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TAIWANESE CORPORATIONS IN GLOBALISATION AND REGIONALISATION

by

Gee San

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TABLE OF CONTENTS

Summary 9

Preface 11

INTRODUCTION 13

1. THE INTERNAL TRANSFORMATION 15

2. TAIWAN'S INTER- AND INTRA-REGIONAL TRADE AND INVESTMENT . . 18
   Inter-Regional Patterns 18
   Intra-Regional Patterns 18

3. TRADE AND INVESTMENT BETWEEN TAIWAN AND MAINLAND CHINA 22
   The Trade and Investment Policies of the Two Regimes in the 1980s . . 22
   Taiwanese Entrepreneurs' Investment Strategies in Mainland China . . . 25
   The Golden Triangle in the Pacific Rim 27

4. STRATEGIES OF TAIWANESE ENTERPRISES 29
   Inward Strengthening Strategies 29
   Joint Efforts in the Development of Technology 29
   Technological Alliances with Foreign Partners 31
   Internationalisation Strategies 32
   Overseas Mergers and Acquisitions 32
   Outward Investment 34
   International Operations and R&D Networks 36
   The Risks of Internationalisation 36

5. CONCLUDING COMMENTS 38
   Taiwanese Corporations' Strategies and Behaviour 38
   The Broader Issue of Regional Co-operation in Pacific Asia 39

Notes 43

Tables 45

Bibliography 55

RÉSUMÉ

De nombreuses sociétés d'exportations taiwanaises sont de petite ou moyenne dimension et beaucoup d'entre elles ont une position relativement favorable pour faire face ou même pour tirer avantageusement parti de la globalisation. Du fait qu'elles ne disposent généralement pas d'un important support interne de R&D, ni de réseau de marketing à l'échelon mondial, ni de marque internationale reconnue, pour certaines de ces sociétés la globalisation est cependant considérée comme une menace.

Afin d'être en mesure de répondre aux défis de la globalisation, ces sociétés taiwanaises adoptent diverses stratégies leur permettant de renforcer leur capacité technologique ; ces stratégies se manifestent par une coopération dans les travaux de R&D et des alliances technologiques avec des partenaires étrangers. Confrontées à des défis internes, comme le manque de main-d'oeuvre, une importante surévaluation du dollar taiwanais (NT dollar) et un mouvement de défense de l'environnement auxquels viennent s'ajouter les pressions résultant de la globalisation, de nombreuses sociétés s'efforcent également d'internationaliser leurs activités, tant en Asie qu'à l'extérieur de la région (spécialement aux États-Unis et plus récemment en Europe). L'investissement direct à l'étranger, comprenant des fusions et des acquisitions, a été utilisé par ces firmes pour contourner les barrières tarifaires, acquérir de la technologie, acheter des noms de marques ou des réseaux de distribution de vente, obtenir l'accès aux ressources naturelles et diversifier l'ensemble de leurs activités. Les échanges intra-régionaux et l'investissement, en particulier avec la Chine intérieure — souvent via Hong Kong — mais aussi avec les pays de l'ANASE, se sont rapidement développés au cours des dernières années et le potentiel d'échanges intra-industriels et d'investissements dans le Détroit de Taiwan *(Taiwan Strait)* reste considérable.

Il ne faut cependant pas négliger le fait que ces efforts récents d'internationalisation ont entraîné des pertes importante pour plusieurs de ces firmes taiwanaises. Le succès de ces sociétés face à la globalisation sera largement tributaire de leur capacité à établir des réseaux opérationnels internationaux, à absorber le coût des revers éventuels et enfin à s'adapter au rapide développement de la technologie.

SUMMARY

Many of Taiwan's highly export-oriented enterprises are small and medium-sized, and many are in a relatively good position to cope with, even to take advantage of, globalisation. Because they generally do not have strong in-house R&D, and often do not have their own global marketing channels and internationally recognised brand names, however, many also see globalisation as a serious threat.

To cope with the challenges of globalisation, Taiwanese firms are adopting various strategies to strengthen their technological capabilities; these strategies include joint

R&D efforts in Taiwan, and technology alliances with foreign partners. Faced with challenges at home — including labour shortages, major appreciation of the NT dollar and an environmental protection movement — as well as the pressures of globalisation, many firms are also striving to internationalise their operations, both in Asia and outside the region (especially in North America, more recently in Europe). Direct overseas investment, including mergers and acquisitions, has been used by Taiwanese firms to circumvent trade barriers, acquire technology, acquire brand names and/or sales networks, gain access to natural resources, and diversify operations. Intra-regional trade and investment, notably with mainland China (often via Hong Kong) but also with the ASEAN countries, has grown particularly rapidly in recent years, and there is considerable potential for further intra-industrial trade and investment across the Taiwan Strait.

Nor should it be overlooked that many Taiwanese companies have suffered significant losses in their recent efforts to internationalise operations. How well Taiwan's firms perform in response to globalisation will depend heavily on their ability to establish international operational networks, to absorb the costs of possible setbacks, and to cope with the rapid development of technology.

PREFACE

The Development Centre is carrying out a major research project on Globalisation and Regionalisation as part of its 1990-1992 Work Programme. The Project aims to provide a better understanding of the economic and political forces that are working for, and against, the formation of regional economic groupings in Europe, the Western Hemisphere and Pacific Asia, and how those forces interact with the forces (essentially microeconomic) that are driving globalisation. The purpose is to assess their implications for the strategies and policies of various categories of developing countries.

Concern that regionalisation schemes in Europe and the Western Hemisphere threaten to undermine future trade and growth possibilities is probably greater in the Dynamic Asian Economies, particularly Taiwan and Korea, than in any other group of countries. That concern is only heightened by the difficulty encountered in successfully concluding the Uruguay Round of GATT negotiations, and the risk of spillover effects from the considerable friction between Japan and the United States. There are, at the same time, growing pressures to strengthen regional economic integration in Pacific Asia, as shown not only by the rapid growth of trade and investment flows within the region, but by the recent Malaysian proposal to form an East Asian Economic Caucus.

This Paper focuses on an important microeconomic force driving both globalisation and regionalisation in Pacific Asia: the strategies and behaviour of Taiwanese companies. Indeed, it is often overlooked that among Asian foreign direct investors, Taiwanese firms as a group are second only to Japanese firms in their investment outside Pacific Asia, and that in some Southeast Asian countries in recent years, Taiwanese investment has been second to none.

In pointing up the importance of recent internal changes in Taiwan in shaping both the regional and global strategies of Taiwanese firms, in analysing the rapidly growing involvement of Taiwanese firms in mainland China, and in emphasizing the risks as well as the opportunities that globalisation creates for those firms, this Paper — written by a leading Taiwanese economist — constitutes a useful contribution to the Centre's research programme on Globalisation and Regionalisation.

Louis Emmerij
President of the OECD Development Centre
April 1992

INTRODUCTION

During the 1960s and 1970s, Taiwan's enterprises enjoyed enormous success in the world market. The accessibility of the US market in particular significantly contributed to their growth. It was during these two decades that many enterprises in Taiwan were able to establish their production lines, set up international marketing channels, and accumulate technological capability. Foreign direct investment in Taiwan also served to diffuse the technologies needed in local enterprises with regard to production, marketing, and product design (San, 1988). The majority of Taiwan's large enterprises, particularly in the private sector, were established during this critical period.

Two important characteristics of Taiwanese firms deserve our attention. First, although some large private firms have been established over the past three decades, the majority of Taiwanese corporations are still small and medium-sized enterprises (SMEs). Statistics from Taiwan's Ministry of Economic Affairs (MOEA) show that SMEs have accounted for 71.1 per cent of total export earnings and 28.9 per cent of total domestic sales in Taiwan. Clearly, they constitute the backbone of Taiwan's economy. Second, it is also noticeable that most enterprises in Taiwan are highly export-oriented. The domestic market, only 20 million people, is clearly too small for the massive number of SMEs. As a result of the large-scale activities of these enterprises, Taiwan's total international trade accounts for approximately 96 per cent of its GNP, and Taiwan has been ranked as the 12th-largest trading nation in the world.

These two characteristics pose both opportunities and challenges for Taiwan's enterprises faced with the globalisation and regionalisation of the world economy in the 1980s and 1990s. One of the most important phenomena of globalisation is the frequent collaboration between multinational corporations in major industrialised countries, through technological co-operation, joint ventures, or overseas investment and acquisitions. The dominance of these corporations in the world market will be significantly enhanced by these efforts. One might consider that since most enterprises in Taiwan are already highly export-oriented, they would be in a position to cope with and take advantage of these developments in global competition. Many worry, however, that the globalisation of industries may in fact pose a severe threat to the survival of the SMEs in Taiwan, as most multinationals have strong capability in technology development and international marketing, as well as brand names that are accepted and known worldwide. The critical question, therefore, is how can Taiwan's enterprises — mostly lacking their own international marketing channels and international brand names, and generally weak in research and development (R&D) — survive under conditions of global competition?

The globalisation issue is complicated by the emergence of regionalisation. The 1992 single-market plan in Europe, the free trade agreements between the United States and Canada and between the United States and Mexico, and the proposal of economic co-operation among South-east Asian and Pacific Rim countries are all significant signs of the regionalisation of the world's economy. Whether this trend will ultimately lead to a higher level of protectionism in international trade remains to be seen, but Taiwanese corporations should take some precautionary measures before it is too late.

The main purpose of this paper is to address the various strategies of Taiwan's entrepreneurs in responding to these external challenges. One should also bear in mind however that Taiwan is encountering various internal challenges: labour constraints, environmental protection, trade imbalances, and democratic movements. These internal factors have had a profound impact on the operational strategies of Taiwanese enterprises. Furthermore, the complicated political relationship between mainland China and Taiwan not only is an important factor for regional co-operation in the Pacific and South-east Asian region, but also poses an important challenge for Taiwan's entrepreneurs.

To explore the various strategies adopted by Taiwanese enterprises, it is necessary to take all the external and internal factors into consideration. This paper is thus organised into five sections. In Section 1, we discuss the various problems of internal transformation that are relevant to enterprise development in Taiwan. Trade and outward investment between Taiwan and major regions in the world are then discussed in Section 2 in order to explore the relationship between Taiwan's increasing volume of outward investment and its international trade. Taiwan's economic ties with mainland China strengthened after the mid-1980s, and intra-regional trade and investment have become the major force for "regional integration". In Section 3, we shall discuss this important phenomenon and illustrate both the governmental and entrepreneurial responses to this new relationship. Although some entrepreneurs' strategies will be discussed, Section 3 does not cover all the major responses and strategies that have been adopted by Taiwanese entrepreneurs. Therefore, in Section 4 we shall explore this topic in more detail. In addition, the risks and difficulties associated with these strategies will be discussed. Finally, in Section 5 we summarise our major findings and conclusions.

