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Restrictions on Trade in Distribution Services

Staff Research Paper

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Preface

This paper is part of the Commission's research into barriers to trade in services, being undertaken in a collaborative project with the University of Adelaide and the Australian National University. The paper focuses on restrictions affecting trade in distribution services, including wholesale and retail trade.

The paper was written by Kaleeswaran Kalirajan under the direction of Philippa Dee. The author has benefited from comments by Richard Snape, Lynne Williams, Tony Warren, Tom Nankivell and Duc Nguyen-Hong.

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Summary

Trade in distribution services — which includes the wholesale and retail sectors — is subject to an array of restrictions. These hinder firms in entering and/or operating in the distribution market, and are normally imposed through government regulation. While some restrictions are imposed on both foreign and domestic distributors, others apply only to foreign distributors. In addition, 'private sector practises', such as strong buyer-supplier networks in the industry, may also act as a restriction on trade in distribution services.

In general, while restrictions to trade in services may be intended to achieve social objectives, such as preventing urban sprawl and maintaining health standards, they can also have the following adverse effects:

- they can restrict potential or existing firms from operating efficiently and thus push up business costs (cost-creating); and/or
- they can protect incumbent firms from competition and thus allow those firms to raise their price-cost margins (rent-creating).

Hence, judicious reductions in restrictions on trade in distribution services can improve competition and efficiency, and reduce prices paid by the final consumer.

In this study, government restrictions on trade in distribution services have been quantified using an index methodology. This methodology categorises available information on regulation and awards a score to each economy that is based on an assessment of the level of restrictiveness. The greater the restriction on distribution services, the higher (more restrictive) the score. An index score has been calculated for domestic and foreign firms to separately quantify the extent to which regulation restricts domestic and international competition.

The study found that Belgium, India, Indonesia, France, Korea, Malaysia, the Philippines, Switzerland and Thailand are the most restrictive economies. These economies are characterised by stringent requirements on 'establishment' — the ability to 'set up shop' — such as restrictions on the acquisition of commercial land, on foreign direct investment, and on large-scale stores. These economies also impose restrictions on the 'ongoing operations' of a firm, such as nationality requirements on management and local employment requirements.

By these measures, Singapore and Hong Kong are found to be the most open economies. These economies have minor restrictions, primarily on the ability to source labour temporarily from abroad.

The results of the trade restrictiveness index are used in a model to estimate the effects of trade restrictions on food distributors. The model incorporates firm-specific and industry-specific variables, and isolates the effect restrictions have on the price-cost margins of distributors.

The study found that restrictions appear to be primarily 'cost-creating'. It also suggests that Belgium, France, Malaysia and Switzerland are the economies in which restrictions on foreign firms have the largest impacts on the price-cost margins of distributors. These economies have stringent restrictions on establishment. Distribution firms in Canada, Chile, Indonesia, Ireland, Japan, the Netherlands, the United Kingdom and the United States of America experienced moderate impacts on their price-cost margins. Distribution firms in Australia, Greece, Hong Kong, New Zealand, Singapore, South Africa all experienced the smallest profitability impacts. These economies primarily have restrictions on the movement of people.

That said, the results need to be interpreted with caution. The study's focus on price-cost margins reflects limitations on the availability of data. Price-cost margins only capture the *net* affect of 'rent-creating' and 'cost-creating' restrictions. By themselves, they are unable to capture the total effect of both types of restrictions. In addition, the price-cost margins in the study's data set are likely to incorporate increases in prices or costs that are not brought about directly by 'cost-creating' restrictions. Further, the study is based on a relatively small number of observations. Consequently, the results should be regarded as tentative.

1 Introduction

Under the UN Central Product Classification, the distribution sector comprises the services of:

- *commission agents* who on-sell products that are typically owned by others to retailers, wholesalers, or other individuals;
- *wholesalers* who take title to products supplied by others and subsequently resell them to retailers;
- *retailers* who sell goods and services mostly to individual consumers and households; and
- *franchisors* who sell certain rights and privileges such as the right to use a retail business format or trademark (USITC 1998).

