THE IMPACT OF

INVESTMENT LIBERALIZATION

IN APEC

Economic Committee

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FOREWORD

Since its establishment by APEC Ministers in Jakarta in November 1994, the Economic Committee has undertaken a broad range of research and analysis in support of APEC's work both on trade and investment liberalization and facilitation and on economic and technical cooperation.

In 1997, the Committee has completed several trade and investment-related analytical projects. It is intended that this body of work provide analytical support for APEC's work on trade and investment liberalization and facilitation. A key component of this package is the present study on *The Impact of Investment Liberalization in APEC,* prepared scholars in Chinese Taipei. The study draws on case studies from several APEC economies (Canada, Chile, Korea, the Philippines and Chinese Taipei) and sectors (semiconductors, retail trade, telecommunications and financial services) to derive lessons about the process of opening investment regimes. The study finds considerable diversity among APEC economies with respect to investment policy-making but growing region-wide imperatives for liberalization.

Related Economic Committee projects this year include studies on *The Impact of Trade Liberalization in APEC*, for which experts from Japan and Singapore took primary responsibility, and *The Impact of Subregionalism on APEC,* prepared by another team of scholars in Chinese Taipei. The former study uses computable general equilibrium (CGE) model simulations to assess the impact of APEC's trade and investment liberalization and facilitation measures as set out in the Manila Action Plan for APEC (MAPA). The latter study examines in both theoretical and empirical terms the interaction between trade and investment liberalization on a subregional basis through agreements such as NAFTA, AFTA and CER as well as through informal "growth triangles" and more broadly-based liberalization through APEC and the WTO. The key issue under review is whether these trade groupings within the APEC region support APEC's firm objective of "open regionalism," and contribute to ongoing multilateral trade liberalization at the global level.

In addition, the *1997 APEC Economic Outlook*, prepared under the leadership of Korea, also includes a discussion of the concept of open regionalism in its chapter on structural issues and provides some supporting evidence also drawn from CGE model simulations on comparative benefits of alternative approaches to APEC trade liberalization.

Broadly speaking, this package of studies confirms that APEC's agenda of trade and investment liberalization and facilitation will bring substantial benefits to APEC members and that APEC's commitment to open regionalism remains as strong as ever. Liberalization within APEC will not harm non-members, and subregional arrangements within the APEC region support ongoing APEC-wide and global liberalization.

As an institution that has been created at the dawning of the information age, APEC has pioneered a "virtual" mode of operation. It functions with only a very small Secretariat and relies accordingly on the voluntary contributions of the time and energy of experts in member economies to carry out the large majority of its work.

In the case of the present study, particular thanks are due to the principal drafter, Dr. Liu Da-Nien of Chinese Taipei's Chung-Hua Institution for Economic Research. Thanks are also due to the several member economies that contributed case study materials. I would also like to acknowledge Tom Engle, Program Director at the APEC Secretariat, who has provided logistical and technical support to the Economic Committee in this work and, in particular, taken responsibility for seeing the study through to publication; and Dan Ciuriak, Coordinator Asia Pacific Research at the Department of Foreign Affairs and International Trade in Canada, who has assisted me in my role as Chair of the Committee and taken particular responsibility for coordinating the incorporation of comments from member economies on drafts of this study and for the final editing of the text.

John M. Curtis
Chair
APEC Economic Committee
Ottawa, November 1997

EXECUTIVE SUMMARY

The present study analyzes the impact of investment policies and liberalization in APEC. The analysis is based on case studies of investment policy-making and implementation in several APEC member economies, namely Canada, Chile, Korea, the Philippines and Chinese Taipei. The policy reviews for these economies are supplemented by case studies for several industries, namely semiconductors, retail trade, telecommunications, and financial services. Several conclusions can be drawn from the analysis.

As in other areas, there is considerable diversity among APEC member economies in the extent to which they have used policy on foreign direct investment (FDI) as a tool to promote economic development. Despite this diversity, however, two general trends are clear from the experience of the past few decades. First, APEC member economies across the spectrum of stages of development have gradually moved toward more open investment regimes. Second, that said, investment liberalization has been approached in a more cautious and generally less thoroughgoing fashion than has trade liberalization.

The member economies reviewed in this study have experimented fairly extensively with investment rule-making to restrict FDI outright or circumscribe it pursuant to certain policy goals. The available evidence portrays a decidedly mixed record in employing such practices to meet the policy goals in question or to promote broader economic development.

At the same time, the experience of the economies reviewed confirms that where and when investment regimes have been liberalized, the resulting increase in FDI inflows has brought important benefits. These include faster growth of output, incomes, employment and exports; significant transfer of advanced technology to the domestic economy; and advantageous "spill-over" effects, engendered by sharper competition, onto the domestic economy. FDI has been a key channel for integrating APEC members into the global economy.

Moreover, these case studies suggest that despite the historical lag in investment policy liberalization, factors are developing that are increasing the incentive for member economies to review their remaining restrictions on FDI and take a more aggressive approach toward liberalization than in the past. Primary among these is the very globalization of the economy, which creates intense competitive pressures to collaborate with partners from diverse points around the world.

The above conclusions are seen from the perspective of the investment-host economy's policymaker. One other conclusion emerges from the perspective of the foreign corporation planning to invest abroad. Site selection, it seems, is less a function of the incentives offered to foreign investors than the economies offering them are inclined to hope. From the investor's standpoint, various other, more fundamental factors go into

the design of an attractive investment climate. These include ease of establishment; sound macroeconomic fundamentals; a transparent (and, ideally, simple and consistent) legal, policy and regulatory framework affecting FDI and other business matters; sound infrastructure; and, in increasingly many sectors, a well-educated labor force.

In the end, FDI involves a longer-term commitment and is based on the premise of future, sustained profits. While it is very difficult to distinguish the separate roles of changed investment rules versus fundamental economic reform in attracting more and higher quality FDI, it would appear that the combination of the two is more effective than either one in isolation.

Chapter 1

OVERVIEW: THE FDI POLICY CONTEXT

Host economies are rarely neutral towards inward foreign direct investment (FDI). Virtually all host economies have barriers to inward FDI of greater or lesser formality, and greater or lesser transparency.[1] At the same time, many of those economies offer explicit and implicit incentives to foreign-owned multinational companies (MNCs) to establish affiliates in their markets. Numerous theoretical arguments have been offered both in defense of barriers to inward FDI, as well as against such barriers. However, the empirical evidence on the impacts of barriers to FDI, as well as on their removal, is surprisingly limited and inconclusive, especially given the voluminous literature on the determinants of FDI.[2]

Meanwhile, liberalization of investment is a key international issue. Within APEC it has been addressed collectively through the agreement on non-binding investment principles. On an individual level, the policy direction taken by most APEC economies over the past two decades has generally been towards liberalization through easing of restrictions on, and/or lowering or removal of barriers to, inward FDI. However, some observers have argued that, notwithstanding this shift in policy direction, there has been little actual change in accessibility for foreign investors because: (i) the liberalization of formal rules has not necessarily led to an increase in the transparency of investment regimes, and this lack of transparency is a significant barrier to inward FDI; and (ii) informal investment barriers are now relatively more important than formal barriers.[3]

Whether the liberalization of investment regimes has had a significant impact on the volume of inward FDI is an empirical question. This report considers some evidence on this issue for specific economies and specific industrial sectors.
A further question is whether informal barriers are as important in discouraging inward FDI as has been suggested. Some evidence on this issue will be discussed in the following chapters.

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[1] See *Survey of Impediments to Trade aned Investment in the APEC Region* (PECC, 1995), Figure 6.1, p.102

[2] For a comprehensive evaluation of the impacts of host government policies toward FDI, which itself comes to no strong conclusions, see Safarian (1993). An extensive review of the literature surrounding the causes and consequences of FDI is provided by Dunning (1993).

[3] For a more detailed discussion of these points, see Industry Canada (1994).

The implications for public policy of these findings will depend on the relative costs and benefits to the host economy in continuing selectively to restrict inward FDI. An extended analysis of this issue is also undertaken.

TYPES OF PUBLIC POLICIES TOWARD INWARD FDI

While there are various ways to classify public policies toward inward FDI, one broad way of distinguishing among the relevant policies is whether they are formal or informal. Within the category of formal barriers, a further distinction can be drawn between absolute and non-absolute barriers.

Formal Investment Barriers

Formal investment barriers may be defined as those controls on inward FDI introduced through legislation and government regulation; informal investment barriers may be defined as those impediments to inward FDI in a host economy that arise from administrative procedures and unpublished policies, structural rigidities in the host market, and political, cultural and social institutions that, work to discourage inward FDI.[4]

Formal investment barriers tend to be relatively obvious and generally have a primary, if not exclusive, focus on inward FDI. Major manifestations of formal investment barriers include: broad legislation governing terms and conditions under which foreign-owned businesses can be established and operated; screening and monitoring of investors for purposes of approval; legislative or regulatory restrictions on the extent of foreign ownership and control in specific sectors; and trade-related investment requirements such as minimum export volumes; and other performance requirements for approval to operate as a foreign-owned subsidiary (e.g., undertakings to conduct minimum levels of domestic research and development).[5]

Absolute Versus Non-Absolute Restrictions

It is important to distinguish between formal policies that impose absolute barriers or restrictions on FDI and policies that constrain the structure and/or operations of companies owned or controlled by foreign investors. Examples of the former include ceilings on foreign ownership or control of particular types of companies (e.g., percentage limits on share ownership) or in particular

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[4] This broad distinction between formal and informal barriers is suggested in Industry Canada (1994).

[5] Many of the trade-related investment requirements, as well as other conditions attached to approval of inward FDI initiatives, may be incorporated as criteria in the investment screening activities undertaken by host governments.

sectors (e.g., percentage limits on share of total assets in a sector). Examples of the latter type of policies include requirements to hire local managers, perform R&D in the host economy, grant world product mandates to host economy affiliates, and so forth.

Absolute restrictions on foreign ownership and/or control are equivalent to absolute quotas on imports. Namely, while the "mix" of inward FDI is allowed to vary, the relative, if not absolute, volume of FDI is fixed by the ownership or control ceiling.[6]

By contrast, "non-absolute" restrictions are analogous to tariffs in that they affect inward FDI by increasing the costs of establishing and/or operating foreign affiliates in the host economy. In the case of investors who were just on the margin of finding on investment profitable, such an increase in costs can render the planned investment unprofitable; in this sense, such measures act as a barrier to inward FDI, at least over some range of investments. In cases where the increase in costs still leaves inward FDI a profitable proposition for the foreign investor, such measures do not deter the inward FDI, but rather serve to transfer "economic rent" from foreign investors to the host economy.

Informal Investment Barriers

Informal investment barriers include policies that, while not specifically targeted at inward FDI, nonetheless impact on foreign investors. For example, legislative or regulatory restrictions on cross-ownership of financial institutions that may be erected for prudential or competition policy reasons can have the effect of restricting access to foreign firms that operate in jurisdictions that permit such cross-ownership. Economic, political and cultural institutions that influence the prospective profitability of inward FDI may also act in non-obvious ways as informal investment barriers.

Although such policies are not overtly motivated by discriminatory intentions against foreign investors, they cannot be entirely ignored. In this report, consideration of such informal barriers is restricted to those that are likely *a priori* to have a significant impact on the activities of foreign investors.

POLICY OBJECTIVES

An objective of this report is to evaluate the consequences of public policies toward inward FDI. Public policy goals of any economy tend to be complex and at times can involve trade-offs. For example, promoting growth in

[6] If the ownership or control ceiling is established as a percentage of overall assets or equity, inward FDI can increase in absolute value as a function of the overall growth of the sector(s) affected.

domestic incomes can be presumed to constitute one major goal of any host government. Other goals may be ensuring some measure of economic "sovereignty" and/or capturing as many of the benefits from FDI for the domestic economy as possible. When the former goal implies accepting higher levels of foreign ownership and control -- for example, where inward investment has significant productivity spill-overs for the host economy[7] -- while the latter implies higher levels of domestic ownership and control, public policy makers face such a trade-off.

Improving Economic Efficiency

There is a substantial literature identifying and evaluating the role of FDI in encouraging higher real income levels in the host economy by promoting a more efficient use of domestic resources.[8] There are a number of channels through which this result can occur.

First, where foreign-owned firms are successful in entering a given market they will tend to displace less efficient domestically-owned firms with a resulting reallocation of domestic resources from less efficient to more efficient producers. This in turn contributes to a higher average level of productivity (and income) in the host economy. To the extent that the foreign investors do not capture all of the associated increase in productivity in the form of higher profits, host economy residents will enjoy higher average income levels as a result of inward FDI.

The available evidence is quite consistent in showing that foreign-owned establishments tend to have higher average labor-productivity levels than do domestically owned establishments.[9] There are two primary reasons for this: (i) foreign-owned establishments tend to operate with higher capital-to-labor ratios which directly contribute to higher labor productivity levels; and (ii) foreign-owned establishments tend to be larger than their domestically owned counterparts which contributes to higher labor productivity levels through economies of scale and scope. Available evidence also shows that average wage levels tend to be higher in foreign-owned establishments suggesting that some portion of the higher average productivity associated with inward FDI is passed through to domestic factors of production.

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[7] Canadian evidence on the performance of foreign-owned establishments compared to domestically owned establishments is provided in Steven Globerman et al. (1994). More direct evidence on the existence of productivity spill-overs from inward FDI in Canada is reported in Steven Globerman (1979).

[8] For an overview of the linkages in the Canadian context, see Steven Globerman (1985).

[9] For a review of this evidence, see Globerman, Ries and Vertinsky, op. cit.

A second channel for efficiency gains is through the increased competition in domestic markets from the entry of foreign-owned firms, which promotes increased efficiency among domestically-owned firms. In a similar vein, the entry of foreign-owned firms promotes more rapid adoption of new technology and best-practice management techniques on the part of domestically-owned firms through demonstration effects, vertical linkages and so forth.

Such productivity-enhancing effects of inward FDI on domestically-owned firms are broadly identified as "spill-over" effects. The available evidence indicates that these spill-over effects are generally positive and significant.[10]

Capturing Rent Accruing to Foreign Investors

Economic theory suggests that firms must enjoy certain competitive advantages in order successfully to enter foreign markets.[11] Empirical models identify these firm-level advantages primarily with intangible assets such as proprietary technologies, brand names, trademarks and so forth. These firm-level advantages, in turn, may contribute to foreign investors earning "economic rents" on the assets they own in the host economy.[12]

To the extent that some or all of these rents can be captured by domestic factors of production, domestic incomes can be increased over and above the efficiency gains described above. If there is significant competition among foreign investors for domestically-owned assets, some portion of these economic rents will be captured in the purchase prices paid by the foreign investor for domestic assets in the host economy. In principle, public policies can also be structured to capture such rents for domestic factors of production. The formulation of public policies for this goal can, however, be quite difficult as it presumes the ability of public authorities, first to identify those investors (investments) anticipating earning rents and, second, to frame policies that capture some portion of these rents for domestic factors of production without discouraging the relevant investment(s).[13]

In practice, the current competition amongst economies to attract foreign investors makes the supply of inward FDI facing any individual economy highly

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[10] A comprehensive survey of the international evidence is provided in Blomstrom, and Globerman Kokko (1996).

[11] For example, see models of inward FDI associated with Hymer, Dunnning and others.

[12] That is, returns over and above the competive rate of return.

[13] These questions have been addressed in the Canadian context in Canadian Public Administration (1984).

elastic, which in turn closely circumscribes the capacity for a host economy to extract economic rents from the foreign investor.[14]

Issues Linked to Globalization

While the normal application of competition policy should address potentially anti-competitive mergers and/or abuses of dominant position by all firms operating in a host economy, irrespective of their ownership status, foreign ownership can in some circumstances raise difficult issues. For example, mergers and acquisitions involving foreign parent firms might bring together their respective subsidiaries in a host economy, thereby increasing domestic industrial concentration and potentially even creating a monopoly supplier.[15] Such cases point to the need for enhanced international cooperation in a global era.

One concern that has been raised from time to time is that foreign investors may be less likely than domestic investors to identify with the host government's public policy goals and thus less likely to accept reduced corporate profits to support realization of those goals. However, this and other articulations of the "economic sovereignty" concern with significant levels of foreign ownership, either in specific industries (e.g., in those often considered as most “sensitive”, such as finance, telecommunications, transportation, and energy) or in the economy more generally, have found waning support as evidenced by the global trend towards more welcoming environments for FDI.

Where public authorities seek to achieve specific policy objectives using privately-owned firms as instruments, these policies can be applied irrespective of the ownership status of the firms involved. This is illustrated by the example of the telecommunications industry. The telecommunications systems of many economies embody pricing cross-subsidies designed, at least in principle, to assure universal telephone service. Several economies that recently privatized their telephone systems opened up the bidding process to foreign investors while maintaining a so-called “golden share” that gave the public authorities effective voting control if such pricing cross-subsidies and/or other mechanisms to meet key social objectives were not retained in the future.[16]

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[14] The exception to this rule would be cases of investment in specific sectors where the host economy enjoys marked economy-specific advantages (e.g., due to the presence of large deposits of natural resources).

[15] See, for example, Economic Committee FDI and Market Framework Policies (APEC, 1996).

[16] See Steven Globerman (1995).

PATTERNS OF INVESTMENT RULE-MAKING AND LIBERALIZATION

Historically, foreign investment regimes have tended to evolve within broader policy approaches towards international trade and investment that can usefully be typified as import substitution, export promotion and open trading.

