describes this feature of Taiwan's ideology, especially in the business field. Such thinking drives the machinists or apprentices to create their own businesses and become "black hands" bosses. These individuals, instead of learning from school, learned their skills through apprenticeship within factories. They learn by doing. Combining skills and experience, "black hands" set up their own business and create opportunities for success.

Interestingly, in the early 1980s, this "black-hands" mentality could be easily identified in firms of any size based on technology skills, experience and familiarity with machines. In those days, "black hands" commonly left their original companies to start up their own firms. Technicians flow and the technology diffuses, so to speak, so the number of firms increased. Until the present, in Taiwanese society it was a source of pride to build a business by one's own effort. Even first-generation owners like to stress their previous background as "black hands."

The main competitive advantage of these "black hands" lies in cost savings, not only in terms of production cost, but also in terms of reducing management cost. Wives of "black hands" play multiple roles in the company and the family, providing a way to bring down management costs. These great women are more then just wives. They are also accounting managers, human resource managers and purchasing managers. They assist their husbands and the family enterprise to become a complete, functioning organism, which can receive orders from traders or obtain subcontract work from relatives or friends. Meanwhile, these wives perform their jobs without salary or at a very low level of pay. In particular, they have no regular working schedule. In another words, they provide 24-hour services for their husbands and companies. Without the help of these wives, the growth of "black hands" companies would be limited.

REGIONAL TERRITORY FOR BLACK HANDS CONVENTION

When "black-hands" get together, the regional territory becomes established and developed. This regional territory contains a phenomenon of "black-hand conventions" (Kao, 2000). It represents a concentration of "black–hand" businessmen, who want to take advantage of economies of scale by choosing where to congregate.

Increasing numbers of manufacturing firms are concentrating in specific areas of Taiwan and setting up numerous clusters all over the island, some of which are located in rural industrial areas. Within such clusters, subcontracting is very common, particularly among relatives and friends in related industries. The flexibility of production has been reinforced by this subcontracting system. The firms exchange not only business information but also factors in their production process. The result is a production network. This is an important element of Taiwan's economic miracle, especially during the 1970s-1990s period of export expansion.

As an emerging economy competing for global market share, network production gives firms the ability to effectively adjust the scale of production to feed the market's needs within a reasonable time and take advantage of business opportunities. Meanwhile, such network production is the base for regional proximity. Combining the regional infrastructure, such as superhighways and international seaports that were completed in the 1970s, and the export processing zones in the south and industrial zones in the middle of Taiwan, created many clusters for certain industries: plastic products, machinery, and textiles, etc.

BUSINESS ENVIRONMENT

SEVERE BUSINESS COMPETITION

Taiwanese SMEs have been developing under very severe conditions. However, such an environment not only enhances the resilience of SMEs against challenges worldwide but also upgrades the entrepreneurship of the entire nation.

Several factors explain this challenging business environment for SMEs. First, state-owned enterprises with monopoly power are the most important factor. They have dominated the domestic market and occupied the most profitable sectors of the economy. This situation forced SMEs to turn their attention to the foreign market. For this reason, SMEs feature a very high share of exports. If SMEs can succeed to sell their products in the world market, they become internationally competitive. They understand quite well that only by being competitive can they survive in the international market.

During the early stage of development in Taiwan, the legal system was usually inadequate and its implementation was very loose. To establish a small business was not difficult. Those who aspired to be entrepreneurs cultivated ambition, aggressiveness and entrepreneurial spirit. Increasingly, the younger generations were attracted to set up businesses to take advantage of loose regulations and execution.

In those days, the business environment was very hard for SMEs, but also provided the opportunity for success. While Taiwan has gradually become integrated with international society, modern business customs and systems are being established. Although there are still some defects that need to be addressed, Taiwan has already constructed a modern business environment comparable to those of other developed countries in the twenty-first century.

