Measuring and modelling restrictions on trade in services: a case of Asia-Pacific economic cooperation economies

by

Greg McGuire *

* Author is an independent consultant with specialist skills in international trade in services. The views presented in this paper are those of the author and do not necessarily reflect the views of the United Nations, its members or the Macao University of Science and Technology or partners. This paper is also published as chapter 5 in ESCAP (2008) *Emerging trade issues for the policymakers in developing countries Asia and the Pacific*, UN and ESCAP. Author may be contacted at gtmcguire@gmail.com

MEASURING AND MODELLING RESTRICTIONS ON TRADE IN SERVICES: A CASE OF ASIA-PACIFIC ECONOMIC COOPERATION ECONOMIES[1]

By Greg McGuire

Introduction

Trade in services is a rapidly growing area of international trade. Cross-border trade in services represents about 20 per cent of total world exports and in the past 10 years, has been growing at around 7 per cent in United States dollar terms, slightly faster than merchandised trade (WTO, 2007). However, significant restrictions exist that limit flows of world and Asia-Pacific Economic Cooperation (APEC) services trade.

Since the General Agreement on Trade in Services (GATS) was implemented in 1995, APEC has implemented a number of initiatives to progress the liberalization of trade in services. Much of the analysis of services trade liberalization thus far, which feeds into negotiations, is taking place with relatively unsophisticated data and analysis tools. Yet, such tools are important for making informed policy decisions on the best way to further progress in services trade liberalization.

However, this is not easy. Measuring restrictions on trade in services is more difficult than measuring restrictions on trade in goods. International trade in goods involves an exchange of a product between a producer and consumer, and restrictions on such trade usually take the form of a tariff. The effect of trade restrictions on the price of goods can be measured relatively easily by the amount of the tariff. In contrast, trade in services involves a less tangible exchange between the producer and the consumer, and restrictions usually take the form of Government regulations (Productivity Commission, 1999; WTO, 1994).

Too much regulation by Governments, which is the most common form of restrictions, and its effect on the price of services, is often difficult to identify and quantify. Information on Government regulation for different economies with different regulatory regimes is difficult to collect and interpret. However, it is necessary to measure the extent of restrictions on trade in services to analyse the costs and benefits of removing such restrictions. Sophisticated general equilibrium models can be used to provide an insight into the projected real welfare gains from liberalization for the APEC region.

This chapter brings together a comprehensive set of measures for restrictions on trade in services for APEC member economies. It outlines a framework that directly measures restrictions on trade in services, estimates the effect of restrictions on the price and cost of services, and the projected real welfare gains from liberalizing trade in services.

A. Liberalization and regulation of services

1. Why liberalize trade in services?

The liberalization of trade in services increases competition, lowers prices and improves quality. The international competition that comes with trade liberalization is the best guarantee that domestic service suppliers are, and will remain, efficient. Through competition forces, service suppliers reduce waste, improve management and become more efficient (McGuire, 2003b). Costly rent-seeking activities, for the purpose of gaining or maintaining preferential access to a services market, are also less feasible in a liberalized environment. These pressures reduce the operational costs of providing services, with overall welfare increasing as cost savings are passed on to consumers – in a competitive market – in the form of lower prices.

As excess profits of service suppliers are reduced and the number of service suppliers expands, there is a corresponding increase in the choice of services for consumers and businesses. With more service suppliers, they tend to be more attentive to the needs or demands of consumers, and provide services in line with those demands. Innovations produce new services where existing services previously met consumer demands inadequately. Consumers are also more attentive to purchasing value for money services and, as service suppliers respond, the quality of services supplied improves.

Liberalization not only introduces competition and improves the quality of services, but it also facilitates trade in goods. Financial services provide essential trade finance and insurance, telecommunications services facilitate the communication of transactions across borders while transport services provide a means of delivery from one location to another.

If there are clear benefits from trade liberalization, why measure restrictions? These benefits do not accrue equally to economies or through the same transmission mechanisms. A major component in determining the effects is to first measure the size of the restrictions placed on service sectors, because the greater the restrictions the higher the prices paid by consumers and generally the lower the welfare.

Robust and comparable cross-country measures of the costs of restrictions on trade in services can also be used by economies to illustrate the costs to their trading partners of maintaining restrictions. This is particularly important at a time when trade in services is becoming an increasingly important part of the international trade agenda. Economies are exchanging information that supports participation in international trade negotiations, preparing case studies on the benefits of liberalization and developing options for economies to present their liberalization commitments.

2. What to measure?

Researchers aim to measure the effect of restrictions on market outcomes – profit margins or price-cost margins, prices and costs. This provides the necessary input for general equilibrium modellers to simulate the global welfare gains of removing restrictions.

Measuring restrictions and their effects raises the vexing question of what is a restriction. Restrictions can be any type of measure that limits a service being supplied to a consumer in the most efficient way. The restriction can be imposed on a service, such as limits on the distribution of certain services, or on a service supplier, such as a limit on the number of firms in a services market. The effect of restrictions can be partially or fully reflected in the price of a service.

Why do restrictions exist? With many restrictions taking the form of too much Government regulation, Governments impose restrictions because either they succumb to the calls from powerful interests groups to be protected or they overregulate without realizing their implications.

Restrictions can be regulatory or non-regulatory in nature. Regulatory restrictions that are imposed by a Government also impinge on competition. An example is stringent and unjustified licensing requirements. Non-regulatory restrictions are usually private sector practices that restrict the effective competition in a market (for example, the buyer-seller networks that exist in some distribution services markets of economies). In some instances, regulation is often required to correct for the effect of non-regulatory restrictions and ensure effective competition (see below).

Restrictions on trade in services are also non-regulatory and regulatory, and have the effect of limiting the free flow of international trade. These restrictions are often only thought of in terms of being discriminatory or treating foreign service suppliers less favourably than domestic service suppliers. Restrictions can, however, also be non-discriminatory. Non-discriminatory restrictions treat domestic and foreign service suppliers equally but are more than necessary to ensure the quality of a service. For example, a restriction that prohibits the entry of foreign service suppliers into a market is discriminatory. A restriction that prohibits the entry of all service suppliers is non-discriminatory when it is placed on a market where there is a monopoly supplier.

The prevalence of non-discriminatory measures that affect trade in services makes it difficult to differentiate measures with legitimate regulatory objectives from those that are intentionally or unintentionally restrictive. In the case of discriminatory measures, most are aimed at restricting trade, but some measures have legitimate regulatory objectives. These issues are central to why Governments regulate. Governments regulate when markets fail to produce optimal economic outcomes, and for addressing environmental, equity and other social objectives that are unlikely to be met by market forces (Coghlan, 2000). Regulation that meets these objectives by using the most efficient regulatory instruments can be considered as achieving optimal economic outcomes or, for measurement purposes, an optimal level of regulation.

3. An optimal level of regulation

Too much regulation above the optimal level can be restrictive (box 1). It stifles competition, restricts trade and increases prices of services for consumers. However, lower levels of regulation in some sectors does not necessarily equate to better regulation. In some sectors, regulation is essential to foster competition and produce optimal economic outcomes. In network sectors, such as telecommunications, elements of the system possess natural monopoly characteristics. These services need to be regulated to facilitate access to networks for new operators, limit market power of large incumbents and ensure efficient prices are charged.

While too much regulation can be restrictive, too little regulation can also have adverse economic effects. Too little regulation can cause externalities by being less stringent than necessary to achieve the desired objective. For example, Governments regulate (a) financial services to ensure stability, (b) professional services to ensure quality advice and (c) transport services to ensure safety. Kalirajan (2000) argued that too little regulation could also be a restriction. Inadequate protection of intellectual property rights can be a deterrent to foreign service suppliers establishing a presence in a domestic economy.

From a measurement perspective, the more than necessary or restrictive component of regulation needs to be determined. In practice, this is achieved by measuring the difference between the level of regulation that is necessary (or optimal) and the total level of regulation. This difference can be considered as a restriction on trade in services. This approach is practical, given the many constraints that come with international comparisons of regulation; however, but several qualifications need to be made.

There are always difficulties in judging an optimal level of regulation for use in empirical work. Among other things, judgements need to be made about the suitability of the instruments chosen to meet the desired objectives and the appropriateness of the levels at which the instruments are set. International assessments of regulatory regimes are even harder as Governments often pursue different policy objectives, and the needs, priorities, values and circumstances can differ between economies (Doove and others, 2001).

Box 1. Effect of different types of restrictions on prices

Restrictions on trade in services limit the entry, or operations after entry, of service suppliers in a market. Many of these restrictions affect the price of services. The effect of different types of restrictions that solely affect prices is shown in figure 1. D_s is the demand for a service in an economy. For simplicity, the service market is competitive, and the only effect on prices is that restrictions and supply curves are horizontal. Foreign service suppliers are also assumed to be more efficient at supplying the service than domestic service suppliers.

P_o is the lowest price at which a service can be supplied when regulation is at an optimal level to ensure the quality of the service – that is, there are no unnecessary discriminatory or non-discriminatory restrictions. P_o can also be viewed as the world price. Prices start at P_m and fall as restrictions are removed. P_m is the price where there is a monopoly supplier and Government regulation prohibits new entrants. Under these conditions the consumer pays the highest price for the service. P_d is the price where there is free and open domestic competition among domestic service suppliers, but no international competition. P_f is the price of a service with restrictions on foreign service suppliers. Foreign service suppliers are able to enter and operate in the market but have more onerous restrictions than domestic service suppliers. Domestic service suppliers continue to supply services in the market, but at the price set by the more efficient foreign service supplier. P_n is the price of a service with non-discriminatory restrictions – applied equally to foreign and domestic service suppliers – that are more than necessary to ensure the quality of the service.