Reflecting these policy paradigms, investment rule-making has involved a range of restrictions on market access and foreign ownership to promote domestic production, as well as requirements with respect to export performance, local content, local employment quota, as part of policies to improve export performance and capture benefits for domestic factors of production.

By the same token, liberalization of investment regimes has tended to be part of broader moves towards an open trading regime. Liberalization moves have included not only the easing or removal of restrictions on foreign investment, but also elimination or simplification of administrative procedures such as approval and screening of foreign investment projects. Fiscal incentives offered to foreign investors may also be either reduced or abolished in the move towards an open trading regime.

Investment Policies under Import Substitution

Under the import substitution approach to economic development, primacy is given to nurturing infant indigenous industries. Multinational firms are considered as contributing to this process only if they introduce technologies and know-how pertaining to these industries and transfer them to local firms. Controls and restrictions on foreign investment have accordingly tended to accompany the high trade barriers erected to give effect to this policy paradigm.

The range of measures introduced to achieve the purposes of this policy approach is broad. Typically, a foreign investment approval procedure is instituted to limit the number of foreign firms and to pick the projects that are most likely to transfer the desired technology and know-how to the host economy. Often a "priority industry" test is used to judge whether a potential foreign investment project is capable of bringing new technologies and new products to the economy. In fact, many host economies following this policy paradigm have not only passively reviewed project proposals, but have actively solicited investments they believed would benefit them.

Local participation may also be required by host economies both to increase the chance of transfer of foreign-owned technologies and know-how and to capture some of the economic rents for local factors of production. The most common way to ensure local participation is to require foreign investors to enter through some form of joint venture. In some cases, these controls limit foreign investors to minority positions so that local shareholders will have control over

the joint-venture company and thus be better able to protect local interests. Under a variant of this approach, foreign ownership is not restricted in the early phase of a project but a certain proportion of the equity is required to be transferred to local ownership after a stipulated period. The latter approach allows the foreign investors full control over the project in the start-up phase to facilitate a successful launch before involving domestic interests.

Investment Policies under Export Promotion

FDI policies under the export promotion approach to economic development involve a different set of goals and thus of measures. Under this approach, FDI is sought to generate export-led growth, drawing on domestic labor and possibly natural resources. The export promotion policy is normally adopted by labor-abundant economies and the associated foreign investment tends to be in labor-intensive industries.

In giving effect to this policy, export-oriented foreign investment projects are given priority in project approval and sometimes offered fiscal incentives which are unavailable to FDI aimed at the domestic market. Popular fiscal incentives include tax holidays, accelerated depreciation allowances, subsidized rates on land, utilities, wages, and labor training, and exemptions from import duties on imports of machinery, equipment and raw materials. In some cases, local content requirements may be imposed on the multinational firms to ensure that they purchase a certain proportion of components and parts from local suppliers. The purpose of this regulation is two-fold: to shift economic rents to local producers and to promote local linkages in the hope of facilitating technology transfer.

To expedite the approval process and to prevent local regulations from interfering with the operations of foreign firms, some economies -- often those that are subject to heavy regulation -- have established export processing zones (EPZs), or free trade zones. These zones, typically located in areas that command low transportation costs for exporting (usually adjacent to ports), provide a separate environment to host multinational firms, unaffected by regulations applying elsewhere in the economy. Multinational firms located in EPZs are normally exempted from import duties on imports of capital equipment and raw materials but, at the same time, are required to export all their products. However, it is not common for the host economies to impose local content requirements on multinational firms operating in EPZs, presumably to maintain their attractiveness to foreign investors. Since EPZs are exceptions to the economic rules that prevail in the rest of the economy, their overall contribution to economic development of host economies has tended to be limited.

Investment Policies under Liberalized Trade

A shift by an economy to an open trading regime typically involves a shift in foreign investment policy as well. The policy emphasis typically shifts towards encouraging FDI for the economic efficiency gains and the technology introduced by FDI, as well as to improve linkages to international markets. Other policy goals such as capturing rents or developing export platforms diminish in importance or fall away entirely.[17] The linkage between an open trading and a liberal investment regime was significantly promoted by the Uruguay Round which included an agreement on Trade-Related Investment Measures (TRIMs), which eliminated a raft of investment restrictions such as local content regulations and export performance requirements for parties to the agreement.

Liberalization of foreign investment policies does not, however, typically result in a complete elimination of restrictions on foreign ownership, particularly in the case of economies moving from policy frameworks characterized by heavy regulation. For example, restrictions often remain sectors considered as "sensitive," such as finance, telecommunications, transportation, and energy. In part, this reflects the fact that it is usually easier for such economies to liberalize their trade accounts before they can liberalize their capital accounts. However, steps can be taken progressively to reduce the burden of regulation on foreign investment. Administratively, this shift can be given effect by adoption of "negative lists" for market access. Negative lists stipulate those sectors that are subject to restrictions for foreign investment while leaving all others open. This not only expedites the investment approval process, but also provides transparency to foreign investors.

Liberalization of investment in the sensitive sectors of finance, telecommunications, transportation, and energy falls under the purview of negotiations on services trade. Although the General Agreements on Trade in Services (GATS) establish the general principles of market access to govern trade in services, exceptions are prevalent in member economies' lists of commitments. The APEC process is promoting these principles in the areas of telecommunications, transportation, and energy (electricity).

Financial and Labor Restrictions

Some restrictions on FDI are observed without regard to the broader trade policy approach adopted. Capital account restrictions on foreign investment

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[17] Sometimes, foreign investment policies are liberalized simply because the host economy is under pressure to attract foreign capital – for example, to help cover a current account deficit. Investment liberalization undertaken under such pressing circumstances is, however, rarely thorough and may be subject to reversal.

tend to include restrictions on remittance of capital and profits (this can include a minimum investment period before capital and profits can be repatriated as well as approval required for repatriation of funds) and withholding taxes that are generally assessed on remitted capital and profits. Such restrictions generally reflect balance of payments-related concerns of domestic authorities.

Another type of restriction related to financial operations of multinational firms that is sometimes applied is a restriction on raising funds from the local financial markets, including issuing equity shares and borrowing. The purpose of this restriction is to prevent domestic borrowers from being crowded out by multinational firms, which are often more creditworthy.

Last on the liberalization agenda for most economies seems to be restrictions on the employment of expatriate workers. This is a complex issue as it is bound up with migration issues. Host economies seek to protect employment opportunities for the domestic labor force and to promote transfer of advanced technologies and managerial know-how to local engineers and managers through work within multinational firms. Most economies tightly control the participation of expatriate workers; restrictions can include limits on the number of expatriates as well as the length of their stay.

There is no systematic evidence suggesting that such restrictions actually create local jobs or facilitate technology transfer. Cost and efficiency considerations would anyway lead multinational firms to employ as many local workers as possible, since they are less costly than expatriate workers. This is particularly the case in instances where the FDI is seeking out locations with access to low-cost labor. The hiring of expatriate workers would thus tend to reflect the lack of local substitutes. Multinational firms may retain a few expatriate managers in key positions even where there are competent local substitutes for the reason of hierarchical control. But even that practice has started to change in recent years.

EFFECTIVENESS OF INVESTMENT RULES: EMPIRICAL EVIDENCE

The discussion above has highlighted the policy considerations that have led host governments to promote FDI while at the same time establishing controls and/or restrictions on the inward FDI process. This section considers the empirical evidence of the effectiveness of the various measures that have been applied in various economies. This empirical evidence is drawn from the case studies reported in the following chapters but also from the existing literature on relevant issues. The overall conclusion is that policies that (directly or indirectly) discourage inward FDI are likely to have net economic costs.

While a strong case can thus be made for facilitation of FDI, this is not to suggest that host governments should actively subsidize inward FDI or favor foreign ownership at the expense of domestic ownership. Host economies that seek to subsidize FDI to increase the volume may wind up offering subsidies that exceed the net benefits of the inward FDI.

At the same time, while the complete elimination of restrictions or regulations on FDI may not be optimal in all cases, this assessment is largely subjective on the part of host economies since empirical evidence cannot be directly adduced to compare perceived non-economic costs to the net economic benefits that FDI brings.

Effectiveness of Import Substitution Regimes

Available empirical evidence suggests that import substitution regimes have not tended to be successful. The amount of FDI attracted is often limited and may not achieve the objectives desired by authorities in implementing such a regime. This is particularly the case where local markets are small and the attendant restrictions and controls that seek to capture benefits for domestic interests impact heavily on the profits that can be realized by foreign investors. In these instances, foreign investors do not have incentives to introduce state-of-the-art products and process technologies, minimizing the benefits of any technological transfer to local firms that may occur. Moreover, foreign firms operating under this regime also tend not to face competitive pressures to adopt technologies appropriate to the local economy, but rather to stay in their "domain of competence"

Performance requirements and ownership restrictions on inward FDI have also tended to be inefficient means of capturing economic rents for local factors of production. The requirement for local partners may lead to management conflict which undermines the managerial coherence of joint venture projects and hence their productivity. Conflicts with local partners are frequently cited

by multinational firms as reasons to withdraw from the host economies. Contrary to the policy intention, the required presence of local partners may actually reduce the incentive for multinational firms to transfer technologies. When the technology transfer is done within the hierarchy of multinational firms, transfer prices are internal and hence easily arranged. With local partners price is no longer an internal affair and a fair price acceptable to both partners may not come by easily.[18] More importantly, with the presence of local partners, multinational firms may be reluctant to transfer proprietary technologies because of the perceived risk of loss of control over them.

In fact, in the absence of ownership restrictions, multinational firms do not always choose 100 percent ownership. The case studies on the semiconductor and retail sectors indicate that joint venture is the preferred mode of ownership of multinational firms. When the benefits of local partners bringing resources to multinational firms exceed the sacrifice incurred from reduced managerial control, multinational firms will offer or solicit local ownership. The concern that majority foreign owners may not comply with policy goals of the host economies is largely unwarranted; as the case study on the telecommunications industry indicates, the state's power to regulate and oversee the operations of the industry guarantees such compliance. The case study on the financial services sector also offers no evidence that foreign-owned banks are more likely to contribute to financial instability than domestic banks. Nor are foreign-owned banks more prone to unethical or imprudent activities than their domestic counterparts.

Effectiveness of Export Promotion Regimes

In general, promotion of foreign investment is more successful under export promotion regimes compared to import substitution regimes. Foreign investment is generally more responsive to export orientation than to serving local markets, because export sales offer greater opportunities than domestic sales, and export-oriented FDI is subject to less regulation in its operational strategies. Expansion of foreign investment under an export promotion regime can be explained by the same factors that account for rapid formation of domestic capital under the same policy environment. How much the fiscal incentives that typically accompany export promotion regimes contribute to the growth of FDI, however, is subject to debate and further empirical study is needed.

As trade between multinational firms accounts for an increasingly large proportion of world trade, host economies pursuing an export promotion policy usually find the presence of multinational firms important to in building their

[18] Indeed, one reason for FDI to arise is that there is no effective market to trade technologies, owing, for example, to inadequate protection of intellectual property rights.

international linkages. The growth of international linkages of East Asian economies is considered to be an important factor accounting for their success in generating export-led growth.

International linkages, once developed, will tend over time to benefit local firms as well as local subsidiaries of multinational firms. However, local content regulations tend not to be particularly successful. The reasons are well documented. Such regulations are equivalent to a tariff imposed on imported components and parts. It increases the costs of production of multinational firms and reduces their flexibility in international sourcing. Higher costs of production reduce the volume of output and hence the demand for locally-made components and parts. The expected benefits from linking local suppliers to multinational firms through local content regulations may not materialize because, for crucial components and parts, multinational firms may opt to bring their suppliers to invest in the local economy instead of cultivating indigenous suppliers. In the end, it is the indigenous supply capabilities rather than the local content regulations that tend to determine how much multinational firms will source locally, and typically these take time to evolve.

One additional benefit of export-oriented FDI is that it brings foreign exchange to the host economy, alleviating possible concerns over the balance of payments. Accordingly, host economies tend to be more accommodating as regards access to foreign exchange markets and repatriation of capital and profits, resulting in more efficient operation for the multinational firms involved.

The case studies suggest that it is competition that accounts for the superior performance of multinational firms under the export promotion regimes. Multinational firms operating under the export promotion regimes face competition with local as well as other multinational firms in the export markets. They have to bring their best to the local economies to beat the competition. Competition also forces local firms to improve their productive efficiency. Competition among multinational firms may also lead to more linkages to the local economies through subcontracting and material sourcing. In contrast, multinational firms operating under import substitution regimes are spoiled by a permissive operating environment because of excessive profits. They may not choose the optimal technology and may be reluctant to engage in local sourcing even if it would bring about a cost reduction. Case studies on the retail and finance industries suggest that providing multinational firms with equal access to domestic markets can dramatically improve the efficiency of domestic firms and increase the product variety on the market.

Moreover, incentives do not appear to be particularly effective in attracting capital inflow. Instead, it is the availability of resources conducive to the competitiveness of multinational firms that seems to be key to site selection for FDI. Resources that are effective in drawing FDI are skilled labor and

infrastructure. The case of the semiconductor industry attests to the importance of skilled labor, while the case of the Philippines attests to the importance of infrastructure.

Impact on Capital Formation

There is no doubt that foreign direct investment contributes in a supplementary fashion to capital formation of the host economy. However, FDI flows will typically constitute only a small portion of new capital formation except in exceptional circumstances, such as immediately following the removal of barriers or other changes in circumstances that open up significant new opportunities for international linkages. All else being equal, FDI will tend to be stronger in more open economies with favorable investment climates for both foreign and domestic capital.

It is possible that foreign investment may induce additional domestic investment, making its contribution to domestic capital formation of the host economy proportionately larger than the actual share of foreign-owned capital. This effect may result from emulation by local firms, international linkages that multinational firms bring to the host economy, which create market access for other local firms, and forward or backward linkages to local suppliers.

Even in the case where FDI results through merger and acquisition activity, as opposed to new ”greenfield” investment, and thus there is no net increase in capital at the moment of take-over, foreign investors are likely to introduce better management or more efficient production methods, that pave the way for more capital expansion in the future.[19]

It is generally observed that multinational firms have a tendency to retain most of their profits at local subsidiaries for reinvestment rather than to repatriate them. This implies multinational firms have a higher propensity to retain earnings for reinvestment compared to their local counterparts. This also contributes to a higher rate of capital formation for the local economy.

Even if multinational firms raise financing from local sources to establish their investments, their expansion may still contribute to capital formation if it does not crowd out local investments. While crowding out concerns have at times been voiced about foreign investment, there is still no hard evidence to support this concern.

Technology Transfer and Spill-over

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[19] This assumes that foreign investors are exploiting firm level advantages as described above.

Technology transfer is of interest to all host economies regardless of the underlying economic policies, and various restrictions and regulations have been designed to facilitate technology transfer from multinational firms to indigenous firms. For example, host economies have often required explicit technology transfer plans from multinational firms, including through training of local workers, transfer of management and engineering responsibilities from expatriate managers and technicians to domestic staff, production of certain key components locally, and so forth.

Available evidence suggests that foreign-owned firms have a higher productivity level than their local counterparts creating the potential for spill-over of technology. However, the effectiveness of deliberate technology transfer policies is open to question.

Multinational firms may be reluctant to train local workers because of high turn-over rate which are characteristic of many developing economies. They may be reluctant to delegate managerial and technical responsibilities to locals because of lack of competent local managers and technicians. Even with a local content regulation, local production of components may still be a simple assembly operation with the most sophisticated production processes retained at the parent company.

Voluminous literature on technology transfer suggests that the likelihood of technology transfer depends on the costs and benefits to the foreign investors of such transfer. The costs of transfer depend on the local capacity to absorb pertinent technologies, which in turn depends on the availability of skilled labor, the scientific capabilities of the local society, and the framework policies of the host economy (e.g., the protection of intellectual property rights). The nature of technology may also affect the costs of transfer. Technologies pertaining to large-scale production and labor-intensive operations are more transferable than small-scale and capital-intensive operational technologies.

On the other hand, the benefits of technology transfer can best be thought as the opportunity costs of not making such a transfer. In general, the more competitive is the market, the more costly it is in terms of forgone profits to refuse technology transfer.

The case studies summarized below show that spill-overs from multinational firms to local firms are evident, but the degree of technology transfer is hard to quantity. An evident example is the development of the semiconductor industry in Chinese Taipei and Korea. Both economies benefited from the spillovers of technology from multinational firms, which introduced integrated circuit assembly and testing operations to these two economies. Foreign investment in the retail industry is also shown to bring about revolutionary changes to the local industries, resulting in productivity gains.

Chapter 2

HOST ECONOMY CASE STUDIES

This section aims to distill lessons from APEC member economies' experience regarding the impacts of investment rule-making on FDI and the benefits of liberalizing investment regimes, drawing on a series of case studies. These case studies present policy reviews of five member economies: Canada, Chile, Korea, the Philippines, and Chinese Taipei. They focus on the consequences of their FDI regimes for capital flows, employment creation, export expansion, technology transfer, etc., and ultimately on real incomes of the domestic populations.