1. THE INTERNAL TRANSFORMATION

Taiwan's economy experienced a major transformation over the decade of the 1980s. Internally, it has been strongly affected by factors such as labour problems, the environmental protection movement, and the accumulation of huge foreign exchange reserves. Besides these economic factors, the democratic movement within the country and Taiwan's tense relationship with mainland China (the major political factors) will inevitably have a tremendous impact on the economy as a whole.

One of the most important internal factors which affected Taiwan's economy in the 1980s was the labour problem. The Labour Standards Law (LSL), promulgated in 1984 and covering roughly 64 per cent of all workers, is the most significant labour-rights measure in Taiwan. Although the LSL has significantly improved the welfare of workers, it has also created a lot of confusion and anxiety for employers. Two major problems with the LSL make it unacceptable to the employers. The first concerns the retroactive clauses in its enforcement rules, which stipulate that employers must pay workers' pensions and severance payments for service before the promulgation of the LSL in 1984 — the amount is determined by the worker's length of service. This enforcement rule places a heavy financial burden on many employers, as they must find money for pension and severance payments[1]. The second problem with the LSL is that its authors introduced many high standards into the law, which have increased the cost of labour substantially. San (1989) has compared LSL regulations concerning minimum wage levels, pension and severance payments, overtime premiums, wages paid for working on holidays, annual paid vacations, and year-end bonuses with those of four developed and two developing countries (the United States, Japan, Germany, the United Kingdom, South Korea, and Singapore). In fact, the standards in the LSL are quite comparable to those of the above countries. Moreover, the LSL levels for pensions, severance pay, wages paid for working on holidays, annual paid vacations, year-end bonuses, and the outstanding wage settlement fund are actually the highest among these countries. Clearly, the introduction of the LSL has significantly increased the costs of labour for employers in Taiwan.

The shortage of unskilled workers poses another difficulty for employers. Statistics from the Directorate-General of Budget, Accounting, and Statistics (DGBAS) of the Executive Yuan (the government) show that in 1988 the manufacturing sector required 214 677 workers to fulfil its labour demand, or 9.6 per cent of the total number of workers in the sector. The direct result of the serious labour shortage, combined with the promulgation of the LSL, is a soaring wage level. Entrepreneurs in the traditional labour-intensive sectors are having serious difficulties in competing with other low-wage developing countries such as Thailand, Malaysia, the Philippines, and mainland China. Aside from plant closures, some type of action must be taken in order to cope with this challenge.

Many capital-intensive industries in Taiwan, although less affected by the problem of soaring labour costs, have been hard hit by the environmental protection movement. It is fair to say that, in the past, rapid economic growth was one of the most important policy goals in Taiwan, and not enough attention was paid to environmental protection measures. In fact, many people consider the environmental protection movement an obstacle to rapid economic growth. Now that the pollution problem has reached an intolerable level, the environmentalists have become a large-scale social movement in Taiwan, and many enterprises are now facing tremendous pressure to clean up the mess that they made over the years, to cut down dramatically on their pollution levels, or both.

Clearly, all these demands would be very costly to meet and, in some cases, would cause the phasing out of operations of some enterprises in Taiwan. Moreover, the environmental protection movement has affected not only existing enterprises but also those trying to establish themselves. For instance, when Dupont in the mid-1980s wanted to set up a chemical plant producing TiO_2 in the middle of Taiwan, it encountered strong resistance from the local citizens who feared that the plant might result in serious environmental pollution. The direct resistance from the local citizenry led to the postponement of the investment project for over four years; subsequently, the proposed plant site had to be changed. Another example is that of the Formosa Plastics Group, the largest private plastic chemical operation in Taiwan, which wants to set up a naphtha-cracking plant in eastern Taiwan, but has also been encountering strong resistance from local citizens. As a result, the investment project has been postponed for more than five years. This type of opposition certainly has a direct and significant impact on entrepreneurs' investment decisions.

The other noticeable internal factor is the accumulation of huge foreign exchange reserves in the 1980s, which has had a tremendous impact on the domestic economy in Taiwan. The statistics from the DGBAS show that foreign exchange reserves increased from less than $11 billion in 1981 to over $73 billion in 1991.

This rapid accumulation has affected the domestic economy in many ways. Together with the appreciation of the currency (the exchange rate between the NT dollar and the US dollar appreciated by more than 35 per cent over the period from 1986 to 1987), it makes outward investment and overseas mergers and acquisitions (M&As) more affordable and attractive. Second, the accumulation of immense foreign exchange reserves has put enormous inflationary pressure on the domestic economy, which has in turn caused price levels to soar in the non-tradable sectors such as real estate and the stock market. The rise in real estate prices has entailed rent increases for enterprises that do not own their factory and office sites, resulting in increased operating costs. Furthermore, many firms have been forced to go out of business or to move their factories to less expensive rural sites. In contrast, those enterprises who own their factory sites have been able to sell their land at a considerable profit in order to engage in overseas investment or mergers. This is particularly true of enterprises in the more traditional and labour-intensive sectors. Third, the accumulation of foreign exchange reserves has also led to the relaxation of foreign exchange controls by the government. Today, every citizen can freely remit $3 million abroad annually (reduced from $5 million last year), which still gives enterprises flexibility to exercise their internationalisation strategies. Fourth, the imbalance of trade between the United States and Taiwan as well as between the United States and other countries has induced protectionism in the United States. The introduction of the "301" or "super 301" clauses in the US trade act has cautioned Taiwanese firms to prepare for increasing US protectionism in the future and has also encouraged them to internationalise their strategies and diversify their markets.

The decade of the 1980s was also important for the development of a more democratic political system in Taiwan. The lifting of martial law in 1987 led to the organisation of various opposition parties and has changed the political climate in Taiwan considerably. As a result, labour unions in Taiwan can now exercise their right to strike and bargain for better working conditions, which makes many entrepreneurs in Taiwan increasingly uneasy.

2. TAIWAN'S INTER- AND INTRA-REGIONAL TRADE AND INVESTMENT

Inter-Regional Patterns

The United States has always been the largest and the most important market for Taiwan's exports. The statistics in Table 1 clearly show that in the 1980s the United States accounted for more than 30 per cent of Taiwan's total value of foreign trade. During the period 1983-87, in fact, the US market accounted for over 35 per cent of Taiwan's total value of foreign trade. This period also witnessed a huge trade imbalance between Taiwan and the United States, which eventually led to a large accumulation of foreign exchange reserves.

Japan and Europe were Taiwan's second- and third-largest trade partners. Japan's share in Taiwanese trade grew from 17.42 per cent in 1982 to 21.17 per cent in 1989 and mainly consisted of huge imports from Japan. Therefore, although Taiwan enjoyed a huge surplus against the United States in the 1980s, it also encountered a huge trade deficit against Japan.

Taiwan's trading relationship with Europe also intensified substantially over the 1980s. In 1989, European countries accounted for 16.21 per cent of total trade value in Taiwan, a figure comparable to Japan's share in Taiwan's total foreign trade in the early 1980s. Among the European countries, Germany, the United Kingdom, and France are Taiwan's top three trading partners. In contrast to the United States, Japan and Europe, the ASEAN countries (Thailand, Malaysia, the Philippines, Singapore, and Indonesia) saw their trading activities with Taiwan decline (in terms of shares of Taiwan's total trade value) in the early to mid-1980s. This may well be due to the high proportion of Taiwanese enterprises that export to the US market.

The statistics in Table 1 thus make it clear that the United States has been the prime market for the majority of Taiwanese enterprises in the past. Taiwanese firms were forced to change their course in the late 1980s, however, because of changes in the external environment, such as growing US protectionism, and internal changes such as the accumulation of huge foreign exchange reserves, the appreciation of the NT dollar, and other factors. The US share in Taiwan's trade thus declined dramatically from 38.4 per cent in 1985 to roughly 26 per cent in 1991.

Intra-Regional Patterns

One of the more noticeable changes in the strategy of Taiwanese enterprises is that many have found that outward investment can be a good way to utilise their capital while avoiding domestic labour and environmental regulations as well as circumventing the growing protectionism of the United States. The statistics on the outward investment approved by the Taiwanese government appear in Table 2. One can see that Taiwan's outward investment to the ASEAN countries, the United States, and other regions in the world has grown substantially during the period 1986-90. For instance, 85 cases of outward investment to Thailand were approved by the government in Taiwan during this period, as opposed to only 3 during the period 1980-85. Similarly, other ASEAN countries such as Malaysia, Singapore, and the

Philippines also had a substantial increase in foreign direct investment from Taiwan in the late 1980s. Although the ASEAN countries have attracted a substantial amount of investment, the United States was and remains the most attractive place for Taiwanese entrepreneurs to invest abroad. The statistics in Table 2 show that in 1986-90 there were 248 cases of approved investment to the United States, for the total approved amount of $1.176 billion.

These figures, the approved outward investment statistics from the Investment Commission of the MOEA, can be used as a useful reference for understanding the intensity of Taiwan's outward investment into ASEAN countries, but the actual magnitude of its outward investment into South-east Asian countries should be gauged from the official statistics of the recipient countries (Chen and Su, 1988). Due to the relaxation of the foreign exchange controls after the mid-1980s, many cases of outward investment did not need to go through the approval procedures of the Taiwanese authorities. Therefore, the Taiwanese government's official investment statistics underestimate the actual investment volume considerably. Table 3 presents statistics on Taiwan's outward investment to Thailand, Malaysia, the Philippines, and Indonesia as reported by these countries' authorities. According to these data, in 1989 there were respectively 241, 191, 21, and 50 cases of investment to these four countries; the amounts invested were $871 million, $815 million, $149 million, and $158 million, respectively. By comparing Table 2 with Table 3, one can clearly see that there is a huge discrepancy between the Taiwan government's approved outward investment statistics and the recipient countries' official statistics. In fact, Taiwan in 1989 ranked second only to Japan as a source country of foreign direct investment in Thailand, Malaysia, and the Philippines. It is also shown in this table that from 1987 to 1989, Thailand and Malaysia were the top two recipient countries of outward investment by Taiwanese entrepreneurs.

To understand the nature of these investments we have broken them down by industry in Table 4. For the textile industry, Malaysia, Indonesia, and the Philippines are the three major recipients of Taiwanese outward investment. For the chemical industry, however, the United States, the Philippines, and Malaysia attracted the major proportion. As for the electronic and electric products industry, the United States, Malaysia, and Thailand are the major destinations for outward investment. One can also see that from 1985 to 1990, Taiwanese entrepreneurs' major investment categories in Thailand were electronic and electric products, followed by basic metals and metal products, then plastic and rubber products. In Malaysia the leading categories were electronic and electric products, chemicals, and non-metallic products; in the Philippines, chemicals, non-metallic products, and textiles; and in the United States, chemicals, electronic and electric products, and the food and beverage industries.