The imposition of different types of anti-competitive restrictions on domestic and foreign service suppliers raises the price of services in the domestic market above P_o. Too much regulation can have adverse effects on prices while too little regulation can have adverse effects on quality. P_i is the price at which there is insufficient regulation. The price of the service is lower than P_o but the quality is poor.

Figure 1. Effect of different types of restrictions that solely affect prices
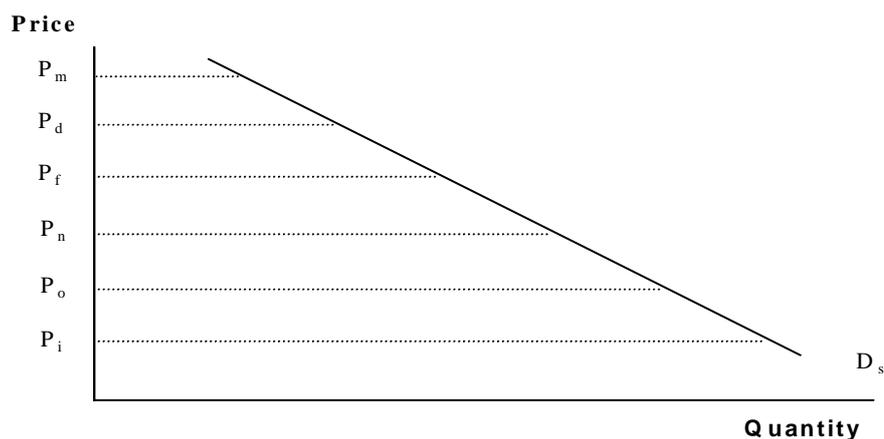
Many restrictions are thought to be price-increasing, but some restrictions are cost-increasing or can be a combination of price-increasing and cost-increasing. Pure cost effects, although not illustrated, will increase the costs of service suppliers. Price and cost effects will increase the prices and costs. The extent of the increase in prices is dependent on the ability of service suppliers to pass on these increased costs in the form of higher prices to consumers.

4. Linking levels of regulation to market outcomes

Restrictions on trade in services affect the economic performance of services suppliers – profit margins or price-cost margins – in different ways. Restrictions on trade in services can have the effect of being:

(a) Price-creating – restrictions protect incumbent firms from competition, which allows firms to increase their prices or rents and expand their price-cost margins; or

(b) Cost-creating – restrictions limit potential or existing firms from operating efficiently and thus push up business costs.

Many restrictions or too much regulation protect incumbent service suppliers from the entry of new competition, which allows them to increase their prices or create rents and expand their price-cost margins. Restrictions on the entry of foreign service suppliers include prohibitions on entry, placing limits on the number of firms or strict licensing requirements.

While many restrictions are thought to increase prices, some restrictions increase the costs of service suppliers (Dee, 2001). Most economies regulate to ensure that services are provided at or above a certain standard. This regulation can have the effect of limiting potential or existing service suppliers from operating efficiently, thus pushing up business costs. This increased cost may be partially or fully reflected in an increase in price, depending on the ability of service suppliers to pass on these costs in the form of higher prices to consumers.

In measuring the different effects, it would be ideal to have data on unit prices and price-cost margins for firms operating under different restriction regimes. The sum of the higher price-cost margins directly attributed to price-creating restrictions and the absolute value or higher costs created directly by restrictions would give a measure of the economic costs of restrictions. However, unavailability of data on unit costs (or unit prices) unfortunately rules out this option. Kalirajan (2000) provides a full discussion of these measurement issues.

Kalirajan (2000) and Nguyen-Hong (2000) proposed an alternative. They used only data on price-cost margins – which are readily available from accounting data sets – to gain an indication of the effects of restrictions. The increases in price-cost margins are interpreted as evidence of price-creating effects and reductions in price-cost margins are interpreted as indirect evidence of cost-creating effects of restrictions. This may be imperfect but it is a workable methodology, given the data constraints. Kalirajan (2000) and Nguyen-Hong (2000) discussed the difficulties involved in this approach. In summary, they basically recognized that price-cost margin data are likely to embody changes in prices and costs other than those created directly by the imposition of restrictions.

These effects can be narrowed down by econometric models developed for the estimation. In measuring the effect of restrictions on price-cost margins, an econometric model is developed from theory that includes all the relevant determinants on the economic performance of service suppliers in that services market – industry- and economy-wide influences. Some of the common econometric variables in the models for

these service sector studies are measures of restrictions on trade (trade restrictiveness index – see below), competition and the cost of capital. These variables are added to variables that are specific to each services market. For example, based on the theory of the economic performance of engineering firms, research and development, recent growth in sales and diversification, among others, are important determinants of price-cost margins.

Clarifying whether restrictions are price-creating or cost-creating is important. Price-creating and cost-creating effects used by general equilibrium modellers have different effects on welfare (Hoekman and Konan, 1999). The removal of price-creating restrictions results in an overall redistribution of welfare. The results for the domestic economy also hinge on who gets the rents – foreign or domestic service suppliers. The removal of cost-creating restrictions results in an efficiency gain. Other things being equal, overall gains from reform tend to be greater in general equilibrium models from removing cost-creating than price-creating restrictions.

B. Framework for measuring and modelling restrictions on trade in services

Measuring the effects of restrictions on trade in services has, until recently, been put in the "too difficult basket". This has mainly been because of the difficulty in identifying restrictions on services. Restrictions on trade in goods usually take the form of a tariff, while restrictions on trade in services usually take the form of Government regulation and a certain level of regulation is usually justified to meet regulatory objectives.

These difficulties have, to some extent, been overcome with advances in economic thinking and the collection of information on restrictions. In a collaborative project, the Productivity Commission and the Australian National University have been measuring and modelling the effect of restrictions on trade in services for a number of economies in Asia, Europe, North America and South America.

The methodology for measuring and modelling restrictions involves three broad steps:
(1) Calculate a trade restrictiveness index. This measures how restrictive a service sector is in an economy;
(2) Estimate the effect of restrictions on the performance of service suppliers – price, cost, price-cost margin or quantity;
(3) Project the economy-wide and global benefits of removing restrictions on services using a computable general equilibrium model.

While there have been advances in this research area, it must be pointed out that this work is still in its infancy. During the past 30 years or more, trade practitioners have developed sophisticated techniques to measure and model the effects of removing restrictions on trade in goods. There is no doubt that the corresponding services research has come a long way in a short space of time; however, much still needs to be done to improve this work further, including the collection of more detailed information on restrictions, the determination of the optimal level of regulation, accurately identifying the precise effects of restrictions and incorporating greater sophistication into general

equilibrium models to cater for the analysis of services trade liberalization (McGuire, 2003a; OECD, 2003).

This methodology is best applied to developed countries as they tend to have better available information and data than developing countries (box 2).

1. Measuring restrictions on trade in services

Restrictions on trade in services are measured using a trade restrictiveness index. The index is a sophisticated frequency measure that estimates the restrictiveness of an economy's trading regime for services based on the number and severity of restrictions.

(a)   *Collecting and classifying restrictions*

Information on restrictions is first gathered and then classified. The information on restrictions is drawn from a number of sources, including material produced by APEC, OECD, WTO and the United States of America Trade Representative. While a comprehensive database of restrictions can be compiled from these sources, it is possible that some service sector regulation and developments may not be covered. However, the information compiled on restrictions is the best that is currently available and is more comprehensive than that provided solely by the GATS schedules of WTO members.

The index methodology then classifies restrictions in two ways. The first is by whether a restriction applies to:

(a) Establishment — the ability of service suppliers to establish a physical outlet in a territory and supply services through those outlets; or

(b) Ongoing operations — the operations of a service supplier after it has entered the market.

Box 2. Measuring restrictions on trade in services in developing economies

The majority of studies that measure restrictions and their effects at least cover developed economies. The coverage of measures decreases significantly as methodologies are applied to developing economies. This is unfortunate because general equilibrium modelling shows that developing economies would experience major structural changes and gain the most from liberalization (Dee and Hanslow, 2000). Robust measurement of restrictions would assist developing economies to understand the precise nature and extent of the costs of, and benefits from liberalization.

There are a number of challenges in applying the methodologies for measuring restrictions to developing economies. The methodologies fundamentally rely on information about restrictions. Developing economies tend to have little or no regulation in some service sectors or "broad sweeping" laws that are applied on a case-by-case discretionary basis. Restrictions on the entry of one foreign service supplier can be applied differently to those imposed on another seeking to enter the same market. Information for developed economies is sourced from domestic and international reports on trade policy. Such information does not exist or is not available in as much detail for developing economies. Although incomplete because of the positive listing approach, GATS illustrates this information gap. High-income economies scheduled about 45 per cent of their services while low-income economies scheduled about 12 per cent (Hoekman, 1995).

Comparable international financial data on service suppliers is also difficult to obtain for developing economies. The Worldscope database is often used to measure the effect of restrictions on price-cost margins (Disclosure, 2000). These data are obtained from publicly listed companies on domestic stock exchanges. Poor corporate governance and reporting requirements in developing economies produces poor financial data and sample sizes that are unacceptable for estimating the effect of restrictions on price-cost margins.

Some methodologies also rely on measuring the level of restrictions or "too much" regulation and then estimating the effects of removing restrictions. However, many developing economies start from a point of having "too little" regulation, most of which is poorly implemented. For example, a contributing factor to the 1997 Asian financial crisis was poor prudential regulation. Affected economies were required to improve their institutional prudential framework and standards as part of the International Monetary Fund's Stand-by Credit Facilities (Fischer, 1998[*]).

These limitations may undermine the results and may require a slightly different approach. Information gaps could be filled by seeking feedback from foreign service suppliers operating in a developing economy market regarding restrictions and their effects. Comparable international survey information could be an alternative to collecting information on actual restrictions. An assessment of the level of regulation in developing countries may also need to be conducted before estimating the effect of restrictions.