CANADA

Historical Evolution

Historically, Canada's economic development had been, to an important extent financed by direct investment, in particular from Britain and more recently from the United States. However, Canadian policy towards inward foreign investment underwent a significant re-orientation in the 1970s and again in the 1980s. In 1973, Canada enacted the Foreign Investment Review Act (FIRA) to increase control of inward FDI flows and capture rents in key sectors. In 1985, this policy was reversed as Canada opted for an open investment regime aimed at securing the benefits of FDI. More recently, Canada's investment regime has been further opened up through the Canada-United States Free Trade Agreement and subsequently the North American Free Trade Agreement.

The FIRA Period

In 1973, concerns over the extent of foreign ownership in the economy led Canada to enact the FIRA. This Act set out rules and procedures for reviewing foreign investment projects and established the Foreign Investment Review Agency (the "Agency") to administer the new policy. With a few exceptions, FIRA review was necessary for every acquisition and/or establishment of a new business in Canada by foreign investors. In order to receive approval, the foreign investor had to establish that the investment would be of significant benefit to Canada and to make detailed undertakings to that effect that were negotiated as part of the review process.

FIRA's procedures and penalties were specific, and the law provided for formal consultation. However, the process was criticized for its relatively high degree of confidentiality, which resulted in non-transparency, and for imposing onerous transactions costs on foreign investors.
Whether, and to what extent, FIRA increased the benefits of inward FDI from

the perspective of domestic factors of production or domestic consumers has not been definitively established. Owners of small Canadian businesses complained that the prices that foreign investors were willing to pay for such businesses decreased after the implementation of FIRA.[20] Available econometric evidence rejects the notion that FIRA used its discretion successfully to reduce the profitability of U.S. investment.[21]

As regards the impact of FIRA on inward FDI, there is some evidence that FDI was discouraged, but that the effect was likely modest. In particular, one available econometric study that examined the impact of FIRA on U.S. FDI into Canada found only weak evidence of a deterrent effect.[22]

The actual disposition of Agency review cases, however, is also relevant in this regard. Specifically, disallowed investments constitute prima facie evidence that foreign investors did not believe that the expected returns from their Canadian investments contained sufficient "surplus" to justify the undertakings being sought by the Agency. In effect, they constitute a lower-bound estimate of the adverse impact of FIRA on inward direct investment Over the period 1975-84, FIRA's disallowance rate was 7.0 percent.[23] Actual rejection rates would, of course, understate the adverse impact of FIRA on inward FDI if the flow of investments coming forward for review was reduced by FIRA.

In evaluating data from the FIRA regime, the difficult question arises about how to treat withdrawals of investment applications. On the one hand, withdrawals might be viewed as being equivalent to rejections. Specifically, in the course of the review negotiations, foreign investors may have realized that they would not earn profit surpluses sufficient to justify the undertakings sought by the Agency. On the other hand, withdrawals may have been precipitated by other developments in the business environment unrelated to FIRA. Most likely, withdrawals are explained as a mix of the two. In this regard, it is reported that around 40 percent of withdrawals in FlRA's early years were made in expectation of disallowance.

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[20] See Steven Globerman (1979).

[21] See Robert Thomas Kurdrle (1995).

[22] *ibid*

[23] See Safarian 1993, p.130. While seemingly modest in its absolute value, Canada's rejection rate was relatively high compared to the rate for Australia over the same period, i.e. 2.7 percent. Apparently, as many as one-third to one-half of all takeovers and about 25 percent of all proposed start-ups that were rejected by FIRA when first proposed were resubmitted in a modified form and approved. (Kudrle 1995) Such re-submissions should not affect the overall rejection rate for FIRA applications.

Investment Canada Act

The Investment Canada Act of June 1985 brought about a major re-orientation of policy towards inward FDI in Canada. In particular, notification replaced the review process in respect of: (a) establishment of new Canadian businesses or direct acquisitions of Canadian businesses with assets under $5 million; and (b) greenfield investments in "exempt" sectors. Exempt sectors cover most economic activities except for a few sensitive areas such as finance, telecommunications, energy and culture (publishing, film and music).

The Investment Canada Act was designed to be more encouraging toward inward FDI. However, the undertakings that were still imposed upon specific investment proposals imply that that the capture of economic rents continued to be a policy goal. The remaining restrictions on investments in sensitive areas such as the culture industries were designed to discourage inward FDI in those sectors and should be evaluated on a different basis.

The extent to which Investment Canada "interventions" have succeeded in transferring some economic rent from foreign investors to Canadians is difficult to assess. The fact that most proposals were treated fairly routinely suggests that Investment Canada saw little economic rent, on average, to capture. The relatively few proposals that were subjected to fairly protracted negotiations involved book publishing and distribution and foreign acquisitions of high technology companies, for which the rent capture motive was presumably not the main issue.

One available study which examines a number of case studies of foreign acquisitions of Canadian high-technology companies concludes that foreign acquirers generally paid a "fair" price for the acquired assets which can be interpreted as a price relatively close to the foreign investors reservation price.[24] In several cases, specific undertakings were agreed to by the foreign investor and publicly announced. For example, Institute Merieux agreed to spend $15 million over 10 years on research in Canada as a condition of approval of its merger with Toronto-based Connaught Bio Sciences. In one high-profile case, the federal government was criticized for selling the Crown-owned de Havilland company to Boeing at "too low" a price. In fact, de Havilland apparently never made money for Boeing, which subsequently sold its de Havilland investment.

As regards the impact on overall FDI inflows, no comprehensive review of the impacts of the Investment Canada regime separate from the FIRA regime exists. There were few complaints about Investment Canada's discouraging inward FDI, either directly, by rejecting reviewable proposals, or indirectly, by reducing the perceived profitability of investing in Canada, on the part of

[24] See Globerman.

foreign investors. Kudrle(1995) provides some indirect evidence that the replacement of FIRA by Investment Canada did contribute to a marginal increase in inward FDI, all other things constant.[25]

The Canada-United States FTA and NAFTA

The Canada-U.S. Free Trade Agreement (FTA) implemented in 1989 further liberalized the FDI policy regime for U.S. investors. Under the FTA, only direct acquisitions by U.S. investors valued at C$150 million or more were subject to review. U.S. companies were entitled to national treatment once established in Canada. The provisions prohibited U.S. investors from investing in Canada's cultural industries and existing ownership restrictions in Canada's energy, transportation and financial sectors were grandfathered.

The North American Free Trade Agreement (NAFTA), which came into effect in January 1994, further liberalized the Canadian environment for inward direct investment in several ways.[26] The national treatment provisions were strengthened for U.S. and Mexican investors. The NAFTA provisions embody a right of establishment and obligate the signing parties to accord investors of other signing parties treatment "no less favorable than it accords, in like circumstances, to its own investors with respect to the establishment, acquisition, expansion, management, conduct, operation and sale or other disposition of investments."[27] More importantly, the relevant NAFTA provision forces states (of the United States) and provinces (of Canada) also to grant national treatment to investors of the same signing parties.

Current Policy Environment

Following the series of liberalizing moves starting with the Investment Canada Act, the only major restrictions on inward FDI that remain are those on the sensitive sectors of energy, finance, telecommunications and the cultural industries.

For the energy sector, an important rationale for retaining tighter foreign ownership restrictions was the perception that rising oil prices would generate even larger economic rents to foreign investors. It was also thought that foreign investors were likely to reinvest a smaller share of retained earnings in Canada than domestically-owned counterparts.

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[25] Of course, this does not imply that Investment Canada's review procedures had no negative overall impact on inward FDI, just that the impact was "less negative" than FIRA's impact.

[26] See Graham (1994).

[27] North American Free Trade Agreement.

In the case of the telecommunications sector, the retention of restrictions was partly based on "industrial strategy" considerations. Specifically, this sector was seen as an essential component of an economy's industrial infrastructure and as the source of industrial "spin-off" benefits. It was thought that such benefits might be more fully captured if the infrastructure was domestically owned. Foreign ownership restrictions in broadcasting have traditionally been justified on the ground of cultural and political sovereignty.

Conclusions

Canada's experiment with thorough-going foreign investment controls through the FIRA for a substantial period of time and subsequent shift to an open investment regime provides an interesting case study as regards foreign investment policy. The overall impact on FDI flows has, however, been difficult to establish empirically due to the confluence of other events. Broadly speaking, FDI flows into Canada have been consistent with the overall economic conditions. However, it would appear that the FIRA policy may have dampened inflows somewhat while the subsequent opening-up through the Investment Canada Act had the opposite effect.

Canada's experience is also important in shedding light on the efficacy of investment rules in attaining some of the objectives that such policies have been framed to achieve.

In particular, academic review of the Canadian experience suggests that economic rent is difficult to identify and that private sellers of domestic assets are probably in a better position than governments to capture any such rent. Government efforts to leverage increased economic benefits from inward FDI through screening or review may also discourage inward FDI at the margin. This experience accordingly does not provide compelling support for investment restrictions based on rent-capture motivations.

Analysts have further concluded that the argument for restricting foreign ownership in sensitive sectors also appears to be unwarranted. Even if there are dissimilarities in behavior between foreign-owned and domestically-owned firms, the possible benefits of ownership restrictions are not viewed as outweighing the economic costs that are associated with policies that discourage foreign investment.

CHILE

During the last two decades, the Chilean economy has undergone a profound transformation. In particular, the shift from an import substitution development strategy to a strategy based on trade liberalization and export development has led to a significant change in Chile's international orientation. The strong growth in foreign trade that Chile has experienced in this period is in part

attributable to inward foreign investment. Accordingly, capital flows from abroad are seen as having provided a powerful impetus for economic expansion.

Historical Evolution

Until the 1970s, Chile's foreign investment regime had been relatively favorable to inward flows of capital. This situation radically changed when Chile acceded to the Andean Pact. Through Decision 24, promulgated in 1971, the Pact established a restrictive foreign investment framework which included a reduction of foreign participation in local companies, elimination of foreign capital in crucial sectors, and limits on profit remittance. The Pact also implemented an obligatory registration scheme for foreign investments with national agencies, and prohibited the granting of state guarantees for private credits, as well as access to long-term internal credits. Additionally, it established limits on technology contracts, and on the use of patents and brands, and provided incentives for transferring foreign enterprises to local ownership.

These restrictions were short-lived in Chile as, in 1974, it became one of the first economies in Latin America to eliminate barriers to the entry of foreign capital. The Andean Pact measures were removed and a new regulatory framework for foreign investment was established in the Foreign Investment Statute.[28] Under the framework Chile sought to establish clear, simple, and non-discriminatory rules for foreign investments and established the Foreign Investment Committee to deal with authorization and registration of foreign investments.

Between 1985 and 1991, through the foreign debt conversion program, established in Chapter XIX of the Compendium of International Exchange Regulations, more than US$3.5 billion entered the economy, primarily destined to the services and industrial sectors. This program was crucial in regaining foreign investor confidence after the disastrous effects of the debt crisis. However, with the increasing stability of the economy and the improvement in Chile's credit rating by international financial entities, Chilean external debt bonds reached such a high price in the secondary market that this instrument eventually fell out of use.

Current Policy Environment

The overall objective of Chilean foreign investment policy is to promote investment flows in order to: (i) deepen global links by penetrating export markets; (ii) increase access to advanced technologies through implementation

[28] This statute is commonly known as Decree Law 600, or DL 600.

of new processes and the use of more modern capital goods;[29] (iii) increase access to new administrative techniques and organizational practices to improve productivity; and (iv) improve access to financial resources in capital-intensive sectors such as mining and infrastructure.

The approach has focused on developing an attractive framework for foreign investment and maintaining stable economic conditions. Foreign investment policy has been fundamentally based on the principle of national treatment, subject to a limited number of exceptions in certain sectors. Foreign investors are subject to the same juridical regime as local investors.

The regime for foreign investments is established by the Foreign Investment Statute. In addition, foreign investment is subject to certain provisions in the Compendium of International Exchange Regulations of the Central Bank of Chile. Chapter XIV of the Compendium defines procedures of investment registration with the Bank. Since 1990, a series of bilateral Investment Promotion and Protection Agreements has also been developed which provide further protection for foreign investors.

The Foreign Investment Statute

The Foreign Investment Statute (the "Statute") establishes the legal provisions that regulate foreign investment in Chile. It deals primarily with direct investment but also governs portfolio investments by foreign individuals and corporations, including foreign capital investment funds, and Chileans residing abroad.

The Statute establishes a foreign investment as a contract between the investor and the State of Chile. The contract can only be modified with the consent of both parties. This provides a guarantee for the investor, since the State alone cannot modify the content of the contract, even by passing legislation. While a foreign investment has an indefinite duration, some of the benefits provided to investors under the Statute are subject to a time limit.

There are no percentage limits on foreign shareholdings in Chilean companies. Therefore, foreign investors can wholly own a subsidiary in Chile. In the case of companies with mixed local and foreign ownership, only the foreign shareholders enjoy the benefits established by the Statute.[30]

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[29] Foreign investment is the only means of technology transfer in the case of certain technologies, such as those that are company specific or require a company's expertise to be implemented properly.

[30] Invariable Value-Added Tax Regime and Customs Duty Regime for capital goods imported for the investment project.

International Exchange Regulations

Chapter XIV of the Compendium of International Exchange Regulations defines the general regulations related to investments, capital contributions, and foreign credit. For capital contributions that are not external credits (i.e., equity investments), Chapter XIV establishes the following provisions: (i) the investment must be authorized by and registered with the Central Bank of Chile (the actual procedure is carried out through the banking system, prior to the investment); (ii) the capital transferred into the economy must be converted through the Formal Exchange Market, at the exchange rate which is freely agreed upon; (iii) the profits generated by the investment can be repatriated at any time, without any restrictions and; (iv) the original capital investment itself can be repatriated but no earlier than one year following the date of the investment. Companies that are constituted by the capital investments channeled through Chapter XIV are subject to local regulations and are excluded from the benefits included in the Foreign Investment Statute.

Bilateral Investment Promotion and Protection Agreements

In 1990, Chile initiated a negotiation process of bilateral Investment Promotion and Protection Agreements in order to further strengthen and improve the juridical conditions for foreign investment. These accords, like the local regulations, have been based on the principles of non-discrimination, most favored nation status, and the right to appeal decisions. The agreements also: (i) guarantee property rights as well as requiring legal justification and providing for appropriate indemnification in case of expropriation; (ii) ensure the free transfer of funds;[31] and (iii) grant investors access to non-commercial risk insurance that international (MIGA**)** and governmental (OPIC) agencies offer, with reasonable premiums.

Trends in FDI

Since the mid-1980s, the inflow of FDI to Chile has been relatively stable and has reached significant levels, in some years exceeding six percent of GDP. These flows have contributed significantly to gross capital formation in the economy, in both the public and private spheres. In recent years, FDI has represented more than 20 percent of the resources destined to capital formation

In the 1990s, the Foreign Investment Statute has become the primary instrument for foreign direct investment. Of the US$15.5 billion of foreign investment made under the provisions of the Statute between 1974 and 1995, 68 percent occurred in the last six years. These investments have been mostly oriented toward the processing and export of natural resources, and to the services sectors, particularly telecommunications. They have fueled the process of economic growth, generating expansionary effects on

[31] Including in areas such as repatriation of capital and profits, expenditure payments, credits, export and import payments, etc.

productive capacity, employment, and exports. In the last decade, the number of economies whose firms have invested in Chile has also increased, reaching a total of 64 toward the end of 1995. A further US$1.6 billion worth of foreign investment has entered Chile in the last five years under the provisions of Chapter XIV of the Compendium of International Exchange Regulations.

Conclusions

The Chilean experience with foreign investment clearly demonstrates that FDI is crucial for a small economy that seeks to establish itself in the global economy. Foreign direct investments captured by Chile in the last decade have helped strengthen the economy's insertion into international markets. The presence of foreign companies in the most dynamic sectors of the economy has engendered a process of dynamic expansion and has facilitated the incorporation of new technologies and production and organizational practices. This process has elevated the efficiency and productivity level of the Chilean economy as a whole.

The Chilean case also shows that a "business-friendly" political-economic environment and a stable investment policy regime with non-discriminatory regulations that provides security and guarantees for the investor are indispensable for capturing foreign investment flows. Political stability and a healthy economy, which grows at a stable rate for a good period of time, are of course, fundamental factors for the investor.

Finally, Chile's case indicates that the development of an environment favorable to foreign investment not only involves internal efforts, but also efforts at the international level. This is especially important for an open economy that has reached a high degree of globalization. In this regard, a well-developed strategy of integration into external markets and an active policy of economic and trade negotiations at the bilateral and multilateral levels can generate a more stable environment for the flows of goods, services, and factors.

KOREA

Historical Evolution

Korea's foreign investment policy has evolved steadily on a step-by-step basis over the past several decades from an import-substitution industrialization strategy in the 1950s to a progressively more open regime. Roughly coincident with the shift towards an external, export-led growth orientation, Korea entered a period of sustained high growth that transformed it from one of the world's poorest economies in the 1950s to an industrialized economy and member of the OECD in the 1997.

A large portion of this growth was financed by external borrowing rather than FDI and, overall, FDI played a far smaller role in Korea's development than it did in other Asian economies. This reflected the Korean government's concern that an open investment regime might result in the economy becoming dominated by foreign firms. Moreover, the government wanted to channel capital resources into industries that it perceived were vital to long-term economic growth.[32] With this strategy in mind, the government preferred foreign borrowing since it brought the resources under its direct control.

While the development of Korea's economy is accordingly primarily associated with the domestically-controlled *chaebol,* foreign-owned firms brought key technologies into the Korean economy and helped develop strategic industries such as semiconductor and pharmaceuticals. Moreover, as the economy reached bottlenecks in its growth due to inadequate technology, the Korean government progressively moved towards a more receptive environment for FDI.