Bilateral trade between Taiwan and the South-east Asian countries has grown substantially. Table 5 shows that in 1982 Taiwan's total bilateral trade with Thailand, Malaysia, the Philippines, and Indonesia was $321 million, $691 million, $303 million, and $681 million, respectively, while in 1990 the comparable statistics were $1.870 billion, $2.106 billion, $1.047 billion, and $2.166 billion. It is important to note that the growing trade volume between Taiwan and these South-east Asian countries is consistent and highly correlated with the growing volume of Taiwan's outward investment to them. For instance, Taiwan's major outward investment areas in Thailand are electronic and electric products, basic metals and metal products, plastic and rubber, and food, while Taiwan is also importing a lot of electronic parts, rough wood, vegetables and fruit, and rubber from Thailand. Clearly, there is a close relationship between the items Taiwanese firms have imported and the areas in which they have invested. Similarly, one can easily see in this table that Taiwan is not only importing crude oil, chemical products, rubber, and rough wood from Malaysia but is also investing heavily in these items in Malaysia. This complementarity is the explanation for the increasing trade and investment activities between Taiwan and South-east Asian countries.

Table 5 also makes it clear that Taiwan's major export items to these countries are textile yarn, fabrics and related products, and electronic and electric products; in tandem, Taiwan's entrepreneurs in these industries are investing heavily into South-east Asia.

These trade and investment phenomena are mainly due to the motivation of coping with the changes in the internal environment in Taiwan and/or of circumventing trade barriers. As Taiwan's investment in electronic and electric products has increased in South-east Asian countries, we can also observe that more and more electronic and electrical products were imported from these countries to Taiwan. For instance, in 1980, the total import value of electrical machinery, apparatus, and appliances from Malaysia to Taiwan was roughly $10 million; in 1988, the import value reached $141 million, exceeding the $56 million exported from Taiwan to Malaysia. One can observe a similar rapid growth in importation of electrical products from the Philippines to Taiwan. Although we still lack direct evidence that most of these manufactured electrical products from either Malaysia or the Philippines are actually imported from outward-invested Taiwanese plants, the trade statistics do suggest a high degree of intra-industrial trade, particularly in the electronic and electrical industry, which will certainly enhance economic unity within the region.

Until the early 1980s, most of the South-east Asian countries did not adopt a very positive attitude towards foreign direct investment. The traditional infant-industry argument and the fear of dominance by foreign economic powers were the primary considerations behind this policy. However, more and more countries have realised that they have made very limited progress in promoting their trade and industrial development through these conservative policies. Many are now convinced that more positive policies towards foreign direct investment should be implemented in order to acquire needed capital and technologies. Consequently, in recent times the major South-east Asian countries have all adopted an open-door policy towards foreign direct investment. For instance, both Thailand and Malaysia state that foreign investors may hold 100 per cent equity in a local company if over 80 per cent of the products manufactured are for export. The Philippines allows foreign investors to hold 100 per cent of the equity if over 70 per cent of the products manufactured are for export. In Indonesia, foreign investors may hold 95 per cent of the equity in the company if over 65 per cent of the products are for export (woven goods must reach 85 per cent), but the foreign share in the equity of the company must be decreased to 80 per cent after 10 years and to 45 per cent after 15 years. In terms of tax privileges, Thailand, Malaysia, and the Philippines all provide tax exemptions to foreign investors — Thailand for 3 to 8 years, Malaysia for 5 to 10 years, and the Philippines for 6 to 8 years.

It is clear that Taiwan's outward investment to South-east Asian countries has been, and will be, reinforced by these incentive policies. As a result, a more complementary and unified intra-industrial trade relationship should emerge which will not only enhance the economic ties within the region but also lead to closer regional co-operation in the 1990s.

3. TRADE AND INVESTMENT BETWEEN TAIWAN AND MAINLAND CHINA

The outward investment phenomenon discussed in the previous sections is not confined to the Asian countries mentioned, but has been extended to include mainland China as well. The trade and investment relationship between mainland China and Taiwan has developed under the careful control of both governments; consequently, the outward investment strategies adopted by Taiwanese enterprises in mainland China are more cautious and more complicated than in other regions. Before we discuss the strategies in detail, it would be worthwhile to review the political relations and the evolution of trade and investment between Taiwan and mainland China during the 1980s.

The Trade and Investment Policies of the Two Regimes in the 1980s

Mainland China and Taiwan have been two separate political regimes since the civil war of the 1940s. Since that time, mainland China, under the control of the communists, and Taiwan, under the control of the nationalists, have been extremely hostile to each other. There was very little, if any, trade or investment from the 1950s to the late 1970s. At the end of the 1970s, however, the communist regime in mainland China developed full diplomatic relations with the United States and also changed its strategy towards Taiwan: instead of emphasizing a military need to "liberate" Taiwan, it began to promote trade and investment activities. The basic goal behind this type of policy was not only to help mainland China modernise its economy in accordance with the four-modernisations plan proposed in 1978, but also to draw Taiwan into a position of increasing dependence on the internal market of mainland China, which in theory would help mainland China "liberate" Taiwan through economic means. Obviously, the aim is to kill two birds with one stone, and various preferential measures have been introduced for Taiwanese investment and trade in mainland China. For instance, in 1980 mainland China declared that all goods imported from Taiwan would be considered domestic goods; therefore, no tariffs would be imposed (this policy was revised in 1983; a low tariff called an adjustment tax was then imposed). In addition, preferential treatment and assurances were given to Taiwan's entrepreneurs in order to attract their investment. As a result, Taiwan's entrepreneurs began actively to invest in the mainland in the mid-1980s.

In contrast, the government in Taiwan has taken a passive attitude towards the initiatives made by mainland China. Taiwan recognises that, through trade and investment, the difference in standard of living between the two sides of the Taiwan Strait can be narrowed, thereby substantially reducing the chance of a military confrontation. A question critical to Taiwan's development, however, is how to implement trade activities between the two entities so as to avoid Taiwan's becoming overly dependent on mainland Chinese markets. In response to this dilemma, the government has not required specific actions to be taken to intervene in or to encourage Taiwan/mainland China trade. Recently, however, after closely monitoring the trade relationship between mainland China and Taiwan for more than seven years, Taiwanese officials began to recognise the complementary nature of the two economies. As a result, in 1987 Taiwan adopted a more active policy towardss mainland China, allowing citizens of Taiwan to visit their relatives on the mainland,

and allowing 27 different kinds of agricultural products and industrial raw materials to be imported indirectly from mainland China to Taiwan. These policies, together with the relaxation of foreign exchange controls, have had a tremendous impact on trade and investment activities across the Taiwan Strait. The relevant statistics on bilateral trade are shown in Table 6. One can see that Taiwan's export value to mainland China increased from $21.5 million in 1979 to $2.9 billion in 1989, a 135-fold increase in just a decade, whereas the import value from mainland China to Taiwan increased from $56.3 million in 1979 to $586.9 million in 1989, a 10-fold increase in a decade. Furthermore, one can observe a dramatic increase in both the export and import values of Taiwan's trade with mainland China in 1987 due to the more active trade and political policies adopted by the Taiwanese government.

Although trade between mainland China and Taiwan has increased dramatically in volume over the past decade, it still accounts for only a small proportion of the total trade volume of both countries. It was found, as shown in Table 7, that Taiwan's export value to mainland China was only 0.6 per cent of Taiwan's total export value in 1983; this increased to 4.9 per cent in 1990, whereas only 1.4 per cent of Taiwan's total imports came from mainland China in 1990. Obviously, bilateral trade between mainland China and Taiwan still accounts for a very small share of the total trade volume for Taiwan as well as for mainland China[2], but these shares have increased very rapidly over the past decade. Furthermore, increasingly liberal and active trade and investment policies have been adopted by the government in Taiwan in relation to mainland China. For instance, the number of agricultural and industrial products allowed to be imported indirectly from mainland China was increased from 27 in 1987 to 152 items in mid-1990. These policies will certainly enhance the economic ties between mainland China and Taiwan.

Apart from the relaxation of trade regulations across the Taiwan Strait, Taiwan's policies regarding the dismantling of foreign exchange controls, visits to relatives on the mainland, and the increase in indirect trade in certain agricultural and industrial products have all certainly induced a significant amount of outward investment from Taiwan to mainland China. In addition, beginning in 1983, mainland China authorities have established various preferential policies to attract investment from Taiwan, including specific clauses which safeguard the property of Taiwanese investors in mainland China, and consequently have made the investment climate in mainland China very favourable. Yen and Lee (1990) report that, in 1987, 80 items were being produced in mainland China through investment projects of Taiwanese investors, with a total investment of approximately $100 million; in 1989, roughly 1 000 items were being produced by Taiwanese firms in mainland China, with a total investment of approximately $1 billion. The share of Taiwan's direct investment in total foreign investment in mainland China rose from 2.9 per cent in 1987 to 9.5 per cent in 1988. In fact, after the events of 4 June 1989, Taiwanese investment became the most important source of "foreign" direct investment in mainland China.

In reaction to the growing amount of outward investment to mainland China, policies regulating these activities had to be laid down by the government in Taiwan. In April 1990, the MOEA announced that investments in the following four categories were not allowed in mainland China: (1) industries related to national defence or vital to national security; (2) products developed through government R&D support;

(3) high-tech products subject to export control regulations; and (4) industries with large linkage effects on domestic industries. In short, from Taiwan's prospective, it is hoped that those industries using high technology, having high value added, with strong industrial linkage, or related to national defence will be deterred by the government's policies from investing in mainland China. To implement these policy guidelines, the MOEA has adopted a positive-list methodology, listing all the industrial products that may be produced by Taiwan firms or investors in mainland China. There are more than 2 000 items on the list, mostly low-end and/or highly labour-intensive industrial products for which Taiwan has lost its comparative advantage.

In addition, in early 1991 the MOEA stated that all enterprises that have invested in mainland China must register their investment areas and amounts with the MOEA. The aim is to give the MOEA a better picture of the status of Taiwan's outward investment into mainland China. This policy has certainly met with some resistance from the investors, as many of them fear that the government will utilise this investment information to probe into their capital and income flow. As a result, the total registered amount of investment shown in Table 8 is $754 million (2 053 cases), which is far less than the estimated total amount of $1 billion.

