

University of Wollongong

**Research Online**

---

Faculty of Business - Economics Working  
Papers

Faculty of Business and Law

---

January 2000

## **The Internationalisation Process of Asian Small and Medium Firms**

A. Hodgkinson

*University of Wollongong*, [annh@uow.edu.au](mailto:annh@uow.edu.au)

Follow this and additional works at: <https://ro.uow.edu.au/commwkpapers>

---

### **Recommended Citation**

Hodgkinson, A., The Internationalisation Process of Asian Small and Medium Firms, Department of Economics, University of Wollongong, 2000.  
<https://ro.uow.edu.au/commwkpapers/31>

Research Online is the open access institutional repository for the University of Wollongong. For further information contact the UOW Library: [research-pubs@uow.edu.au](mailto:research-pubs@uow.edu.au)



**University of Wollongong**  
**Department of Economics**  
**Working Paper Series 2000**

**The Internationalisation Process of Asian Small and  
Medium Firms**

Ann Hodgkinson

WP 00-10

# **THE INTERNATIONALISATION PROCESS OF ASIAN SMALL AND MEDIUM FIRMS**

by

Ann Hodgkinson  
Department of Economics  
University of Wollongong

## **Abstract**

National governments throughout the Asia-Pacific Region have identified small and medium enterprises as an important source of economic growth and employment. In the past, SME business strategies have focused on production, relying on their subcontracting and sales contacts with large firms for technological innovation and marketing and on abundant domestic labour forces for comparative advantage. Recently, structural problems in the region arising from the Japanese recession, currency appreciation and rising labour costs have upset these relationships forcing SMEs to move offshore (DFI) to restore cost competitiveness and to upgrade their internal technological and organisational capacities to international standards in order to compete for contracts within more open, international markets.

This paper analyses this process of change, analysing the development of SMEs within four Asian countries using a six stage evolutionary model. The majority of SMEs in these countries are still in the earlier second (dependency) or third (internalisation) stages. The more advanced SMEs have moved into the fourth (externalisation) stage, where firms develop independent technology and marketing capacities. To the extent that localisation (stage five) had occurred, it involved local embedded relationships which had limited scope for further internationalisation. Little evidence of regional integration or networking among SMEs was found.

# **THE INTERNATIONALISATION PROCESS OF ASIAN SMALL AND MEDIUM FIRMS**

## **INTRODUCTION**

The second APEC (Asia Pacific Economic Cooperation Forum) Small and Medium Enterprise (SME) Ministerial meeting held in Adelaide, Australia in September 1995 established a joint action program for member countries aimed at encouraging cooperative development among SMEs in the region. Statements emanating from the 1995 meeting and later developments in APEC have cast SMEs as new, independent sources of growth and development of cooperative networks of such firms as the best way of achieving their technological and exporting potential (APEC 1995).

SMEs played a significant but much overlooked role in the Asian 'economic miracle'. Their predominant role was as subcontracted suppliers of parts and components to large assemblers of automobiles and electric equipment, often referred to as the 'Japanese model', or as OEM (original equipment manufacturers) which supplied anonymous components and peripheral items to multinational computer and telecommunications equipment corporations as in Taiwan. Asian SMEs also provided a large range of low cost consumer items which were distributed world-wide by large trading companies. SMEs thus had a vital role in the long boom of post-war Asian development as flexible, low cost suppliers of mature technology products and components. This structure encouraged a proliferation of small firms in the region with competitive advantages in production efficiency and later original design capabilities (ODM). They were able to operate in a sheltered marketing environment with demand for their output largely provided by large 'parent' firms, which contracted their output and provided technological know-how.

This pleasant situation was shaken by a series of structural changes in Asian economies culminating in the 1997 financial crises. Asian SMEs have faced rising costs driven by Asia's economic success with currency appreciation and rising labour costs making their exports increasingly expensive. SMEs use mature technologies and are relatively labour intensive so labour shortages and rising wages in the Asian 'dragons' have particularly affected such firms. Economic recession has forced the large Japanese firms to broaden their supply chains, sourcing increasingly on price which has broken many of the sheltered contractual relationships with SMEs in Japan and Taiwan. More generally, technological changes towards computer controlled automation and small batch production, and organisational changes including corporate downsizing with a subsequent increased use of global subcontracting and collaborations have opened international procurement to a wide range of companies (Meyanathan & Munter 1994: 3-4).

These changes provide SMEs with both threats and opportunities. They have generally responded to the threat aspects by improving technological efficiency or relocating to lower wage countries in other parts of Asia. However, the opening of supply contracts provide new opportunities for those SMEs able to operate independently in competitive international markets. To achieve these opportunities, SMEs have to embrace

organisational change both to improve their technological and managerial capabilities and to expand their information sources and marketing outlets to provide the scale necessary to operate in international markets.

As discussed in the following section, the network model is being identified as one which can most appropriately meet these needs for SMEs. This raises the question of what is meant by the network approach when applied to Asian SMEs. Both the Japanese subcontracting model and the Taiwanese clusters around OEM-ODM firms have been cited as early examples of networking. However, in the western industrial organisation literature networking refers to collaborative relationships between independent and often competitive firms as well as to relationships with their clients and suppliers and is increasingly associated with 'globalisation' or the integration of production and marketing activities on an international scale. It thus implies inter-firm relationships on a much wider scale and of a very different nature to the Asian customer – supplier networks.

In this paper, we investigate how SMEs in four selected Asian countries (Japan, Taiwan, South Korea and Malaysia) have evolved through a six stage development model. Stage models are frequently used to explain the internationalisation process. Models of SME development have generally been adapted from more general large firm analyses. This is true in both western and Asian studies. In the next section, a short summary of western analyses of the internationalisation of SMEs is provided, evolving to the network stage. A six stage Asian model is then developed reflecting Asian analyses of the same topic, which incorporates the earlier sheltered stages of their development and the current stages where they are exposed to international competition, plus a final networking stage. We then assess the extent to which they are evolving towards a collaborative – global integration stage as envisioned by the APEC Agenda. Finally, we use a comparison between the western and Asian approaches to draw conclusions regarding the role which SMEs can play as the new growth agents in Asia.

## **CONCEPTUAL FRAMEWORK – AN EVOLUTIONARY, STAGE APPROACH**

A number of models to explain the processes through which firms internationalise their activities have been developed. Following Coviello and McAuley 1993, these can be categorised as the Foreign Direct Investment (economic efficiency) approach, the Behavioural or 'Uppsala' school and the Relationship or Network school. Each approach starts from different premises regarding the rationale for international activities and each has tended to be adopted by researchers from the different disciplines interested in international business. Despite these divided starting points, it will be argued here that there are significant complementarities among these approaches and that they have tended to converge into the network approach. A synthesis of these approaches is shown in Figure 1.

Most stage models commence with firms operating initially only with domestic sales. Internationalisation often originates from an external force such as a proposal from a

client, distributor or government agency, or it may come from within the firm from the owner / manager or another executive. However, in the case of SMEs, the response of firm's management is crucial to assessing this proposal and building commitment within the firm if it is to begin exporting (Buckley 1993: 94-96).

Vernon's (1966) product life cycle theory is an early example of a stage model. This focused on Foreign Direct Investment (FDI) and large multinational firm behaviour. FDI is regarded as a management intensive strategy which would appear to disadvantage small firms where the availability of management skills, along with access to new technology, access to market information and availability of finance are among the major constraints on their capacity to internationalise. However, they can offset this if their owners and/or managers have sufficient entrepreneurial flair to guide their firm through this process. The SME literature focuses on the internationalisation stages prior to actual foreign production, e.g. direct exports, use of foreign agents or representatives, establishment of overseas sales and distribution subsidiary (Buckley 1993:94-95). Small firms' choice of foreign market entry mode will reflect the transaction costs associated with uncertainty and imperfect market knowledge and concerns about opportunism inherent in foreign contracting arrangements. They thus will often begin with short term, direct export activities and progress to other mechanisms as these transaction costs fall with experience (Meyanathan & Munter 1994: 5). These transaction costs are minimized if small firms first enter 'psychically' (i.e. culturally) close markets and then move into more distant ones.