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[*] The first Deputy Managing Director of the International Monetary Fund.

Restrictions on establishment often include licensing requirements for service suppliers or firms, restrictions on direct investment in existing firms and restrictions on the permanent movement of people. Restrictions on ongoing operations often include restrictions on firms conducting their core business, the pricing of services and the temporary movement of people.

The second way a restriction is classified is by whether it is:

(a) Non-discriminatory – that is, restricting domestic and foreign service suppliers equally; or

(b) Discriminatory – that is, generally restricting only foreign service suppliers.

This two-by-two classification is similar to that used in the GATS schedules of commitments and generally adopted by economies (WTO, 1994). Restrictions on establishment (or commercial presence) include those affecting services delivered via foreign direct investment (FDI). Restrictions on ongoing operations can affect services delivered by cross-border supply, consumption abroad or the presence of natural persons (other modes of supply recognised under GATS). Non-discriminatory restrictions are similar to GATS limitations on market access while discriminatory restrictions are similar to limitations on national treatment. Table 1 provides an example of how trade restrictions on banking services are classified.

Table 1. An example of classifying trade restrictions on banking services

	Establishment (commercial presence mode of supply)	**Ongoing operations (cross-border, consumption abroad and movement of natural persons modes of supply)**
Non-discriminatory	The number of banking licences is restricted.	Banks are restricted in the manner in which they can raise funds.
Discriminatory	The number of foreign bank licences is restricted.	Foreign banks are restricted in the manner in which they can raise funds.

(b)   Calculating the trade restrictiveness index

A trade restrictiveness index score is calculated for each economy using a methodology of scores and weights. Scores are assigned for each restriction on the basis of a judgement about how stringent it is. The more stringent the restriction, the higher the score. For example, an economy that restricts the number of banking licences is assigned a higher score than an economy that issues new banking licences with only prudential requirements.

The restriction categories are then weighted together according to a judgement about their relative economic cost. For example, restrictions on banking licences are weighted more heavily than restrictions on the temporary movement of people. The weights are generally chosen so that the total restrictiveness index score ranges from 0 to 1. The annex to this chapter outlines the methodology for calculating the trade restrictiveness index score for an economy.

The trade restrictiveness index for each economy comprises two indices – a foreign trade restrictiveness index (or foreign index) and a domestic trade restrictiveness index (or domestic index). An alternative way of looking at it is that the trade restrictiveness index score for each economy is calculated separately for domestic and foreign service suppliers.

    (a) The foreign index score measures all restrictions that hinder foreign service suppliers from establishing and conducting ongoing operations in an economy. It covers both discriminatory and non-discriminatory restrictions;

    (b) The domestic index score measures all restrictions that hinder domestic service suppliers from establishing and conducting ongoing operations in their home economy. It covers non-discriminatory restrictions;

    (c) The difference between the foreign index and domestic index scores is a measure of the discrimination against foreigners.

Figure 2 provides an example of the results from the trade restrictiveness index.

Figure 2. An illustration of results from the trade restrictiveness index
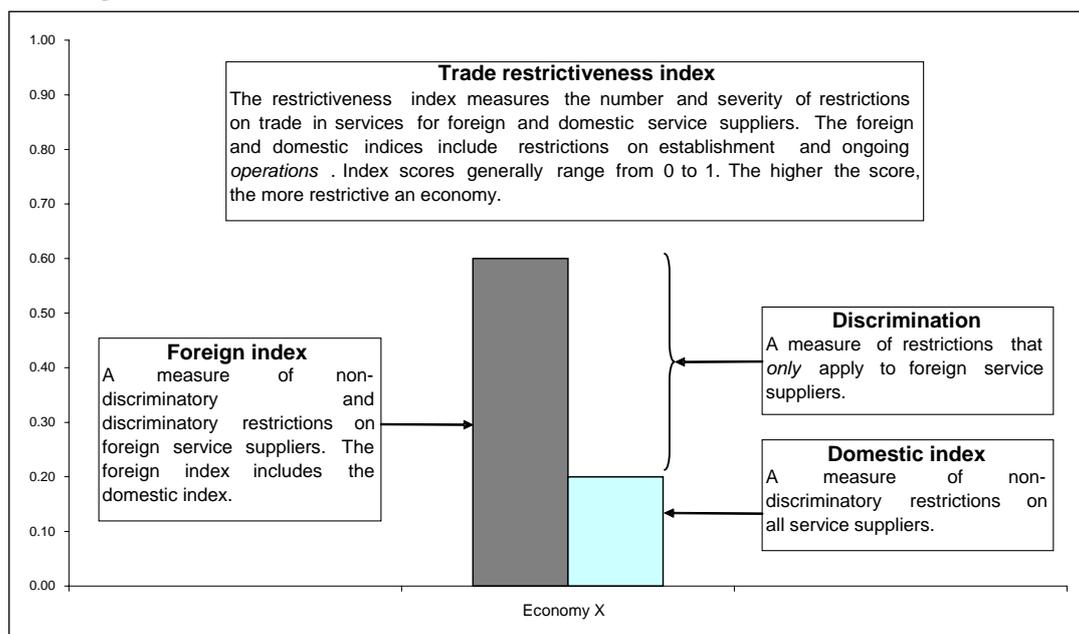
In calculating a score for an economy, it was not determined which restrictions might be justified to enhance efficiency of a services sector and which might not. In general, by reducing competition in a services market, trade restrictions, will reduce that market's efficiency. However, regulation that limits competition is sometimes necessary to deal with market failure and to meet particular objectives. Under this methodology, no assessment was made on the merits or otherwise of the restrictions covered by the trade restrictiveness index or the optimal level of regulation. Thus, a score of 0 for an economy does not represent an optimal level of regulation but is based on the criteria of the trade restrictiveness index that is compiled on the basis of the information collected on restrictions. As mentioned above, it is extremely difficult to assess the merits of regulation for economies with different regulatory objectives and structures.

(c)   Results for APEC member economies

The results of these cross-country studies indicate that APEC member economies vary in their level of restrictiveness for service sectors. Many of the economies that have experienced financial difficulties in recent years – mainly Asian and South American economies – have medium to high restrictiveness index scores. These economies were also found to be the most discriminatory against foreign suppliers.

Figures 3 to 8 show the results for service sectors from the trade restrictiveness indices for APEC member economies. The results are for one year with the exception of banking and telecommunications services, where results for two separate years are available. The second year of the results has been calculated as part of this chapter. Data for each service sector with greater economy coverage (beyond APEC member economies) and more disaggregated data for the trade restrictiveness indices are available in individual papers collected under the Productivity Commission (2001) database on Measuring Restrictions on Trade in Services. It also provides completely disaggregated data down to the scores for specific types of restrictions such as FDI.

Indonesia, Malaysia and the Philippines were the most restricted markets in the region for banking services in 1997 (figure 3). These economies are all characterized by very tight entry controls and restrictions on business operations. Generally, they limit new foreign bank entries, strictly limit foreign equity participation and prohibit banks from expanding their existing operations.

Figure 3. Banking services, 1997[a, b]
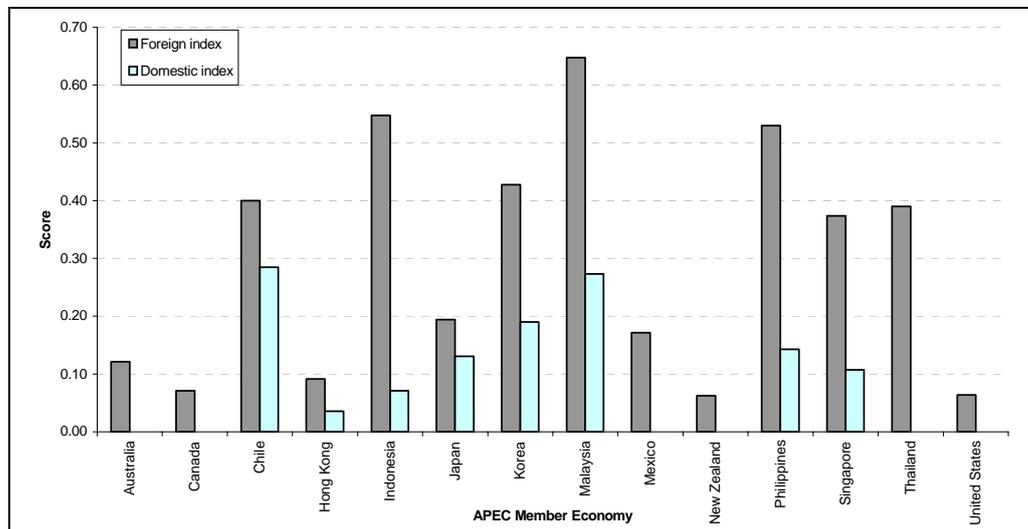
Source: McGuire and Schuele, 2000.
[a] Insufficient information was available to calculate trade restrictiveness indices for Brunei Darussalam, China, Papua New Guinea, Peru, the Russian Federation, Taiwan Province of China and Viet Nam.
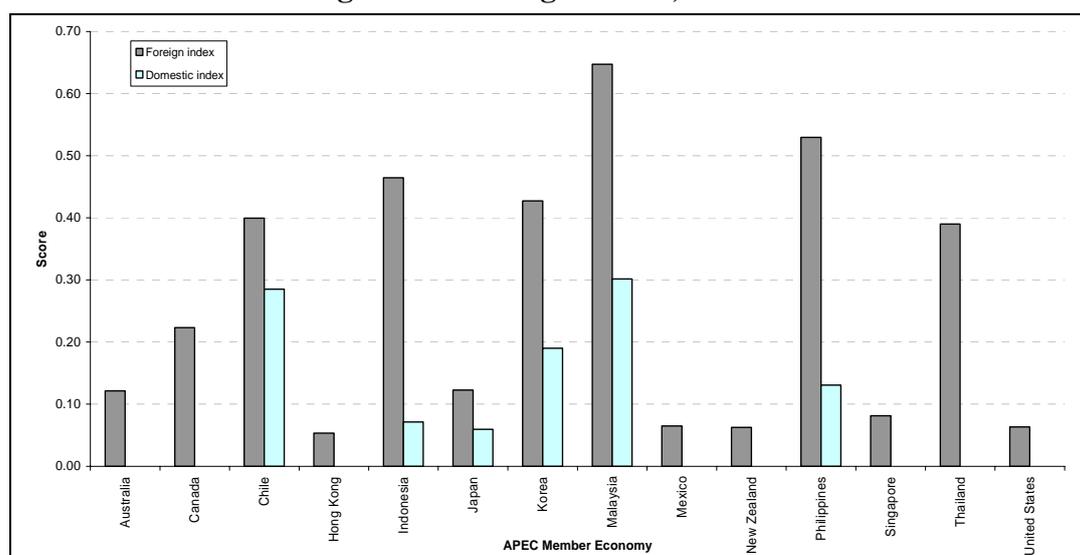[b] The trade restrictiveness indices are based on available information of restrictions in place as of 31 December 1997.