IMPACT OF GLOBALIZATION AND WTO ON SMES

The rapid export expansion in the 1970s and afterwards helped accumulate a substantial trade surplus. In 1985, Taiwan had a record US$15.7 billion trade surplus, equivalent to 20.3 percent of the GNP. In the same year, the Japanese yen was forced to appreciate abruptly after the advanced industrial countries signed the Plaza Accord in New York in September. The New Taiwan dollar (NTD) started to appreciate significantly partly in the face of increasing U.S. pressure and partly due to the rapidly growing trade surplus. The NTD appreciated 60 percent against the U.S. dollar within seven years. (In 1985, the exchange rate of the NTD against one U.S. dollar was 39.85. In 1991, it was 25.75.) During the same period, the annual wage rate for employees in the manufacturing sector increased more than 10 percent annually. The labor-intensive industries of Taiwan were fast losing their international competitiveness. Many SMEs shifted their production base to the ASEAN first and then China in order to take advantage of the cheap and abundant supply of labor and land. It is interesting to point out that Taiwan's FDI abroad are mostly for SMEs, which is quite different from the experience of other developed countries which involved mainly multinational corporations (MNCs). This fact is also illustrative of the Taiwanese style of entrepreneurship. Although some Taiwan firms have grown to world scale, the majority of Taiwanese firms are still SMEs.

In fact, many Taiwanese enterprises have performed very well in countries where they invested. Let us now discuss the reasons why Taiwanese SMEs have a better survival rate in comparison with other foreign enterprises. Three reasons can explain this situation:

- The experience of export-oriented business in the past provides the skills in international competition with small- and medium-scale production.
- Similarity in culture and language to the overseas Chinese and China is advantageous.
- The business network raises the survival rate. The assistance from the whole network diminishes the risk of investment abroad alone. At the same time, such assistance mitigates the problems SMEs faced in information searching and lack of bargaining power with local governments.

Based on these three reasons, Taiwanese entrepreneurship recently spread throughout Asia. Taiwan's entrepreneurs are able to explore new markets with their limited resources. Avoiding the high risk of the unknown, they form networks and create clusters one after another.

Some obstacles restrain the growth of these businesses. Among these is financial constraint. The second is the lack of up to date technology in doing business and production. The third is the lack of marketing ability. Conquering these obstacles will determine the future of Taiwanese entrepreneurship.

ROLE OF GOVERNMENT

INSTITUTIONAL FACTORS

From the 1950s to the 1970s, government support to SMEs was limited to provisional guidance with a considerably small scope. In 1981, a dedicated governmental body, the Small and Medium Enterprise Administration, was set up under the Ministry of Economic Affairs to assist the development of SMEs. This dedicated body aimed at assisting the SMEs in improving their operational environment and structural transformation, and increasing their access to financing. Automation, production technology innovation and personnel training were also among the tasks of this organization.

In the 1990s, government's initiatives became more proactive in helping the SMEs to upgrade and meet the challenges of the next century. The Statute for Development of Small and Medium Businesses was promulgated in February 1991, which has become the main statutory basis of SME assistance. Under the statute, a Small and Medium Business Development Fund has been set up in order to assist in the healthy development of medium and small businesses. As the financing facility and guarantor, the amount of the fund was also set up to be NT$12 billion (US$358.6 million.) Furthermore, in an effort to guarantee loans to small and medium businesses short of collateral, the government invited financial institutions to donate capital and established the SME Credit Guarantee Fund in 1974. By October 1998, 107,049 companies had been recipients, and the amount guaranteed was NT$1,885.8 billion (US$58.9 billion). Under the Statute for Development of Small and Medium Businesses, specific policy guidelines for SMEs were also outlined, covering cash loans, management, product technology, R&D, information management, industrial safety, pollution protection and marketing.

ENCOURAGEMENT OF FOREIGN DIRECT INVESTMENT (FDI)

Not all developing countries welcome foreign direct investment. There are pros and cons of FDI for the host country, and thus consensus is still to be established (Wu and Chen 1988, 26-29). But unlike others countries, Taiwan has always extended welcoming arms to FDI.

During the post-war era, Taiwan seriously lacked foreign exchange. Therefore, the Taiwan government tried to promote investment by foreigners and overseas Chinese to supplement the limited capital for economic development. In order to encourage foreign investment, the existing constraints for investors on the scope of investment, procedures, expatriation of capital and profits, and credit were removed. In the early 1950s, the government changed laws and promulgated several important statutes to provide more incentives for investment. These included the Statute for Investment by Foreign Nationals (1954) and the Statute for Investment by Overseas Chinese (1955).

The promotion of foreign investment by the government successfully brought about a growing number of projects and an increased amount of investment year after year, in particular after the 1960s. FDI reached a peak in 1989 with a total amounting to US$2.4 billion, led by the United States, followed by Japan and Europe.