While the economic efficiency / transaction cost approach has focused on the mode of foreign market entry, the behaviouralist or Uppsala approach emphasised the parallel need to build internal organisational capacity and structures and to incrementally increase the proportion of the firm's resources devoted to external activities to facilitate the move into exporting (Welch & Luostarinen 1988). Cavusgil 1984 included pre-exporting stages when applying the incremental Uppsala model to SMEs which can be measured by the export to sales ratio in each stage – Stage 1: domestic market (ratio = 0); Stage 2 – Pre-export (ratio = 0); Stage 3 – experimental involvement (ratio = 0-9%); Stage 4 – active involvement (ratio = 10-39%); Stage 5 – committed involvement (ratio = 40%+). Tests of this stage theory using European time series data supported the stages approach as an explanation of the internationalisation process for SMEs. However, the process was not smooth as some firms “leapfrogged” stages to move rapidly into Stage 5 while other stopped their internationalisation process before reaching the final stage (Gankema, et al. 1997: 192).

The Uppsala model suggested that firms initially began their internationalisation process by expanding into low risk activities such as indirect or contract exporting and then increased their commitment of resources to the export market, cumulatively building up their market knowledge and moving into more distant or risky areas until eventually undertaking equity investments into offshore sales and manufacturing outlets or FDI (Coviello & McAuley 1993: 226). Western SMEs are thus modeled as moving incrementally down stream (a) on the right side of Figure 1. As will be discussed later, Asian SMEs can be characterised as more commonly following stream (b).

Networking refers to situations where firms act within a network of inter-organisational and inter-personal relationships involving customers, suppliers, competitors, private and public support agencies, family and friends. It thus includes both formal and informal connections between members of the net. Firms invest to strengthen these relationships rather than in overseas sales and production facilities. These relationships are the source of their international competitiveness. Internationalisation occurs through external activities with other members of the net rather than by internal organisation (Coviello & McAuley 1993: 227). One of the most commonly used conceptual bases for networks as a means of international expansion is that developed by Johanson & Mattsson 1988. They argue that internationalisation occurs as firms establish and develop positions in relation to their counterparts in foreign networks by (1) moving into and establishing a role in foreign networks (international extension or FDI); (2) penetrating foreign networks by increasing their resource commitment and relationships with foreign firms (collaboration); and (3) increasing the coordination of their positions in different nation nets (international integration).

The international expansion of SMEs in network structures is less a reflection of strategic choices aimed at minimizing production and transaction costs and capitalising on new market opportunities than would be the case for large firms. Rather it is a more ad hoc process based on personal relationships and the qualities of the firm's entrepreneur. This does not negate the usefulness of the network approach for SMEs but makes it more difficult to specify simple conceptual expansion paths when analysing small firms international behaviour. Some small firms will follow the expected increment expansion model but others will not. High technology and 'born global' firms can complete the process of moving into the stage of committed exporters in less than three years, omitting steps in the process. They may begin by establishing an agreement with an overseas partner or agent in 'psychically' close markets as expected but then move quickly into multiple entry modes and several 'psychically distant' markets, as shown by stream (c) in Figure 1. Rapid, successful international growth may also reflect the immediate use of network mechanisms such as alliances, joint marketing and development agreements, and joint ventures as shown by stream (d) in Figure 1 (Coviello & Munro 1997: 369-372).

Empirical research has generally supported the incremental approach to the internationalisation of SMEs. However, due to the central role of the firm's decision-maker as the arbitrator of the choice of market and mode of entry and the often pivotal role of customers and governments in initiating export activity in SMEs, a variety of paces and patterns are found in analyses of the internationalisation processes of SMEs in western economies (see Dalli 1995; Gankema, et al. 1997; Coviello & Munro 1997; Chetty & Holm 2000).

Nevertheless, exporting by western SMEs is seen predominantly as an entrepreneurial activity which reflects the capacities of the firms' owner / managers. Western SMEs are exporters competing openly in international markets on the basis of their economic efficiency or capacity to minimize production and transaction costs, and on their capacity to continually undertake product, organisational and marketing innovations to remain at

the forefront of their market areas. Networking facilitates this internationalisation process by providing SMEs with external access to the resources and competencies which they cannot supply internally. However, SMEs may choose to avoid collaborative activities, preferring to remain in the earlier stages of stream (a) which affords them greater control over the process.

### *The Asian Perspective*

There is not a large Asian conceptual literature on the processes through which small firms have internationalised their markets, at least in that material which is accessible in English. Known works apply predominantly to large firms (see for example Kojima 1978; Ohmae 1987; Cho 1997). However, they do adopt a stage perspective. The stage approach fits the Asian academic tradition, being evolutionary and institutional, which allow the role of large firms and Government policies as drivers of economic development to be emphasised. There is also a strong network element in the Asian perspective, especially when analysing the role of small firms within client – supplier relationships.

The Japanese model of flexible accumulation dominated Asian perspectives on SMEs in the post-war period. The core of this model is the subcontracting networks between large and small firms. The production of sophisticated manufactured products involves a large number of processes prior to presenting a final good for sale. In Japan, these are organised as inter-firm transactional relationships rather than through vertical integration. These relationships are typically organised into a multi-tier system where the parent firm (assembler or trading house) has direct relationships only with a limited number of first-tier subcontractors, these first-tier firms have direct relationships with the second-tier subcontractors, these second-tier firms with the third-tier subcontractors, etc. Generally, higher tier subcontractors are medium-sized firms while lower tier subcontractors are smaller, but this is not always the case (Itoh & Urata 1994:12). The parent companies provides their subcontractors with information and financial credit. Technical support is provided by the subcontracting parent firms, and by input and equipment suppliers (Itoh & Urata 1994:32). The subcontracting network expanded in the 1950s and 1960s with a large number of spin-off firms established due to tax advantages given to firm owners and employees were encouraged to set up separate firms which allowed parent firms to reduce labour costs (Itoh & Urata 1998, 322-324).

Taiwan illustrates an alternative development model for Asian SMEs. Small firms grew rapidly in the immediate post-war period as manufacturers of simple products which were produced on order for large Japanese trading companies or US-based electronics multinationals. The customer firm provided technology transfer and market access which minimized the risks involved in operating in international markets. The smaller firms (operating as OEMs) proved to be low cost, flexible suppliers of mature technology consumer goods, parts and standardised components. Over time, these firms developed independent design capabilities (ODMs) which meant that by the early 1990s, Taiwanese firms dominated many of the mature technology segments of the consumer electronics, personal computer and information technology industries. However, only a small

number of larger, global original brand name manufacturers (OBMs) based in Taiwan operated in these industries (Hobday 1995:99-102).

The successful Taiwanese firms, rather than growing by vertical integration, established local production networks comprised of other small firms involving manufacturing subcontracting, distributors, designers, material and parts suppliers, machinery and equipment producers, etc. which enhanced their capacities as low cost, flexible suppliers (Chen & Chen 1998:451). The business strategies of Taiwanese SMEs have focused on manufacturing while relying on cooperation with Japanese general trading companies, multinational manufacturers and foreign importers to achieve overseas sales.