Chile, the Republic of Korea, Singapore and Thailand are moderately restricted. These economies have at least one significant restriction that limits foreign access to their market. This includes either a restriction on licensing, foreign equity participation in domestic banks or restrictions on their operations such as opening new outlets and street branches.

Australia, Canada, Japan, Mexico, New Zealand, the United States and Hong Kong, China, are relatively open markets. These economies have minor restrictions on licensing and foreign equity participation, and some limit banks from providing insurance and securities services. Indonesia, Malaysia, the Philippines and Thailand have the most discriminatory restrictions against foreigners in banking services.

The results of McGuire and Schuele (2000) have been updated as part of this chapter, using their methodology and updated information sources with regard to banking services (figure 4). The results show that there appears to be some liberalizing banking reforms that have reduced the level of restrictiveness in APEC member economies. Indonesia, Japan, the Republic of Korea, Mexico, Singapore and Hong Kong, China, have been implementing liberalizing reforms since 1997. Hong Kong, China, liberalized the ability of banks to open new branches. Indonesia, Mexico and Singapore significantly liberalized FDI in banks. Japan is phasing out its traditional banking, insurance and securities segmentation between financial institutions and has liberalized the ability of banks to open new branches.

Figure 4. Banking services, 2001[a, b]

Source: Results calculated as part of this chapter.

[a] Insufficient information was available to calculate trade restrictiveness indices for Brunei Darussalam, China, Papua New Guinea, Peru, the Russian Federation, Taiwan Province of China and Viet Nam. Little information was available to update the results for the Republic of Korea.

[b] The trade restrictiveness indices are based on available information of restrictions in place as at 31 December 2001.

Malaysia's score was refined because of better available information on non-discriminatory direct investment restrictions in domestic banks. The maximum permissible shareholding in a licensed banking institution is 10 per cent for individuals and 20 per cent for corporations (APEC, 2002).

Canada's score was also refined for a change in policy and more transparent information on its policy. Ownership restrictions are complex. They vary depending on the size of a bank, with ownership being restricted to 20 per cent of large banks (Department of Finance, 1999). Having said that, Canada liberalized part of its banking sector in 1999 by permitting the entry of foreign bank branches. However, as the index only covers restrictions on domestic banks and foreign subsidiaries, this reform had no impact on the results.

Australia, Canada, Chile, New Zealand and Thailand do not appear to have implemented any significant liberalization reforms that have affected the trade restrictiveness indices.

In the case of distribution services, Indonesia, Malaysia, the Philippines, the Republic of Korea and Thailand are the most restricted markets in the region (figure 5). These economies are characterized by foreign firms being prohibited from participating in retail distribution, limits on the number of import licences granted to foreigners, and limits and performance requirements on foreign equity participation in domestic firms. The Republic of Korea imposes non-discriminatory restrictions on all distributors that limit the availability of land and the ability of firms to establish large-scale stores.

Figure 5. Distribution services, 1999[a, b]
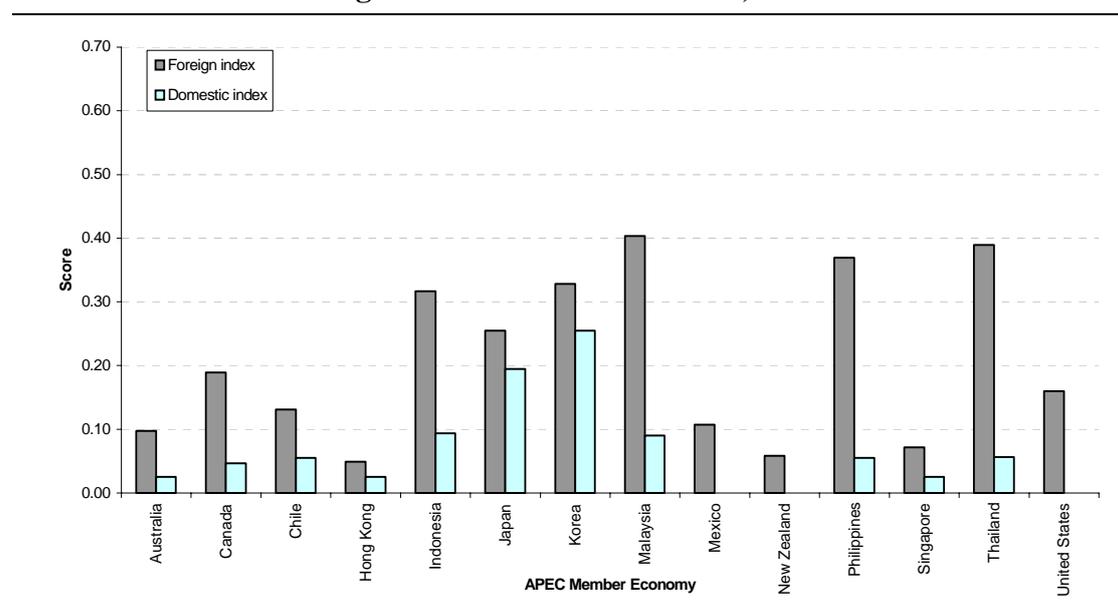
Source: Kalirajan, 2000.
[a] Insufficient information was available for calculating trade restrictiveness indices for Brunei Darussalam, China, Papua New Guinea, Peru, the Russian Federation, Taiwan Province of China and Viet Nam.
[b] The trade restrictiveness indices are based on available information of restrictions in place as of 30 June 1999.

Canada, Chile, Japan and the United States are moderately restricted. These economies have a number of restrictions on ongoing operations. They typically restrict opening hours and promotional activities, impose licensing requirements on management and restrict the movement of people. Japan has non-discriminatory restrictions on the establishment of large-scale stores, zoning and import licences.

Australia, Mexico, Singapore, New Zealand and Hong Kong, China, are relatively open markets. They require screening of foreign investment and licensing of management.

Malaysia, the Philippines and Thailand have the most discriminatory restrictions against foreigners with regard to distribution services.

In the case of maritime services, the Republic of Korea, the Philippines, Thailand and the United States are the most restricted markets in the region with regard to maritime services (figure 6). These economies all have several significant restrictions on maritime services. They permit the formation of liner conferences, require ships to use specified suppliers for port services and restrict ownership of shipping service suppliers. The United States has a highly restricted market for maritime services. Under the Merchant Marine Act 1920 (the Jones Act) all goods transported by water between United States ports must be carried in United States-owned, operated, built and crewed ships.

Figure 6. Maritime services, 1998[a, b]
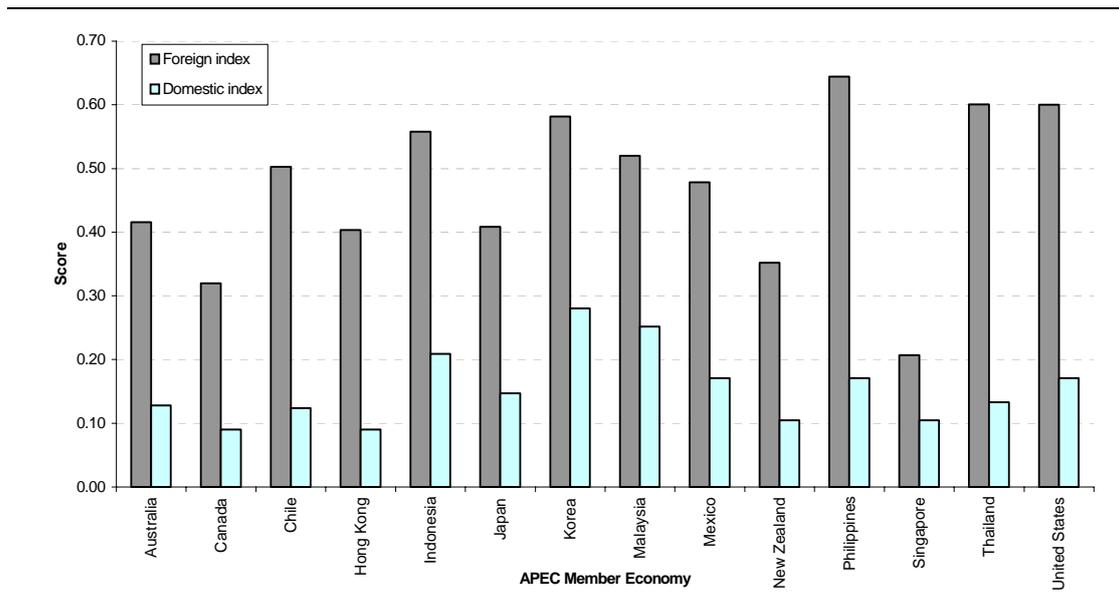
Indonesia, Malaysia, Chile and Mexico are moderately restricted. These economies require foreigners to have a commercial presence in the form of a joint venture with a domestic supplier, non-commercial cargoes to be carried by a Government-owned shipping line, foreign equity participation in domestic suppliers to be limited and the majority of crews on national flag vessels to be nationals of those countries.