The growing volume of trade and investment between mainland China and Taiwan has had a profound impact on the domestic economy of Taiwan. One important issue that must be dealt with is whether these activities will eventually "undermine" Taiwan's industrial export structure. Yen and Lee (1990) examine the major trade items that flow between mainland China and Taiwan; they report that in the early 1980s non-food raw materials such as minerals, fertilizers, seeds, and textiles accounted for more than 80 per cent of Taiwan's total import value, whereas in 1989 they accounted for only 31 per cent. One of the most noticeable changes (see Table 9) is that semi-manufactured products, such as chemicals (SITC 2924, 5225), textiles (SITC 6534, 8451, 6513), and machine parts (SITC 8994, 8942, 7599) had become Taiwan's major import items from mainland China in 1989. Furthermore, many semi-manufactured items such as synthetic fabric, outwear knits, toys, and umbrella parts were experiencing a very rapid rate of growth. A plausible explanation for this change is that many Taiwanese entrepreneurs are actually importing these semi-manufactured goods which have been produced in mainland China for further processing in Taiwan. This not only lowers their production cost but also enables them to obtain tariff rebates for importing semi-manufactured goods if these goods will be processed for export.

Taiwan's major export items to mainland China in 1989 appear in Table 10. One can see that Taiwan's entrepreneurs are shipping raw materials and machinery to their factories in mainland China. For instance, Taiwan's shoe industry has largely relocated to mainland China; as a result, raw materials (SITC 5833, 5834), semi-manufactured goods (SITC 6123), and machinery for shoe making (SITC 7284) were the major export items to mainland China in 1989. In addition, Table 10 shows that semi-manufactured goods for textile products, electronic products, machinery, and instruments were major products exported to mainland China by Taiwan in that year. By examining the flow of items between mainland China and Taiwan in Tables 9 and 10, one can easily see that a complementary intra-industry trade relationship between the two sides is being developed and consolidated; the complementary relationship is further enhanced by outward investment or relocation of production facilities by Taiwan's entrepreneurs.

As trade and investment activities between Taiwan and mainland China increase, one of the important questions that the policy makers in Taiwan must answer is: How will these activities affect Taiwan's export capability and future export markets? This question has been addressed by San and Tsai (1990), who found that the cross-price elasticities between mainland China and Taiwan in four categories of industrial goods (electronic and electrical items, shoes and handbags, apparel, toys and sporting goods) in the US market were 0.0225, 0.2286, 0.5565, and 0.1454 respectively from 1983 to 1988. Clearly, mainland China and Taiwan are fierce competitors in the sale of these commodities in the United States.

In addition, San and Tsai found that for industries such as machinery, metal products, and rubber and plastic products, mainland China and Taiwan actually complement each other in the US market, as the cross-price elasticities in these categories were -0.0018, -0.0456, and -0.0022 respectively. Although the magnitudes of these negative-complementary cross-price elasticities are substantially lower than those of the positive-substitutional values noted above, they clearly show that there is great potential in intra-industrial trade and investment in raw and intermediate materials. The coexistence of substitutional and complementary relationships will thus continue be the main characteristic of the trade between mainland China and Taiwan.

Taiwanese Entrepreneurs' Investment Strategies in Mainland China

Several favourable factors have attracted Taiwanese investment to mainland China. First of all, the language in Fu-chien province is the same local dialect of Chinese as that spoken in Taiwan, and mainland China and Taiwan have both adopted Mandarin as their official language. Communication therefore poses no problem to Taiwanese entrepreneurs' investing in the mainland. Second, many Taiwanese investors still have relatives and friends on the mainland; it is thus easy for them to establish connections and personal relationships. Third, from an economic point of view, the large labour force and low wage structure of mainland China are very attractive to entrepreneurs in Taiwan, who are facing soaring labour costs and strict labour regulations. Fourth, the government in mainland China gives preferential treatment such as tax exemptions and low rental fees to Taiwanese investors, which makes the investment environment there most attractive.

Despite all of these favourable factors, Taiwan's entrepreneurs are also aware that there are many problems and difficulties with investing in the mainland. The major problems as reported by Shih (1988) are as follows: (1) Foreign exchange in mainland China is under very strict government control; as a result, foreign investors (including Taiwanese investors) are finding it hard to buy foreign currencies needed to conduct their regular business transactions. This also imposes a substantial cost on the investing companies when they wish to expatriate their profits from mainland China. (2) The electricity supply is unstable. The shortages, often serious, have in many cases caused factories to stop production for more than four hours per day. As a result, many factories have had to equip themselves with power generation systems, which, in turn, have made their electricity more expensive than in Hong Kong. (3) The road and public transportation systems are inadequate; the poor service and quality not only tend to induce higher product-damage rates in the shipment of goods but also cause delays in their delivery. (4) The inefficiency and corruption of the government on the mainland and the poor telecommunication facilities have increased the cost of conducting business in mainland China.

The investment strategies that Taiwanese entrepreneurs have adopted to circumvent the above deficiencies, and also to take full advantage of the favourable conditions in mainland China, can be summarised as follows:

The set-up strategy

To avoid possible arguments about differences in management ideology, many entrepreneurs from Taiwan try to set up their enterprises under their sole ownership. Under this kind of set-up, they operate the enterprises in such a way as to recoup their investment preferably in two, but in no less than five, years. Note that it was not until the late 1980s that the Taiwanese government allowed Taiwanese entrepreneurs to invest in mainland China. By that time, however, many of the latter had already begun to do so by taking advantage of the relaxation of foreign exchange controls implemented in the mid-1980s. To protect their investments in mainland China and to avoid possible questioning by the government in Taiwan, these entrepreneurs have most often set up a shell company in Hong Kong or elsewhere and then invested in mainland China through the shell company. As a matter of fact, even though today the government in Taiwan has formally permitted enterprises to invest in items on the positive list for mainland China, as mentioned above, still no direct investment is allowed, as that would call for direct contact between Taiwanese government officials and mainland Chinese officials. Therefore, indirect investment through a third region is still the common strategy adopted by the enterprises in Taiwan.

The operation strategy

Since many of the enterprises in mainland China are under the sole ownership of Taiwanese entrepreneurs, and/or since the local partners can provide very little in the way of inputs, either in management or in marketing, Taiwanese entrepreneurs must bring in their own capital, production facilities, managerial personnel, raw materials, and marketing channels. As a result, one of the most common operating strategies for entrepreneurs in Taiwan is OPTS: taking Orders from abroad in Taiwan, Processing in mainland China, shipping and Transfer in Hong Kong, and Sales abroad. In short, the entire operation in mainland China is treated merely as a strategic export-processing unit; this strategy not only avoids the complicated problem of foreign exchange control, but also allows entrepreneurs to enjoy the preferential treatment provided by mainland China's government as well as the favourable trade status accorded by the developed countries to mainland China.

As a result of the OPTS strategy, the factors of production, such as machinery and managerial personnel that were previously employed in Taiwan, have been moved to mainland China. The raw and intermediate materials as well as the design and sales orders are all handled by the parent company in Taiwan in order to ensure the quality of the final products. Clearly, the OPTS strategy can be considered a good internationalisation strategy, especially for the more traditional and labour-intensive industries in Taiwan, such as shoe making, textiles, toys, garments, umbrellas, and electronic products. Since most of the raw and intermediate materials used in these Taiwanese factories in mainland China are actually imported from Taiwan, it is not surprising that we observe a rapid increase in trade in industrial semi-finished products to facilitate the growing intra-industrial trade across the Taiwan Strait.

We should note, however, that the investment strategies of Taiwan's entrepreneurs have changed substantially over the past decade. Previously, most of the investment projects in mainland China were considered prototypes or experimental plants. For example, enterprises rented the factory site from the local government in mainland China in order to engage in some simple assembly processing activities. As they accumulated experience in dealing with the various problems that occur when doing business in mainland China, they began to adopt long-term investment plans. Activities such as purchasing factories and land or building factories then became more frequent. Another noticeable trend is due to the costs and delays of shipping all raw and intermediate materials from Taiwan to the mainland (even though most of the Taiwanese factories are located in the coastal regions of Kwan-dong and Fu-chien provinces): the upstream raw-material suppliers in Taiwan began to find it very attractive to set up their own factories in mainland China, not only to strengthen their relationship with their downstream users in mainland China, but also more readily to supply badly needed semi-processed materials to mainland Chinese enterprises. A notable example is the Formosa Plastics Group's plan to set up a naphtha-cracking plant on the mainland, but this investment project has encountered strong opposition from the government in Taiwan. Clearly, political and national security considerations are still the key obstacles to the development of trade and investment activities between mainland China and Taiwan.

The Golden Triangle in the Pacific Rim

Although the three-China problem often has caused difficulties in the international setting, Taiwan, Hong Kong, and mainland China are highly complementary in terms of their economic relationship. It is often considered that these three Chinese economies actually constitute a "golden triangle" in the region, for the following reasons.

First, Taiwan is now one of the major investors in the region, while Hong Kong provides the Taiwan investor with the managerial and financial expertise needed for investing in mainland China. By combining Taiwan's production technology and capital, Hong Kong's international financial expertise, and mainland China's cheap labour and supply of natural resources, a strong economic relationship can be established.

Second, the three have a common culture and their populations are of the same race; it is thus easy to communicate.

Although economically there may exist a great potential for economic co-operation among the three Chinas, the future development of co-operation really depends on the internal economic policy of mainland China and on the political and economic relationship between mainland China and Taiwan. If the government of mainland China can adopt an open-door policy and relax its control over the economy, and if a less hostile and more co-operative relationship can be established, then regional co-operation among mainland China, Hong Kong, and Taiwan will increase and will certainly play a significant role in the integration in the Pacific and South-east Asian region.

4. STRATEGIES OF TAIWANESE ENTERPRISES

The OPTS strategies discussed in the previous section are less frequently observed in regions other than mainland China, because in these cases Taiwan's enterprises do not have to take complicated political considerations into account. In regions other than mainland China, therefore, Taiwanese enterprises will adopt strategies more positive and more active than OPTS to cope with the globalisation and regionalisation of the world economy. Furthermore, the outward investment strategies that we discussed in Section 2 are definitely not the only strategies available to meet internal challenges and respond to growing protectionism and regionalisation. In addition, globalisation by multinationals is particularly concentrated in capital- and technology-intensive industries. Meeting the challenge in globalised, cutting-edge industries necessitates a more competitive attitude and a clear strategy.

To meet this global challenge, Taiwanese enterprises have adopted aggressive strategies, which vary depending on the characteristics of the individual enterprise and the industry in which it operates. Generally speaking, these strategies fall into two categories: inward strengthening strategies and internationalisation strategies. Those in the inward strengthening category are adopted by Taiwanese enterprises to augment their technological development capability: for example, joint efforts among Taiwanese enterprises in the development of technology and the forming of technological alliances with foreign partners. As for the internationalisation strategies, overseas M&As, outward investments, international operations, and R&D networks have been employed. We shall now discuss these strategies in turn.