ThisFDI influenced the development of local SMEs in several ways. First, production techniques and trade opportunities accompanied the introduction of FDI to local SMEs. This gradual shift of purchase of parts from imports to the domestic market also forced SMEs to face the challenges of global competition as a second effect. The third effect of FDI is the most important. The center-satellite factory network formed by MNCs brought the practice of international trade to local SMEs. Local businessmen were inspired to link up and engage using the international business language. Such training has proven very valuable when local businessmen advanced to the global market by themselves. The fourth influence of FDI is the diffusion effect. Many SMEs were created by former employees of foreign companies in Taiwan.

LOW REGULATION CREATES A FREE MARKET ECONOMY

In addition to the factors mentioned earlier, another important factor enabling SMEs to flourish was a free market system that allowed these enterprises to fully realize their comparative advantages of flexibility and resilience. This is due to Taiwan's basic policy for investment promotion and the respect for the functioning of a free market system.

Taiwan's government promulgated several laws to encourage nationals to be involved in business affairs through investment, such as the Statute for Encouragement of Investment promulgated in 1960. In addition, the Statute for Establishment and Management of Export Processing Zones (1965) and the Statute for Establishment and Management of Science-Based Industrial Parks (1979) created the two most significant areas for Taiwan's industrial development, Export Processing Zones (EPZ) and the Hsinchu Science-based Industrial Park (HSIP).

These laws provided a favorable investment environment, one that was attractive for setting up new companies. They simplified bureaucratic procedures and helped firms adapt to the economic reality. Effective tax exemption and preferential finance and credit treatment were provided to investors. Meanwhile, EPZs and the HSIP became effective hotbeds for breeding SMEs. Amendments to these laws were constantly made to reflect changes in economic conditions.

In establishing an environment favorable for new enterprises, these laws also encouraged investment by lowering entry barriers for starting up businesses. This created a competitive market for SME development. SMEs who were able to survive such severe competition were well equipped to face competition from abroad.

EXPORT-EXPANSION INDUSTRIALIZATION POLICY

Taiwan's export expansion policy was the main impetus that drove its economy to grow at an annual rate of 8 percent over the past five decades. The preceding industrialization policy of import substitution was rapidly facing more difficulties due to the constraints of the domestic market. Export promotion was adopted immediately. One important policy was to introduce an export rebate scheme. Exports were substantially boosted after the 1960s with a very high growth of nearly 23 percent and grew at 31 percent annually in the 1970s. Industrial production was consequently enhanced too. Although the policy initiatives to prompt export growth did not relate directly to the SMEs, one of the policies, export tax rebates, greatly benefited the SMEs, whose exports accounted for a handsome 60 percent of Taiwan's total exports.

SMEs also benefited from the government policy of providing export loans at low interest. This was a very important preferential treatment because SMEs had great difficulty obtaining loans from financial institutions. Interest rates on short-term working capital in particular were extremely high. The shortage of capital was universally found in developing countries and hence for the SMEs to gain financial access to the formal financial system was even more difficult. It was even worse in the predominantly government-run banking system. In addition, real estate was required from the SMEs as collateral for a bank loan. Small-scale firms were left starved for capital. The inefficiency of the formal financial system forced the SMEs to resort to the underground financial market, which was rampant in Taiwan. Underground financing of capital was not inadequate as long as the borrowers were willing to pay high interest rates. In general, interest rates from underground financing were more than double bank rates. The duality of the financial system increased the cost of doing business for the SMEs and put them at a financial disadvantage.

CONCLUSIONS AND RECOMMENDATIONS– NEW BUSINESS MODELS FOR THE TURNING POINT

In this paper, we briefly sketched a picture of entrepreneurship in Taiwan. A free market structure, which comes from a loose regulation system and a welcoming attitude to FDI, provided a wide playing field in which entrepreneurs could develop. Plenty of "black hands" appeared on the field, imbued with the ideology of "Better to be the head of a chicken than the tail of an ox," to stimulate the flourishing of entrepreneurship. Beginning in the 1980s, the appreciation of the NTD produced changes in the structure of industry and the whole economy. Entrepreneurship was also influenced. The orientation of business start-ups was redirected to the IT industry and the service sector.

Recently, globalization and the accession to the WTO introduced a new environment for the further development of entrepreneurship. How to raise the entrepreneurial spirit of the new generation will be an important issue in the future. Entrepreneurship must grow up in a favorable atmosphere. Compared to 20 years ago, Taiwan has created a better environment for setting up new companies: a sound regulation system, better financial support and a more open market economy. However, there are more challenges ahead.