The sector is vital to the functioning of a market economy. It is the principal link between manufacturers and consumers, and accounts for up to 50 per cent of the final price that consumers pay for products (Pilat 1997). An efficient distribution sector limits other industries' costs and gives consumers access a wide variety of goods at competitive prices. On the other hand, failure of the distribution sector to perform its role well can lead to a significant mis-allocation of resources and various economic costs (WTO 1998).

An important outcome of the General Agreement on Trade in Services (GATS) in 1994 is the inclusion of distribution services within the framework of multilateral trading rules. Through the Agreement, some World Trade Organization (WTO) member economies have identified their policies affecting trade in distribution services and made specific commitments in relation to some of their existing trade barriers. Although many barriers, including those imposed by 'private sector practices', remain outside the scope of the GATS, the Agreement marks an important step in extending multilateral disciplines to services trade.

The restrictions that governments around the world place on trade in distribution services include zoning restrictions, licensing requirements, limits on store size and opening hours, and investment hurdles and other requirements on foreigners wanting to trade in the domestic distribution sector.

Many of the restrictions are designed to achieve particular social objectives, such as maintaining urban amenity, limiting sprawl and safeguarding health and safety standards. Where they achieve these objectives, they can provide substantive benefits to the community.

But restrictions on distribution services also involve costs. They can restrict competition, hinder distributors' operations, and thereby adversely affect the price, reliability and quality of distribution services.

Further, the extent to which these regulations restrict international trade and affect foreign service providers is often not transparent or readily observable. Trade in services can occur via a foreign firm establishing a branch or 'commercial presence' in a country, or by it supplying the service from across the border. Trade in the two major components of distribution services — wholesale and retail trade — occurs primarily through the commercial presence mode (WTO 1998). Trade via the cross-border supply mode occurs primarily when wholesalers sell their products to foreign retailers. Restrictions on trade in services are not as easy to measure as, say, a tariff levied on imported goods at the border. Consequently, to date only qualitative information or basic counts of countries' restrictions on distribution services have been available (see Hoekman 1995).

This study seeks to develop three approaches to quantify the restrictions on trade in distribution services:

- a trade restrictiveness index measure, based on information on restrictions for a range of countries (chapter 2);
- an estimate of the impact of restrictions on the price-cost margins of food distribution businesses in various countries (chapter 3); and
- the conversion of the price-cost margin impact estimates into cost impact estimates (chapter 4).

In measuring the price and cost effects of the restrictions (in chapters 3 and 4), data limitations have forced an approach which is both exploratory and, of itself, tentative. It is presented and discussed here to stimulate further consideration and development of measures of the impacts of services trade restrictions.

2 A Trade Restrictiveness Index for distribution services

This chapter quantifies the extent of restrictions to trade in distribution services in an array of economies. This entails three steps:

- collecting information on the different types of trade restrictions that governments sometimes apply to distributors;
- developing an index of these restrictions, in which each type of restriction is given a weight depending on how much it restricts trade; and
- using information on the actual restrictions in place in 38 economies, calculating a total restrictiveness score for each economy.

The reasons for this approach are twofold: first, to be able to compare the restrictiveness of the trading regimes of different economies; and second, as an input into work (in chapters 3 and 4) which seeks to estimate the effects on prices and costs of particular types of restrictions.

2.1 Types of restrictions on trade in distribution services

Governments apply a range of restrictions to trade in distribution services. The main categories are set out in Table 2.1. The list and categorisation is based on information from:

- the Tradeport database;
- OECD publications; and
- United States Trade Representative website.

Restrictions are typically imposed by governments through regulation. The restrictions can be specific to distribution services, as in the case of zoning regulations; or they can apply to all industries in the economy, such as restrictions on the ownership of commercial land, and have indirect effects on trade in distribution services. Often, the restrictions are designed to achieve particular social objectives, such as the prevention of urban sprawl and maintaining health and safety

standards. Nevertheless, in doing so they restrict trade in distribution services. In addition, some restrictions, such as nationality requirements for members of the board of directors and management, apply only to foreigner distributors; while others, such as zoning restrictions, apply to both domestic and foreign distributors.