### *A Stage Model of Asian SME Development*

These early stages of SME development in Asia are summarised in the first three stages of Figure 2. The first three stages: petty producer / import substitution; dependency on contracts to large firms; internalisation of mature technologies can be associated with earlier standardised mass production systems of organisation (Cho 1997: 1096-1097). Thus the petty producer / import substitution stage is associated with SMEs as independent but domestically focused businesses, while the second stage characterises SMEs as dependent subcontractors to large Japanese, US and European firms. These firms supplied the SMEs with workforce training to ensure quality and delivery targets were met, technical specifications, capital equipment and engineering support. Local innovations focused on incremental upgrading of the production process to improve product quality and cost efficiency. The more advanced SMEs also began to introduce product design innovations initially based on imitation or reverse engineering and the development of their own networks of SME suppliers to reduce costs. By the third stage, some SMEs had developed into original design manufacturers which were able to undertake unique design innovations and prototype development allowing them to expand their product range in more of a partnership arrangement with their MNC distributors. However, they still relied on the larger firms for access to markets, key components and capital equipment (Hobday 1995: 188-190). It is hypothesised that this process gave SMEs certain advantages in terms of their speed and flexibility capacities which well positioned them to respond to changing market conditions. However, they also had inherent major deficiencies in technology, innovation and marketing which inhibited their ability to become independent world traders on their own behalf.

The test of the resilience of the SME sector and of their capacity to internationalise their operations came in the late 1980s and 1990s when structural changes arising from the Japanese recession, together with appreciating local currencies and rising labour costs upset the security of their position as contracted suppliers to successful large multinational firms in the Asian region. Very few Asian small or even medium firms were involved in international marketing under their own brand names, undertook research and development or engaged in FDI up to the early 1990s (Hobday 1995: 190). To successfully respond to such pressures, SMEs have to evolve through the last three stages in Figure 2 which require them move into more independent internationalisation strategies. The externalization stage involves technology catch-up and niche production where their main strategies are to secure spin-off or contract production against world

competition or compete in smaller, differentiated product segments. The localization stage involves direct foreign investment to reduce labour costs and expand foreign sales and the establishment of supply-based relationships with other small firms in a series of foreign local markets. The final stage involves the establishment of international networks, as envisaged by the APEC agenda. The network stage involves the construction of linkages between domestic and foreign networks. A fully developed global SME network would include domestic networks of suppliers, designers and service support firms in the home and other production base countries (localization stage) linked into the international networks of partner SMEs which would provide channels for imports and exports of parts and components and sales of final product both in their own right and through partners in global markets.

Figure 2 thus involves an elaboration of stream (b) in Figure 1. Asian SMEs initially operated only in domestic markets (stage 1). SMEs were then developed in response to proposals to produce products, parts or components for MNCs moving into indirect exports (sub-contracting) or contract exporting (OEM operations) under the patronage of large firms (stage 2). Higher tier and core SMEs developed their own technical and design capabilities but still operated predominantly as suppliers to large companies (stage 3).

Faced with rising costs and a breakdown in this contract supply situation in the 1990s, Asian SMEs responded in two ways. Some firms which already operated in stage 3 could begin to develop their own marketing capabilities, compete for spin-off production contracts and start to sell to a broader range of customers under their own brand names. This stage 4 response epitomizes the vision of SMEs as independent, international competitors held by Asian Governments. However, the more common response was for SMEs to move production to lower cost offshore locations to serve home and contract markets and, in some cases, to develop local supply networks in these host economies (stage 5), but without first developing their own technical and independent marketing capacities. Ideally, these national supply and distribution networks could form the basis of a globally integrated production and marketing system (stage 6).

All studies of SME development have to face the vexing question of size. Definitions of SMEs vary between Asian countries. This paper relies on empirical studies undertaken by local researchers in each of the case study countries who have applied their own domestic definitions. However, an over-arching definitional limit of 200 employees has been applied to the more general analysis of their results. More troublesome is the problem that, as SMEs evolve through the latter stages of this model they often become larger. Thus the more successful SMEs may become defined out of the analysis, thus biasing the results towards less dynamic firms. However, the proportion of SMEs which actually become large enterprises is very small and so the following analyses may be taken as typical of the bulk of SMEs in each country. Nevertheless, it is acknowledged that case studies of the successful exiting firms would also be very illuminating.

## THE EVOLUTION OF JAPANESE SMALL AND MEDIUM FIRMS

### *Mass Production Mode*

As Japan provided the past model for Asian SME development, it is useful to briefly examine how they have evolved through the stage framework developed above. Small and medium enterprises contribute a relatively large proportion of manufacturing production and employment in Japan compared with other OECD countries. In 1992, they represented 99% of all enterprises and of manufacturing enterprises, and provided 79% of all employment and 74% of manufacturing employment. They were most prevalent in traditional small-scale industries such as leather, apparel, wood and wood products, furniture and miscellaneous manufactures as well as in tertiary sectors, particularly finance and insurance and construction (OECD 1997).

Traditional SMEs (Stage 1) are found particularly in rural areas and produce for local consumption. Protection and modernization of these firms has been a major element of SME policy in Japan, typified by the Small and Medium Enterprise Basic Law, 1963. They have been badly affected by the 1990s slump in domestic consumption in Japan and are also facing increasing import competition from developing Asia. Fighting for a declining market, traditional SMEs are now engaged in strong price competition between themselves, with ensuring bankruptcies and rising unemployment in regional areas (Iwaki 1992: 310-315).

During World War 2, subcontracting arrangements between small-scale parts suppliers and large equipment assemblers were developed involving technical guidance and cooperative arrangements as an alternative to vertical integration. These arrangements continued after the war, developing into the highly efficient modern *Keiretsu* subcontracting system, popularised by the Toyota model of corporate organisation. . By 1981, 65.5% of SMEs in Japan were engaged in subcontracting as firms shifted out of the traditional and local industries into the expanding subcontracting industries (Iwaki 1992: 333; Itoh & Urata 1998: 322-324).

This subcontracting system (Stage 2) was an essential element in Japan's post war export-led growth period. Parent firms' efficiency was improved through a division of labour with suppliers which allowed each firm to specialise in their most efficient activities, reduced cost of production especially for small batch specialised parts and improved flexibility through an enhanced capacity to respond quickly to changes in output and the avoidance of overly large, hierarchical organisational structures. The subcontractors gained technology, market information, training, access to specialised equipment, managerial support and research and development at relatively low cost from the parent. However, there were some disadvantages where subcontractors were affected more severely by market fluctuations, were sometimes forced unilaterally to accept severe business terms and suffered from poor managerial skills, low technology and lack of equipment and trained personnel (Iwaki 1992: 342-343).

Collaborative strategic arrangements between parent firms and first tier suppliers allowed Japanese firms to undertake continuous product and process innovations which maintained their role as leading world producers of sophisticated consumer durables. Both types of firms had significant internal R&D capacities aimed at developing new materials and products. They also engaged in reverse engineering, joint technology development, design and collaborative arrangements with other sources of technology such as equipment suppliers and public research institutions. Thus first tier suppliers, who on average ranked as large to medium-sized firms had strong ODM capabilities and operated in Stage 3 of Figure 2. Small second and third tier suppliers had much lower technical capacities and predominantly focused on achieving cost cutting production improvements (Itoh & Urata 1994), thus continuing to operate in Stage 2.

### *Flexible Specialisation Mode*

The breakdown of the Japanese subcontracting system has badly affected SMEs which experienced reduced orders due to both the contraction of parent firms and import competition (Sugiuwa 2000: 534). The more technically advanced higher tier suppliers have been able to take up the new global market opportunities and expand sales to non-Keiretsu clients. Lower tier suppliers have been under considerable pressure to lower costs by parents but have not had sufficient capital to move offshore, with many forced to close (Ernst 1997: 223). Thus, only a small proportion of larger Japanese firms have been able to respond to the new market opportunities and move into the externalization stage (stage 4).