For a businessman, the micro challenges include:

- A higher threshold to be a competitive player in the global business game.
- A massive number of global rivals from developing countries.
- Less favorable factors: rising costs for labor, land and environmental protection.

The macro challenges are:

- The coming knowledge-based economy era: examining the ability of SMEs to utilize information technology.
- Taiwan's WTO entry: to embrace globalization and open her market further.

Although the government has provided a number of assistance measures to help SMEs overcome challenges, most SMEs still feel helpless, which results from the gap between the enterprises' needs and government's aid.

Does there exist any "total solution" for Taiwanese SMEs in the twenty-first century? These SMEs possess advantages in flexibility and network production. Could SMEs use those advantages into the knowledge-based economy era and make a profit from the intense competition in the WTO era?

It is essential to create an interface mechanism of enterprises, research, institutes and the government to fill in the blanks between market needs and the firms' advantages. The shortage of expertise in marketing, R&D, management, even accounting are all bottlenecks for SMEs' prosperity in the new century. Those "black-hands" and their wives could apply cost-saving measures in production, accompanied by proper introductions of outside experts into the original SMEs' production networks. This process could be treated as an interface mechanism, which would form a solid "organ" among the enterprises, research institutes and government. This interface would contain the following mechanisms:

- <u>Discovery</u>: The interface would be able to discover potential firms that can aggressively respond to changes in the environment, instead of using old-fashioned business tactics.
- <u>Understanding needs</u>: Considering the variety of SMEs, this interface would have the capacity to catalog the actual needs of enterprises in each field.
- <u>Resource connections and integration</u>: The major function and task of such an interface would be to organize and coordinate all assistance, including research, marketing and financial institutes. To avoid waste, this interface would be charged with leading governments' resources in the proper direction.

- Promotion: This interface mechanism should set a successful example for other SMEs to follow. At the same time, this interface should also be able to spread the methodology to all consulting agents for assisting other SMEs.

By using this interface to organize a complete strategic alliance, the necessary infrastructure for entrepreneurship will develop. If such an interface were to operate successfully, an ideal atmosphere for entrepreneurship would be established and could lead the economy of Taiwan to the next stage of development.

APPENDICES

Table 1. Size Distribution of Manufacturing Firms, 1954-96 (%)

	Share of the total number of enterprises				
	1-9 persons	10-49 persons	50-99 persons	100-499 persons	500+ persons
1954[1]	90.73	8.02	0.68	0.50	0.07
1961	89.49	8.94	0.83	0.62	0.13
1966	72.11	22.38	2.72	2.31	0.47
1971	68.66	23.03	3.75	3.82	0.75
1976	68.12	22.84	4.30	4.10	0.64
1981	70.29	21.53	4.11	3.54	0.53
1986	63.60	27.72	4.71	3.54	0.43
1991	66.60	27.95	3.57	2.12	0.30
1996	70.00	25.20	2.87	1.67	0.26

1. Factories only.
Source: Taiwan Directorate-General of Budget, Accounting and Statistics, the Executive Yuan.

Table 2. The Role of SMEs in NICs (%)

Country	SMEs	Employment in SMEs
Hong Kong	98.2 (1995)	60.7 (1995)
South Korea	99.0 (1993)	69.0 (1993)
Singapore	91.5 (1995)	51.8 (1995)
Taiwan	97.8 (1997)	78.4 (1997)

Source: APEC, 2000, Table 1.

Table 3. Comparison of SMEs in Taiwan, Japan, US, UK and France

	Taiwan (2000)	Japan (2000)	US (1998)	UK (2000)	France (1999)
Population①	22 million	126 million	275 million	59.2 million	59.1 million
No. of Non-Agricultural SMEs②	1.06 million	4.84 million	24.8 million	3.52 million	2.38 million
% of Total Non-Agricultural Enterprises ③	98.06%	99.7%	99.7%	99.8%	99.9%
No. of Non-Agricultural SME Employees④	6.67 million	27.07 million	55.4 million	12.2 million	17.49 million
SME Owner Ratio ②/①	4.8%	3.8%	9.0%	5.9%	4.0%
SME Employee Ratio ④/①	30.3%	21.5%	20.1%	20.6%	29.6%