Inward Strengthening Strategies

The rising cost of labour and the increasing international competition from the developing and developed countries have called for a major structural change in Taiwan's industrial sectors. Theoretically, many possible strategies can be followed, but there is one major difficulty: the escalating cost of technology development has become the major barrier not only for many large enterprises in developed countries but also for the SMEs in Taiwan. Therefore, joint efforts in the development of technology have become a principal strategy of major industrialising countries, and Taiwan is no exception.

Joint Efforts in the Development of Technology

The concept of joint effort in the area of technology development is not new to Taiwan. In the past, however, enterprises themselves rarely employed such a strategy. The basic reason for the lack of such co-operation may have been the level of individualism of Taiwanese entrepreneurs; a lack of economic pressure and the absence of a proper mechanism for the organisation of co-operative programmes may also have been key factors. In today's world markets, there is significant external pressure on Taiwan's firms to engage in technology development; this is due in large part to the influence of developed countries, but also to the evolution of venture companies in Taiwan. Consequently, more and more joint programmes in the area of technology development can be observed among Taiwanese enterprises.

A typical example of such co-operative efforts is provided by the Taiwanese information industry. Although this industry plays a significant role in the world market (in 1989 Taiwan's total computer-hardware product value was $5.48 billion, sixth in the world after the United States, Japan, Germany, France, and Great Britain), the majority of its constituent enterprises are SMEs. These SMEs are flexible and responsive to market changes, but they are also incapable of developing and producing sub-micron DRAM technologies, which are critical to their future development. As a result, a joint effort, similar to the SEMATECH project for the development of sub-micron technology in the United States, has been launched in Taiwan. In August 1989, the major players in the Taiwanese information industry (ITRI, UMC, TSMC, Winboard, Ten Tech, and Vitelic) decided to form a "technology development alliance" to develop 16M DRAM and 4M SRAM chip technology over the next five years. To be better prepared to handle the project, they established a microelectronic laboratory that meets class 10 cleanliness standards for 0.2µm and has the capability of developing the technology needed to produce 0.8µm chips. The five-year development plan calls for an investment of NT$ 5-6 billion and requires the engagement of more than 200 engineers and technicians.

The role of the government in promoting such a joint effort is essential. As in many similar projects which have been successfully completed in the past, the government-sponsored Industrial Technology Research Institution (ITRI) initiated and directed the project. Firms interested in joining must share the costs. During the development stage, ITRI agreed to supply technicians and engineers to operate the newly established laboratory and to develop the technology. Once the technology has been developed and mastered, then a new sub-micron manufacturing company will likely be spun off from the ITRI programme, and the sub-micron chips or production technologies will be shared among the investing firms.

It has been argued by San (1990) that there are at least five advantages to this kind of operation. First, the newly established venture company can provide immediate pecuniary rewards and/or professional positions which will attract the most capable engineers. This allows them to develop such technologies: obviously, under a reward-based system there are strong incentives for research breakthroughs. Second, since the venture company's new technology will be supported by the same group of engineers that developed it, the company does not have to start from scratch and can be in full operation within a very short period of time. Third, as the company remains basically a privately owned firm, it will be flexible and able to respond to rapid changes in the external environment. Fourth, the main purpose of developing the new technology is to help the private sector in Taiwan upgrade its technological position. The government has no intention of monopolising the technology. As a result, a privately owned venture company can serve as a conduit to diffuse the new technology. Fifth, and most important, many entrepreneurs in the traditional sectors of the economy would like to diversify their investments to include the high-tech information industry, for various reasons such as risk sharing and industrial upgrading. A venture company project of this kind would certainly be an ideal investment and a relatively easy one to undertake.

These joint efforts in the development of new technology have spread to many other industries in Taiwan. For instance, a joint research project to develop better automobile engines has recently been launched. In this programme an automobile engine development centre will be set up through the sponsorship of ITRI. The major automobile manufacturers in Taiwan have joined the project and provided a sufficient amount of capital. It is hoped that if a better engine can be developed, it will be used in the local production of automobiles by Taiwanese manufacturers. Similar joint development projects have also begun to form in industries where externalities and economies of scale in the development of technology are present, such as refrigerator and air conditioner compressors, high-resolution colour-TV tubes, and high-definition TV (HDTV). Such joint effort in the development of technology will likely become more frequent, and it will certainly become one of the most important inward strengthening tactics used to overcome the economies-of-scale problems of Taiwanese SMEs.

Technological Alliances with Foreign Partners

The co-operative method of developing technology is just one way to acquire the technologies needed to improve the competitive stance of local enterprises. Many firms in Taiwan have found that technological alliances with foreign players can also provide badly needed technology. A typical example of this phenomenon is Taiwan's Acer group, which has set up a joint venture with Texas Instruments (TI) to produce DRAMs in Taiwan.

The Acer group is the largest personal-computer manufacturer in Taiwan, but it has no experience in producing DRAMs. To overcome this problem, Acer formed an alliance with TI to obtain DRAM technology. Under the Acer-TI agreement, the total investment package for setting up the DRAM fabrication plant is approximately $250 million. Acer controls 76 per cent of the company and TI 24 per cent, although TI provided only 11 per cent of the capital. The remaining 13 per cent of TI's share is for providing technical assistance in the areas of plant design, plant operation, fabrication technology, and training.

A key clause in the Acer-TI agreement gives TI the right to increase its share to 51 per cent within the next five years. Acer agreed to such a clause principally because it wants TI to bring technology into the joint venture, and this clause will give TI a stronger incentive to do so. Furthermore, given the high-risk nature of the business it is advisable to share risks and costs with a partner rather than to bear them all alone. From TI's point of view, the joint venture with Acer for the production of 1M DRAMs and 4M DRAMs is a good strategy, since the technology for producing these components is no longer considered advanced. Therefore, it is wise for TI, in making a deal with Acer, to capitalise on all the possible economic benefits associated with this technology and to have a limited capital investment. Furthermore, owing to the keen competition in the international DRAM market, the user-producer relationship should be established on solid ground. Not only does the joint venture with Acer in Taiwan fit into TI's global strategy of establishing its role as a leader in memory chip production, it also helps the company capture a major part of the growing Taiwanese market for memory chips.

The Acer-TI joint venture is not the first or the only international technology alliance contracted by firms in Taiwan. In fact, this strategy has also been adopted by public sector enterprises as well; the alliance between IBM and the government-backed Neotech Development Corp. (NDC) and International Integrated Systems Inc. (IIS) in Taiwan is a typical example. To help develop the software industry in Taiwan, the government-sponsored Institution for the Information Industry (III) agreed with IBM in 1983 to establish NDC. Under the agreement, NDC, supported by software engineers from III, must provide exclusive software development and design services to IBM for any of the joint projects, while IBM pays for both the NDC staff's salaries and all R&D equipment. During the project development period, NDC research staff frequently were sent to IBM plants around the world to acquire needed expertise. At the same time, IBM's engineers were sent to guide the research operations. Under this alliance, NDC provides low-cost, high-quality, but relatively inexperienced engineers to the foreign partner. In return, the foreign partner provides NDC with its vast knowledge in software research and development. Clearly, both parties benefit from the alliance. The success of NDC's relationship with IBM led to another co-operative programme — the establishment of IIS in 1988. The major difference between the IIS and NDC agreements is that IIS does not have to provide contract services to IBM exclusively, as NDC does. IIS can also provide services for other independent businesses; however, the projects designed must solely utilise IBM systems. To enhance the strategic alliance, it was agreed that NDC and IIS should merge into a single company called Integrated Systems Development Corp. (ISDC), and IBM has purchased 35 per cent of the ISDC shares. It is hoped that by combining the two companies' software and design engineers, ISDC will display both economies of scale and enough technical expertise to become a significant software and design player in the international market.

Generally speaking, strategic alliances with foreign partners are likely to be established by the larger and more capital-intensive enterprises in Taiwan. Such alliances, in addition to upgrading the enterprise's technological capability, are aimed at enhancing its marketing capabilities in both the domestic and foreign markets. Therefore, it is likely that use of this strategy by Taiwanese enterprises will increase.

Internationalisation Strategies

To cope with the changes in the production environment in Taiwan and to respond to the globalisation and regionalisation of the world economy, various internationalisation strategies have been adopted by entrepreneurs in Taiwan. Among all the various strategies employed as the result of different operational motives, the most important are overseas M&As, outward investment, and the formation of international operating and R&D networks.

Overseas Mergers and Acquisitions

As mentioned in Section 1, owing to the large accumulation of foreign exchange reserves and the vast appreciation of the NT dollar, overseas M&As have become more attractive and more available to enterprises in Taiwan. There are at least five different motivations for these enterprises to engage in overseas M&As: to acquire technology, to acquire a sales network, to acquire a brand name, to acquire resources, and to diversify operations. These motivations are not mutually exclusive; on the contrary, in many cases we have observed that entrepreneurs are adopting overseas M&A strategies in order to accomplish more than one purpose.

Overseas M&As to acquire technology

A typical example of overseas mergers is that of the mergers undertaken by the Acer group with two firms located in the United States: Counterpoint Computers (minicomputer manufacturing) and PPL (computer-controlled printing systems). These mergers have helped Acer to acquire minicomputer technology and expand its personal-computer services. Additional examples are the acquisition of American Bridge Inc. (United States) by the Continental Construction Company in Taiwan, which enabled the latter to acquire needed construction technology, and the acquisition of Comsat Inc.'s marine telecommunications branch by MTI in Taiwan, so that MTI can set up an integrated satellite communication system.

Overseas M&As to acquire a sales network

Typical examples of this type of alliance are the purchase by the largest domestic food-processing operation, President Foods Inc., of the third-largest biscuit manufacturer in the United States, Wyndham Foods Inc., so that President Foods could control the sales network of Wyndham rather than set one up by itself, and the Acer group's merger with DYNA, the third-largest computer dealer in the United States.

Overseas M&As to acquire brand names

Taiwanese companies are frequently criticised because they do not have their own brand names with which to sell their products internationally. More and more of them, however, are finding that overseas M&As permit them to "purchase" a brand name for their products. A good example is the merger of one of the largest US furniture companies, Stoneville, and its long-time OEM supplier in Taiwan, which allowed the Taiwanese manufacturer to take control of Stoneville's marketing channels and brand name. Another example is the acquisition of one of the largest computer-terminal manufacturers in the United States, WYSE, by a Taiwanese venture capital company under the ownership of Mitac, the China Trust, and Kuo Chiau. Certainly, acquiring technology, marketing networks, and brand names through overseas M&As all aim to provide Taiwanese firms with a competitive edge in international markets.