Australia, Canada, Japan, New Zealand, Singapore and Hong Kong, China, have relatively open markets. These economies permit liner conferences, impose minor restrictions on foreign vessels and, in some cases, require the mandatory use of certain port services.

The Philippines, Thailand and the United States have the most discriminatory restrictions against foreigners for maritime services.

In the case of professional services, Indonesia, Malaysia, Mexico and the Philippines are the most restricted markets in the region with regard to professional services (figure 7). These economies require nationality and residency for the delivery of professional services, especially legal services. In some professional services, these economies require foreign firms to enter the market through joint ventures with local firms, apply economic needs tests to the number of professionals admitted to practice, limit the form of establishment and limit foreign investment in local firms.

Figure 7. Professional services, 1999[a, b, c]
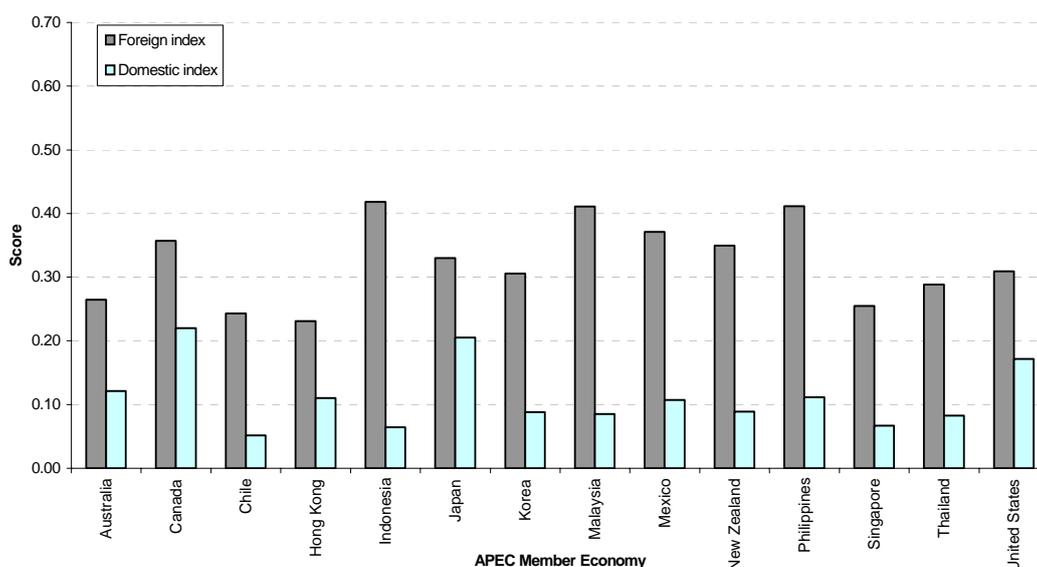
Canada, Japan, the Republic of Korea, New Zealand and the United States are moderately restricted. These economies usually have moderate residency requirements, licensing of professionals, restrictions on the form of establishment and limits on non-professionals investing in professional services firms.

Australia, Chile, Singapore, Thailand and Hong Kong, China, are the least restricted. These economies generally have liberal requirements on residency and foreign ownership, and recognize foreign qualifications.

Indonesia, Malaysia and the Philippines have the most discriminatory restrictions against foreigners for professional services.

In the case of telecommunications services, Brunei Darussalam, China, Indonesia, the Republic of Korea, Papua New Guinea, Thailand and Viet Nam are the most restricted in the region (figure 8). These economies are characterized by major limitations on FDI in fixed network and mobile phone services. They tend to have higher restrictions on FDI in fixed network services than mobile phone services. They also have varying levels of restrictions on access to leased lines and networks.

Figure 8. Telecommunications services, 1999[a, b]

Bar chart showing Score (y-axis, 0.00 to 0.90) for Foreign index and Domestic index across APEC Member Economy (x-axis): Australia, Brunei, Canada, Chile, China, Hong Kong, Indonesia, Japan, Korea, Malaysia, Mexico, New Zealand, Papua New Guinea, Peru, Philippines, Russia, Singapore, Thailand, United States, Vietnam.

Source: Results calculated from Warren, 2000a.

[a] Insufficient information was available to calculate trade restrictiveness indices for Taiwan Province of China.

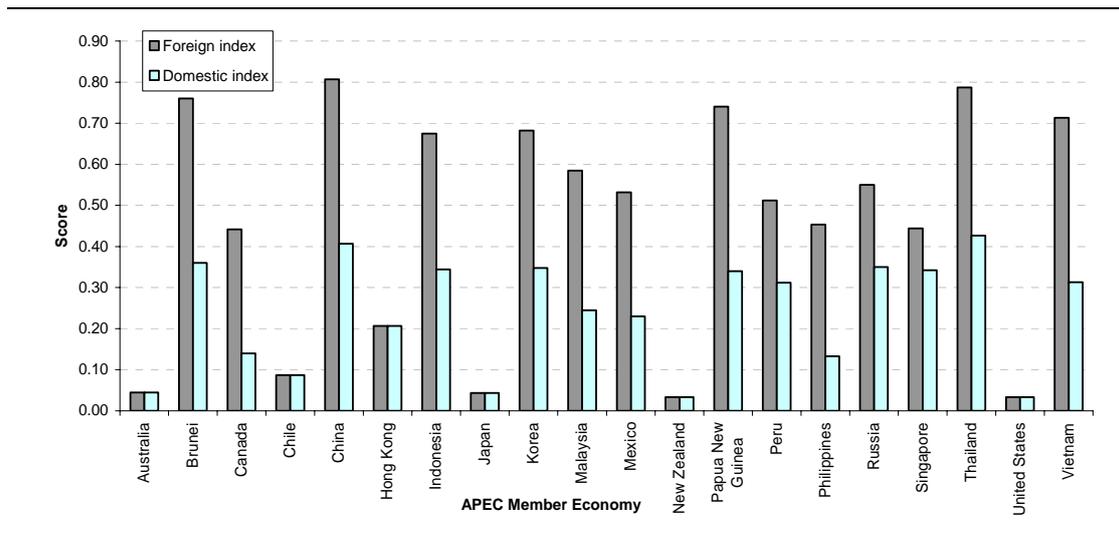[b] The trade restrictiveness indices are based on available information of restrictions in place as of 31 June 1998.

Canada, Malaysia, Mexico, Peru, the Philippines, the Russian Federation and Singapore are moderately restricted. These economies have moderate limitations on FDI in telecommunications service providers. They have similar restrictions on access to leased lines and networks to those economies that are the most restricted.

Australia, Chile, Japan, New Zealand, the United States and Hong Kong, China, are the least restricted. These economies have few restrictions on FDI and cross-border trade of telecommunications services. The Governments of Australia and Japan also have a shareholding in their major telecommunications' companies.

Brunei Darussalam, China, Papua New Guinea and Viet Nam have the most discriminatory telecommunications services restrictions against foreigners.

From 1998 to 2002, substantial liberalizing reforms in telecommunications services were implemented in APEC member economies (Findlay and others, 2002) (figure 9). The most significant liberalization occurred in the supply of cross-border trade in services. Canada, China, Indonesia, Malaysia, the Philippines, Thailand and Hong Kong, China, have generally liberalized access to their telecommunications networks. For example, in recent years, Canada has liberalized the facilities-based international telecommunications market and eliminated the monopoly on satellite telecommunications. Canada, China, the Republic of Korea, Singapore, Thailand, Viet Nam and Hong Kong, China, have, to some extent, liberalized the ability of foreigners to supply fixed network services in a country.

Figure 9. Telecommunications services, 2001[a, b]
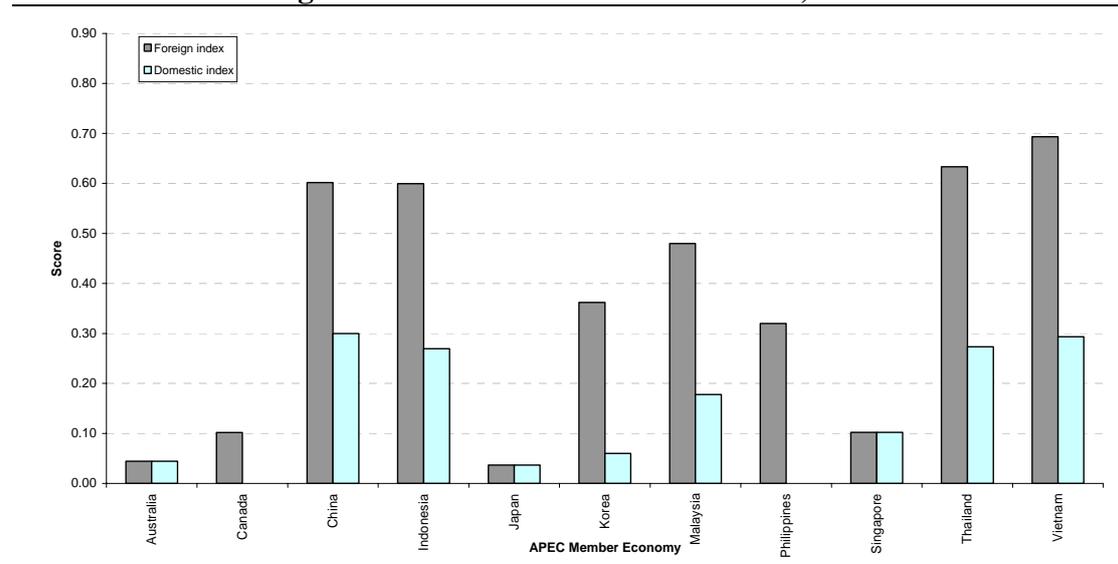
Source: Calculated from Findlay and others, 2002, and updating of the results from Warren, 2000a.
[a] Insufficient information was available to update the trade restrictiveness indices scores for Brunei Darussalam, Chile, Mexico, Papua New Guinea, Peru, the Russian Federation and Taiwan Province of China. New Zealand, the United States and Hong Kong, China, recorded foreign and domestic index scores in 2002 of zero.
[b] The trade restrictiveness indices are based on available information of restrictions in place 2002.