Notes: 1. The definition of SME used in the United States is any enterprise with 500 employees or less.
2. The definition of SME used in Japan is any enterprise with 300 employees or less (100 or less for wholesale businesses; 50 or less for retail businesses; and 100 or less for services businesses).
*3. The definition of SME used in Taiwan is any enterprise in the manufacturing; construction or mining sectors with capital under NT$60 million or any other enterprise with sales under NT$80 million. * Here, the adjusted definition of SME for Taiwan is any enterprise in the manufacturing, mining or construction sectors with 200 employees or less, or any other enterprise with 50 employees or less.*
4. The definition of SME used in the UK is any company with not more than 250 employees.
5. The definition of SME used in the France is any company, which employs fewer than 500 persons.
Source: White Paper on Small and Medium Enterprises in Taiwan, 2001, Table 2-5-1.

Table 4. Shares of SMEs by the Total Number of Companies, by Industry, 1961-97 (%)

Industry	**1961**	**1971**	**1981**	**1991**	**1997**
Mining and quarrying	96.70	--	98.60	97.82	98.00
Manufacturing	99.70	95.40	98.90	98.12	97.78
Water, electricity and gas	94.20	80.50	52.50	89.08	92.31
Construction	98.90	85.40	90.10	98.57	98.44
Commerce	99.60	99.90	99.70	96.63	97.76
Transport & communications	96.30	--	95.30	96.31	97.71
Finance, insurance, business-industrial services	100.00	--	97.00	92.56	90.68
Others	90.80	98.30	99.50	97.59	99.58
Total	**99.60**	**98.30**	**99.10**	**97.05**	**97.81**

Source: Small and Medium Enterprise Administration, Ministry of Economic Affairs..

Table 5. Share of SMEs by the Total Number of Employees, by Industry, 1966-97 (%)

Industry	1966	1971	1976	1981	1986	1991	1997
Mining and quarrying	--	--	49.10	62.60	73.80	57.90	76.92
Manufacturing	42.70	35.60	59.60	62.00	68.25	79.60	81.25
Water, electricity and gas	7.30	7.80	--	0.40	--	2.70	5.71
Construction	24.20	33.30	26.50	25.50	58.04	96.08	97.29
Commerce	95.90	93.90	89.30	--	73.22	94.04	93.93
Transport & Communications	--	--	30.60	--	45.32	59.82	60.43
Finance, Insurance, Business-Industrial Services	--	--	66.20	--	41.37	59.57	70.30
Others	61.10	53.00	--	56.10	--	83.95	79.21
Total	**--**	**--**	**61.00**	**--**	**64.40**	**78.56**	**78.43**

Note: SME employees are defined as the total number of employees being smaller than 200 persons for mining and quarrying, manufacturing, and construction industries; and 50 persons for agriculture, water, electricity and gas, commerce and business-industrial services industries.
Source: Directorate-General of Budget, Accounting and Statistics, the Executive Yuan..

Table 6. Export Shares, 1981-97 (%)

Year	Large enterprises	SMEs
1981	31.90	68.10
1982	30.32	69.68
1983	36.61	63.39
1984	40.76	59.24
1985	38.80	61.20
1986	33.61	66.39
1987	32.94	67.06
1988	40.00	60.00
1989	38.42	61.58
1990	42.69	57.31
1991	43.12	56.88
1992	44.08	55.92
1993	45.23	54.77
1994	47.44	52.56
1995	49.35	50.65
1996	50.25	49.75
1997	51.23	48.77