The Japanese government has an extensive range of programs to assist SMEs' technology development in the form of provision of preferential loans, preferential fiscal and tax measures and provision of technical assistance in an attempt to upgrade their R&D and technology capacities. Most Japanese industries also have public technical support centres which undertake contract R&D, exchange information with firms and Universities and provide technical assistance to small and medium firms. Generally, smaller firms are relatively low users of these centres as their activities have been less technically orientated. However, there is evidence that a new group of Stage 4 SMEs may be developing. Some SMEs located near major urban areas are developing collaborative arrangements (rather than hierarchical subcontracting) and have been able to respond well to new urban consumption demands. One study of non-contracting SMEs reported that a large percentage of such firms relied heavily on external researchers and public institutions to acquire technical information and know-how. This research was the basis for establishing new businesses and strengthening their current product and processing activities to improve their competitive position (Sugasawa & Liyanage 1999: 316-321). Despite this, there has been a reduced rate of new business start-ups in Japan with the overall numbers of SMEs declining due to the lack of venture capital and managerial support for new SMEs operating outside the old *Keiretsu* subcontracting system (Itoh & Urata 1994; Iwaki 1992: 307-327; Itoh & Urata 1998: 327-328; Sugiuwa 2000: 533-541).

By the 1990s, over 80% of Japanese MNCs had reduced their use of Japanese sourced components and parts in their overseas production facilities. They established limited local supply networks as the production capabilities of host country SMEs were not considered of international standard. Their Japanese subcontractors were encouraged to invest in overseas operations particularly in Malaysia, Thailand and China to supply these overseas plants but also to export products back into Japan (Iwaki 1992: 347; Ernst 1997: 223). However, it is estimated that less than 1 per cent of Japanese SMEs invest abroad. Those that have indicated that managerial skills and support from associated firms were the main factors which determined international success. The main problems encountered related to collection of local information, selection of appropriate local partners, training of qualified staff, establishment of sales and distribution channels and differences between local standards and institutional practices to those in Japan (OECD 1997: 189-191). Thus, Japanese SMEs have only a limited involvement in localization activities (Stage 5). Japanese FDI by both large and small firms has been relatively isolated from their host economies. Overseas activities involved much higher levels of vertical integration than found in Japan to ensure cost and quality controls. However, they are now under some pressure from host country governments to open their supplier networks and localize component sourcing (Ernst 1997: 224).

Thus Japanese SMEs have remained predominantly in Stage 2 and this dependency relationship with parent firms has characterised their operations both in Japan and overseas. A small number of first tier supplies and of new independent SMEs have been able to upgrade their technological and marketing capacities and operate in Stage 4. This is now the focus of Japanese Government assistance to SMEs. There is little evidence that Japanese SMEs, despite some FDI, have developed localisation or global networking characteristics. The deficiencies inherited from the earlier, highly successful dependency stage are the now the main factors inhibiting the internationalisation of smaller Japanese firms.

## **DEVELOPMENT OF TAIWANESE SMEs**

### *Mass Production Mode*

Until the 1930s, Taiwan's industrial sector consisted mainly of food processing, particularly sugar. Fertilizer, cement, paper, refineries, steel and machinery industries were then established by the Japanese to support their Pacific war effort. Taiwan was decolonised in 1945 with 1945 – 1952 being a period of post-war reconstruction, with policies primarily aimed at stabilizing the economy (Schive 1995: 6).

The 1950s featured import substitution strategies with inward- orientated policies such as increased tariffs and import controls in order to protect local investment in light manufacturing and discourage imports of consumer goods. SMEs began to be established in these sectors as cottage industries to help absorb surplus labour in the rural areas. However, the petty producer stage of SME development in Taiwan was relatively short. By the late 1950s, the local market was showing signs of saturation, the country still had

a significant surplus labour problem and, with US aid nearing an end, there was a need to develop new policies. Economic reforms began in 1958 with corrections to the foreign exchange rates, relaxation of import controls and a number of incentives including loans, tariff rebates and tax concessions provided to encourage exports. The enactment of the Investment Law in 1960 authorised inflows of FDI, particularly into export processing zones (Shive 1995: 7; Hu 1999: 6-8).

Taiwan's electronics industry was initiated by this inflow of FDI from US and Japanese MNCs which set up wholly owned subsidiaries and joint ventures to produce transistor radios, black and white television sets and electronic components and parts. While only approximately 25% of the sector was based on foreign capital, this generated 60% of its exports in the 1960s. Local entrepreneurs began developing a comprehensive local component supply industry and established their own assembly lines, quickly becoming the centre of Taiwanese production (Chung 1997: 179). Taiwanese SMEs rapidly developed an export orientation with their domestic sales falling from 47 per cent of total sales in 1975 to 33 per cent in 1980 and to 29 per cent in 1985 (Chou 1992: 1076).

Thus the dependency stage of SME development in Taiwan was also relatively short and these firms moved rapidly into the internalization stage with the rapid growth of OEM and later ODM strategies as the dominant force in the sector. There was also an extensive upstream supply network of component manufacturers. By the 1980s, Taiwan's leading sectors were predominantly under indigenous control and the electronics industry expanded rapidly in areas such as video games, Apple clones and IBM compatible systems. By 1995, Taiwan contributed over half the world's supply of desktop and portable computers, monitors, motherboards, keyboards, PC mice and switch power supply units. 63% of its output was exported. Taiwanese firms, supported by public research institutions, had developed a significant internal design capacity which allowed them to rapidly move into new areas such as multimedia and video products. However, very little of this output was marketed under Taiwanese brand names, with the majority of firms relying on OEM-ODM supply contracts for international sales. Most SMEs remained financially weak, lacked any major R&D activities and rarely undertook their own marketing (Chung 1997: 181-183).

Exporters in other industries were also supported by efficient production networks which comprised large numbers of highly specialised producers in sectors such as clothing, food processing, metal working, furniture, auto components and chemicals. Firms in these networks were generally independent and competed against each other for contracts. However, they shared production and market information which enhanced their flexibility and capacity to respond to market changes (Chen 1998b: 36). Again, core firms in these sectors depended on contracts from MNCs and Japanese trading companies for international sales and technology transfer, which meant their R&D and marketing capacities were underdeveloped.

Taiwan's export firms remained relatively small because they developed a structure of local sourcing from other SMEs rather than vertical integration. SME development was assisted by active subcontracting and satellite-core relationships as discussed above.

Why these industries developed with this structure is not easy to explain. By the 1970s, Taiwanese SMEs had proven they could compete equally with larger firms in terms of cost and productivity. They had advantages in having a more flexible set of technologies based on labour-intensive operations and thus were more adaptable to external market changes. The relatively high interest rate prevailing during this time discouraged firms from investing in non-essential areas such as advertising, information collecting and additional operational units. Markets were highly competitive and SMEs were prepared to accept low profit margins. Consequently, it appears export firms preferred to use these local supply networks which offered lower costs and greater flexibility rather than develop their own internal facilities. In return, SMEs could use these contracts with international assemblers and trading companies to reduce their investment requirements and thus to continue to offer low cost supply (Schive 1995: 11-12). Taiwan thus provides the archetype of Stage 3 development in Figure 2.

### *Flexible Specialisation*

By 1987, Taiwanese SMEs were feeling the full effects of the rising trade surplus which had exerted considerable upward pressure on the domestic currency, rising labour and land costs and increased import competition. These factors initiated a division of labour within Taiwanese firms with mature technology, labour-intensive operations moving to Southeast Asia and China while more advanced firms were encouraged to develop high technology and higher value added products locally. SMEs account for varying proportions of Taiwan's high technology industries ranging from 100 per cent of firms in medical instruments and equipment and other precision equipment, 97 per cent of pharmaceutical manufacturing, to 80% of the aircraft and component parts industry. SMEs spend slightly less on R&D and are only slightly less technology intensive than larger firms in these industries (Schive 1999: 9-15).

Thus some, particularly medium-sized firms which produced a range of related products, have been able to develop new markets by upgrading their Taiwanese operations introducing greater automation, improved product quality and focusing on the higher value added end of their product range. These firms have been able to develop an independent international market presence based on their OEM-ODM capacities, competing for MNC subcontracts as these become more open. The Government now requires such firms to commit to continued investment projects in Taiwan before approving offshore operations for their labour-intensive activities (Chung 1997: 89-90). Thus a significant component of the SME sector in Taiwan has been able to operate in Stage 4 and benefit from the new market opportunities arising from the externalisation of Japanese operations, with some growing to become larger international enterprises.