The evolution of Korea's policy towards FDI can be divided into three periods: institutionalization (1960-1983), liberalization (1984-1993), and further liberalization (1994 to the present). The features of this progressive liberalization are described below.

Institutionalization: 1960-1983

In the 1950s, Korea's development policy was based on an industrial policy aimed at import-substitution. Development was financed largely by American aid. In the late 1950s, however, a set of chronic problems normally associated with import substitution policies arose in Korea: a lack of domestic demand, low levels of manufactured exports, and aggravated balance of payments. Korea also faced the challenge of earning foreign exchange.

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[32] Kim and Wang (1996), p. 10.

To address these problems, policy shifted towards emphasizing export-led growth while still promoting import substitution in many sectors. Significant economic reforms were required to shift the incentive system toward a more outward-looking system.

As part of the overall policy shift, the Foreign Capital Inducement Act (FCIA) and related decrees were promulgated. The FCIA has since been the primary law regulating inward direct investments in Korea. The policy objectives of the FCIA were to attract FDI to ease balance-of-payments difficulties, supply needed technology and expertise, and open the market channels required for an outward-looking development strategy.

However, at this stage Korea's economic development was primarily based on outward-oriented strategies executed by domestic firms. Thus, while foreign investors were welcomed in the light manufacturing export sector, especially in the two Free Export Zones at Masan and Iri, it was discouraged in sectors still targeted for import-substitution.

Liberalization: 1984-1993

A major change occurred in the early 1980s as the Korean economy began to experience serious difficulties due to the negative effects of the Heavy and Chemical Industry Promotion Plan of the 1970s. A new industrial strategy was viewed as necessary to promote the evolution of Korea's industrial structure towards technology- and skill-intensive areas. FDI was viewed as a key component of this technological upgrading.

Consequently, a fundamental FDI policy shift occurred in 1984. The Korean government replaced the positive list system with a negative list system in which all industries not listed qualified for automatic FDI approval. This increased the percentage of manufacturing subsections open to FDI.

The move towards a more liberal foreign investment regime gained momentum. In December 1989, various performance requirements imposed on foreign controlled firms, such as export ratio, local content, and technology transfer requirements, were abolished. In 1991, a notification procedure was introduced, whereby FDI in designated categories could be processed by notification as long as the investment met pre-announced criteria. The main objective of these modifications was to bring about a more transparent FDI policy that could attract more foreign capital.

Further Liberalization: 1994 to the present

With the conclusion of the Uruguay Round and the deepening integration of the world economy, the Korean economy has been faced with the challenge of further upgrading its industrial structure and enhancing its international

competitiveness. This has led to a further series of liberalization measures.

First, in 1994, notification procedures for FDI were delegated to foreign exchange banks. This reduced the processing period for notification from 20-30 days to no more than three hours. The processing period for applications subject to approval was also reduced considerably. This was accomplished by transferring the approval authority from the Ministry of Finance and Economy to other related ministries.

In 1995, the Korean government established a One-Stop Service System for FDI in Seoul and other provinces. This service system was intended to resolve grievances of foreign-controlled firms, arrange linkages to joint venture partners, and provide comprehensive information and administrative services.

In 1996, the Korean government further announced a Five-Year Foreign Investment Liberalization Plan. The new plan is intended to expand the scope of FDI liberalization by reducing the number of restricted sectors -- from 57 as of 1996 to only 18 by 2000. Of the latter, 14 will be in the services sector, three in the primary sector, and only one in manufacturing.

Current Policy Environment

In December 1996, the Korean government amended the Foreign Capital Inducement Act into the "Act on Foreign Direct Investment and Foreign Capital Inducement." The new Act removes a number of restrictive measures and makes a number of changes to align Korea's FDI system with international norms and standards.

This law took effect in January 1997 and was accompanied by Presidential Decrees, working rules, enforcement measures, and the Regulation on FDI, which provides the necessary framework for enforcement. Notable legal and policy changes include the following.

(i) The Notification System:

Previously, a foreign investor was required to obtain an approval from the pertinent ministries in partly liberalized business sectors. This approval system has, in principle, been replaced by a notification system. Currently, a foreign investor can make an investment with a simple notification (except in the case of acquiring outstanding stock). To be more specific, greenfield investments no longer require approval.

(ii) Allowance of Mergers and Acquisitions

Previously, FDI was allowed only for greenfield investments, such as the establishment of a foreign invested enterprise or the acquisition of newly issued shares. However, foreign investors, in principle, are now allowed to acquire control of Korean companies with the consent of the board of directors of the targeted company (i.e., through "friendly" mergers and acquisitions).

(iii) Long-term Loans

Prior to 1997, foreign loans were not treated as FDI. However, the new law expands the definition of FDI to include loans with maturities of five years or longer that have the purpose of establishing lasting economic relationships with an enterprise by exercising effective influence on its management.

(iv) National Treatment

Unless otherwise specified, a foreign investor and a foreign invested enterprise are to be accorded national treatment with respect to its business conducted in Korea. Tax exemptions or reductions pertaining to Korean firms are also equally applicable to foreign investors or foreign invested firms.

(v) Guarantee of the Right to Repatriate Funds and Foreign Investors' Property

With respect to the dividend income arising from stock or shares acquired by a foreign investor, the proceeds from the sales of stock or shares, the principal amount and commission received pursuant to a loan or public loan agreement, and the price received pursuant to technology inducement contract, the right to repatriate such funds is guaranteed in accordance with the contents of authorization, accepted notice, or agreement as of the time when such repatriations are to be made. The property rights of a foreign investor or a foreign-invested enterprise are also protected pursuant to those laws.

(vi) Incentives for FDI

Tax incentives are provided for foreign invested enterprises that bring in technology deemed necessary for achieving an advanced industrial structure or are located in a Free Export Zone. In view of the high cost of land, which has been regarded as one of the major deterrents to foreign investment in Korea, the government also announced in January 1997 that it will provide rent exemptions or reduction for up to 20 years when certain foreign invested enterprises locate in state-owned industrial parks.

(vii) Service Improvements

In April 1997, the One-Stop service system established in 1995 was reorganized

into the "Investing in Korea Service Center." This Center handles all the necessary procedures for FDI, such as investment applications, counseling, handling of grievances, and matters relating to factory construction. The Korea Trade-Investment Promotion Agency (KOTRA), under the Ministry of Trade and Industry, also assists prospective foreign investors in selecting proper factory sites and in recruiting local business executives.

Trends and Patterns of FDI in Korea

During the period of institutionalization (1960-1983), FDI played a very minor role in Korea's industrialization.[33] However, following the initial round of liberalization beginning in 1983, foreign direct investment into Korea has increased dramatically, from an annual average of US$500 million to over US$1 billion.

The robust growth of inward FDI into Korea during the latter half of the 1980s is attributed both to Korea's booming domestic economy and to improved market access for foreign investors following the implementation of foreign investment liberalization policies.

After peaking in 1988, however, inward FDI declined. This decline has been attributed to the following factors:

- frequent labor disputes and the ensuing wage hikes in the late 1980s made Korea less attractive as a source of low-cost labor;
- rising real estate prices and difficulties of foreign investors in raising funds in domestic financial markets worsened the business environment for foreign investors; and
- Korea's foreign investment climate became relatively less attractive than those of Southeast Asian economies after the second half of the 1980s.

Foreign investment inflows improved again in 1994, totaling US$1.3 billion and equaling the previous peak level. It increased further to US$1.9 billion in 1995, and US$3.2 billion in 1996. This climb is attributed mainly due to further liberalization adopted in this period, including the expansion of business categories eligible for foreign investment and the simplification of procedures. Yet while FDI has increased over the years, quantitatively it has played a negligible role: even in 1996, a strong year for inflows, FDI accounted for less than one percent of total domestic fixed capital formation in Korea.
As regards the sectoral distribution of FDI inflows, the manufacturing sector was the largest recipient (averaging over 60 percent of total inflows) until the mid-1990s, when FDI into the service sector increased significantly, reaching

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[33] See Westphal, Rhee and Pursell (1981). Koo (1985) also pointed out that the effects of foreign firms in improving sectoral efficiency in Korea during 1960s and 1970s appear to have been insignificant.

60.5 percent in 1994-95. However, FDI into the manufacturing sector restored its previous share in 1996, taking 60.3 percent of total FDI.

In the manufacturing sector, the distribution of inward FDI has shifted towards more investment in the heavy and chemical industries. FDI into labor-intensive and low-technology industries such as textiles and clothing was significantly reduced recently due to the rise in labor costs. Instead, electric and electronics sectors as well as transport equipment are receiving more foreign investments due to the development of related industries.

The composition of the service sector has also changed. The share of FDI into the hotel industry declined from 71 percent in 1962-86 to 18.2 percent in 1996. Meanwhile, FDI into wholesale and retail trade, financing, and insurance increased in share during the 1990s.

Conclusions

Korea's FDI policy has been characterized by gradual but progressive liberalization as the economy has industrialized. A key aim of policy over the years was to foster technology transfer while at the same time controlling foreign investment to allow domestic companies to mature.

As a result of this policy, FDI has played only a minor role in Korean development, at least in a quantitative sense. However, despite its quantitative insignificance, FDI has arguably had a significant impact on the Korean economic development qualitatively.

Technology transfer continues to be a major goal of public policy and the government provides incentives targeted at high-tech businesses. However, more recently, public policy has shifted towards also promoting FDI to enhance competition.

As a new member of the OECD, Korea has been liberalizing its foreign direct investment regime in accordance with the principle of the OECD capital movement liberalization. This process will be given further momentum when the Multilateral Agreement on Investment (MAI) is launched in 1998. At that time, government policy on FDI will be, in principle, fully liberalized with foreign investors doing business on a level-playing field and the Korean economy moving closer being to a "contestable market."

PHILIPPINES

Historical Evolution

The investment regime of the Philippines has evolved over time in line with the Philippine's economic condition and development strategy. Immediately

following World War II, the Philippines adopted the strategy of import substitution industrialization as a response to severe balance-of-payments problems.

Owing to the shortage of government resources and domestic savings, FDI was considered desirable. However, in line with the industrial strategy of the time, it was directed towards import substituting industries by means of tax exemptions, favorable credit terms, market protection and so forth.

The first set of incentives were put into effect through the Republic Act (R.A.) No. 35 of 1946 to encourage industrial development as part of the post-war reconstruction effort. Subsequent legislation broadened the incentives, and policies were adopted to channel funds into preferred industries.

This industrialization strategy, however, ultimately proved to be constrained by the limited size of the domestic market and, as a result, by the end of the 1950s, the once-promising growth in manufacturing became sluggish.

From 1962 to the end of the 1980s, the government took a series of actions to reform the investment regime, with a general trend towards investment promotion and liberalization. Initiatives included removal of controls on foreign exchange, relaxation of the foreign capital limit, provision of incentives to export-oriented and designated ”pioneer” industries, reduction of trade barriers, and simplification of the application procedure.

In 1962, the government removed all controls on foreign exchange transactions. This resulted in a devaluation of the currency, which in turn reduced import demand and increased export competitiveness in traditional export products. The manufacturing industries set up in the 1950s were adversely affected by this turn of events as they were largely oriented towards the domestic market and depended heavily on imported inputs. This led to high tariffs being imposed to restore their competitive position. One effect of this combination of high tariff protection and liberalized foreign exchange was to attract foreign investors, mostly Americans in joint ventures with Filipinos, into import substituting industries.

In 1967, the Investment Incentives Act had important implications for FDI as it encouraged foreign investors to establish "pioneer" enterprises in capital, resource-based sectors.[34] Full foreign participation was allowed in areas

[34] The Investment Incentives Act of 1967 also created the Board of Investments (BOI), which was put under the office of the President. The BOI has been the primary moving force in setting the investment climate in the Philippines through its power to formulate investment policies. Moreover, it has played a vital role in the direction of Philippine industrial enterprises as it has been principally involved in preparing the Investment Priorities Plan and in defining "pioneer" and "non-pioneer" industries.

declared as "preferred pioneer" in the Investment Priorities Plan (IPP) and in "preferred non-pioneer areas" where at least 70 percent of total production was exported. In respect of other "preferred non-pioneer areas," which were generally considered to be within the capability of local entrepreneurs, foreign investments were limited to 40 percent of total capital stock.

Foreign investment was also allowed in many enterprises not listed in the IPP provided the total foreign ownership in such enterprises did not exceed the limit set by mandate of the constitution or by specific laws. These enterprises were usually categorized as Filipino, since foreign equity ownership was limited to no more than 40 percent.

Various laws were adopted over the years to stimulate investment or direct it into specific areas. These included the Exports Incentives Act, the Agricultural Investments Incentives Act, and the Foreign Business Regulations Act, which gave the BOI supervisory authority over foreign investments. In 1981 the three laws together with the Investment Incentives Act and their corresponding amendments were consolidated into what was known as the Omnibus Investments Code. This code harmonized and clarified the laws pertaining to investment for domestic and foreign investors alike.[35]

Notwithstanding these changes in policy, the annual gross inflow of FDI remained erratic and prior to 1987 did not exceed US$225 million in any year. A significant rise in FDI in the Philippines occurred from 1987 to 1990, but this was largely attributed to debt-to-equity conversions. Indeed, withdrawal of capital by foreign investors during this period resulted in negative net FDI.

In light of this, there was a need to reshape further the investment regime and actions to formulate appropriate macro-economic policies. The Aquino administration did indeed seek to liberalize the economy in the second half of the 1980s by removing import restrictions, lowering tariff levels and easing foreign exchange controls. However, domestic resistance to the planned liberalization slowed the momentum.

Accelerated Reforms in the 1990s

This situation changed in 1990 with the implementation of an economic stabilization program supported by a stand-by credit facility from the

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[35] The 1981 Code was subsequently replaced by the 1987 Omnibus Investments Code which further consolidated investment incentives (except those given to the banks and other financial institutions) under a comprehensive package that included not only BOI incentives, but also incentives administered under the Export Processing Zone Authority Act, the Tourism Development Incentives Act, and the Agricultural Development Incentives Act

International Monetary Fund. This paved the way for reforms in trade and investments that were subsequently expanded by the Ramos administration.[36]

One of the most significant measures made just before the end of the Aquino administration was the passage of the Foreign Investment Act of 1991. The enactment of this law was considered a turnaround from the economy's protectionist policies as it liberalized investments by allowing 100 percent foreign equity in a domestic or export enterprise as long as its activity did not fall under a negative list. Moreover, the law simplified the procedure for the entry of foreign investments in the Philippines by requiring foreign investors to register only with the Securities and Exchange Commission (SEC), unless they are seeking incentives from the BOI.

Since 1992, a more comprehensive market-oriented approach to economic structural reform has been followed. Under this approach, many key sectors, including the downstream oil, shipping, domestic and international aviation, telecommunications, and mining industries, as well as infrastructure (through Build Operate Transfer and Build Operate Own approaches), to name just a few, have been opened to the private sector, including to foreign investors. Ten foreign banks also were initially allowed to open branches.

As part of the overall reforms, foreign exchange controls have been eased and foreign investors have been provided with insurance against political risks as well as improved assistance and services.

The Impact of FDI Liberalization

Foreign equity investment in the Philippine grew by 136 percent from the 1990-1992 level of US$2 billion to US$4.7 billion in 1993-1995. As a matter of fact, almost two-thirds of the total foreign investment accumulated since 1968 came in during the last five years. In addition, BOI-approved investments have accumulated to about US$66.3 billion as of the first half of 1996.

The surge of FDI in the 1990s suggests a positive impact from FDI liberalization, although the impact of the changes in rules governing foreign investment cannot be clearly separated from the impact of the overall package of economic framework policy reforms. The surge of FDI also appears to have been associated with an increase in non-traditional exports such as the electronics industry, which, within a short span of time, has become a leading industry.

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[36] *The Phiippines' BIGuide*, p.15.

CHINESE TAIPEI

It is believed that inward (FDI) has played an important role in Chinese Taipei's successful export-oriented strategy and rapid economic development.

Historical Evolution

As early as 1954, the need for foreign investment was perceived, resulting in the promulgation of the Statute for Investment by Foreign Nationals. It was followed in the next year by the enactment of the Statute for Investment by Overseas Chinese. The principal objective of these pieces of legislation was to define the permissible forms of investment and to guarantee the integrity of foreign investments.

Under these two statutes, foreigners and overseas Chinese could establish a new enterprise with sole or joint capital ownership. They were also permitted to remit 15 percent of their investment capital two years after the commencement of the business operations. Local content requirements were imposed on the products of some specific industries such as autos, televisions, and machinery to foster local industry.

Nonetheless, inward FDI in the 1950s remained modest as the combination of an import substitution policy supported by high tariffs and an overvalued exchange rate resulted in an environment that was not conducive to attracting a large amount of foreign capital.

Export Oriented Investment Strategy

In 1960 Chinese Taipei started its export-oriented strategy. The primary stimulus for foreign investment (and for local investment as well) was provided by the 1960 Statute for Encouragement of Investment (SEI). This statute offered a comprehensive tax incentive program to foreign investors. In addition to these provisions provided in the SEI, the inflow of foreign investment was further stimulated by reform of monetary and fiscal policies, trade liberalization, and improved infrastructure.
Aside from tax incentives enbodied in SEI, direct foreign investment was given further encouragement in 1966 with the establishment of the first export processing zone (EPZ) in the vicinity of Kaohsiung. An EPZ was a combination of a free port, a free-trade zone, and an industrial park. Within the export processing zone, investors could establish and operate factories, undertaking the manufacturing, processing, and assembly of goods for export. Overall, EPZs were considered to be quite successful. For instance, in the first 10 years, EPZs attracted US$208 million in FDI, generated US$2.7 billion in exports, created 78,000 jobs, and introduced many technologies not available outside the zone.