Australia, Japan, New Zealand and the United States have, at the very least, maintained their already liberal trade policies for telecommunications. There have been virtually no major policy changes in Australia, Japan or the United States, and some liberalization of mobile telecommunications services in New Zealand.

2. Effect of restrictions on the economic performance of services suppliers

The results from the trade restrictiveness indices are used to estimate the effect of these restrictions on the economic performance of firms – price, cost, price-cost margins and quantity. As mentioned above, for this purpose an econometric model has been developed and estimated; this model includes all the relevant industry and economy-wide determinants of economic performance of service firms in relevant service sector including the trade restrictiveness index as a measure of restrictions on trade in services.

In the same way as with the classification system used for the trade restrictiveness index, there is a foreign and domestic effect on price-cost margins.

The foreign price-cost margin effect shows the extent to which discriminatory and non-discriminatory restrictions on establishment and ongoing operations affect price-cost margins. This effect can be price-creating (a foreign price effect) or cost-creating (a foreign cost effect).

The domestic price-cost margin effect shows the extent to which non-discriminatory restrictions on establishment and ongoing operations affect price-cost margins. This effect can be price-creating (a domestic price effect) or cost-creating (a domestic cost effect).

The difference between the foreign price effect and the domestic price effect is a measure of discrimination for prices. The difference between the foreign cost effect and the domestic cost effect is a measure of discrimination for costs.

There are less price-cost margin effect measures by sector and country than trade restrictiveness measures. The estimation of the price-cost margin effect measures is limited by inadequate data, and further research is required in some sectors to develop and estimate econometric models such as for maritime services.

The Productivity Commission (2001) provides completely disaggregated data down to the effects on price-cost margins of specific types of restrictions such as FDI.

Results for APEC member economies

The results in table 2 show whether the restrictions are price-creating or cost-creating for a service sector in APEC member economies. Table 2 reports the aggregate effects of restrictions on all service suppliers in a services sector in an economy. These effects show the extent to which restrictions, as measured by the trade restrictiveness index, increase the price and/or cost of services. As expected, the results are similar to the trade restrictiveness index because they reflect the restrictions captured in the index.

The results from the research show that most restrictions are more price-creating than cost-creating for APEC member economies. This is likely to reflect the fact that many of the restrictions, such as those in banking and telecommunications, limit entry and competition, which in turn raise prices rather than impose minimum operational regulations that raise costs. The price-cost margin effect measures for most APEC member economies are up to 150 per cent. Restrictions on establishment contribute the most to increasing the price and cost of services. These include restrictions on the licensing of new firms, FDI, the requirement for foreigners to enter through joint ventures and requirements to enter as a specific type of legal entity.

The foreign price effect measures are up to 150 per cent. In banking, telecommunications and engineering services, China, Indonesia, Malaysia, Papua New Guinea, the Philippines, Thailand and Viet Nam generally have extremely high foreign price effects. Chile, the Republic of Korea, Mexico, Peru, the Russian Federation and Singapore have moderate foreign price effects while Australia, Brunei Darussalam, Canada, Japan, New Zealand, the United States and Hong Kong, China, have low foreign price effects.

The domestic price effect measures are also up to 150 per cent. In banking and telecommunications services, China and Viet Nam generally have extremely high domestic price effects. Chile, Indonesia, Malaysia, Papua New Guinea, Peru, the Philippines, and Thailand have moderate domestic price effects while Australia, Brunei, Darussalam, Canada, Japan, New Zealand, the Republic of Korea, Mexico, the Russian Federation, Singapore, the United States and Hong Kong, China, have low domestic price effects.

Table 2. Price- and cost-effect measures[a-e]

Economy	Foreign effect						Domestic effect					
	Price effect	Price effect	Price effect	Price effect	Price effect	Cost effect	Price effect	Price effect	Price effect	Price effect	Cost effect	Cost effect
	Banking	Banking	Telecoms	Telecoms	Engineer-ing	Distribution	Banking	Banking	Telecoms	Telecoms	Distribution	Engineer-ing
	1997	2001	1998	2002	1999	1999	1997	2001	1998	2002	1999	1999
Australia	9.3	9.3	0.3	0.3	2.8	0.6	0.0	0.0	0.3	0.3	0.0	2.1
Brunei Darussalam	na	na	6.9	na	na	na	na	na	3.3	na	na	na
Canada	5.3	17.7	3.4	0.7	5.3	3.1	0.0	0.0	1.1	0.0	1.0	2.7
Chile	34.0	34.0	1.7	na	na	1.3	23.2	23.2	1.7	na	1.9	na
China	na	na	>150.0	>150.0	na	na	na	na	>150.0	91.8	na	na
Taiwan Province of China	na	na	na	na	na	na	na	na	na	na	na	na
Hong Kong, China	6.9	4.0	1.3	0.0	5.1	0.1	2.7	0.0	1.3	0.0	0.0	2.3
Indonesia	49.3	40.5	138.4	91.8	10.2	3.7	5.4	5.7	70.7	41.3	0.0	3.2
Japan	15.3	9.4	0.3	0.2	6.6	2.3	10.0	4.4	0.3	0.2	6.8	2.2
Republic of Korea	36.7	36.7	8.4	4.1	na	na	14.9	14.9	4.3	0.7	na	na
Malaysia	60.6	60.6	16.1	12.4	12.0	8.2	22.1	24.7	6.7	4.6	4.0	5.3
Mexico	13.4	4.9	14.4	na	14.2	na	0.0	0.0	6.2	na	na	2.0
New Zealand	4.7	4.7	0.3	0.0	na	0.8	0.0	0.0	0.3	0.0	0.0	na
Papua New Guinea	na	na	45.5	na	na	na	na	na	20.9	na	na	na
Peru	na	na	21.3	na	na	na	na	na	13.	na	na	na

Economy	Foreign effect						Domestic effect					
	Price effect	Price effect	Price effect	Price effect	Price effect	Cost effect	Price effect	Price effect	Price effect	Price effect	Cost effect	Cost effect
	Banking	Banking	Telecoms	Telecoms	Engineer-ing	Distribution	Banking	Banking	Telecoms	Telecoms	Distribution	Engineer-ing
	1997	2001	1998	2002	1999	1999	1997	2001	1998	2002	1999	1999
Philippines	47.4	47.4	72.9	35.0	na	na	11.0	10.0	21.4	0.0	na	na
Russian Federation	na	na	13.1	na	na	na	na	na	8.3	na	na	na
Singapore	31.5	6.1	2.7	0.6	5.0	0.0	8.2	0.0	2.1	0.6	0.0	0.8
Thailand	33.1	33.1	55.1	35.9	na	na	0.0	0.0	29.9	15.5	na	na
United States	4.6	4.8	0.2	0.0	7.4	2.3	0.0	0.0	0.2	0.0	0.0	3.8
Viet Nam	na	na	>150.0	>150.0	na	na	na	na	>150.0	>150.0	na	na

Sources: Findlay and others, 2002; Kalirajan, 2000; Kalirajan and others, 2000; Nguyen-Hong, 2000; Warren, 2000b; and results calculated as part of this paper.

[a] na - not available. Insufficient data are available for estimating a price and/or cost effect for these economies.

[b] Nguyen-Hong (2000) calculated price and cost effects for engineering services only. Insufficient data were available for calculating price and cost effects for accountancy, architectural and legal services.

[c] These cost effects for distribution services are for restrictions on establishment.

[d] Some economies have significantly large price effects that are greater than 150 per cent.

[e] From 1997 to 2001, price effects decreased, increased or remained the same for banking services. A decrease indicates liberalization. An increase indicates greater restrictiveness or improved transparency on the restrictiveness of measures that could be more accurately measured. An unchanged price effect indicates that there appears to have been no liberalization or the liberalization has not been captured by the methodology.

In comparing the updated results for banking and telecommunications, the price effects have declined for those economies that have liberalized their services markets. For example, the liberalization in the Philippines' telecommunication market from 1998 to 2002 resulted in an estimated fall in the foreign price effect from 73 to 35 per cent and a fall in the domestic price effect from 21 to zero per cent.

The foreign and domestic cost effect measures for distribution and engineering services are significantly lower than their corresponding price effects. Restrictions on these increase the costs of service suppliers but by a lesser extent than the corresponding price effects.

The price and cost effect measures can show the benefits of removing certain types of restrictions – discriminatory, non-discriminatory, restrictions on establishment or restrictions on ongoing operations – for APEC member economies. For example, Malaysia's foreign price effect estimate shows that the price of banking services (or net interest margins) is 61 per cent higher than what it would be in the absence of these restrictions (table 2). Indonesia's domestic price effect for ongoing operations is estimated to have raised the price of its telecommunications services by 41 per cent more than what it would be in the absence of these restrictions.

It should be noted that there are implications in the sequence of removing certain restrictions. Dee and Hanslow, (2000) noted that some approaches to partial liberalisation could worsen disparities in protection and real income by moving resources further away from a pattern under a world free of distortions.

3. Economic modelling of services trade liberalization

The above price- and cost-effect measures can be used to project the economy-wide and global effects of removing restrictions. This is best done with a global general equilibrium framework, which captures intersectoral effects for an economy and links between economies. This enables an assessment to be made of the impact of sector-specific policies on an economy as a whole.