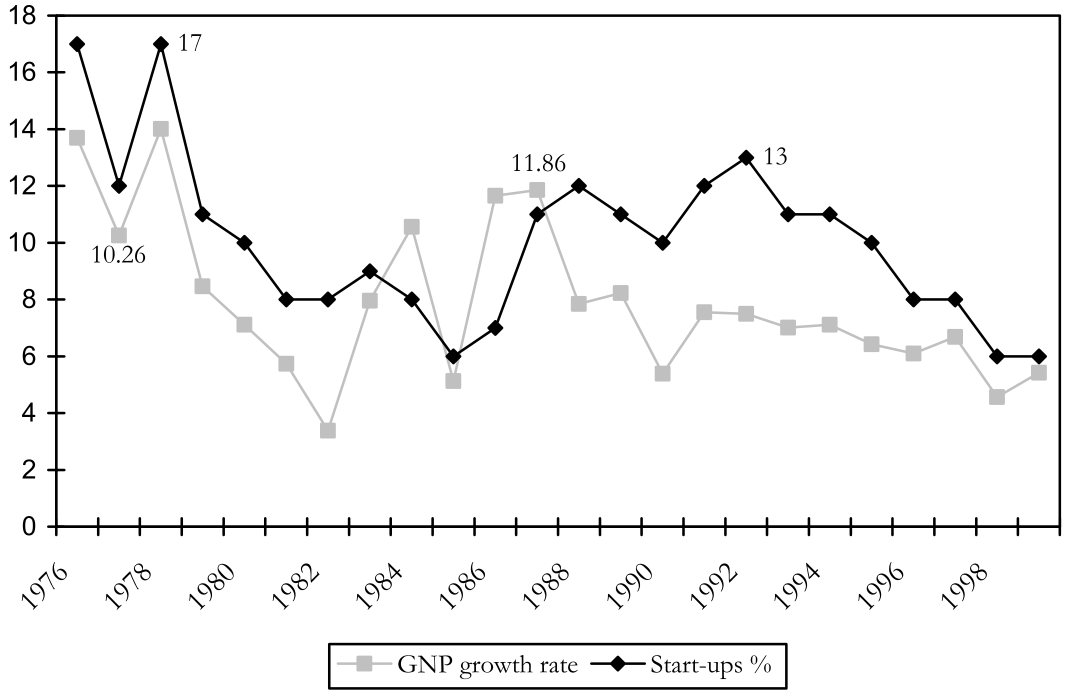
Source: White Paper on Small and Medium Enterprises in Taiwan 1998, Ministry of Economic Affairs.

Table 7. Rate of Start-ups Index in Taiwan (1976-2000)

Year	**1976**	**1977**	**1978**	**1979**	**1980**
GNP Growth Rate	13.7	10.26	14.01	8.47	7.11
No. of Companies	143,776	166,842	198,297	225,609	249,263
No. of Start-ups in All Sectors	24,454	20,843	33,973	25,171	23,830
Number of Start-ups in Manuf. Sector	7,650	6,749	11,390	7,744	6,366
Start-Ups %	17%	12%	17%	11%	10%
Manuf. % in Start-Up Companies	31%	32%	34%	31%	27%
Year	**1981**	**1982**	**1983**	**1984**	**1985***
GNP Growth Rate	5.74	3.38	7.96	10.56	5.13
No. of Companies	270,878	290,590	312,885	334,452	350,053
No. of Start-ups in All Sectors	22,174	24,265	27,401	25,972	22,246
Number of Start-ups in Manuf. Sector	6,343	6,427	7,152	7,075	5,721
Start-Ups %	8%	8%	9%	8%	6%
Manuf. % in Start-Up Companies	29%	26%	26%	27%	26%
Year	**1986**	**1987**	**1988**	**1989**	**1990**
GNP Growth Rate	11.65	11.86	7.84	8.23	5.39
No. of Companies	372,108	316,726	339,777	361,038	373,368
No. of Start-ups in All Sectors	26,549	33,315	40,896	39,731	37,239
Number of Start-ups in Manuf. Sector	5,900	7,695	9,437	6,080	11,315
Start-Ups %	7%	11%	12%	11%	10%
Manuf. % in Start-Up Companies	22%	23%	23%	15%	30%
Year	**1991**	**1992**	**1993**	**1994**	**1995**
GNP Growth Rate	7.55	7.49	7.01	7.11	6.42
No. of Companies	394,512	426,538	463,775	493,399	527,093
No. of Start-ups in All Sectors	46,326	56,805	51,716	55,700	54,431
Number of Start-ups in Manuf. Sector	12,627	11,137	14,899	11,406	7,783
Start-Ups %	12%	13%	11%	11%	10%
Manuf. % in Start-Up Companies	27%	20%	29%	20%	14%
Year	**1996**	**1997**	**1998**	**1999**	**2000**
GNP Growth Rate	6.1	6.68	4.57	5.42	5.98
No. of Companies	545,977	565,479	583,335	592,874	587,145
No. of Start-ups in All Sectors	43,638	44,068	36,513	35,367	34,404
Number of Start-ups in Manuf. Sector	6,055	4,154	4,094	4,409	
Start-Ups %	8%	8%	6%	6%	6%
Manuf. % in Start-Up Companies	14%	9%	11%	12%	