The inflow of foreign capital, however, was not confined to use by industries in the export processing zones. Many foreign investors also found it favorable to undertake manufacturing activities in other areas of the island. In fact, the

government established a number of industrial parks on the island where private enterprises, foreign or local, could get assistance from the government for the acquisition of land and the provision of transportation and other public facilities.

In principle, Chinese Taipei's policy toward foreign direct investment in the 1960s evolved in two distinct stages: First in 1960, trade policy was liberalized and direct incentives in the form of tax concessions were granted to foreign investors; then in 1966, with the establishment of export processing zones, investors were exempted from virtually all trade restrictions and provided with an adequate infrastructure at reasonable costs. The major policy reorientation in 1960 led to a dramatic upward shift in the rate of FDI in Chinese Taipei.

Growing Emphasis on High Technology

Chinese Taipei's policies toward foreign investors continued to be liberalized in the 1970s. With light manufacturing industries well established and the export of labor-intensive goods rapidly expanding, Chinese Taipei gradually turned to the manufacturing and export of more sophisticated products. To develop industry at an advanced level, however, required a large amount of capital which could not be adequately supplied from domestic sources alone. Realizing this need, the government of Chinese Taipei vigorously implemented the policy for encouraging foreign investment. The Statute for the Encouragement of Investment was revised in 1970 to allow investors to opt for accelerated depreciation allowances in place of a five-year tax holiday. In addition, the statute was also revised by adding provisions to encourage merger and R&D activities. This more or less reflected the fact that Chinese Taipei had started to develop of larger-scale and more capital-intensive industries.

The adoption of an export-oriented strategy, accompanied by appropriate liberalized investment policies, led to the rapid growth of the economy of Chinese Taipei. The average annual growth rates in the 1960s and 1970s were 9.4 percent and 10.0 percent respectively, much higher than in most developing economies. Owing to this rapid economic growth, the levels of average income and savings were raised, the problems of capital and foreign exchange shortages were lessened, and labor was no longer in excess supply. Consequently, the development strategy was changed at this point to emphasize the promotion of technology-and capital-intensive industries. The SEI was further modified. In addition to tax concessions and accelerated depreciation, investment tax credit was included in the statute.

Moreover, perceiving that the successful development of high technology industry is pivotal in strengthening international competitiveness, the government of Chinese Taipei decided to establish a science-based industrial park (SBIP) to promote technology-intensive industries. In 1979, the Statute for the Establishment and Administration of a Science-Based Industrial Park was enacted, followed by the first established park in Hsinchu City in 1980. The basic concept of the SBIP was to create a

favorable environment in a suitable location with proper incentives systematically to absorb advanced foreign know-how and human resources. The statute mandated that the SBIP administration carefully select the types of industries to be introduced into the parks. Generally speaking, the selected industries should be relatively new, their investment plans should be consistent with the domestic industrial development objectives, and they should employ substantial domestic skilled labor. In order to assure the healthy development of the SBIP, in addition to tax incentives, the Chinese Taipei government also provided financial assistance and R&D grants to firms in the SBIP to undertake investments and pioneering research projects.

Supported by the above-mentioned efforts of the government, in its first 10 years, the SBIP successfully accomplished its goals by attracting more than 100 high-tech companies -- mainly those making personal computers and peripherals, integrated circuits, and telecommunications and optoelectronics equipment -- with more than 20,000 employees. The sharp appreciation of the NT dollar and other concurrent changes in Chinese Taipei in the late 1980s did not slow down the development of the SBIP, and in the second half of the 1980s, the SBIP still enjoyed phenomenal growth.

Ensuring External Competitiveness

Since the late 1980s, the economic situation in Chinese Taipei has changed again. The appreciation of the NT dollar, together with skyrocketing wages and land prices, resulted in a loss of competitiveness for many domestic enterprises. To enable companies to adjust to such a rapidly changing environment, the government of Chinese Taipei had to adjust its policies accordingly. First, it gradually lifted restrictions on outward direct investment from Chinese Taipei. The restraints on foreign exchange were removed and procedures for approval of outward direct investment were simplified. As a consequence, Chinese Taipei's outward direct investment has increased considerably since the late 1980s. In addition, owing to diminishing political tensions between China and Chinese Taipei, and the adoption of more liberalized policies towards China, Chinese Taipei also became an important source of external investment in China.

At the same time, the government of Chinese Taipei continued to modify its policy regarding inward FDI. Specifically, policies towards FDI in Chinese Taipei became more transparent, with the enactment of a negative list to append to the Statutes of Investment by Overseas Chinese and Foreign Nationals in 1990. Essentially, there were two categories on the negative list, prohibited and restricted categories. Prohibited industries are those industries in which neither foreigners nor overseas Chinese are allowed to invest, such as crops, some chemical and machinery products, and transportation. Restricted industries are those having special prescriptions on investment by foreigners and overseas Chinese, such as limitation on foreign ownership. Industries in this category are mainly in the mining, insurance and banking sectors. Despite these restrictions, a broad range of industries became open to foreign investment generally.

Furthermore, in order to maintain economic growth and accelerate technology upgrading, it is imperative for the government of Chinese Taipei to modify further the SEI. In fact, the statute was phased out in 1990, and replaced by the Statute for Upgrading Industries. The principal characteristics of the new statute were that it shifted the industry-specific preference to functional promotions, and investment tax credit was made the chief incentive for investment. The scope of investment activities eligible for investment tax credit included automation of production, pollution control, research and development, personnel training, and the creation of internationally accepted product brands. Promulgation of the Statute for Upgrading Industries showed that the government's main concern was to induce appropriate, rather than abundant investment.

Regional FDI Strategy

Investment policies in Chinese Taipei have been further modified in the 1990s. Investment principles embodied in some multilateral agreements, for instance, those of APEC, the OECD and the WTO, have been and will be taken seriously within the process of investment rule-making by Chinese Taipei. In addition employing investment policies to promote Chinese Taipei as an "Asia-Pacific Regional Operations Center" (APROC) for foreign companies has become a key objective of the government.

Generally, the APROC plan, which calls for macroeconomic adjustment to facilitate freer flow of goods, services, funds, human resources and information, has been and will be implemented by continuously amending or enacting laws and regulations in the future. As it aims at creating an internationalized and liberalized macroeconomic environment, the APROC plan is basically in line with the goals of WTO and APEC. The plan calls for macroeconomic adjustment to facilitate freer flow of goods, services, funds, human resources and information. In order to achieve these goals, the government of Chinese Taipei announced five basic principles in April, 1995 to guide the further economic development of Chinese Taipei. These principles included focusing primarily on competition policy (instead of industrial policy); redefining government's role as an umpire (instead of a player) to maximize private participation; adopting a reporting system in lieu of an approval system; providing customer-oriented service in public matters to enhance efficiency; and ensuring policy transparency to delimit the purview of government responsibility.

Six specific operations centers, which have the most development potential based on Chinese Taipei's comparative advantages, have been designated for development. They are manufacturing, sea transportation, air transportation, financial services, telecommunications, and media centers. Each center will require a wide range of hardware and software construction projected to take place in three phases:

Phase I (1995-1997): priority to be accorded to the adjustment of laws and

regulations, and to small-scale building or facilities improvement tasks;

Phase II (1997-2000): the goals are to expand the scale of specific operations centers and make further adjustments to the economic structure; and

Phase III (from 2000 onward): the aim is ultimately to liberalize the economy fully, complete major infrastructure projects, and solidify Chinese Taipei's position as a business operations center.

Institutional and regulatory reforms, which have to be completed within one to two years, are a top priority of the APROC plan. Since the APROC plan is mainly a re-engineering project, amendment or enactment of laws and regulations is the appropriate initial focus of attention. According to a preliminary study, implementation of the APROC plan will require the amendment or enactment of some 40 laws and 125 regulations in the future.[37]

[37] See Coordination and Service Office for the Asia-Pacific Regional Operations Center, 1995, "*Implementing the Asia-Pacific Regional Operations Center Plan: From Aspiration to Action",* Council for Economic Planning and Development, Chinese Taipei.

Chapter 3

SECTOR CASE STUDIES

This chapter presents case studies on the following sectors: semiconductors, retail trade, telecommunications, and financial services. The case studies focus on the consequences of liberalization of investment rules on market competition and local industry structure, productivity growth, consumer benefits, etc.

SEMICONDUCTORS

The semiconductor industry is one of the high-tech industries in which multinational firms are active. Foreign investment in the industry has a long history, dating from the early age of transistor production to the most recent wafer fabrication of sophisticated integrated circuits (ICs). The semiconductor industry is characterized by contrasting factor intensities in different stages of production. The design stage is skill intensive, the fabrication stage is capital intensive, and the assembly and testing stage is labor intensive. Therefore, ever since the production of transistors began, semiconductor firms have been active in exploiting an international division of labor by making direct foreign investment around the world.

The East Asian Experience

In the APEC region, American semiconductor firms have been the most active investors. Both the transistor and the IC were invented in the United States. American firms started FDI in the 1960s by locating some assembly and testing activities of transistors and ICs in Chinese Taipei, Korea, Singapore, and Hong Kong. Some Japanese firms followed suit in the 1970s. Except for Hong Kong, the other three host economies all developed a major semiconductor industry in the 1990s. In this chapter, we look at how multinational firms contributed to the development of the local semiconductor industry in Chinese Taipei and Korea and how government policies made a difference.

Virtually all multinational firms investing in assembly and testing of semiconductors established overseas subsidiaries with 100 percent ownership. These subsidiaries are secluded from the rest of the local economy in that they take semi-finished products from their parent firms and ship them back after assembly and testing. Transactions take place within intra-firm markets, and local firms have little chance of interacting with these multinationals. There may be technology spill-overs, and indigenous firms may establish similar operations in assembly and testing, but large semiconductor firms often have their own assembly and testing units, leaving independent local emulators little

room to penetrate into this market. In the early stages, multinational firms also had little interest of establishing overseas fabrication facilities because this type of venture is capital intensive and risky. The economies hosting assembly and testing operations initially lacked the comparative advantage in capital cost and skilled labor to handle the complicated IC fabrication process.

Therefore, host economies that want to establish local semiconductor industries have found it necessary to have indigenous firms enter the fabrication stage of IC production. Capital can be fostered domestically through policy interventions but technology needs to be imported where leading semiconductor firms are the only sources. Ruling out the possibility of FDI, major semiconductor firms are still willing to license technologies especially those out-moded ones. Chinese Taipei and Korea sought technology licenses from American semiconductor firms. In fact, in both economies the first licensing contract was entered into by government-owned research institutes established to acquire and propagate IC technologies. The initial transfer of technology formed the base of the first commercial operation in the IC industry, which served as the foundation for further skill acquisition and reproduction.

In addition to technology licensing, attracting and employing veteran technicians from the advanced economies has also been essential to the rapid development of the semiconductor industry in catch-up economies. In Chinese Taipei, the government created economic opportunities for veteran technicians originally from Chinese Taipei to return and establish their own business ventures. Korea, large Korean conglomerates attracted veteran technicians with lucrative pay. Veteran technicians bring with them not only technologies but also connections to the international markets.

To aid the skill accumulation, both economies also spent substantial educational resources to train local engineers. Local engineers and veteran technicians hired from overseas gradually form a “critical mass” of skills needed for the industry to take off.

In both Chinese Taipei and Korea, local IC manufacturers depended on export markets for expansion. They gradually moved up the technology ladder and narrowed the technology gap with the industry leaders. Taking advantage of lower labor costs and sometimes also lower capital costs, local manufacturers became more and more competitive in the world market as they moved a long the learning curves. Only at this stage did multinational firms find these economies attractive for investment in fabrication facilities. When multinational firms invested in fabrication, they were likely to choose the joint-venture mode rather than fully-owned subsidiaries. This implies that the investment at this stage was driven by a risk-diversification motive rather than a desire to create an internal market. When the host economies reached this stage of development, FDI by multinational firms was an internationalization process of linking the host economies to the rest of world, rather than an exploitation of low-cost labor in the host economies.

Chinese Taipei's Experience

The development of Chinese Taipei's semiconductor industry illustrates an industrial development strategy shaped by international market forces but going beyond the principle of an international division of labor. Through a concerted effort by government, private businesses and research institutes, Chinese Taipei society has created and accumulated the human capital essential to the development of its semiconductor industry. Once the stock of human capital reached a threshold point, the industry exploded and now attracts resources from all directions, including foreign economies. The conventional strategy of developing an infant industry by trade protection has been abandoned in favor of governmental assistance in acquiring technologies and cultivating skills that are semi-public goods. Foreign investment has been used to accelerate the development process but never relied upon as the major vehicle for development. Domestic market demand is exploited to support the growth of the industry, but the exploitation is always in conformity with market discipline.

In 1979, Chinese Taipei fabricated its first (IC). In 1995, the IC industry in Chinese Taipei manufactured nearly NT100 billion (approximately US$3.7 billion) worth of products. Before 1987, there was no foreign participation in the IC-fabrication business in Chinese Taipei, although there were several assembly and testing operations; by 1995 there were many major international semiconductor firms seeking to establish foundries in Chinese Taipei.

The purpose of this section is to examine the factors that have contributed to the dramatic evolution of Chinese Taipei's semiconductor industry, with particular focus on the role of foreign investment in the course of development.

The Role of Multinational Firms

Chinese Taipei's semiconductor industry started with multinational firms. The industry was inaugurated in Chinese Taipei by Philco of the US, which started assembling transistors in 1966 and was later acquired by General Instrument. Philco was located in Chinese Taipei's first export processing zone in Kaohsiung, which meant that all products had to be exported. Philco was apparently attracted by low-cost labor in Chinese Taipei. Similar actions were taken around the same time by Fairchild and Motorola in South Korea, and Texas Instruments, National Semiconductor, and Fairchild in Singapore, all aspiring to take advantage of the international division of labor (Henderson 1989, p.51). This first semiconductor operation in Chinese Taipei came only eight years after the introduction of the world's first IC chip by Texas Instruments in 1958. Early exposure to this fast-evolving industry has proven to be beneficial to these economies, as Chinese Taipei, Korea and Singapore have all developed sizable semiconductor industries in the 1990s.

General Instrument's path-breaking operation in Chinese Taipei was followed by Philips in 1969, Texas Instruments in 1970, RCA in 1971, as well as other

multinational firms in later years (Hsiao 1995). All foreign-owned operations were concentrated in assembly and testing, however. There was little incentive for multinational firms to set up fabrication lines in Chinese Taipei because such operations entail a large capital commitment and run a high risk of technology failure if the host economy lacks the engineering capability to run the skill-intensive operations. Nonetheless, the IC-assembly operations owned by multinational firms in Chinese Taipei were imitated by some local concerns, which set up much smaller-scale operations. In 1980, assembly operations still dominated Chinese Taipei's IC industry, accounting for 97 percent of the total output of the semiconductor industry in Chinese Taipei, which was valued at NT7.5 billion, with the remaining three percent attributed to chip fabrication at a government-owned foundry. Among 12 assembly firms, nine were owned by multinationals (ITRI 1987, p.58). Needless to say, virtually all assembled products were headed for export.

Despite being reluctant to upgrade their operations in Chinese Taipei, multinational firms have been crucial in transferring technology to the local industry. In 1976, RCA began one of its ventures to transfer complementary metal oxide semiconductor (CMOS) chip technology to Chinese Taipei's government-owned research laboratory, the Electronics Research and Services Organization (ERSO). RCA provided ERSO staff with training in chip processing, design engineering, and other know-how (Hobday 1995, p.111). ERSO established an experimental plant to receive the technology from RCA. The plant was subsequently spun off to become a private firm named United Microelectronics Co. (UMC) in 1980. UMC was instrumental in accumulating chip-processing technologies, training local engineers, and providing foundry services that lay the foundation for Chinese Taipei's IC-design houses.

In 1982, the first IC-design house, Syntek, was established in Chinese Taipei. Syntek was supported by indigenous capital and ERSO technology (Lin 1987, p.38). Syntek was soon followed by other local and foreign design houses. Two American design houses owned by overseas Chinese engineers and entrepreneurs in Silicon Valley, Vitelic and Mosel, set up their subsidiaries in Chinese Taipei in 1984 and 1987 respectively. Both specialized in memory chip technologies which are complementary to Chinese Taipei's expertise in logic IC. In addition to working with UMC and ERSO on new product development, both Mosel and Vitelic also formed strategic alliances with Japanese semiconductor manufacturer Oki. The alliances enabled the two design houses to accumulate skills within the firm while improving their design capabilities in preparation for launching their own fabrication facilities.

The rich endowment of local engineers and the seemingly undepletable supply of Chinese Taipei's engineers deposited in advanced economies, particularly in Silicon Valley of the United States, attracted a flock of multinational firms, including Fairchild, Motorola, Texas Instruments, Philips and NEC, to set up IC-design houses in Chinese Taipei in the mid-1980s. Philips and Motorola had cooperation programs with ERSO in the area of technology exchange and personnel training (Lin 1987, p.39).