Overseas M&As to acquire natural resources

Typical examples here are the overseas M&As by the largest private plastics manufacturer, the Formosa Plastics Group, with the Allied and Johns Mensville corporations in Texas so that Formosa could obtain relatively cheap crude oil (in comparison to Taiwan). This also allowed Formosa to apply its own rather advanced and efficient production and managerial technology to penetrate the US market. Currently, Formosa Plastics accounts for one-tenth and one-quarter, respectively, of plastic powder and plastic tube production in the United States.

Overseas M&As to diversify operations

A typical example of overseas M&As of this category is the acquisition by one of the largest wire and cable manufacturers in Taiwan, Pacific Wire and Cable Inc. (PWC), of eight financial institutions in Texas. This allowed PWC to diversify its operations by entering the financial service industry.

The financial sector in Taiwan is heavily regulated by the government. It was not until the end of 1989 that the government began to accept applications for the establishment of new banks, and the majority of existing banks in Taiwan are publicly owned. Therefore, for entrepreneurs who wish to invest in the banking industry, it is much easier to invest abroad. Furthermore, entrepreneurs who invest in banking institutions abroad can then set up branches in Taiwan. Provided that their applications for foreign mergers are approved by the authorities in Taiwan, the overseas M&A could therefore become an effective strategy in circumventing the Taiwanese government's rigid regulations for entering the banking industry[3].

Outward Investment

Direct outward investment is another important internationalisation strategy for enterprises in Taiwan. Overseas M&As have the main purpose of acquiring technology, marketing channels, or brand names, but outward investment is usually undertaken for other reasons. These fall into three categories: coping with changes in the production environment, obtaining access to natural resources, and circumventing trade barriers. In fact, these three types of motivation reflect the different strategies of firms in different industries.

Outward investment to cope with changes in the production environment

As mentioned in Section 1, the domestic economy in Taiwan is characterised by rising labour costs and strict labour and environmental protection regulations. Furthermore, owing to the improvement in education and the use of birth control measures, unskilled labourers are in short supply. Obviously, these factors are not favourable to further development of the many existing labour-intensive industries in Taiwan. Apart from the adoption of more advanced machinery to reduce labour costs or to upgrade products, the only alternative for enterprises is to move their production lines abroad. South-east Asian countries such as Malaysia, Indonesia, Thailand, and the Philippines are the natural relocation sites for these enterprises, for the following reasons: first, these countries are close to Taiwan geographically and are inhabited by many overseas Chinese, which facilitates identification and negotiation of investment projects; second, the cost of labour in these countries is substantially lower than that in Taiwan, making products produced there more competitive in the international market; third, they have applied various preferential measures that make the investment environment attractive.

Owing to the external and internal production environments, enterprises in the more labour-intensive industries — sporting goods, shoes, consumer electronics, leather products, furniture, textiles, and garments — are investing intensively in these countries. Furthermore, it can be observed that as the outward investment trend intensifies, not only the downstream enterprises but also the midstream enterprises (which supply parts or intermediate materials in the production process) will invest outward in order to serve their downstream users abroad. Particularly in the electronics industries, many of the midstream firms that supply parts and components for electronic or information products are investing intensively in these countries.

Outward investment to obtain natural resources

Another reason for conducting outward investment is to obtain natural resources. This motivation is particularly strong for those enterprises which consume a large volume of raw materials in the production of their product. For this reason, Yuen Foong Yu Paper Mfg. Co. has invested $4.36 million in both Thailand and Indonesia to produce pulp, paper, and paper products. Wei-Chuan Foods Corp. has invested $1.56 million in Thailand to produce various canned vegetables and fruit. CGPC Investment Co. has likewise invested $7.5 million in Malaysia to produce medium- and low-density polyethylene. USI Far East Corp. has invested $20.7 million in the Philippines to process and manufacture propylene and ethylene plastic raw materials. Finally, Asia Polymer Co. has invested $5 million to produce medium- and low-density polyethylene in Malaysia. We should note that besides the objective of obtaining raw materials, outward investment, particularly in the petroleum-related industries, is also aimed at escaping the stringent environmental protection standards laid down by the government in Taiwan. These investors believe that given factors such as population density, the activity level of the environmental protection movement, and the dependence of the economy on the production of crude oil, countries such as Malaysia and the Philippines are unlikely to have tighter environmental control standards than Taiwan. Thus it is to their advantage to establish their petroleum-related plants in these countries.

Outward investment to circumvent trade barriers

Another advantage of investing in these Asian countries is that they enjoy preferential trade treatment from the United States, the EEC, and the ASEAN member countries. Furthermore, the GSP preferential treatment offered by the United States to these ASEAN member countries is more favourable than that offered to mainland China. Therefore, the investment environments in these countries are very favourable for Taiwan's outward investment.

As the time for integration of the European economy draws near, enterprises engaged in trade with European countries are well aware that a strong European trade bloc is likely to be established after 1992. To meet this challenge, many firms are actively engaging in outward investment projects in Europe. Several corporations in Taiwan, including the Continental Construction Corp., the Yuen Foong Yu Paper Mfg. Co., and the Cha-Shin Cement Corp., have been actively developing a science industrial park in Ireland. It is hoped that this institution will attract many Taiwanese electronic and information enterprises and that they will set up their factories there in order to meet the regional challenge of a unified Europe.

Until now, there have been very few cases of direct outward investment from Taiwan to Europe. The geographic distance and language barrier (except in the case of the United Kingdom) have been two major obstacles. Recently, however, Tatung Corp., one of the largest household-appliance producers in Taiwan, established a TV manufacturing plant in England. The purpose of the company's outward investment is to penetrate the European household-appliance market. Whether this particular investment will prove successful remains to be seen, but this internationalisation strategy has already begun to be implemented by Taiwan's entrepreneurs.

International operations and R&D networks

In order to handle their growing volume of outward investments and to co-ordinate the production and sales of plants in different countries, Taiwanese companies need to adopt internationalisation strategies. Parent companies in Taiwan that invest outward commonly develop sales and design procedures, which they keep under tight control. The major function of the factory abroad is only to assemble or process the products, so it is difficult for the recipient countries to gain from an immediate or direct transfer of technology.

Firms have found that, in addition to the various inward strengthening strategies, proper international networks are needed in order to conduct R&D activities. In a typical example of this phenomenon, one of the largest sunglasses manufacturers in Taiwan contracted out the development of coating formulas for its sunglasses to a Japanese chemical company which does not produce sunglasses at all. After the formula has been developed, if it meets the specifications laid down by the Taiwanese manufacturer, the special coating will be applied to the final product. The primary reason for such an alliance is that the Taiwanese manufacturer has very strong capabilities in the production of sunglasses, while the Japanese partner has absolutely none. Clearly, an international R&D network based on the complementary nature of the participating enterprises can thus be established.

In addition to international R&D networks, it has frequently been observed that enterprises in Taiwan have begun to set up branches in many developed countries. Besides enabling them better to serve their customers and to promote their sales in developed countries, the branches serve as intelligence-gathering centres. The centres are particularly important in recruiting qualified R&D personnel in the developed countries and assisting in developing technology. For example, hundreds of Chinese engineers located in Silicon Valley have joined the Jade Mountain Technology Association there. The purpose of this association is to match Taiwanese enterprises' demand for engineers with the supply of Chinese engineers in the United States and to provide information and assistance for Taiwan enterprises' overseas M&As and outward investment projects. Clearly, utilising the vast number of overseas Chinese is an important strategy of and challenge to Taiwanese enterprises.

The Risks of Internationalisation

The above discussion indicates that Taiwan's enterprises can benefit substantially — acquiring technology, brand names, and resources, setting up sales networks, and circumventing trade barriers — by adopting various internationalisation strategies. It is also important to note, however, that many firms have suffered heavy losses in such activities. For instance, the Acer group's merger with Counterpoint resulted in a loss of several million dollars. The Formosa Plastics Group's investment in the United States lost more than $100 million before it began to make a profit. Many of the SMEs that invested in ASEAN countries have also suffered heavy losses with their outward investments.

There are many reasons for such losses. First, many Taiwanese entrepreneurs are simply unprepared for outward investment. Many claimed that they were forced to engage in outward investment by the internal difficulties that we have discussed. As a result, they failed to study carefully and understand the social, economic, cultural, and legal restrictions that condition their chances of success in the outward investment. This situation is more commonly observed for SMEs that invested in ASEAN countries, and it clearly shows that cheap labour alone does not always justify their outward investment decisions.

Second, capital- and technology-intensive enterprises engaging in overseas M&As to acquire technology often overestimate their ability to do so. In large part this is due to the merged or acquired firm's suffering heavy losses and losing valuable engineers and technicians who constituted the backbone of its technology. In addition, Taiwanese enterprises may not be able to keep those engineers and technicians, owing to their different managerial or operational style. As a result, their overseas M&As may actually become a heavy burden to the enterprise.

Third, many enterprises engaging in overseas M&As experience managerial problems in running their foreign offices or branches. This difficulty may well stem from the fact that these enterprises still lack experience in handling international affairs. Some of the common managerial problems they have experienced in running their foreign offices are: losing effective control over their foreign branches or offices when these offices are headed by local people; lacking effective communication between the foreign offices and the head office due to a language barrier; difficulties in implementing certain internal regulations that prevail in the head office in Taiwan; and a lack of experience in dealing with labour regulations and labour unions in the countries receiving the investment. In conclusion, overseas activities may be very challenging for some Taiwanese enterprises, and they can also represent a heavy financial burden.

5. CONCLUDING COMMENTS

The trend towards globalisation and regionalisation in the world economy will continue in the 1990s. Consequently, global competition in goods and services will be intensified by rapid developments in science and technology and also by the growing investment and international trade activities of multinational corporations. In addition, it is likely that stronger trade blocs will appear in various regions of the world in order to protect the interests of the countries in those regions.

Taiwanese Corporations' Strategies and Behaviour

Effective response to this challenge, given the SME nature of Taiwan's economy, will certainly require efforts such as automation and more co-operation, as well as joint development of technology and the formation of technological alliances with foreign partners to strengthen the competitiveness of Taiwanese enterprises. Furthermore, to capitalise on the large appreciation of the NT dollar (primarily due to the accumulation of huge foreign exchange reserves in Taiwan), overseas M&As and outward investment have become the two most important internationalisation strategies of Taiwanese enterprises. Through these strategies, the enterprises can acquire technology, sales networks, brand names, and natural resources from abroad; diversify their operations; and circumvent the trade barriers arising from the regionalisation of the world's economy.

It should be emphasized once again that these strategies are not mutually exclusive and that enterprises often adopt several strategies simultaneously to satisfy different operational needs. The more traditional and labour-intensive industries, such as consumer electronics, textiles, garments, sporting goods, and toys, are more likely, however, to adopt outward investment strategies, thereby relocating their assembly plants.