However, another common response by Taiwanese SMEs to these cost pressures was to move production offshore in search of lower labour and land costs. Cultural factors have particularly led small firms to invest in mainland China, as well as Malaysia and Thailand. SMEs in labour intensive sectors such as apparel, leather and fur product, wood and bamboo products, toys, sporting goods, plastic products, metal products, electrical goods and electronic components moved production out of Taiwan between

1987 and 1991. Accelerating outward FDI caused upstream producers and suppliers to follow. At first, Taiwanese overseas subsidiaries attempted to duplicate the network structures developed around these industries at home and otherwise relied on head office to supply raw materials, components, parts and semi-finished products (Chung 1997: 168-173). Production technologies were transferred overseas intact, although new technologies, product design and innovation predominantly remained in Taiwan (Chen 1998b: 59).

However, by the mid 1990s, FDI was more often motivated by attempts to capture local (host) market opportunities rather than cost cutting. The proportion of sales into the host market increased quickly at the expense of exports to third countries. Smaller firms were quicker than larger firms to exploit these local markets, which they found less competitive than international markets and offering higher profit margins. Local sourcing also increased rapidly, at the expense of sourcing from Taiwan. Subsidiaries of Taiwanese SMEs were quickly absorbed into local supply networks as the transactions costs involved in maintaining Taiwanese supply relationships became too high. Their competitive edge over indigenous firms also quickly dissipated as they were too small to set up their own subcontracting and suppliers networks and had to adapt to products supplied by local firms. Taiwanese SMEs had often used personal contacts to help their entry into foreign markets and these same contacts resulted in their absorption into local networks (Chen 1998b: 48-52). Thus Taiwanese SME foreign investment rapidly became a localisation strategy, with product increasingly focused towards foreign host markets and local supply networks established involving some transplants but increasingly local firms. These firms have remained relatively small in size and their local orientation has halted their evolution and integration into global networks.

Taiwan's few large scale, multi-product manufacturers are beginning to develop integrated production and marketing strategies among their international subsidiaries, including alliances and joint ventures with overseas firms to set up high technology manufacturing in Taiwan (Chung 1997: 190-191). However, SMEs are yet to develop integrated networking structures. Their original Taiwanese networks were a major source of competitive advantage as OEM-ODM supplies, and provided logistical support, market information and technological assistance when FDI first occurred. However, these overseas operations have not been integrated into a global strategy. Rather, as discussed above, they are developing as national networks in host markets (Chen 1998a: 8-9).

Thus the network strategies of Taiwanese SMEs involve strong external network linkages but weak internal linkages between subsidiary operations. Strategic network linkages involving business alliances pooling firm specific capabilities and complementarities occur predominantly between large firms in high technology industries. However, some smaller firms with technological expertise or market power in niche markets also utilize this approach. Nevertheless, Taiwanese investments in Southeast Asia and China are mainly based on relational networks or personal contacts which rely on trust as the basis of inter-firm cooperation. Such networks, however, tend to be location specific and

hence are less useful as a means of expanding international activities and thus more often lead to embedded localisation rather than globalisation (Chen & Chen 1998: 463).

## **SOUTH KOREA – FOLLOWING THE JAPANESE MODEL**

### *Mass Production Mode*

The Korean economy experienced severe disruption in the immediate post-war period which badly affected its industrial base. A truce in the Korean War was declared in July 1953. This was followed by a period of stabilization and import substitution policies. As occurred in Taiwan, export orientated policies were introduced in the early 1960s and SME production and exports grew quickly, particularly in the textiles and apparel sectors. However, unlike Taiwan, the South Korean Government then instituted a policy of industrial intervention which particularly favoured large assembly and later heavy industrial firms. Thus, in the 1970s, both the absolute numbers and relative position of SMEs declined (Hong, et al. 1999: 6-7).

Korea's large firms initially adopted a strong vertical integration strategy. However, in the 1980s, government policies promoted parts and component production, particularly from SMEs, as a means of import substitution to offset the large trade deficit. Large businesses faced labour shortages and rising wages at this time which increased their subcontracting to SMEs (Abe & Kawakami 1997, 391-392). The proportion of manufacturing SMEs which are involved in subcontracting arrangements increased from 36.7% in 1981 to 48.5% in 1987. However, the Korean subcontracting structure was weakly developed compared to that in Japan, consisting of only one or two tiers (Itoh & Urata 1998: 325-326).

Korean SMEs were enmeshed in highly dependent relationships not only with Korean assemblers in the automobile and electronics industries for contracts but also on their Japanese suppliers for essential parts, machinery and technical advice. Consequently, they had very limited product development and local product design capacities. Other difficulties which arose from this dependency included substandard quality of parts produced in Korea, poor access to appropriate production equipment, inability to provide appropriate support to other firms in the production chain and difficulties in accumulating soft skills due to shortages of trained labour (Chon 1996: 107-110). Korea's dependency on Japanese parts, intermediate products and know-how increased rapidly as it moved into higher value products in the late 1980s (Kim & Nugent 1994: 18-19).

However, many Korean SMEs are still located in rural regions in traditional sectors such as textile production. These firms operate predominantly on orders from agents in a virtual subcontracting relationship involving an 'advance order' or 'putting out' system either from large wholesalers or exporters in the cities or large local textile factories. These traditional SMEs are operated by single entrepreneurs and can be a significant source of indirect exports. However, this process acts as a barrier between the small firms and international market pressure, inhibiting their development of independent

marketing or technical capacities which would allow them to evolve beyond stage 2 relationships (Han 1997: 213-231, Kim & Nugent 1994: 23).

### *Flexible Specialisation Mode*

While South Korea has developed extensive programs of assistance for SMEs since the promulgation of the 'Small and Medium Industry Basic Law' in 1966, most of this was aimed at protecting the SME subcontracting system. Large firms were able to deliver substantial economic growth and were the focus of industry policy until after the July 1997 crisis. Subsequently, the Government has looked to small firms as a new source of growth but this has been hampered by the lack of technical and marketing skills in the SME sector. The Korean government provides SMEs with financial support, fiscal and tax incentives and technical guidance to encourage technology development. Financial support comes from sector-specific promotion funds and for specific R&D projects. 50% of these program funds must be allocated to SMEs. One of the most serious bottlenecks inhibiting technological development in SMEs in Korea was a shortage of technical personnel. A number of institutions have been established to provide skilled personnel and information to SMEs on technology development, including Regional Industrial Technology Institutions which utilize a network of technical experts who can be assigned to SMEs to provide long term assistance (Itoh & Urata 1998: 329-333).

The extent to which Korean SMEs have been able to develop new or original products varies with sectors. It is quite limited in sectors such as textiles, electronic parts and components and automobile parts, where however firms are now attempting to upgrade their technical capacities after a long period of dependence on Japanese suppliers. By contrast, the factory automation sector has successfully developed new products using a variety of relationships with public R&D institutions, universities and international agents (Kim & Nugent 1994: 13-20).

Localization is not prevalent among Korean SMEs, very few of which have undertaken FDI. Rather, the Government encouraged localization within Korea by assisting SMEs to strengthen their capacities to operate as more independent OEM and ODM suppliers. Since the 1990s, large Korean firms have been restructuring their production organisation into a global model. This restructuring has involved inter-firm externalization and specialisation whereby they devolve production of certain lines to new subsidiary firms, spin-off divisions or subcontract to small firms. This process required the creation of more stable linkages between the firms involved. The density of these subcontracting networks has increased with small firms producing 70 – 80% of their output through subcontracting arrangements with other firms in 1990-91, twice the proportion of the mid-1980s. In Korea, government regulations stipulate conditions for transferring business from large to small firms and control relations between large and small firms in these networks (Cho 1997: 1093-1095). In effect, this process involves assisting subcontracting firms to evolve into Stage 3 relationships with their parent firms.