Numerous general equilibrium studies analysing the economic impacts of policies affecting trade in goods are available, but relatively little work has been completed on assessing the potential gains from alternative trade liberalization scenarios in services (McGuire, 2002). The past difficulties arise from poor information on international service transactions and lack of comprehensive measures of restrictions on trade in services. The modelling of the services trade also requires developing a different modelling structure than that used for the goods trade in order to incorporate the various modes through which services are supplied, that is, to account for the movement of factors of production (OECD, 2000a and 2000b).

There is a significant amount of methodological thinking still required on modelling services trade liberalization, but a number of studies have analysed the effects – Benjamin and Diao (1998) and (2000), Brown and others (1996), Chadha (2000), Chadha and others (2000), Dee and Hanslow (2000), Department of Foreign Affairs and Trade (1999), Hertel and others (1999), and Robinson and others (1999). The results are similar in a number of respects:

(a) There are always substantial global real income gains from services liberalization. In many studies, the gains in terms of real income are similar or greater than liberalization of trade in agriculture and manufacturing combined;

(b) Developing economies gain more than developed economies. Economies with higher restrictions or, mainly, developing economies reap the greatest benefits from liberalization;

(c) Liberalization of trade in services has powerful impacts on agriculture and manufacturing through intersectoral linkages in an economy for some studies. Services are essential inputs to other sectors and substantial productivity gains accrue to other sectors when liberalization improves the efficiency of the service sector.

Dee and Hanslow (2000) used one of the most sophisticated general equilibrium models to analyse the effects of liberalizing trade in services. It is a 19-region (covering Asia, North America and South America, and the European Union) by 3-sector (agriculture, manufacturing and services) computable general equilibrium model of the world economy, known as the FTAP model. The model was developed from the Global Trade Analysis Project (GTAP) model (Hertel, 1997), with the addition of the structure necessary to support the analysis of services trade liberalization.

By drawing on the price-cost margin effect measures outlined above, the Dee and Hanslow model has the capability to simulate the effect of removing certain types of restrictions. Where restrictions raise prices above costs, the price effect measures are incorporated as tax equivalents in FTAP to capture the direct effects of current services trade restrictions. Restrictions on establishment are incorporated as taxes on capital. Restrictions on ongoing operations are incorporated as taxes on the output of FDI firms and the exports of firms supplying via the other modes of delivery.

Different "tax" rates apply to domestic and foreign-owned industries. The model structure ensures that the revenues (or rents) from these "taxes" are divided appropriately between Government and private agents. In future work, the model will be expanded for more sophistication, including incorporating cost-creating restrictions, in order to examine the impact of full and partial multilateral liberalization of services trade.

One of the distinguishing features of FTAP is the inclusion of FDI. The treatment of FDI allows for the examination of the comprehensive removal of restrictions on all modes of service supply, including restrictions on services delivered via FDI. Hanslow and others (1999) fully documented the structure of the FTAP model.

Economic modelling results for APEC member economies

Dee and Hanslow used FTAP to find that the world as a whole is projected to be better off by more than US$ 260 billion annually as a result of eliminating all post-Uruguay Round trade restrictions. Some US$ 133 billion would come from liberalizing services trade while US$ 51 billion would come from liberalizing agriculture and US$ 83 billion from liberalizing manufactures (table 3). These are the

projected gains in real income about 10 years after the liberalization has occurred and the associated resource adjustments have taken place.

APEC member economies are expected to be better off by US$ 110 billion. The service sectors in most Asian economies are projected to expand as their relatively large barriers to entry are removed. China is expected to benefit from the removal of particularly stringent restrictions by US$ 90 billion.

Table 3. Effects from liberalizing trade in services[a, b]

(Unit: Percentage and US$ million)

Economy	Change in real GDP					
	Percentage change			**Absolute change in United States dollars**		
	Primary and secondary	**Tertiary**	**Total**	**Primary and secondary**	**Tertiary**	**Total**
Australia	0.2	0.0	0.2	1 994	2 098	4 092
Canada	0.1	-0.1	0.0	-539	-499	-1 038
Chile	0.7	0.4	1.1	45	330	375
China	3.4	14.6	18.0	14 088	90 869	104 957
Hong Kong, China	-0.2	1.0	0.9	916	5 896	6 812
Indonesia	0.7	5.1	5.9	1 451	2 470	3 921
Japan	0.3	0.0	0.3	20 964	4 130	25 094
Republic of Korea	1.5	0.1	1.6	8 784	1 886	10 670
Malaysia	3.7	0.7	4.5	3 532	1 015	4 547
Mexico	0.3	0.1	0.4	-83	357	274
New Zealand	1.2	-0.1	1.1	4 400	257	4 657
Philippines	5.1	0.4	5.5	1 601	1 236	2 837
Singapore	-0.3	-1.3	-1.5	7 421	-247	7 174
Taiwan Province of China	2.7	0.2	3.0	11 659	-142	11 517
Thailand	2.6	0.2	2.8	4 063	1 698	5 762
United States	0.2	-0.1	0.1	22 734	-1 809	20 925
APEC				**103 030**	**109 545**	**212 576**
European Union	0.1	0.0	0.1	6 394	-6 169	225
Rest of Cairns Group	1.2	0.1	1.3	12 766	6 970	19 736
Rest of the World	1.1	0.8	1.9	11 324	23 039	34 363
World				**133 515**	**133 386**	**266 901**

Source: Adapted from Dee and Hanslow, 2000.

[a] Figures may not add up to total due to rounding off.

[b] These are the projected gains in real income about 10 years after the liberalization has occurred and the associated resource adjustments have taken place.

While Asian economies will receive a greater share of the expanding global services market, service sectors in economies with low restrictions will expand; however, their share of the global services markets in the long term will be smaller.

Australia, Canada, New Zealand, the European Union and the United States are expected to gain, but relatively less than Asian economies. In part, this is because of increased competition via cross-border trade from the newly expanded Asian service sectors.

For some economies – Canada, the European Union, Singapore, Taiwan Province of China and the United States – the contribution of multilateral services trade liberalization is expected to be negative. There are a number of reasons that contribute to this result, but generally, after the restrictions on FDI in foreign economies are removed, the owners of the foreign capital receive a lower return.

Dee and Hanslow also projected the benefits of partially liberalizing services trade. The results show that the greatest global benefits will come from liberalizing non-discriminatory or, mainly, market access restrictions rather than discriminatory or, mainly, national treatment restrictions (table 4). Removing all restrictions on establishment would be better than removing all restrictions on ongoing operations.

Table 4. Effects of partial liberalisation on world real income[a, b, c]

(Unit: US$ billion)

	Remove restrictions on market access	Remove restrictions on national treatment	Dynamic combined effects
Remove restrictions on establishment	56.8	3.7	64.2
Remove restrictions on ongoing operations	25.6	12.9	39.3
Dynamic combined effects	98.8	19.3	133.4

Source: Dee and Hanslow, 2000.
[a] Figures may not add up to total due to rounding off.
[b] These are the projected gains in real income about 10 years after the liberalization has occurred and the associated resource adjustments have taken place.
[c] Because of interaction effects between types of partial liberalization, the figures for "Dynamic combined effects" are not additive.

The results show, however, that it is difficult to find an outcome where at least some economies gain and none lose from partial liberalization, when it involves only removing one class of restriction (non-discriminatory, discriminatory, establishment or ongoing operations).

This suggests that the best strategy for liberalization may be to negotiate gradual reductions in all types of restrictions simultaneously. Non-discriminatory restrictions on all service suppliers should be reduced or eliminated before removing discriminatory restrictions on foreign service suppliers. Dee and others (2000b) argued that reducing non-discriminatory restrictions on service suppliers together was a better approach than only reducing discriminatory restrictions on foreign service suppliers. Reducing discriminatory restrictions on foreigners alone can have a negative impact on the level of services supplied by domestic firms. This will result in lower prices and higher total sales, but domestic service suppliers will end up with a

smaller share of the service sector. However, if restrictions that affect foreign and domestic service suppliers equally are reduced, all service suppliers will have the same opportunities to increase the amount of services they supply in an expanding market.

Verikios and Zhang (2001) also used the FTAP model to analyse the sectoral impacts of removing all restrictions on trade in financial and communication services. They found that the total gain in world income from liberalizing both sectors was US$ 48 billion. Some US$ 24 billion of this would come from liberalizing communications services, with most of the gains coming from removing non-discriminatory restrictions. A further US$ 24 billion is likely to accrue to financial services, with almost all the gains coming from removing discriminatory restrictions. However, the gains from most regions are the highest when all restrictions are removed.

The global gains from liberalizing telecommunications are overwhelmingly derived from improvements in the allocation of resources. The scale of non-discriminatory restrictions to trade in telecommunications services causes a significant increase in domestic capital and labour as well as foreign capital in this service sector, at the expense of other sectors, when these trade barriers are removed. This is captured as an improvement in the allocation of resources. The global gains from liberalizing financial services are mainly due to an increase in the returns to the world capital stock. The importance of discriminatory restrictions to trade in financial services means that their reduction causes a significant increase in foreign-owned capital in this sector, at the expense of domestically owned capital. This is captured as an increase in the returns to the world capital stock.

The benefits from liberalizing trade in services these two sectors are distributed to almost all regions. The largest gains accrue to high-barrier developing regions while smaller gains accrue to low-barrier developed regions. The modelling indicates that developing regions have strong incentives to extend their liberalization commitments to liberalize in these sectors. The modelling also indicates that commercial presence of foreign firms via FDI is an important mode of delivering telecommunications and financial services.