It has also been found that strategies such as joint programmes to develop technology, technological alliances with foreign partners, and overseas M&As are more commonly adopted by the medium-sized and large enterprises in Taiwan. For the smaller firms, owing to their limited technological and financial capabilities, outward investment is actually a more viable option; many cases of outward investment by Taiwanese enterprises in South-east Asian countries have been initiated by these small enterprises. As a result of the growing level of outward investment activities, the operational strategies adopted by these enterprises have also changed considerably. The traditional labour-intensive industries (e.g. shoes, handbags, and furniture) are diversifying their operations in such a way as to allow their overseas plants to concentrate on products that are suitable for mass production (such as sport shoes), whereas their domestic plants concentrate on items produced in smaller quantity, with greater variety and higher value added (e.g. fashion shoes).

Taiwanese industries that are intensive in natural resources — plastic, polyethylene, cement, paper pulp, or food processing — are more likely to engage in outward investment or overseas M&As in order to gain access to valuable natural resources. It is commonly observed that these firms seek access to the recipient country's market rather than the international market. Therefore, their motivation for outward investment can be considered as offensive, not defensive.

Owing to the delicate relationship between mainland China and Taiwan, the enterprises' trade and investment strategies regarding mainland China are certainly more cautious and conservative than in other South-east Asian countries. Many entrepreneurs in Taiwan have set up shell companies in Hong Kong or elsewhere and then traded with, and invested in, mainland China indirectly through these shell companies. In terms of operating strategies, many of these enterprises have adopted the OPTS strategy (taking Orders from abroad in Taiwan, Processing in mainland China, and then shipping and Transferring through Hong Kong for Sale abroad). Clearly, the entire operation in mainland China has become merely a strategic export-processing unit to these enterprises.

The development of trade and investment activities between mainland China and Taiwan is important and irreversible, and it will ultimately have a profound impact on both economies and political systems. Mainland China would like to see the formation of a special interest group in Taiwan to promote its interests. From Taiwan's perspective, however, the question is how to draw the maximum economic and political benefits from the development of trade and investment activities with mainland China, while still maintaining substantial economic independence from it. It is therefore foreseeable that Taiwan will interfere with the flow of trade and investment across the Taiwan Strait.

As a result of the growing flow of trade and investment from Taiwan to mainland China and to many of the South-east Asian countries, an interdependent relationship in terms of goods and services has gradually emerged. Under these circumstances, closer economic ties between Taiwan and these countries are more likely than ever. Although the diversity in culture and in levels of economic development among the countries in the region are major obstacles to regional co-operation, it has been observed that the growing trade and investment activities of the United States, Japan, Taiwan, and Korea have enhanced economic ties within the Pacific region. This will certainly pave the way for closer regional co-operation in the 1990s[4].

Finally, it is worth stressing that the various internationalisation strategies adopted by Taiwanese enterprises are by no means risk-free and that they can be very challenging. To meet global competition in the 1990s and the next century, enterprises must learn these lessons. How Taiwan's enterprises perform under the globalisation of the world's economy will critically depend on their ability to establish international operating networks, to cope with the rapid development in technology, and to absorb the cost of possible setbacks.

The Broader Issue of Regional Co-operation in Pacific Asia

Regional co-operation among the countries of the Pacific Rim and South-east Asia is not a new idea at all. Before World War II, in fact, the Greater East Asian Co-prosperity Sphere (GEACS), a plan for regional economic co-operation under Japanese dominance, was actively advocated by Japan. Although the proposal for GEACS was not put into practice after Japanese's military defeat in World War II, the idea of regional co-operation was not dead. In the early 1960s it was again proposed by scholars, such as Professor Kiyoshi Kojima with his proposal for a Pacific free trade area among the five developed Pacific-rim countries, namely, Japan, the United States, Canada, Australia, and New Zealand. This proposal was accepted by the Japanese government and formally presented to the South-east Asian countries as well. But for fear that the alliance might become another version of GEACS, the South-east Asian countries did not accept the proposal; in fact, it led to the organisation of ASEAN among Indonesia, Malaysia, the Philippines, Singapore, and Thailand in 1967.

The character of ASEAN is more political than economic. To enhance economic co-operation in the region, other organisations have been founded over the past two decades: the Asian Development Bank (ADB), the Pacific Basin Economic Council (PBEC), the Pacific Trade and Development Conference (PAFTAD), the Organisation for Pacific Trade and Development (OPTAD), and the Pacific Economic Cooperation Conference (PECC).

These organisations were founded for specific policy purposes. For instance, the ADB was organised in 1968 to provide funding and economic development assistance to the less developed countries in Asia. PBEC, organised in 1968, was aimed at promoting the establishment of a Pacific economic community through the improvement and enhancement of investment and trade within the region. Basically, however, the Asian newly industrialising economies (NIEs) and the developed Pacific countries, such as Japan and the United States, play the lead roles in this organisation. The major purpose of the first conference of PAFTAD, held in 1968, was to discuss the economic policies of countries in the region. The conference provided opportunities for scholars and policy makers to exchange views and debate economic policies, which certainly enhanced the mutual understanding of the member countries. OPTAD is aimed at the founding of a formal international organisation to help establish a free trade relationship in the Pacific region. Basically, it is the United States and Japan that are actively advocating free trade; as the level of economic development varies greatly among the countries in the region, however, it will not be easy to convince the less developed countries to accept this idea. PECC, organised in 1980, advocates a three-way (government officials, entrepreneurs, and scholars) dialogue to enhance understanding and communication in the region. As a matter of fact, since PECC includes most of the less developed countries, NIEs, and developed countries in the Pacific region, the three-way dialogue system has also proved an effective way to communicate among the different countries in the region. Many therefore consider that PECC might be the most suitable institution to facilitate and promote co-operation within the region.

Although regional co-operation among Pacific Rim and South-east Asian countries has increased over the past two decades, it may be adversely affected by some important factors. First, as there is great diversity in levels of economic development among the countries in the region, many consider that there is not much to gain in terms of trade and investment with many of the less developed countries in the region, and the incentive to co-operate with these countries is therefore rather weak. Second, the diversity in culture, religion, language, and values poses another difficulty. Third, Japanese economic strength makes some countries hesitate to support regional co-operation. Almost all countries in the South-east Asian and Pacific Rim region have huge trade deficits with Japan in manufactured goods; whether regional co-operation will eventually increase Japanese economic dominance in the region is a serious concern. Fourth, there is the problem of Hong Kong, Taiwan, and mainland China, the three major Chinese economies in the region: circumventing the complicated political problem of accommodating "three Chinas" under a one-China policy, as is strongly advocated by mainland China, is certainly a difficult task.

Despite these difficulties, there are some positive signs for future co-operation in the region. First, more active trade and investment activities — such as the encouragement of foreign direct investment, mentioned above, by the NIEs and ASEAN countries — have certainly enhanced economic relationships within the region. Second, the more active participation of the United States, Australia, New Zealand, and Canada has made regional co-operation multipolar, reducing concerns about the regional dominance of the Japanese economy. Third, the rapid improvement in transportation and telecommunications technology has made regional trading more feasible and more attractive than ever before. Finally, the emergence of regionalisation in the world economy, for instance, in Western Europe and North America, has clearly displayed the need for closer co-operation within other regions in the world — the Pacific Rim and South-east Asian region clearly is no exception to this rule.

The latest effective movement towards greater regional co-operation is the association for Asian Pacific Economic Cooperation (APEC), launched in 1989 under the guidance of Prime Minister Hawke of Australia, who proposed and organised an official ministerial meeting in Canberra to respond to the regionalisation occurring in Western Europe and North America. The purpose of APEC is to establish in the Pacific region a regional organisation similar to the OECD. In November 1991, Hong Kong, mainland China, and Taiwan were formally invited to attend the ministerial meeting in Seoul. This is the first time official ministerial delegates from the three Chinas attended a meeting of an official international organisation. The growing volume of trade and investment activities and the worrying trend of regionalisation in the world economy suggest that co-operation in the Pacific and South-east Asian region as well as among the three Chinas is likely to increase in the 1990s.

Even more recent, finally, is the proposal by Malaysia's Prime Minister Mahathir to create an East Asian Economic Group, or Caucus, which would explicitly exclude the United States. Reactions to this proposal in Asia have generally been cool — and in the United States hostile — however, and the proposal has made little progress.

NOTES

1. According to news reports, in January 1991 the Executive Yuan (the government) decided that the retroactive clauses in the LSL concerning pensions and severance payments should be deleted, but the revision still needs the approval of the Legislative Yuan (the Congress).

2. Yen and Lee (1990) show that Taiwan's export value to mainland China accounted for 0.79 per cent of mainland China's total import value in 1983, and increased to 4.89 per cent in 1989; in addition, mainland China's exports to Taiwan accounted for 0.34 per cent of mainland China's total export value in 1983, and increased to 1.12 per cent in 1989.

3. Under pressure from the US government to redress the balance of trade between Taiwan and the United States, the government of Taiwan has agreed to allow several US banks and insurance companies to establish branches in Taiwan annually. However, beginning in mid-1991 the Ministry of Finance has formally approved the establishment of private banks; in addition, new local insurance companies are also likely to be established in 1992. The liberalisation and privatisation of the financial sector in Taiwan are thus reducing dramatically the need to circumvent the rigid regulations for entering the banking and insurance industry in Taiwan.

4. See also, Richard Drobnick, *Economic Integration in the Pacific Region*, Research Programme on Globalisation and Regionalisation, OECD Development Centre Technical Paper, forthcoming.

Table 1. **TAIWAN'S FOREIGN TRADE**
SHARES OF MAJOR TRADING COUNTRIES AND REGIONS

	Total Trade Value	ASEAN	USA	Japan	Europe
	($ billion)	shares (per cent)			
1982	41 092	6.63	32.41	17.42	11.42
1983	45 409	6.69	35.19	17.75	11.08
1984	52 415	6.49	37.39	18.36	10.38
1985	50 827	6.39	38.40	17.72	10.72
1986	64 013	5.68	38.15	20.01	12.51
1987	88 568	5.83	35.32	21.24	14.86
1988	110 240	6.34	33.04	21.39	16.21
1989	118 449	7.25	30.38	21.17	16.31
1990	121 930	8.86	28.18	19.96	17.89
1991*	114 252	8.83	26.31	20.16	17.41

* from January to October.

Source: Monthly Statistics of Exports and Imports, Taiwan Area, the R.O.C., published by the Department of Statistics, Ministry of Finance, the R.O.C., October 1991.