However, this approach was severely disrupted by the financial failure of many of the *chaebol* companies after the 1997 crisis. The Government is now looking to technology

and knowledge based small firms to emerge as the next wave of global competitors. As vast range of programs have been instigated to foster the grow of ‘promising’ and ‘technically advancing’ SMEs. This indicates that generally the Korean SME sector has not yet evolved beyond the externalization phase, with many still locked within the second, or dependency phase.

## **MALAYSIA – APPLYING THE JAPANESE MODEL IN A GLOBAL CONTEXT**

### *Mass Production Mode*

Malaysia achieved independence in 1957. At that time, the Chinese ethnic group dominated small scale manufacturing as well as mining and the wholesale and retail trades. Malaysian SME policy between 1957 and 1985 was predominantly aimed at encouraging *Bumiputera* (ethnic Malay) enterprise. SMEs, regardless of ethnic ownership, had an inward, domestic market orientation with low product quality and technological capacity (Meyanathan & Salleh 1994: 31-32).

In the meantime, the Malaysian Government had adopted a relatively open policy to foreign investment which saw the economy move away from resource-based industries (rubber and palm oil plantations and tin mining) in the 1970s towards electronics and electrical equipment, giving it a manufacturing export orientation. In the 1980s, textiles and clothing also became export orientated. These sectors provided two-thirds of manufacturing value added, 40 per cent of manufacturing employment and 80 per cent of exports. Malaysia offered foreign investors incentives including tax holidays, investment tax credits, accelerated depreciation, export incentives and location incentives. Exporting firms tended to be large scale, foreign owned, enclave, and relatively capital and import intensive. They had few local economic linkages with little subcontracting or technology transfer with local enterprises. In 1983, the Malaysian domestic automobile industry was established on a large scale with Proton developed as a joint venture between local and foreign shareholders including Mitsubishi of Japan. The relative significance of SMEs declined during this period. Although they increased in absolute numbers and employment, larger enterprises expanded even more rapidly (Ariff & Ng 1998: 151-153; Abdullah 1999: 24-31; Ahman & Zain 2000: 17).

After 1986, Government policy towards SMEs, regardless of ethnic ownership, changed to recognise their having an essential role within the industrialisation process. Part of the new policy involved fostering strategic linkages between the export industries and local SMEs. Foreign firms were encouraged to develop subcontracting relationships, particularly as they introduced more automated processes into their Malaysian operations. These buyer firms initiated the subcontracting process by establishing supplier partnership programs to develop long term relationships with suppliers, encouraged their engineers to set up their own subcontracting businesses and transferred managerial and technical know-how. Proton also established a local vendor program to increase its local content providing local subcontractors with technological support. The Malaysian system involved two subcontracting tiers. The parents have targeted a few reliable first

tier, medium-sized suppliers, and helped them upgrade their product quality to international standards. The second tier involves small firms which provide engineering services. In addition, two trading companies in furniture and food products have been established to improve the marketing and productive capacity of other SMEs, resulting in increased domestic sales against imports, government procurement contracts and some exports of these products (Meyanathan & Sallah 1994: 50-53; Ahmad & Zain 2000: 16).

As already indicated, smaller Taiwanese firms moved to countries such as Malaysia in search of lower labour and land costs, and have often become embedded in the local economy. 52 per cent of Taiwanese FDI projects in Malaysia were small-scale, manufacturing electronics, basic metals and metal products, chemicals and textiles. Larger projects have a clearer export orientation while smaller projects have targeted the local market. A number of Taiwanese SMEs entered Malaysia as satellite suppliers producing components and parts which are sold to larger assembly firms for eventual export to Taiwan and third countries. These firms source around 40 per cent of their inputs from Taiwan, although this proportion is declining as they become more embedded in local networks (Ariff & Ng 1998: 154-158).

#### *Flexible Specialisation Mode*

Due to the enclave nature of export industries in Malaysia, few SMEs had the capacity to develop as OEM-ODM enterprises. The post-1986 policies aimed not only to expand the number of SMEs by encouraging subcontracting and franchising but also to modernise SME operations by providing financial assistance and promoting training, export and research and development activities. The proportion of local sourcing increased significantly in the late 1980s, although this represented an increase in internal integration as well as subcontracting. Some examples of SMEs evolving through this process, establishing their own subcontracting networks, developing independent technical and design capabilities and gaining substantial world-wide export sales can be cited. However, for the majority of SMEs, poor product quality and lack of financial resources remain fundamental problems, despite an extensive array of Government assistance programs being available (Meyanathan & Salleh 1994).

It can thus be concluded that Malaysian SMEs after a long period as domestically orientated petty producers are now entering the second stage as subcontractors to large foreign and domestic assemblers in the electronics and automobile industries, and to Government inspired marketing intermediaries in other sectors. However, because these parent firms operate in competitive international markets, this subcontracting process must involve suppliers with world standard product quality and production costs. A limited number of first tier subcontractors, with technical and managerial assistance from their clients are now evolving through the OEM - ODM Stage 3 to become global niche producer Stage 4.

## CONCLUSION

As suggested in the conceptual framework, western SMEs tend to follow an internationalisation process as depicted by stream (a) in Figure 1, with the expectation that new globalising SMEs will utilize network mechanisms to increase the pace and spread of destinations for their export activities. Asian SMEs have followed stream (b) which provided a stronger emphasis on indirect export activities and thus an easier and quicker entry into international markets. This process, elaborated in Figure 2, is also expected to result in more direct exports by SMEs which can act on the opportunities arising as Asian markets are opened to international competition. However, when the progress of SMEs in four major east Asian economies is plotted in Figure 2, it is clear that they are unlikely to move into the final networking stage and that independent, international marketing activity is exceptional.

Japanese SMEs, after proliferating within that country's multi-tier subcontracting system, have experienced great difficulty in meeting international competition. Larger first-tier firms which have already strong technological and organisational capabilities are the exception. Government policy is now focused on improving the technical and managerial capacities of smaller firms so they can develop as Stage 4 firms. Taiwanese SMEs developed strong organisational and design capabilities as OEMs operating in Stage 3 of the model. Consequently, a higher proportion of these have been able to upgrade their technological and independent marketing capacities and evolve into Stage 4. Only large firms have developed collaborations and integrated marketing structures. South Korean and Malaysian SMEs had relatively underdeveloped structures. SME policies in these countries is aimed at strengthening the density of local inter-firm relationships and encourage SMEs with OEM-ODM (Stage 3) capabilities. A few exceptional firms have moved rapidly through this process and can now achieve some international sales.