The design house boom created a shortage of foundry services, as UMC was the only supplier and it was reluctant to devote too much of its capacity to such services. In 1987, the Chinese Taipei government took the initiative to establish the Taiwan Semiconductor Manufacturing Co. (TSMC) to specialize in foundry services. Philips responded to the government's solicitation by taking a substantial share (27.5 percent) of the company's equity. Through the joint venture, Philips transferred its static random access memory(SRAM) technology to ERSO, and ERSO, in turn, spun off around 200 personnel, mostly engineers, to join TSMC (Hobday 1995, p.110).

Specializing in foundry services without its own products, TSMC's approach to the international semiconductor market proved to be very successful. It gained business not only from local IC-design houses but also from overseas designers. Even top manufacturers in the IC industry sought TSMC's fabrication support to supplement their capacity to maintain product variety. TSMC's quick success encouraged UMC to embark on its first major expansion by investing NT6 billion to establish its second fabrication line mainly devoted to the production of SRAM chips with design technology furnished by Mosel. Mosel also provided SRAM technology to Winbond, which was established in 1988 by a leading local wire and cable company (Walsin). By the end of 1990, there were eight IC manufacturing firms in Chinese Taipei, all wholly locally owned, except for TSMC, in which Philips had a minority share (*1991 Semiconductor Industry Yearbook,* pp.32-34). Fabrication generated NT12.0 billion worth of IC products, accounting for 32 percent of overall IC production, which had grown to NT39 billion in 1990 (*1991 Semiconductor Industry Yearbook*, p.46, Table 4.2). Assembly and testing, which were virtually monopolized by multinational firms, still dominated the Chinese Taipei IC industry, with NT27.4 billion worth of output. The largest assembly firms were, in order, Philips, Texas Instruments, Motorola, and General Electric (formerly RCA). All were wholly owned foreign firms with their products destined for the export market. Multinational firms were largely to be segregated from local fabrication and concentrated on assembling products for their parents.

As noted, segregation line was first broken by Philips when it entered TSMC as a joint-venture partner. Philips was followed by Texas Instruments, when it formed a joint venture with a local computer manufacturer, Acer, in 1989. The TI-Acer joint venture established Chinese Taipei's first fabrication line for the mass production of DRAM chips. Although TI only contributed about 26 percent of the capital to the joint venture, it transferred the 4M-bit DRAM technology to the new firm and thus brought Chinese Taipei's IC industry into the global mainstream. TI's long presence in Chinese Taipei yielded an apparent bonus for the joint venture. The new firm was managed by some senior Taiwanese managers from the local TI subsidiary in cooperation with other managers dispatched from Acer. There was no need for expatriate managers from the parent company. In fact, the parent did not even carry out the initial technology transfer, which was provided by TI's Japanese subsidiary in Tsukuba (Commonwealth Oct.1, 1995). The management team proved to be

competent, as the productive efficiency (in terms of the capacity utilization and yield rate) at TI-Acer ranked the highest among all TI semiconductor fabrication lines in the world (Interview, January 22, 1996). Assembly and testing of memory chips produced at TI-Acer was half performed at a locally owned assembly firm located nearby and half at a TI subsidiary in Singapore. TI's wholly owned subsidiary in Chinese Taipei, which was located about 150 kilometers away from the TI-Acer factory, concentrated on linear ICs, and was not involved in assembling TI-Acer's products (Interview, January 22, 1996).

As can be seen from the cases of TSMC and TI-Acer, multinational firms were not initially keen on establishing subsidiaries to manufacture ICs in Chinese Taipei. When they did, they were not concerned about "control" of the joint venture and often chose a minority ownership position. For them, the Chinese Taipei joint venture is a part of a portfolio on their global investment map for risk diversification. The Chinese Taipei partners, whoever they are, have to bring most of the ingredients to the joint venture, including capital and human skills. The contribution of multinational firms is mainly in the area of technology.

The cases of TSMC and TI-Acer are indicative of a successful joint venture formula for the high-tech age. Their success pointed the way for other joint ventures. In 1995, Mitsubishi of Japan announced a joint venture with the Umax-Elite group of Chinese Taipei, which specializes in computer peripherals, mainly motherboards and scanners. The joint venture, named Power Chip, is to establish a fabrication plant capable of processing 8-inch wafers into memory chips. Mitsubishi provided the chip technology but only took a minority equity share in the joint venture, which commenced operation is 1996.

At the key points in this process foreign investors have played an important role in technology transfer. The resultant upgrading of Chinese Taipei's technical and human skills, in turn, made it a more desirable site for additional foreign investment.

The cluster of semiconductor manufacturers in Chinese Taipei has apparently reached the point at which skills are being reproduced fast enough to support a speedy expansion of the industry. Investors are competing to chip their money to new projects. The value of IC production totaled NT98.7 billion in 1995, and more foundries were in the planning and construction stage.

Technology Acquisition and Skill Accumulation

In the development of Chinese Taipei's IC industry, skill accumulation and reproduction is an essential mechanism that drives industrial growth, and government-sponsored research institutes play a crucial role in this process. A typical mode of skill accumulation and reproduction is that the government-sponsored research agency, ERSO, acquires or develop technologies through an R&D project, then spins off engineers involved in the project to support business operations based on the newly acquired technologies. The spin-off may be a deliberate plan of the government or simply a profit-seeking move

undertaken by the engineers involved in the projects (San 1993). Successive ERSO projects develop new technologies that augment the capability of existing ones and strengthen the infrastructure of the industry. Strengthened infrastructure attracts additional investment, which, in turn, produces a synergy effect that further promotes skill accumulation. The virtuous cycle rolls on and the industry is expanded along the way.

When local human skills are abundant enough to guarantee the availability of trainable engineers and when the level of indigenous technology is high enough to challenge the industry leaders, majors international firms will be willing to form joint ventures with local businesses, almost regardless of their specific expertise.

Skill accumulation in Chinese Taipei's semiconductor industry began with the establishment of a semiconductor laboratory at Chiao-Tung University located in Hsinchu in 1964. The laboratory trained many engineers who formed the backbone of Chinese Taipei's semiconductor industry (Lin 1987, p.25). In 1980, the government chose to set up its first science-based industrial park in Hsinchu partly because of its proximity to the laboratory.

Large-scale accumulation of skills for industrial application did not begin until the establishment of ERSO in 1974, however. ERSO was also located in Hsinchu near Chiao-Tung University. Its initial mission was to establish an experimental IC fabrication plant to acquire IC manufacturing technologies from abroad and transfer them to local firms. Assisted by a group of veteran semiconductor specialists recruited from the United States, ERSO decided to acquire complementary metal oxide semiconductor (CMOS) technology from RCA as its admission ticket to the world's semiconductor industry.

ERSO started the construction of the experimental plant in 1976 and started sending engineers to RCA for training in 1977. Between 1977 and 1979, ERSO sent a total of 295 engineers to acquire technology from RCA with the training time accumulating to a total of 363 man-months (ITRI 1987, p.11). After the RCA project was completed in 1979, ERSO produced its first spin-off company, UMC, to establish Chinese Taipei's first commercial fabrication line for IC chips. UMC gathered 60% of its initial capital from the private sector in Chinese Taipei, with the remaining 40% provided by the government. The deputy director of ERSO, Robert Hsin-chen Tsao, was summoned to head the new firm, with 14 other ERSO colleagues following him to assume major management positions. ERSO also provided training for employees of the new firm, totaling 262 man-months (Lin 1987, p.36). The 7-micron metal gate CMOS technology acquired from RCA was transferred to UMC to be applied in the production of logic ICs used in watches, calculators, ROMs, telephones, melody chips, etc.

Once the fabrication lines were established, ERSO moved to develop photomask technology and to promote IC-design houses. In 1978, ERSO contracted with International Material Research (IMR) of the United States to transfer photomask manufacturing technology. After the technology transfer, ERSO

began producing photomask working-plates with master masks provided by RCA. In 1980, ERSO further purchased a full line of photomask-manufacturing equipment from Electromask Co. of the United States, which also transferred the related technologies to operate the equipment. Starting from 1981 then, ERSO was able to manufacture photomasks on its own, without sourcing from RCA, and began serving local customers. This greatly shortened the time needed to introduce new IC products to the market (Lin 1987, pp.39-40).

To promote IC-design houses, ERSO acquired computer-aided design (CAD) technologies from abroad and operated a Common Design Service Center to propagate local design technologies. ERSO established its first spin-off design house, Syntek, in 1982. In 1983, seven ERSO engineers joined other investors to form another design house named Holtek. Both Syntek and Holtek were successful businesses and Holtek went on to establish its own fabrication plant in 1988. Other design houses entered the market in later years, including those established by multinational firms. Except for Fairchild, TI, NEC, and locally-owned Acer Design, all benefited from ERSO's technology spillover, either through hiring ex-ERSO engineers or through formal technology transfer agreements (Lin 1987, pp.38-39).

With the photomask-manufacturing capability and design houses in place, ERSO moved to deepen Chinese Taipei's chip fabrication technology. In 1983 ERSO undertook a four-year project, called the VLSI Project, to upgrade the chip manufacturing technology to the 2-micron level. Unlike the project to transfer technology from RCA, which provided a "package" of technologies including all the ingredients needed for IC design and fabrication, the VLSI project emphasized in-house research, with ERSO's own experimental plant, UMC, local design houses, and downstream users called upon to participate in the project (ITRI 1987, p.24). The consortium not only created a synergy effect in technology advancement, but also facilitated technology diffusion in the course of research.

When the VLSI project ended in 1987, ERSO launched TSMC, joining forces with Philips. ERSO again transferred personnel to TSMC along with technology. ERSO also announced that its experimental fabrication plant would cease all commercial operations from then on. Some of ERSO's senior engineers left to form Winbond Semiconductor, which became one of the most successful chip manufacturers in the 1990s, rivaling UMC and TSMC. In 1988, ERSO spun off its photomask operations to form a photomask manufacturing firm named Taiwan Photomask. This completed the vertical integration of Chinese Taipei's semiconductor industry. By 1990, the industry was able to fabricate 1.2-micron chips on 6-inch wafers. The major vacuum left in the industry was the capacity to produce DRAM chips, and that was quickly filled by the TI-Acer joint venture formed in the same year. Chinese Taipei's technology, however, still lagged behind the world's leading-edge technology by roughly one generation, or three to five years (Lu 1995).

ERSO therefore undertook yet another aggressive project, this time aimed at

breaking the one-micron barrier in chip manufacturing in Chinese Taipei. The project, appropriately named the Submicron Project, was inaugurated in 1990. DRAM and SRAM were designated as the vehicle devices to develop the technology. Device design was contracted to a newly formed design house operated by some veteran memory chip designers returned from the United States. The contractor was also responsible for training ERSO designers in related design technologies. The project proceeded rapidly. In 1992, ERSO completed construction of its clean room capable of processing 8-inch wafers. It successively developed the capability to process 4M-bit DRAM (at the 0.7-micron level) and SRAM (at the 0.5-micron level) and transferred the technologies to UMC and TSMC. They soon established their own 8-inch wafer fabrication lines for commercial production. By the end of the project, 16M-bit DRAM was also being produced, with samples tested and certified by several users (Lu 1995). ERSO wasted no time in producing its latest spin-off in 1995, capitalizing on the facilities installed for the Submicron Project and the technologies developed accordingly. The leader of the Submicron Project, Chi-yuan Lu, was appointed to the presidency of the new company, which was named Vanguard Semiconductor.

By the time Vanguard joined the elite group of Chinese Taipei's semiconductor industry, it did not monopolize the 8-inch wafer fabrication capacity, as UMC and TSMC had already commenced the same operations with the technology transferred from ERSO during the course of the Submicron Project. When that project ended in 1995, Chinese Taipei's technology gap with respect to front runners in the IC industry was shortened to about a quarter of one generation, or approximately one year (Lu 1995). The breakthrough in submicron technology, aided by a surging demand for memory chips in the world market, fueled an investment rush in the semiconductor industry. By October 1995, at least 14 firms had announced plans to join the league of 8-inch wafer fabricators, with proposed investment exceeding NT414 billion (Commonwealth, Oct.1 1995).

Looking back at the technology catch-up process, the rapid progress made by Chinese Taipei's IC industry is remarkable indeed. In 1980, ERSO developed Chinese Taipei's first chip of 64K DRAM with 5-micron technology while the world's leader was on 1M DRAM with 1.5 micron technology. The technology gap was approximately 6 years. ERSO developed 256K DRAM in 1983 and 1M DRAM in 1986 to close the technology gap to approximately 4 years. By the end of the Submicron Project in 1994, ERSO had achieved 0.5 micron-level technology to produce 16M DRAM and consequently shortened the gap with the world leaders to only one year (Mathews 1995).

The history of Chinese Taipei's semiconductor industry reveals the importance of skill accumulation and reproduction. At all times, the government-sponsored research institute sought to diffuse technologies as widely as possible. Technology was treated like a semi-public good once it was acquired. This did no harm to the incentive for innovation because these technologies were not frontier technologies. Furthermore, they were mainly design and processing technologies that could be employed to develop new products as the transferees

saw fit. As the semiconductor industry has clustered around the Hsinchu Science-Based Industrial Park, skills also spread around the area and new engineers are continuously absorbed into the pool. Veteran engineers are a rare species and they are dispersed over different firms. The first generation of ERSO engineers who were trained in the RCA project are today mostly presidents and vice presidents of major semiconductor firms.

Korea's Case

The Korean semiconductor industry has played a large role in the successful and rapid development of the Korean economy. Since the latter half of the 1980s, the semiconductor industry has emerged as a leading sector in the electronics industry. In 1992, Korea became the third largest semiconductor maker in the world. In memory chips, Korean firms, led by Samsung, came to dominate the world market. This remarkable growth was largely due to huge facilities investments and booming exports. Exports of the Korean semiconductor industry reached US$14.7 billion in 1995, accounting for 11.9 percent of Korea's total exports.

In the early years, it was foreign firms that brought the technology and constructed the basis for the Korean semiconductor industry. In 1965, in order to build the semiconductor industry as one of the targeted industries for export-led growth, the Korean government began to entice multinational companies, mainly from the US and Japan. It encouraged multinational firms to invest in assembly and testing operations in Korea, following a similar strategy taken by Chinese Taipei (Mathews 1995, pp. 121).

First, it was multinational corporations from the United States, such as Komy and Fairchild, that invested in transistor production facilities in Korea in the 1960s, followed by Signetics, KMI and Motorola. By 1974, there were nine such American-owned facilities in Korea, compared with eight in Hong Kong, three in Chinese Taipei, nine in Singapore, eleven in Malaysia, and six throughout the rest of Asia.

After Korea and Japan normalized relations in the mid-1960s, Japanese electronics multinationals also established assembly and test facilities, led by Toshiba and Sanyo in 1969. By 1973, there were at least seven Japanese facilities, operated by such firms as Toko, Rohm and Sanken.

Since the mid-1970s, Korean firms took their first steps towards indigenous semiconductor manufacturing through joint ventures with foreign firms. One was Goldstar's initiative in 1972 to produce transistors with the United States multinational National Semiconductor, which soon ended in failure. Another was a small-scale operation, Korea Semiconductor (KSEC), founded by a Korean-American engineer in 1975, importing LSI technology for the production of CMOS chips destined for electronic watches. This was a 50:50 joint venture between the Korean engineering firm KEMCO and ICII, a United States semiconductor firm. This venture was not a success either. However, Samsung's takeover of the firm provided the opportunity for the Korean

conglomerate's entry into the semiconductor industry. Goldstar also recommenced in 1978 its production of transistors in the form of a joint venture with American Microsystems.

In the 1990s, Korean firms moved into the supply industry through joint ventures with foreign investors. Samsung led the way with a joint venture with Japan's Dai Nippon Screen (DNS) to form DNS Korea, producing spinners and wet stations from its base at Chunan. In 1994 it expanded its plant at Chunan to produce 8-inch wafers for 16M DRAM production. Samsung is also the instigator of a joint venture with POSCO Steel and MEMC of the United States, known as POSCO-Huls, to supply silicon wafers. In addition, there are numerous joint ventures in the supply of pure chemical materials used in chip fabrication.

Technology Transfer

Besides setting up subsidiaries or joint ventures in Korea, foreign firms have assisted in developing Korea's semiconductor industry via technology transfer agreements. Technology transfer was arranged not only between Korean firms and MNCs, but also between Korean research institutes and foreign research institutes.

In the early stage, the Korean government played a critical role in technology transfer. During the 1970s strenuous efforts were made by the Korean government to deepen Korea's electronics industry through the creation of an indigenous semiconductor capacity. In 1974, a six-year plan was formulated to promote the production of electronic components, including semiconductors. It was to be achieved through the creation of research institutes, training of electronics engineers, technology acquisition via licenses from overseas firms, and use of consultants.

The first pilot semiconductor fabrication facility was established in the Korea Institute of Electronics Technology (KIET), which was set up in 1976 on the Kumi electronics manufacturing complex with technology transferred from the U.S. firm, VLSI Technology. KIET also opened a liaison office in the Silicon Valley in 1978. This enabled Koreans to build contacts with American high-tech firms and keep up with the latest semiconductor trends.

The leadership role played by the government in securing Korea's foundations in the semiconductor industry lasted from the mid-1970s to the late-1980s. As the Korean *chaebol* picked up the production of semiconductors, the role of government-owned research institutes changed. Indeed, KIET abandoned its R&D capacity in semiconductors and sold its fabrication facilities to Goldstar. Most of the research and development was actually carried out within the companies themselves after the late-1980s. The search for advanced technology by Korean firms was further intensified in the 1990s, as they acquired U.S. firms such as AST and Zenith.