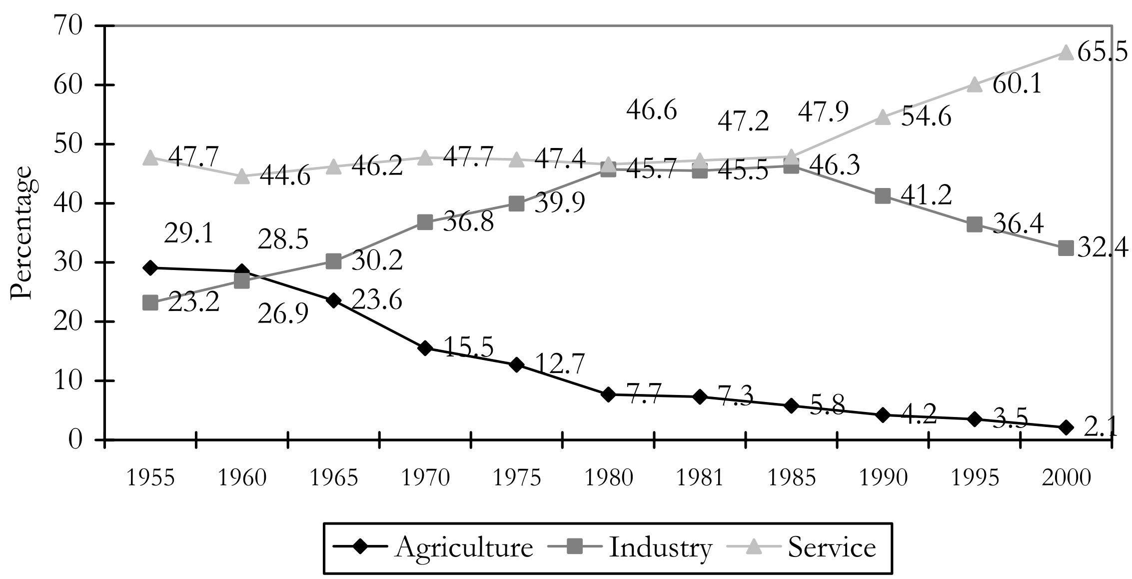
Source: Economic Statistics Annual Taiwan, Taiwan, 2000.

Figure 1. GNP Growth Rate and Start-Ups



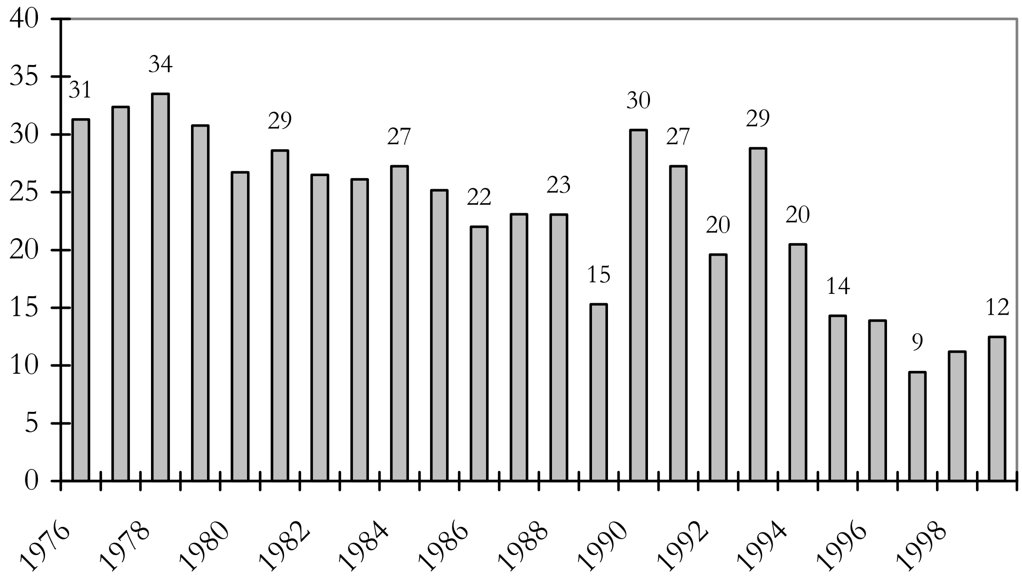
Source: Table 7.

Figure 2. GDP Composition by Industries



Source: Taiwan Statistical Data Book, 2000.

Figure 3. Percentage of Start-up Companies in Manufacturing



Source: Table 7.

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