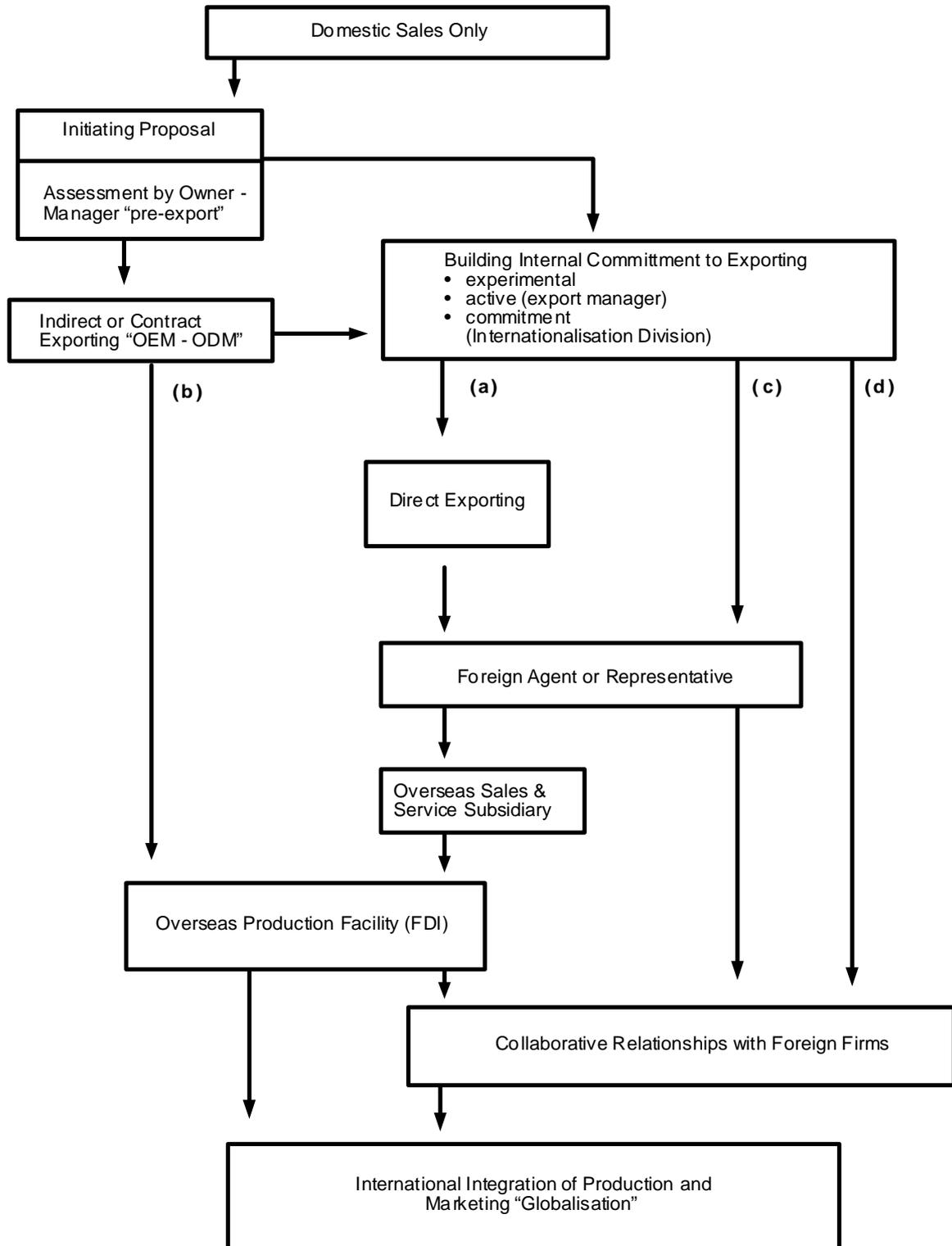
While Japanese and Taiwanese SMEs have invested off-shore, only the Taiwanese had developed any significant linkages with local suppliers (Stage 5). However, these firms are in the more labour intensive and less technical product areas and have missed the technological catch-up and managerial improvements associated with Stage 4. Thus they tend to become involved in local markets and embedded localisation which limits their scope for international activities. Only a few larger, export orientated projects have the potential to become integrated into global production and distribution systems.

Thus, while small independent entrepreneurial western firms have been able to enter global markets as niche producers only a few of the larger Asian SMEs have been able to adopt this role. This reflects the legacy of technical and managerial dependency inherent in the Japanese model. Nevertheless, the analysis of Asian SMEs provided here highlights the pivotal importance of Stage 4 upgrading if SMEs are to be successful independent international operators. However, it is also at this stage where some firms are likely to exit the model having grown to become large enterprises. A rapid move into the DFI stage as occurred with many Taiwanese SMEs appears to be a dead-end.

Creating successful SME entrepreneurs, western or Asian, does not in itself imply a move into collaborative relationships as this still rests predominantly on the preferences of the firms' owner / managers between collaboration and independent control. Neither the establishment of overseas production facilities nor collaborations guarantee a move into globally integrated activities. The scarce financial and managerial resources of SMEs would seem to place such complex activities beyond the reach of all but the largest of these firms. Thus both the western and Asian analyses confirm that the focus of SME policy should be on encouraging Stage 4 characteristics by upgrading the technological and general managerial skills of SME entrepreneurs.

Figure One

A Synthesised Stage Model on Internationalisation Process in Western SMEs



**FIGURE TWO: FUNCTIONS OF SMALL FIRMS IN NETWORKED ORGANISATIONS**

<b>Mass Production Mode</b>	<b>Stage/Function<sup>1</sup></b>	<b>Japan</b>	<b>Taiwan</b>	<b>South Korea</b>	<b>Malaysia</b>
<b>Stage One</b>	Petty producers (of low tech goods or components) Import substitution Domestic market demand	Rural SMEs	Import substitution 1950's	Stabilisation 1950's HCI policies resulted in declining SME sector 1970's	Small scale manufacturing for domestic market Support to <i>Bumiputera</i> enterprises 1957 – 1985
<b>Stage Two</b>	Dependency (contracting to MNCs & Trading Companies. Low cost, labour intensive contractors	Post-War multi-tier subcontracting system. Lower tier sub-contractors continue to have low levels of technical and managerial skills	Local components supply to MNCs. Exports to labour intensive goods through Japanese trading companies.	1980's – two-tier sub-contracting system for parts and components/low technological capacities. Contract production of textiles. Protection of SME sector.	1986 – Policy to develop SME-MNC linkages. Encourage local first tier producers of parts and components with transfer of technical and managerial know-how.
<b>Stage Three</b>	Internalisation (of mature technologies) Independent local intermediate subcontractors	First tier sub-contractors with independent technical and design capacities	Establishment of SME subcontracting networks for parts and components. Development as a major OEM – ODM suppliers to world market.	1990's – Increased density of subcontracting. Support to improve technological capacities.	1990's – small number of OEM – ODM firms developing.

<sup>1</sup> Adapted from M.R. Cho (1997), pp. 1097-1099

**FIGURE TWO: FUNCTIONS OF SMALL FIRMS IN NETWORKED ORGANISATIONS (CONT'D)**

<b>Mass Production Mode</b>	<b>Stage/Function<sup>2</sup></b>	<b>Japan</b>	<b>Taiwan</b>	<b>South Korea</b>	<b>Malaysia</b>
<b>Flexible Specialisation</b> <b>Stage Four</b>	Externalisation (devolution of production) Niche Production Technological Diffusion	Policy to encourage technology catch-up, R& D and innovation in SME sector.  Higher tier firms developing independent marketing capacities.  New independent SME's emerging.	Higher technology OEM – ODM firms operating independently in world markets.		
<b>Stage Five</b>	Localisation (domestic networks) Vertical supply collaborations Horizontal DFI	Off-shore investments in conjunction with client firms. Little local supply networks developed.	Off-shore production in low cost locations, development of foreign supply networks. Production for foreign domestic markets.		
<b>Stage Six</b>	Global Division (of Production and Markets) Specialisation and International Networking				

<sup>2</sup> Adapted from M.R. Cho (1997), pp. 1097-1099

## BIBLIOGRAPHY

Abdullah, M. A. (1999), *Small and Medium Enterprises in Malaysia: Policy issues and challenges*, Ashgate Publishing Ltd, Aldershot, U.K.

Abe, M. and Kawakami, M. (1997), "A Distributive Comparison of Enterprise Size in Korea and Taiwan", *The Developing Economies*, vol. XXXV, no. 4, December: 382 – 400.

Ahmad, Z.A. and Zain, Z.M. (2000), "How the Malaysian Automobile SMEs Survived the Crisis", in Harvie, C. and Lee, B-C. (eds), *SMEs in a Global Economy: Conference Proceedings*, University of Wollongong: 15-22.

APEC Small and Medium Enterprise (SME) Ministerial Meeting (1995), Joint Statement and Proposed Small and Medium Enterprises Action Program, Adelaide, Australia 14-15 September ([www.isr.gov.au/events/apec/key1.html](http://www.isr.gov.au/events/apec/key1.html)).