The Case of 'Company A'

Company A is a wholly-owned subsidiary of a leading U.S. semiconductor-

producing company. It was established in 1967 as the first overseas subsidiary of the parent company. Owing to its aggressive investments, Company A has established itself as a pioneer company in Korea's semiconductor assembling industry.

It also constructed a molding factory and a nitrogen-producing factory, which are essential for the production of semiconductors. By training skilled workers and managers to operate these factories, Company A has set up a precision molding industry in Korea. It sold molding machinery to the ex-employees at a low price and encouraged their business by purchasing their products. There were about ten semiconductor molding companies started by former employees in this way.

Company A has also assisted the development and growth of local semiconductor companies through OEM contracts, training of skilled workers, and transfer of production technology. It has had OEM production contracts with Anam and LG since the 1970s, and its former employees are now leading the industry. It has also introduced a partnership system with local companies that produce raw materials for semiconductors. Through technical assistance, quality control guidance, and factory training, Company A helped these local companies in producing lead frame, wire and compound, provisions of which formerly depended on imports.

Company A's cumulative exports from Korea since 1967 total to about US$3.8 billion. It also created an average employment of some 3,000 workers. Company A further contributed to upgrading the Korean industry by introducing new high technology products. Recently it invested an additional US$13 million to produce technology-intensive high value-added products such as radio frequency modules and CRT (*Cathode Ray Tube*) drivers for personal computers.

RETAIL TRADE

Traditionally the retailing industry has remained by and large a local phenomenon owned and, staffed by local people and conducted in accordance with local culture and preferences. Even major retailers have been inward-looking organizations, concentrating their trading activities on a local, domestic market. However, this situation is now changing. Since the 1970s, an important trend in retail trade has been the development of transnational business, i.e. retailers trading outside their home markets. In particular, retail organizations from developed economies such as department stores (DPSs), supermarkets (SPMs), convenience stores (CVSs), and hypermarkets (HPMs) have shown new interest in developing economies, where small, mostly family-owned stores have traditionally dominated retail distribution. As foreign retailers enter local markets, either through investment or contractual agreements, new concepts and formats of retail business flow from one economy to another.

Foreign Retailing in Chinese Taipei

In terms of entry motivations, foreign retailers have come to Chinese Taipei mainly because of the attractiveness of the market. With the rapid growth of the local economy and per capita income, the potential of a large consumer market propels foreign firms to build their local presence in Chinese Taipei. However, different types of retailers may come to Chinese Taipei for other reasons as well.

(i) Convenience Stores

The right time to introduce CVSs to a society is when its per capita income of that society reaches US$4,000 (Wang, 1993). When President Enterprises set up the first 7-Eleven in 1979, the per capita income of Chinese Taipei was around $1,920. Owing to their high prices, relative to grocery stores, and most people's unfamiliarity with CVSs, business was poor initially. As personal income increased and President Enterprises improved its operating know-how, 7-Eleven has become the biggest CVS chain in Chinese Taipei. Observing the success of 7-Eleven, other foreign retailers (such as ARCO and Circle-K from the United States and Family-Mart and Niko Mart from Japan) rushed into Chinese Taipei by working with local firms (Tsui, 1995). The relaxation of foreign exchange controls, reduction of import tariffs, and encouragement of foreign investment in 1977 by the government of Chinese Taipei definitely were conducive to the entry of foreign retailers (Ministry of Economic Affairs, 1993).

(ii) Supermarkets

The attraction of Chinese Taipei's market also explains why foreign SPMs entered the market. The market leader, Welcome Supermarket, originally from Hong Kong, believes that it needs to run at least 50 stores to break even (Wu, 1995). Because dual-career couples have become the norm and working women do most of the shopping, SPMs are usually in locations that are convenient for those women (Wu, 1995).

(iii) Department Stores

People in Chinese Taipei spend some nine percent of their income in DPSs, whereas the figure is thought to be considerably higher in developed economies. Given this gap and the trend towards liberalization and internationalization, the potential for the development of DPSs is large. Foreign DPSs come to Chinese Taipei either to conduct market services or to find partners. For example, Mitsukoshi entered Chinese Taipei after making the following considerations (Hsu, 1995): (1) DPSs in Chinese Taipei have accumulated a certain level of sophistication and are able to absorb foreign retail techniques; (2) high-quality manpower is available and willing to work in service industries; (3) consumers are accustomed to buying products at DPSs; (4) disposable income is high and

people are willing to buy expensive products; (5) there is no information gap between Chinese Taipei and the nest of the world, which makes fashion goods popular here.

(iv) Hypermarkets

Dual-career couples do not spend much time shopping and hence prefer one-stop shopping. HPMs suit them well because HPMs offer not only many choices, but also reasonable prices and easy parking (Lee, 1993). The two leading HPMs in Chinese Taipei are Makro, a joint venture with a Dutch firm, and Carrefour, a joint venture with a French firm. The competitive strength of Makro comes from low costs, while the competitive strength of Carrefour comes from product differentiation (Wu, 1996).

As for entry strategies, foreign investment laws in Chinese Taipei encourage foreign firms to enter service industries through sharing equity with local firms. For example, before 1987, foreign DPSs were not allowed to enter Chinese Taipei through equity investment. Therefore Japanese DPSs usually signed technical cooperation agreements to enter Chinese Taipei (Cheng, 1994). Even without investment restrictions, foreign retailers may still prefer to work with local firms. From the perspective of foreign firms, lack of familiarity with the local environment makes it necessary to look for local partners. Besides contributing financial capital, local firms can also provide human resources and local marketing knowledge.

In recent years franchisers have gone international too, including by penetrating East Asian markets. In Chinese Taipei the entry strategies adopted by foreign franchisers include the following (Yu and Chuang, 1996): agents (13.5 percent of all cases), licensing (21.6 percent), technical cooperation (24.4 percent), joint ventures (21.6 percent), and wholly-owned subsidiaries (18.9 percent).

Moreover, the diffusion of retailing know-how from foreign economies will have some impact on the development of the channel structure and retailing firms in a host economy. The cases of Korea and Chinese Taipei clearly illustrate the influence of foreign retailers on the retail business in their economies. Two kinds of impact are worthy mentioning.

Structural Change in Chinese Taipei and Korea

A large transformation has been occurring in Korea's retail industry ever since the government lifted some of the restrictions that kept foreign retailers out of the economy until the end of 1995. In particular, several large-sized discount stores or hypermarkets have been established by foreign enterprises since 1996. They offer a variety of products, ranging from food to household appliances and clothing at cheaper prices than department stores. Also, 24-hour convenience stores are now competing with the traditional small-sized local markets, with

better technology, more polished marketing, and better supply networks.

The most significant impact of investment liberalization on Korea's retail industry is the change of its structure. The retailing industry in Korea has had a manufacturer-dominated structure, in which manufacturing firms not only produce, but also participate in retail sales as a dominant player. This system may bring about unfair business conduct such as tie-in selling by manufacturers to take advantage of their dominant position. It can also deter productivity improvement and price competition.

The increasing number of HPMs is changing this manufacturer-dominated structure in that increased buying-power now puts the price determination into the hands of retailers rather than manufacturers. Owing to the fear of losing price determination power to the hypermarkets, the big *chaebol* manufacturers are now planning to enter the retail industry by setting up hypermarkets on their own. In this sense, a "Big-Bang" is occurring in the Korean retail industry.

Chinese Taipei is also a good case to illustrate the impact of foreign retailers on the structure of its retailing industry. With the growth of personal income, people demand a better shopping environment. The traditional distribution structure, depending on several layers of middlemen, is not efficient. When businesses and consumers in Chinese Taipei seek both quality and value, the import of already-proven retailing concepts, such as convenience stores, supermarkets, department stores, and hypermarkets, presents attractive options. The total share of these retailing enterprises has increased since 1994.

When HPMs entered Chinese Taipei in 1989, industry observers believed that this concept of retailing would not affect the local distribution structure significantly (Japan Digest, 1993). This observation was based on assumptions: (1) the idea of "cash & carry" is not in line with traditional business practices; (2) purchasing large quantities of goods occupies storage space, which many families do not have in abundance; and (3) buyers prefer shopping in commercial areas and will not travel to the suburban areas to shop.

However, changes in personal income, car ownership, purchasing behavior, and effective promotion strategies by HPMs have made HPMs a hit in Chinese Taipei. For example, after only three years, Makro became the number one retailer in Chinese Taipei in terms of sales in 1992. The profit of HPMs is generated at a low margins (six to eight percent) and high volume sales. The success of HPMs puts pressure on traditional wholesalers to increase their efficiency in distribution, product selection, and logistics (Tien, 1991). Competition leads to lower prices for consumers.

Technology Transfer

Besides affecting the distribution structure at the macro-level, foreign retailers

also bring in know-how that affects indigenous retailing firms. Retailing know-how refers to the business concepts, operating policies, and techniques employed in a retail business in a given setting. It has two main dimensions: the managerial dimension, encompassing concepts, policies and systems; and the technical dimension, which refers to the techniques employed in matters such as site selection, store layout, buying, and merchandise planning. The cases of Korea and Chinese Taipei have clearly shown the evidence that foreign retailers have successfully transferred their know-how to local firms and have been instrumental in creating a more competitive and efficient local retailing structure.

In the case of Korea, HPMs are also helping small and medium-sized manufacturers by selling their products to which department stores have not given attention. These small and medium-sized firms account for more than 60 percent of the product composition of HPMs. Also, in the process of purchasing from domestic producers, foreign-invested HPMs provide technical assistance in production methods and training of workers, as well as financial assistance and marketing information (Lim 1990, pp. 127).

Foreign CVS firms also contributed to the Korean retail industry via technology transfer in the area of merchandising, inventory management, and the Point of Sales System, among others.

In Chinese Taipei, the transfer of know-how has included two stages. In stage I, foreign parents transfer their know-how to local firms (i.e., subsidiaries, or master franchisers, or agents), and in stage II, know-how is transferred from one local firm to other local firms (e.g., from agents to franchisees).

Foreign retailers bring in advanced retailing know-how, reflected in organization, training, and marketing. In terms of organizational structure, foreign retailers tend to be flatter than local firms. This makes foreign firms respond to environmental changes more quickly. Foreign retailers use a systematic approach to train their employees, in sharp contrast to local firms. While successful marketing depends on local knowledge, importing of foreign experience, with some degree of modification to meet local conditions, is still a valid and cost-effectiveness option. The knowledge and procedures transferred include management systems, methods of performance evaluation, target market selection, etc. Transfer occurs through documents, on-the-job training abroad, classroom training abroad, etc. This know-how gives foreign firms competitive advantages over local retailers. In short, the entrance of foreign retailers does have a positive impact on local firms. First, they imitate and learn from foreign retailers. Second, in order to compete, some local firms innovate.

In summary, the retailing industries in Korea and Chinese Taipei have experienced many changes since liberalization. As economies grow, people demand better retail services. Proven retailing know-how and concepts

developed in industrialized economies have become a major force shaping the retailing industries in Korea and Chinese Taipei.

These findings for Korea and Chinese Taipei have implications for other governments' policies regarding the entry of foreign retailers. Generally speaking, the entry of foreign retailers or the import of retailing know-how is conducive to the development of a more competitive domestic retailing industry. With changes in the environment and purchasing behavior of consumers, government policies have to adapt as well.

TELECOMMUNICATIONS

Telecommunications liberalization was pioneered by two APEC economies, the United States and Japan, and Britain in Europe, in the early 1980s. For those pioneering economies, telecommunications liberalization was triggered mainly by the concern about the adverse effects of limited competition and even monopoly status in the industry. However, the growing importance of telecommunications services has led to telecommunications being included in bilateral and multilateral international agreements on trade in services, and telecommunications liberalization has gained momentum as a result. Notable is the conclusion of the WTO negotiations on basic telecommunications in early 1997, which arguably will lead to far-reaching commitments to telecommunications liberalization worldwide. In the APEC context, cooperation and harmonization of telecommunications policies between the member economies has just begun. However, many member economies, apart from the pioneers, have been liberalizing their own telecommunications industry. It is now also taking place in Chinese Taipei and the Philippine.

Chinese Taipei's Experience

Telecommunications reform in Chinese Taipei, though dating back to 1987, did not proceed on a large scale until 1996 when three telecommunications reform acts were promulgated. While global deregulation and Chinese Taipei's prospective accession to the WTO carried weight in political minds, there have been a few internal, self-driving forces at work strengthening the will to liberalize the industry. Two critical developmental policies, the Asia-Pacific Regional Operations Center Plan and the National Information Infrastructure program, are characterized by the promotion of institutional reform and soft infrastructure as new competitive parameters. In addition, changes in industrial parameters, such as scale and scope economies, call for the transformation from public monopoly towards a competitive telecommunications market.

At the heart of Chinese Taipei's deregulatory process is the organizational separation of the public telecommunication operator from the regulator and the introduction of private competition. The reform framework is characterized by a two-tiered regulatory regime for different segments of telecommunications services. In essence, telecommunications services in Chinese Taipei are classified into two types. Type I services refer to the installation of telecommunications machinery and services provided through owned circuits and facilities. Those services other than Type I are referred to as Type II. While private firms will be allowed to enter virtually all segments of the telecommunications market, the extent of regulatory control is different for the two types of services. Type II services have been opened to free competition, while Type I services are subject to phased liberalization and regulated competition among a limited number of operators. In addition, there is no restriction on foreign ownership for Type II operators, but a 20 percent limit on investment by foreigners is imposed for individual Type I operators. On top of that, cross-subsidization between the two types of services is legally prohibited. Rate-of-return regulation is in the process of being replaced by a price-cap regulation.

Following the passage of the three telecommunications reform acts, the restructuring of the DGT, the former administrator and public operator of telecommunications, took place on July 1, 1996. The business arms of the DGT were spun off to form CHT, and incorporated as a public enterprise. The remainder of the DGT has since acted merely as the regulatory authority. In addition, from 1996 onwards, several significant milestones in market liberalization have been planned or realized in the telecommunications sector in Chinese Taipei. Four mobile communications services, including radio paging, cellular phone, trunked radio, and data communications, have been liberalized. In these segments, a total of 53 operating licenses were issued to private operators, in addition to CHT, at the beginning of 1997. Other segments of Type I services are also scheduled to be liberalized in the next five years. The next target for market liberalization is satellite communications which will take

place by the end of 1999. Before July 2001, the remaining Type I services including local calls, long-distance calls, international calls, broadband-switching communications, and high-speed data communications, will be opened to the private sector. More importantly, CHT will be privatized at that time.

An immediate outcome of telecommunications liberalization is open market access. As a result, private telecommunications operators have proliferated, alongside the incumbent CHT. The entry of private operators has resulted in a huge amount of realized or forthcoming investment in the telecommunications industry. Taking the newly-liberalized cellular phone services as an example, capital invested by the winners of eight operating licenses together will amount to at least NT$24 billion (approximately US$872 million). In parallel, the telecommunications industry accounted for a total of approved foreign investment of more than NT$12 billion (US$436 million) in 1996. Moreover, mobile communications liberalization in Chinese Taipei has created considerable business opportunities for foreign and domestic firms. Prominent among them are business opportunities to provide mobile communications services themselves, and the required systems equipment, wireless CPE, management systems, and large software systems. In terms of the business opportunities discussed above, foreign participation in Chinese Taipei's telecommunications market is much wider than is implied by the 20 percent foreign capital limit imposed on Type I enterprises. Accordingly, an increase in the bilateral trade flow between Chinese Taipei and its partners is foreseeable. That said, further relaxation of the foreign capital limit is considered in Chinese Taipei's best interest, and the regulator is, indeed, in the process of doing so.

At the micro level, liberalization has brought down the monopolistic industrial structure; thus monopoly power is giving way to market forces. Escalating competition is reshaping firms' behavior in line with market. Above all, price and service competition has become the rule for industry operations. New mobile communications operators have started to take on CHT by introducing new services at reduced prices. In response to this, CHT is restructuring itself to come to terms with the new reality of market competition. Downsizing comes first. In addition, initiatives to promote internal efficiency have been taken on several fronts, including through establishing one-stop shopping centers and major account management, and through reengineering organizational structure. The introduction of competition has also triggered an impetus to industrial upgrading and technological innovation. Introduction of technology is accelerating, and emerging business opportunities resulting from liberalization have driven domestic firms to diversify into the telecommunications industry. In these ways, foreign technology is acquired through procuring imported equipment and machinery. Moreover, operators seek to build up innovative capability through internal R&D, technology transfer, strategic alliances, or a mix of these. At the end of the day, telecommunications liberalization will bring benefits to Chinese Taipei in terms of increased choice, greater

innovation, and higher quality services at reduced prices.