Table 2. **TAIWAN'S FOREIGN DIRECT INVESTMENT: APPROVED OUTWARD INVESTMENT BY AREA**

(amounts in $ million)

		1959-79	1980-85	1986-90
Thailand	Cases	23	3	85
	Amount	4.81	4.67	224.06
Malaysia	Cases	18	1	71
	Amount	3.08	4.22	352.07
Singapore	Cases	15	8	22
	Amount	4.30	5.0	61.0
Philippines	Cases	8	1	40
	Amount	9.86	250.0	228.84
Indonesia	Cases	10	2	22
	Amount	8.84	16.94	66.84
USA	Cases	15	45	248
	Amount	8.84	108.45	1 176.78
Others	Cases	47	23	166
	Amount	27.64	16.22	752.0
Total	Cases	136	83	654
	Amount	59.26	155.66	2 861.59

Source: Investment Commission, Ministry of Economic Affairs (MOEA), R.O.C.

Table 3. **TAIWAN'S FOREIGN DIRECT INVESTMENT: DATA FROM RECIPIENT COUNTRIES IN SOUTH-EAST ASIA**

	Year	Approved by the recipient country's authorities		Approved by the Taiwanese authorities	
		Cases	Amount ($ million)	Cases	Amount ($ million)
Thailand	1987	102	300	5	5.3
	1988	308	842	15	11.8
	1989	241	871	23	51.6
	1990	88*	313*	39	149.4
Malaysia	1987	37	90	5	5.8
	1988	111	307	5	2.7
	1989	191	815	25	158.6
	1990	143*	712*	36	184.9
Philippines	1987	18	9	3	2.6
	1988	45	109	7	36.2
	1989	21	149	13	66.3
	1990	11*	137*	16	123.6
Indonesia	1987	3	1	0	0
	1988	19	916	3	1.9
	1989	50	158	1	0.3
	1990	52*	377*	18	61.9

* from January to June.
Source: Investment Commission, MOEA, R.O.C.

Table 4. **STATISTICS ON TAIWAN'S APPROVED OUTWARD INVESTMENT BY INDUSTRY, 1985-90**

($1 000)

	Thailand	Malaysia	Singapore	Philippines	Indonesia	USA	Total
Food & beverages	11 303	-	51	-	1 261	160 000	172 917
Textiles	1 880	30 000	2 952	17 853	32 691	-	92 204
Garments & footwear	-	19	-	150	108	800	5 145
Pulp & paper	9 114	-	-	2 187	17 550	2 500	31 351
Plastic & rubber	13 103	9 402	1 128	-	3 225	38 551	69 131
Chemicals	1 907	76 705	253	100 844	-	353 010	535 125
Non-metallic	798	30 395	724	90 616	4 300	450	129 620
Basic metals & metal products	13 425	14 131	11	6 170	1 000	8 670	56 344
Machinery	158	8 436	105	-	-	2 440	13 899
Electronic & electric	142 646	167 058	43 968	5 943	1 500	255 515	673 281

Source: Investment Commission, Ministry of Economic Affairs (MOEA), R.O.C.

Table 5. **TAIWAN'S TRADE AND OUTWARD INVESTMENT WITH ASEAN COUNTRIES**

($ million)

	Year	Taiwan's Outward Investment	Taiwan's value of trade: Export	Taiwan's value of trade: Import	Taiwan's value of trade: Total	Taiwan's major outward investment items	Taiwan's major import items (1989)	Taiwan's major import items (1989)
Thailand	1982	-	214	107	321	electronic and electric products, basic metals and metal products, plastic & rubber, pulp and paper, food	textile yarn, fabrics and related products, machinery, electronic and electric products, metal products	electronic parts, rough wood, vegetable and fruit, rubber
	1987	300	424	200	624			
	1988	842	753	341	1 094			
	1989	871	1 110	390	1 500			
	1990	313*	1 423	447	1 870			
Malaysia	1982	-	222	469	691	electronic and electric products, chemicals, rubber, timber, furniture, textiles, plastics	plastic products, textile yarn, fabrics, electronic and electric products and parts, machinery and tools	chemical products, rough wood, crude rubber, electronic and electrical products, crude oil
	1987	90	271	729	1 000			
	1988	307	450	943	1 393			
	1989	815	693	887	1 580			
	1990	712*	1 103	1 003	2 106			
Philippines	1982	-	235	68	303	chemicals, non-metallic products, textiles and garments	plastic products, textile yarn, fabrics, machinery, electronic and electric products	ores and concentrates, rough wood, metal scrap, electronic and electrical parts
	1987	9	458	194	652			
	1988	109	599	242	841			
	1989	149	776	238	1 014			
	1990	137*	811	236	1 047			
Indonesia	1982	-	422	259	681	shoes, timber, textiles, paper & paper pulp, and prawns	synthetic fibres, resin and plastic products, machinery, electronic and electric products	coal, ore and concentrates, crude oil, chemical product, rough wood, wood pulp, iron
	1987	1	444	567	1 011			
	1988	916	631	613	1 244			
	1989	158	933	706	1 639			
	1990	377*	1 245	921	2 166			

* from January to June.

Sources: Same as Table 3, and *Monthly Statistics of Exports and Imports, Taiwan Area, the R.O.C.*, published by the Department of Statistics, Ministry of Finance, R.O.C., October 1991.

Table 6**. BILATERAL TRADE BETWEEN MAINLAND CHINA AND TAIWAN (VIA HONG KONG), 1979-91**

($ million)

Year	Taiwan Exports to Mainland China	Mainland China Exports to Taiwan
1979	21.47	56.29
1980	234.97	76.21
1981	384.15	75.18
1982	194.45	84.02
1983	157.84	89.85
1984	425.45	127.75
1985	986.83	115.90
1986	811.33	144.22
1987	1 226.53	288.94
1988	2 242.22	478.69
1989	2 896.49	586.90
1990	3 278.26	765.36
1991*	3 267.24	769.87

* from January to September.

Source: Bureau of Statistics, Hong Kong Government.

Table 7. **TRADE DEPENDENCE BETWEEN MAINLAND CHINA AND TAIWAN, 1983-91**

(Percentage)

Year	Ratio of Taiwan's exports to mainland China to Taiwan's total exports	Ratio of mainland China's exports to Taiwan to Taiwan's total imports	Ratio of Taiwan's trade volume with mainland China to Taiwan's total trade volume
1983	0.63	0.44	0.55
1984	1.40	0.58	1.06
1985	2.04	0.58	2.17
1986	2.29	0.59	1.49
1987	3.70	0.83	1.38
1988	4.38	0.96	2.47
1989	4.38	1.12	2.94
1990	4.88	1.40	3.32
1991*	5.79	1.64	3.91

* from January to September.
Source: Mainland Affairs Council, Executive Yuan, R.O.C.

Table 8. **REGISTERED INVESTMENT AMOUNT AND NUMBER OF FIRMS – STATISTICS OF THE TOP 12 INDUSTRIES INVESTED IN MAINLAND CHINA**

($ million)

Industry	Registered amount	Number of firms
1. Electronic & machinery	102.748	242
2. Automobiles (parts)	78.923	202
3. Shoes	58.751	306
4. Services	56.472	62
5. Plastic products	44.582	129
6. Textiles	31.995	74
7. Metal products	30.400	85
8. Agriculture & livestock	21.378	35
9. Sporting goods	20.348	59
10. Apparel	17.876	106
11. Lamps	17.566	67
12. Handbags	16.466	40
Sub-total	497.514	1 407
Others	256.401	646
Total	753.915	2 053

Source: Mainland Affairs Council, Executive Yuan, R.O.C.

Table 9. **1989 MAINLAND CHINA'S 12 MAJOR EXPORT COMMODITIES TO TAIWAN (VIA HONG KONG)**

(percentage)

Rank	SITC	Commodity	Share	Growth Rate
1	2924	Plants and parts of trees, bushes, shrubs, or other plants, of a kind used primarily in perfumery, in pharmacy, or for insecticidal, fungicidal, or similar purposes, fresh or dried, whole, cut, crushed, ground, or powdered.	14.46	-20.28
2	2919	Other materials of animal origin, n.e.s.	8.73	19.77
3	0341	Fish, fresh or chilled (excluding fillets)	5.44	58.28
4	6534	Fabrics, woven, of discontinuous synthetic fibres, containing less than 85% by weight of such fibres (other than pile and chenille fabrics) 70*	3.10	83.00
5	8451	Jerseys, pullovers, slipovers, twinsets, cardigans, bed-jackets, and jumpers, knitted or crocheted	2.18	932.86
6	2782	Clay and other refractory minerals, n.e.s.	1.75	6.39
7	7599	Parts n.e.s. of and accessories for the machines of heading 751.2 or group 752	1.68	2.93
8	6716	Ferrous alloys	1.53	46.58
9	5225	Other inorganic bases and metallic oxides, hydroxides and peroxides	1.49	32.41
10	8942	Children's toys, indoor games, etc.	1.33	313.53
11	8994	Umbrellas, parasols, walking-sticks, and similar articles and parts thereof	1.29	393.38
12	6513	Cotton yarn	1.28	5.46
		Total	44.26	

Sources: Bureau of Statistics, Hong Kong Government.
Yen and Lee (1990).

Table 10. **TAIWAN'S 12 MAJOR EXPORT COMMODITIES TO MAINLAND CHINA (VIA HONG KONG), 1989**

(percentage)

Rank	SITC	Commodity	Share	Growth Rate
1	6531	Fabrics, woven, of continuous synthetic textile materials 70*	10.70	13.36
2	6573	Coated or impregnated textile fabrics	6.36	41.06
3	7284	Machinery and mechanical appliances specialised for particular industries and parts thereof, n.e.s.	4.42	15.65
4	6514	Yarn containing 85% or more by weight of synthetic fibres, not put up for retail sale, monofil, strip (artificial straw and the like) and imitation catgut, of synthetic fibres	4.41	26.96
5	6551	Knitted or crocheted fabrics, not elastic nor rubberised, of synthetic fibres	4.08	33.21
6	7649	Parts, n.e.s. of and accessories for the apparatus and equipment falling within division 76	3.49	59.41
7	5834	Polyvinyl chloride	3.33	29.69
8	5833	Polystyrene and its copolymers	2.91	16.30
9	7761	Television picture tubes, cathode ray tubes	2.80	8.91
10	6114	Leather of other bovine cattle (including buffalo leather) and equine leather (except leather falling within heading 6118)	2.28	68.26
11	6123	Parts of footwear (including uppers, insoles and screw-on heels) of any material except metal and asbestos	2.09	177.88
12	7731	Insulated (including enamelled or anodised) electric wire, cable bars, strip and the like (including co-axial cable), whether or not fitted with connectors	1.77	28.82
		total	48.64	

Source: same as Table 9.

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