Ariff, M. and Ng, S.T. (1998), "Taiwanese Investment in Malaysia", in Tain-Jy Chen (ed.), *Taiwanese Firms in Southeast Asia: Networking Across Borders*, Edward Elgar, U.K.: 151 – 170.

Buckley, P.J (1993), "Foreign direct investment by small and medium-sized enterprises: the theoretical background", in Buckley, P.J. and Ghauri, P. (eds), *The Internationalization of the Firm: A Reader*, Academic Press, London: 91 –105 [reprinted from *Small Business Economics*, vol. 1, 1989: 89-100].

Cavusgil, S.T. (1984), "Differences among exporting firms based on degree of internationalization", *Journal of Business Research*, vol. 12: 195-208.

Chen, T-J. (1998a), "Introduction", in T-J. Chen (ed.), *Taiwanese Firms in Southeast Asia*, Edward Elgar, Cheltenham: 1-22.

Chen, T-J. (1998b), "FDI by Small- and Medium-Sized Enterprises from Taiwan", in T-J. Chen (ed.), *Taiwanese Firms in Southeast Asia*, Edward Elgar, Cheltenham: 5-64.

Chen, H. and Chen, T-J (1998), "Network Linkages and Location Choice in Foreign Direct Investment", *Journal of International Business Studies*, vol. 29, no. 3: 445-468.

Chetty, S. and Holm, D.B. (2000), "Internationalisation of small to medium-sized manufacturing firms: a network approach", *International Business Review*, vol. 9: 77-93.

Cho, M-R (1997), "Large – small firm networks: a foundation of the new globalizing economy in South Korea", *Environment and Planning A*, vol. 29: 1091-1108.

- Chon, S. (1996), "Small and Medium-Sized Enterprises in the Republic of Korea: Implications for the Development of Technology-Intensive Industries", *Small Business Economics*, vol. 8: 107-120.
- Chou, T-C. (1992), "The Experience of SMEs' Development in Taiwan: High Export-Contribution and Export-Intensity", *Rivista Internatazionale di Scinze Economiche e Commerciali*, vol. 39, no. 12: 1067 – 1084.
- Chung, C. (1997), "Division of Labour across the Taiwan Strait: Macro Overview and Analysis of the Electronics Industry", in B. Naughton (ed.), *The China Circle: Economics and Electronics in the PRC, Taiwan and Hong Kong*, Brookings Institution Press, Washington, D.C.:164-209.
- Coviello, N. and McAuley, A. (1999), "Internationalisation and the Smaller Firm: A Review of Contemporary Empirical Research", *Management International Review*, vol. 39: 223-256.
- Coviello, N. and Munro, H. (1997), "Network Relationships and the Internationalisation Process of Small Software Firms", *International Business Review*, vol. 6, no. 4: 361-386.
- Dalli, D. (1995), "The Organization of Exporting Activities: Relationships Between Internal and External Relationships", *Journal of Business Research*, vol. 34: 107-115.
- Ernst, D. (1997), "Partners for the China Circle? The East Asian Production Networks of Japanese Electronics Firms", in Naughton, B. (ed.), *The China Circle: Economics and Electronics in the PRC, Taiwan and Hong Kong*, Brookings Institution Press, Washington, D.C.: 210-253.
- Gankema, H.G.J., Snuif, H.R. and van Dijken, K.A. (1997), "The Internationalisation Process of Small and Medium Sized Enterprises: An Evaluation of the Stage Theory", in Donckels, R. and Miettinen, A. (eds), *Entrepreneurship and SME Research: On its Way to the Next Millennium*, Ashgate, U.K.: 185-198.
- Han, S-B. (1997), "Local Level Entrepreneurs in Rural Punggi, Korea: Economic Behaviour and Lifestyle" in M. Rutten and C.I Upadhya (eds), *Small Business Entrepreneurs in Asia and Europe: Towards a Comparative Perspective*, Sage Publications, New Delhi: 211 – 234.
- Hobday, M. (1995), *Innovation in East Asia: The Challenge to Japan*, Edward Elgar, U.K.
- Hong, S-Y., Park, J-H. and Park, J-Y. (1999), *Status and Prospects of Small & Medium Enterprises (SMEs) in Korea*, White Paper No. 6, [www.smba.go.kr/english/sme.kr.html](http://www.smba.go.kr/english/sme.kr.html)
- Hu, M-W. (1999), *The Evolution and Adaptability of SMEs: The Case of Taiwan*, paper presented to 1999 Industry Economics Conference, Melbourne, July 12 –14.

Itoh, M. and Urata, S. (1994), *Can Intervention Work? The Role of Government in SME Success*, World Bank Conference, Washington D.C., February 9.

Itoh, M. and Urata, S. (1998), “Upgrading Technological Capabilities of Small and Medium Enterprises: Public and Private Support in the Japanese and Korean Auto parts Industries”, and Lee J-W “Comment” in Y. Hayami and M. Aoki (eds), *The Institutional Foundations of East Asian Economic Development: Proceedings of the IEA Conference hold in Tokyo, Japan*, Macmillan Press, London: 318-354.

Iwaki, G. (1992), “SMI Development and the Sub-contracting System in Japan”, in Kim, S.J. and Suh, J-W. (eds), *Co-operation in Small and Medium-scale Industries in ASEAN*, Asian and Pacific Development Centre, Malaysia: 309-351.

Johanson, J. and Mattsson, L-G (1993), “Internationalization in industrial systems – a network approach”, In Buckley & Ghauri, *op. cit.*: 303-321 [reprinted from N. Hood and J-E Vahlne (eds), *Strategies in Global Competition*, Croon Helm, New York, 1988.

Kim, L. and Nugent, J.B. (1994), *The Republic of Korea’s Small and Medium-Size Enterprises and Their Support Systems*, World Bank, Washington D. C.

Kojima, K. (1978), *Direct Foreign Investment: A Japanese Model of Multinational Business Operations*, Croon Helm, London.

Meyanathan, S. D. (ed.) (1994), *Industrial Structures and the Development of Small and Medium Enterprise Linkages*, The World Bank, Washington D.C.

Meyanathan, S.D. & Munter, R. (1994), “Industrial Structures and the Development of Small and Medium Enterprise Linkages: An Overview”, in Meyanathan, S.D. (ed.), *op. cit.*: 1-22.

Meyanathan, S.D. and Salleh, I.M. (1994), “Malaysia”, in Meyanathan, S.D. (ed.), *op. cit.*: 23-66.

OECD (1997), “Japan”, *Globalisation and Small and Medium Enterprises (SMEs), Vol. 2 Country Studies*, OECD publications, Paris: 179-197.

Ohmae, K. (1987), *Beyond National Borders: Reflections of Japan and the World*, Dow Jones-Irwin, Illinois.

Schive, C. (1995), “Industrial Policies in a Maturing Taiwan Economy”, *Journal of Industry Studies*, vol. 2, no. 1: 5-25.

Schive, C. (1999), *How did SMEs in Taiwan Survive the Crisis*, paper presented to 1999 Industry Economics Conference, Melbourne, July 12-13.

Sugasawa, Y. and Liyanage, S. (1999), "Technology and business opportunities for small and medium enterprises in Japan: the role of research networks", *International Journal of Technology Management*, vol. 19, nos. 3/4: 308-325.

Sugiura, K. (2000), "Japan: the Role of SMEs in the Mature Economy", in Harvie, C. and Lee, B-C (eds), *SMEs in a global economy: conference proceedings*, IBRI, Wollongong: 525-541.

Vernon, R. (1966), "International investment and international trade in the product cycle", *Quarterly Journal of Economics*, vol. 80: 190-207.

Welch, L.S. and Luostarinen, R. (1988), "Internationalization: evolution of a concept", *Journal of General Management*, vol. 14, no. 2: 35-64.