The Philippines' Experience

Similarly, driven by the concern over the quality and competitiveness of telecommunications services, the Philippines' government started to liberalize the industry in the late 1980s. Initial steps to deregulate the industry were taken on several fronts through granting licenses to new operators in previously monopolized services (international gateway facilities, cellular phone, paging, and cable television services), granting new license for new telecommunications services (very small aperture terminal and trunked radio for example), and reorganizing the National Telecommunications Commission (NTC) as the regulatory arm of the competent ministry. At the end of 1996, 146 companies were given authorization by the NTC to provide various telecommunications services. The service segments where competition is present include satellites, international leased lines, domestic record carriers, radio paging, public repeaters, public coastal stations, radio telephones, cellular phone telephones, telephones, government telephones, very small aperture terminals and international gateway facilities. Having entered the industry, some small and privately-run telephone companies in rural areas found it difficult to access other networks. The government therefore issued Executive Order 59 in February 1993 which required compulsory interconnection of all authorized public telecommunication carriers, in order to create a universally accessible and fully integrated nationwide telecommunications network. This was followed by Executive Order 109, issued in July 1993, to require cellular phone and international gateway operators to share the burden of building local network facilities through the installation of basic telecommunications infrastructure in the unserved and under-served areas in the economy. With these executive orders, the industry took on a dynamic and highly competitive status.

To consolidate the various telecommunications policies issued by the government, Congress passed R.A. 7925, otherwise known as the Philippine Telecommunications Policy Act in March 1995. This act reaffirms the obligations of new entrants to international calls and cellular phone services, as mentioned above. It also provides for cross-subsidization as an integral element of access charges that interconnecting companies must pay to local exchange providers. R.A. 7925 also mandates that at least 30 percent of aggregate common stocks of all telecommunications firms be offered to the public through the Philippine Stock Exchange. It authorizes the NTC to establish rates which provide for the economic viability of telecommunications facilities and fair return on their investments, considering the prevailing cost of capital in the domestic market. Foreign ownership is allowed up to 40 percent. Furthermore, the Philippine's government is presently working towards the evolution of a rational, integrated and interconnected telecommunications system that will meet both national and international standards to achieve a universal access. In particular, the government takes a liberal stand on telecommunications services.

The use of emerging technologies is actively promoted, and the local manufacturing of telecommunications equipment is also encouraged.

Telecommunications liberalization in the Philippines has generated positive results. Telephone density, the number of telephones per 100 inhabitants, in the Philippines is among the lowest in the region, but has increased substantially from 2.0 in 1995 to 4.7 in 1996. This translates to approximately 2 million additional lines in 1996. Growth in the cellular phone business also accelerated. Subscriber base nearly doubled from 493,862 in 1995 to 959,024 in 1996. Owing to increased competition, cellular phone operators are currently engaged in severe price and non-price competition, hence making the service affordable to a broader segment of the population. Similarly, the number of radio paging subscribers increased from 324,816 in 1995 to 491,025 in 1996. The number of international gateway operators in the Philippines has increased from one in 1989 to nine in 1997. As a result, the volume of international calls in the economy also followed an upward trend from 1990 to 1993, thanks to various discounts and promotional items offered to the subscribers as part of the operators' marketing strategies. Record carriers are engaged in telex, telegraph, facsimile, and data transmission services. At the end of 1995, there were six domestic record carriers and four international record carriers. Telegraph and telex carriers experienced a substantial drop in its service volume due to the growing popularity of fax machines. Fax message transmission has increased sharply.

As to foreign participation in the local market, Singapore Telecom, Korea Telecom, Nippon Telephone and Telegraph, Telia of Sweden, Nynex of the United States, and Deutsche Telecom have established a market foothold in the Philippines by forging partnerships with local companies. In addition, foreign investments in international gateway facilities, local exchanges, public calling offices, multimedia training systems, and inter-exchange carrier network operations are eligible for registration with the Board of Investment and fiscal and non-fiscal incentives. Moreover, major players in the industry have started using imported technologies to keep ahead of their competition and to keep the local industry at par with global standards. At present, operators are geared on using optic-fiber cables instead of ordinary cables, and digital instead of analog technology.

Liberalization Brings Competitive Benefits

Taking together both Chinese Taipei's and the Philippines' experiences with telecommunications liberalization, there are strong grounds for suggesting that investment liberalization can bring about substantial benefits to the local industry. Evidence from the Philippines shows substantial growth in major telecommunications services after deregulation. Underlying this is increased competition, which has produced better and more cost-efficient services at reduced prices and hence improved service availability in the economy. The

same impact can also be expected in the case of Chinese Taipei. Its experience suggests that, in the process of escalating competition, firms are reshaping their behaviors in line with market forces. Above all, technological innovations in the form of internal R&D, technology transfer, and the use of imported equipment, are given top priority, which arguably will bring about dynamic efficiency. Although both economies have set certain foreign capital limits, foreign firms still play an important role in assisting the development of the local industry, not least through providing advanced equipment which often involves foreign technology.

Nonetheless, telecommunications liberalization is much more than market opening. Above all, market liberalization should go hand in hand with overhauling the regulatory regime. Fair competition between the incumbent operator and new entrants in Chinese Taipei remained handicapped by issues such as numbering and number portability. The Philippines, meanwhile, was beset by issues on interconnection and rural-urban telephone imbalance. In addition, there is a need in both economies to tackle the problems arising from the convergence of complementary and competing technologies.

FINANCIAL SERVICES

In view of the trend of financial globalization and the need to adapt to economic growth, the governments of Chinese Taipei and Australia have pushed for financial sector liberalization and internationalization over the last few decades.

Liberalization in Chinese Taipei

The plan to develop Taipei into a regional financial center, which was approved in early 1995, calls for macroeconomic adjustments to facilitate freer flows of goods, services, funds, human resources, and information. The measures being taken comprise the development of derivatives and insurance markets, the expansion of the capital market, and the establishment of a regional fund-raising center, in addition to the improvement of general financial conditions.

Specifically, the government's efforts at investment rule-making and liberalization in the financial services industry in Chinese Taipei can basically be classified into three parts: price (i.e., interest rate and exchange rate) liberalization, capital movement deregulation, and liberalization and internationalization of financial business. The third part consists of three sectors: insurance services, banking services, and other financial services.

Two cases of the impacts of changes in investment rules and liberalization on Chinese Taipei's financial services are investigated. One is the impact of the 1991 deregulation of entry of private banks, and the other is the impact of opening the stock market to foreign investment.

Liberalization of establishment of new banks in Chinese Taipei has had some impacts on market structure, market conduct, and market performance in this industry. According to Lin (1993), the structure of Chinese Taipei's banking industry has been transformed from a collusive oligopoly, where firms collude to set the monopoly price and maximize their joint or collective profits, to a differentiated oligopoly, where firms sell differentiated products and there is a mutual interdependence between all firms in the industry.

With regard to market conduct, Chinese Taipei's banking market has been transformed from a seller's market to customer-oriented buyer's market. Traditional price competition among banks has become obsolete. Strategies of financial innovation and non-price competition became prevalent after the set-up of new banks. For instance, types of deposits offered are now quite varied, including maturity-specified deposits that allow depositors to choose their preferred duration of deposits. Some types of deposits and loans have been designed to be more closely connected with each other, and small- and medium-size enterprises have benefited greatly from banks' extension of their loan business. As in the United States, prior to deregulation, most firms competed over a fairly narrow range of prices and services. Once deregulation occurred, however, firms began to compete across the broad range of product/service trade-offs. Some customers prefer low price and few services; others choose high price and numerous services.

Regarding performance, the competition among the growing numbers of financial institutions has depressed the excess profits previously earned by banks in Chinese Taipei. For instance, the spread between deposit interest rates and the prime rate on average decreased by about 1 percent in the beginning of the set-up of new banks (Chang, 1993). The price competition for absorbing deposits (via raising deposit interest rates) and for attracting borrowers (via pushing down loan rates) has narrowed the spread. Nevertheless, the spread widened again gradually after the new banks had been in operation for several years. New banks, after all, have to raise their interest rate on loans in order to cover their higher risk for these loans, which mostly went to small- and medium-sized enterprises or individuals. Waite (1982) shows that as deregulation occurs, an industry-wide profit squeeze occurs. This profit squeeze is particularly tough for established firms that have significant cost disadvantages relative to new entrants.

However, it is not easy for new banks to cut the market share of older banks radically in the short run, although in the long run profits of old banks will often fall. The market shares of banks in Chinese Taipei, either on deposits or loans, are positively related to the number of branches they have (Chang, 1993). At the end of 1995, new banks had an average of 17 branches, while old (domestic) banks averaged 60 branches each. The market share of new banks in loans grew, however, quite rapidly from 4.6 percent in 1992 to 14.8 percent in 1995; whereas that of old (domestic) banks regressed from 91 percent to 80.6

percent during the same period. Foreign banks in Chinese Taipei were also influenced in this respect. Their market share decreased during the first three years of the operation of new banks, with the share dropping below five percent in 1991. For deposits, new banks had 5.8 percent of the total in 1992, and this increased to 12.2 percent in 1995, while the percentage of deposits at the old banks decreased from 92.8 percent to 85.6 percent during the same period. Despite this progress in garnering market shares, however, new banks will still have to strive to improve the confidence of the public in order to extend further their market share, given their handicaps of shorter history of operation and many fewer branches than old banks.

The Impacts on Established Local Banks

Using data from the capital market is more effective than using those from accounting when measuring the effects of regulation/deregulation, since in an efficient market changes in stock prices reflect all relevant information as soon as it becomes available (Schwert 1981).

As a result, Lin (1993) used data on stock prices and studied important market events in order to examine some short-term influences of the founding of new banks on old banks in Chinese Taipei. Eleven events relating to announcements about the establishment of new banks and the deregulation measures were studied, by setting the time lag between the announcement of each event and the response of the public (reflected in stock prices) at 5, 10, 15, and 20 days. It was found, by combining a capital asset pricing model (CAPM) with a seemingly unrelated regression equation (SURE), that some of the events did produce extraordinary impacts on the stock returns of old banks. When 15 new banks were approved, depository, localized, and small-scale old banks, in particular, experienced significantly negative abnormal returns.

For non-depository old banks, formal operation of the first new bank brought negative abnormal returns to their shareholders. Other announcements of approval of new business scopes for new banks generally caused no significant impacts on stock returns of old banks. These measures on scope of business affected, for example, the money market business, foreign division activities, and investment in overseas futures commission merchants. One exception occurred, however, when new banks were allowed to apply to purchase stocks and/or funds. Although this announcement meant that more capital would flow into the stock market, investors perceived that old banks would suffer from this deregulation.

Large-scale old banks (those with total assets of more than US$20 billion) were not significantly influenced by any of the above eleven events tested. This shows that the size of a bank's total assets may be an important factor in their coping with negative effects of deregulation. As shown in Waite (1982), deregulation is usually championed by a few of the largest firms in the industry.

In the United States many weaker firms in the brokerage industry exited in the years following deregulation.

The Impacts on Chinese Taipei's Foreign Banks

Foreign banks have not cited entry barriers and branching limitations in Chinese Taipei as major constraints (Chen, 1995). Instead, deposit and lending limits have been viewed as the most damaging impediments to their operations. In fact, at the same time that the Banking Law was revised in 1989 to deregulate entry of private banks, restrictions on deposit operations, long-term loans, and trusts services by foreign bank branches were also lifted. In addition, branches of foreign banks are now permitted to apply for licenses to operate as securities brokers, dealers, and underwriters. These revisions were included to reduce the impacts of new banks on the island's foreign banks.

Chu (1991) evaluates the impacts of setting up new banks on Chinese Taipei's foreign banks. Foreign banks suffered from large amounts of bad loans in Chinese Taipei during the early 1980s. At the time, they had just entered the market and were not aware of the loan risk characteristics of numerous small- and medium-sized enterprises, which were their most common loan customers. Thereafter, foreign banks adjusted their loan strategies and focused on operation items with low risk, such as trading credit, and corporate financial and investment consultancy, which mainly earned them commission fees. Foreign banks provide high-quality services in areas where they enjoy comparative advantages to earn high commissions.

The development of existing foreign banks that engage in retail banking business is threatened by new banks with many branches. For those foreign banks devoting themselves to wholesale banking activities, however, new banks will probably become their allies for competition in these areas. Establishing strategic alliances with foreign banks has become more popular under more intense competition among banks. In particular, several Japanese banks have cooperated with local banks in Chinese Taipei by providing manpower and/or technical assistance. Areas of cooperation mainly consist of foreign exchange business, innovation of new products, design of computer programs, planning of business activities, and training programs. Japanese banks are eager to cooperate with local banks to extend their overseas business in Chinese Taipei, where numerous Japanese firms' investments are located. It is easier for Japanese banks to promote financial services for Japanese firms via connections already established by Chinese Taipei's local banks.

With regard to the impact of opening the stock market to foreign investment, it is found, first, foreign investment has made the exchange rate more volatile, but has no effect on its level. Second, foreign investment has also stock returns more volatile, but its effects on the level are less clear. Third, prior to the entry of foreign investment to the Taipei Stock Exchange, stock returns were mainly

affected by non-fundamental factors, such as the turnover rate. Since the entry of foreign investment, stock returns are affected by both non-fundamental and fundamental elements.

These results imply, at least for Chinese Taipei, that many challenges will probably emerge in the process of liberalization, such as increased volatility in stock returns and the exchange rate, which will be of concern to the relevant authorities and private sector. Increased exchange rate volatility could especially affect the business operations of the large number of small- and medium-sized enterprises in Chinese Taipei. Under such circumstances, the need to facilitate of channels and instruments for hedging become very significant. In other words, it is important that financial sector liberalization and development of prudential regulation proceed in tandem.

The Australian Experience

In the early 1980s, inquiries into the Australian financial system recommended deregulatory measures to promote competition between existing banks and increase the efficiency of the financial system. In particular, it was argued that the entry of foreign banks would quicken the pace of integration between Australian and overseas capital markets, and that the introduction of foreign banks and the move toward a more competitive environment should present only minimal disruptions to banking operations, provided the rate of entry was carefully controlled.

The Government responded to these calls for liberalization of the foreign investment regime in the financial sector by inviting applications from domestic or foreign interests for a limited number of banking authorities in September 1984; and subsequently authorizing 15 foreign banks to commence operations in February 1985.

Foreign investment policy governing the financial sector has been further liberalized since 1985:

- in 1986, the government announced that investment in non-bank financial intermediaries would be approved unless considered to be contrary to the national interest;
- in 1992, the government stated that it would permit the issue of new banking authorities to foreign-owned banks to operate branches in Australia, subject to certain conditions.
- in April 1997, the government decided to remove the blanket prohibition on a foreign takeover of the four major banks.

Along with liberalizing foreign investment, broader deregulatory initiatives were also undertaken to improve the efficiency and competitiveness of the financial sector and to make Australian capital markets more internationally integrated and competitive.

Foreign investment is greatest in the banking and merchant banking sectors, with substantial foreign investment also in life offices and non-life superannuation. Merchant banking remains the sector with the highest degree of foreign ownership of assets, reflecting, *inter alia,* a history of foreign control given the limited regulation of the merchant banking industry compared to the rest of the financial sector.

The share of banking assets under foreign control remains fairly low. This reflects the dominance of the "big four majors" that, until recently, foreign investors have been precluded from acquiring. These four banks represented almost 80 percent of banking sector assets as of June 1996. In addition, rationalization among regional banks may have tended to limit the scope for significant levels of foreign investment in that part of the banking sector -- although, in 1995 the Bank of Scotland purchased a 51 percent stake in the Bank of Western Australia.

Foreign investment liberalization and deregulation, as well as domestic policies, have had a significant impact, not least on the performance of the Australian financial sector, in terms of technical efficiency, allocative efficiency, and dynamic efficiency.

(i) Technical Efficiency (outputs being produced at the lowest possible cost, using the minimum amount of inputs)

There is evidence that the technical efficiency of the Australian financial sector has improved since deregulation, that is, the financial sector has been managing a greater amount of assets with fewer resources. The result found that these declining costs are primarily due to lower employment in the financial sector, driven by technological restructuring and enhanced efficiency. Additionally, increased competition in the financial sector (including through the introduction of foreign banks) has provided an impetus for domestic institutions to become more technically efficient, by reducing their costs of production.

(ii) Allocative Efficiency (the extent to which prices reflect costs and funds are allocated to their best uses across the economy)

Allocative efficiency can be enhanced by charging costs to consumers (that is, fees and charges imposed by financial institutions) that reflect the underlying costs of providing services. Since deregulation, it is fairly clear that pressure on banks to relate their fees and charges more closely to the true costs of providing services has increased. The increasing prevalence of fees and charges on retail banking accounts has reduced the extent of cross-subsidization. Similar evidence was also observed in the life insurance sector.

(iii) Dynamic Efficiency (representing the extent of innovation in the financial

sector)

The impact of foreign banks in promoting product innovation and development has been significant in a number of areas. For example, in retail banking foreign banks were leaders in introducing electronic banking, providing more flexibility in business accounts, and introducing revolving lines of credit secured against mortgages.

The main impact of foreign banks has been in the wholesale market, including merchant banking activities. In aggregate, the relative contributions of foreign banks to the foreign exchange market, the derivatives market, and funds management are much greater than their share of assets. Foreign banks account for just over half the turnover in Australian foreign exchange markets and in the markets for interest rate derivatives. Foreign banks are also market leaders in various financial markets; they have pioneered new products (for example, binary options) and are the only significant suppliers of some specific financial services (for example, spot foreign exchange markets for some currencies).

In summary, from the cases of Chinese Taipei and Australia, there is little doubt that liberalization can provide a spur to competition. To a greater extent the evidence of Australia also suggests that in the banking sector the entry of foreign banks, facilitated by liberalization, has stimulated the provision of funds from associated financial institutions overseas to companies and governments in Australia. Such a transition should quicken the pace of integration between Australian and overseas capital markets.

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