Dee and others (2000a) looked at the question of which sectors could gain from multilateral services trade liberalization. A service sector may not lose from liberalization because the following competing forces are at work:

(a) Not all services trade barriers discriminate against foreign services suppliers, so a service sector could expand because of new entries by domestic service suppliers;

(b) Some services trade barriers restrict inward FDI, so a service sector could expand because of new foreign entries;

(c) Some services barriers discriminate against foreign services delivered cross-border, so a service sector could contract in the face of additional import competition;

(d) Services trade liberalization may benefit downstream using industries, and a service sector may lose out in the competition for domestic resources (for example, labour).

C. What does it mean for APEC member economies?

The Osaka Action Agenda objective is to achieve free and open trade and investment no later than 2010 in the case of industrialized economies and 2020 in the case of developing economies (APEC, 2001). APEC also has a number of specific objectives for liberalizing trade and investment in services as well as investment in general.

In services, APEC member economies will achieve free and open trade and investment in the Asian and Pacific region by:

(a) Progressively reducing restrictions on market access for trade in services;

(b) Progressively providing for, inter alia, MFN treatment and national treatment for trade in services.

In investment, APEC member economies will achieve free and open investment in the Asian and Pacific region by:

(a) Liberalizing their respective investment regimes and the overall APEC investment environment by progressively providing for MFN treatment and national treatment and ensuring transparency;

(b) Facilitating investment activities through technical assistance and cooperation.

The results of economic modelling highlight the value of comprehensive liberalization. For example, the gain from removing all restrictions on market access (those applying to establishment and those applying to ongoing operations) is significantly greater than the sum of gains from partial reform. Similarly, if the focus is on establishment, then it pays to tackle restrictions to both market access and national treatment. The partial approach of concentrating on either market access (for both establishment and ongoing operations) or national treatment yields smaller gains compared to concentrating on all restrictions on establishment (market access and national treatment) or all restrictions on ongoing operations.

If a partial approach is to be adopted, the economic modelling results suggest that restrictions to market access (with respect to establishment or ongoing operations) are more important than restrictions on national treatment. The gains from removing restrictions on establishment are also greater than those from removing restrictions on ongoing operations. If the policy maker has to start somewhere, then the best bet is to tackle market access restrictions on establishment. The major market access restrictions are licensing requirements, direct investment and joint venture arrangements. As the banking and telecommunications sectors are larger than other sectors, and because these services are essential products for other firms, it may be advantageous to focus on liberalizing these service sectors first.

Services sector liberalization will face resistance from those who lose from the policy change. However, reform can have complex effects on the distribution of output even within the services sector. For example, liberalization could lead to an increase in domestic output due to higher levels of domestic and foreign entry. It is also possible that reform that removes restrictions on foreign entry will decrease the output of domestic service suppliers. A key point, however, is that services trade

liberalization will benefit downstream activities, many of which are also services and many of whom are, or could be, services exporters. These features affect the political economy of reform and can be used in the design of reform packages to facilitate policy change.

These results suggest a number of areas for future work. The obvious task is to maintain the set of data on measurements, by updating the coverage to produce a time series of measures and to broaden the country coverage. This more substantial data set can then be used for more extensive exercises in modelling the effects of reform, assessing country strategies for liberalization and working on explanation of patterns of protection across sectors and across countries.

A further extension of the work is to widen the coverage of policy. For example, the focus of reform should not be restricted to liberalization at-the-border. The value of trade reform at-the-border is increased by policy reform behind-the-border, for example, through an appropriate competition policy. Applying effective competition policy in a form appropriate to an economy's stage of development in a way that complements trade liberalization can improve efficiency and orient firms to be outward looking. Assessments of the state of the behind-the-border policies, such as competition policy and other domestic regulatory matters that affect market access, are therefore valuable.

Annex

Trade restrictiveness index methodology

An index methodology quantifies the nature and extent of restrictions on international trade in services. An index uses available information on regulations to quantify the extent to which comparable economies have more or less restrictive trade regimes for international trade in services.

An index is developed by first grouping the restrictions identified into common restriction categories. Restrictions for different economies are divided into two groupings – those affecting establishment and ongoing operations. The reason for distinguishing restrictions on establishment from those on ongoing operations is so that the former can be modelled as restrictions on the movement of capital, while the latter can be modelled as restrictions on output.

Restrictions on establishment affect the ability of a service supplier to enter a services market in an economy and restrictions on ongoing operations affect a service supplier after it has entered the market. Within these two groupings are a number of restriction categories that cover specific restrictions. Annex tables 2 and 3 provide examples of restriction categories in each grouping for service sectors.

Within these common restriction categories, the degree of restrictiveness varies. An index has been developed by assessing the differing degrees of restrictions from most restrictive to least restrictive for most restriction categories. The greater the restriction on services, the higher or more restrictive the score. Scores range from zero to 1, with zero being least restrictive and 1 being most restrictive. A score is

assigned for each restriction category that best reflects the type of restriction imposed by an economy.

Weightings are assigned to restriction categories. Hardin and Holmes, (1997), the Organisation for Economic Co-operation and Development (1997), and Claessens and Glaessener (1998) provide examples of weightings to apply to restriction categories. From those papers, a judgement is made about the cost to economic efficiency of different restrictions. Restrictions that are considered to impose a greater cost on economic efficiency are given a greater weighting. For example, restriction categories covering FDI are given a greater weighting than restriction categories covering the movement of people.

Annex table 1. Extract from the trade restrictiveness index for banking services[a]

(Unit: US$ billion)

Weight	Score	Restriction category
		Restrictions on establishment
0.10		Joint venture arrangements.
	1.00	No new banking licences issued and no entry is allowed through a joint venture with a domestic bank.
	0.50	Bank entry is only through a joint venture with a domestic bank.
	0.00	No requirement for a bank to enter through a joint venture with a domestic bank.
		Restrictions on ongoing operations
0.05		Expanding the number of banking outlets.
	1.00	One banking outlet, with no new banking outlets permitted.
	0.75	Banking outlets are limited in number and location.
	0.25	Expansion of banking outlets is subject to non-prudential regulatory approval.
	0.00	No restrictions on banks expanding operations.

Source: McGuire and Schuele, 2000.
[a] This table includes two restriction categories from the trade restrictiveness index for banking services.

The banking index has a number of restriction categories under restrictions on establishment and restrictions on ongoing operations groupings (annex tables 2 and 3). Annex table 1 provides an extract from the trade restrictiveness index for banking services. For restrictions on establishment, where an economy issues no new banking licences and prohibits the entry of foreign banks, the economy is assigned the most restricted score of 1 for the joint venture arrangements restriction category. Where there are no such requirements, an economy would receive the least restricted score of zero. This category has a weighting of 10 per cent, which contributes to the total score for an economy.

For restrictions on ongoing operations, where an economy only permits one banking outlet with no new banking outlets, the economy is assigned the most restricted score of 1 for expanding the number of banking outlets restriction category. Where there are no such requirements, an economy would receive the least restricted score of zero. This category has a weighting of 5 per cent.

McGuire and Schuele (2000), McGuire and others (2000) and Kalirajan (2000) also accounted for MFN exemptions in their trade restrictiveness indices. MFN exemptions permit an economy to discriminate between economies and to generally provide more favourable treatment to selected economies. Economies with MFN exemptions are considered less restrictive because such exemptions are more liberal for selected economies.

Annex table 2. Restriction categories for trade restrictiveness indices – establishment grouping[a, b]

Banking	Distribution	Maritime	Professional	Telecommunications
Licensing of banks	Restrictions on commercial land	Conditions on the right to fly the national flag	Form of establishment	Direct investment in fixed network services
Joint venture arrangements	Direct investment in distribution firms	Form of commercial presence	Foreign partnerships or joint venture	Direct investment in cellular mobile phone services
Permanent movement of people	Restrictions on large-scale stores	Direct investment in shipping service suppliers	Investment and ownership by foreign professionals	
	Factors affecting investment	Direct investment in onshore services	Investment and ownership by non-professional investors	
	Local government requirements	Permanent movement of people	Nationality or citizenship requirements	
	Permanent movement of people		Residency and local presence	
			Quotas or economic needs tests on the number of foreign professionals and firms	
			Licensing and accreditation of foreign professionals	
			Licensing and accreditation of local professionals	
			Permanent movement of people	

Sources: McGuire and Schuele, 2000; Kalirajan, 2000; McGuire and others, 2000; Nguyen-Hong, 2000; and Warren, 2000a and 2000b.

[a] Each restriction category generally contains varying degrees for restrictions that are scored from zero (least restricted) to 1 (most restricted)**.**

[b] The professional services trade restrictiveness index was calculated for accountancy, architectural, engineering and legal services.

Annex table 3. Restriction categories for trade restrictiveness indices: ongoing operations grouping[a, b]

Banking	Distribution	Maritime	Professional	Telecommunications
Raising funds by banks	Wholesale import licensing	Cabotage	Activities reserved by law to the profession	Cross-border trade
Lending funds by banks	Limits on the promotion of retail products	Transportation of non-commercial cargoes	Multi-disciplinary practices	
Other business of banks - insurance and securities services	Statutory Government monopolies	Port services	Advertising, marketing and solicitation	
Expanding the number of banking outlets	Protection of intellectual property rights	Discretionary imposition of restrictions	Fee setting	
Composition of the board of directors	Licensing requirements on management	United Nations Liner Code	Licensing requirements on management	
Temporary movement of people	Temporary movement of people	Government permits conferences	Other restrictions	
		Bilateral maritime agreements on cargo sharing	Temporary movement of people	
		Composition of the board of directors		
		Temporary movement of people		

Sources: McGuire and Schuele, 2000; Kalirajan, 2000; McGuire and others, 2000; Nguyen-Hong, 2000); and Warren, 2000a and 2000b.

[a] Each restriction category generally contains varying degrees for restrictions that are scored from zero (least restricted) to 1 (most restricted).

[b] The professional services trade restrictiveness index was calculated for accountancy, architectural, engineering and legal services.

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