Most of these government regulations restrict trade in distribution services in one of two ways. First, they may constrain the way a distributor functions. For example, limits on promotional activities may mean that a distributor cannot inform the public about goods they have available. Second, they may limit competition in the market for distribution services. For example, restrictions on the acquisition of commercial land make it difficult for a potential new distributor to 'set up shop'.

Table 2.1 **Examples of restrictions on distribution services**

Restriction	*Description of restriction*
Import licences	A licence is required for distribution firms to import selected goods. Licences are issued by governments and require firms to ensure that imported goods meet certain health and safety standards.
Local government requirements	Local government regulations that aim to achieve certain planning objectives such as preventing urban sprawl and creating employment in the local community. These regulations include restrictions on floor space, zoning, and local employment.
Restrictions on the promotion of retail products	Government regulations that limit the ability of distribution firms to promote their products.
Restrictions on the acquisition of commercial land	The acquisition of commercial land by (mainly foreign) firms is restricted or prohibited by government regulation.
Licensing requirements on managements	Government regulation that requires foreign directors and managers to meet certain nationality and/or residential conditions in order to be employed by domestic distribution firms.
Intellectual property rights	The absence of government regulation that provides protection to intellectual property against imitations or copying, through patents, copyrights, industrial designs and to a certain extent trademarks. The United States Trade Representative (USTR) classifies the level of infringements on intellectual property rights into three categories — Priority 301 Watch List, Priority Watch List, and not on either Watch List. The Priority 301 Watch List include countries that deny adequate and effective protection of intellectual property or deny fair and equitable market access. Priority Watch List include countries that lack adequate and effective intellectual property protection or market access. The remaining countries not on a Watch List provide adequate protection of intellectual property.
Government owned monopolies	The presence of government owned monopolies in the distribution of selected goods prevents foreign and domestic distributors from operating in the sector.
Restrictions on foreign direct investment	Government regulation impedes foreign firms investing locally. This regulation prohibits any foreign direct investment or limits foreign direct investment to a maximum proportion.

Another factor which affects the ability of distributors to operate is the presence of statutory government monopolies — government owned enterprises that by law are the sole suppliers of a particular good or service — in the distribution market of certain goods. Australia Post is an example. Statutory government monopolies in the distribution of selected goods mean that neither domestic nor foreign firms can distribute the selected goods either from local outlets or by direct sales from abroad.

While most restrictions on competition derive from too much government regulation, in the case of intellectual property rights, problems arise from insufficient regulation. Specifically, too little regulation can deter a distributor from entering and establishing a distribution network (USTR 1998). In general, economies with a lack of regulation to protect intellectual property rights have inadequate penalties for copyright piracy and higher incidences of copyright infringements.

Copyright infringements tend to have a more significant impact on the profitability of large-scale distributors than on the profitability of flexible, small-scale distributors, such as 'fly-by-nighters' and 'flea marketeers'. All distributors are technically constrained by the law to distribute only those goods that do not contravene copyright regulations. However, breaches by large-scale distributors can be relatively easily detected and the law enforced. The nature of small-scale distributors means they may face less chance of detection and, where they are detected, they may face relatively small costs of relocating their business to avoid further detection. Hence, enforcing the law against these businesses is more difficult. For large scale distributors, this means that some of their potential sales (and profits) are likely to be stolen by these copyright pirates. Consequently, the returns to large-scale distributors in economies where there is a lack of regulation to protect intellectual property rights should generally be lower than they would be if there were an adequate protection intellectual property rights.[1]

That said, it should be noted that excessive protection for intellectual property can also cause inefficiencies, by 'locking away' innovations or allowing innovators to maintain high prices for longer than necessary to induce sufficient investment in innovative ventures and activities. These types of problems normally arise in the

[1] The fact that a lack of protection of intellectual property rights mainly affects the profits of large-scale distributors is important, because the data set used in the econometric analysis (in chapters 3 and 4) consists solely of large-scale distributors. Hence, its results could be taken to suggest that a lack intellectual property rights protection will lessen the profitability of the distribution sector in an economy. However, it should be noted that the overall effect on the profitability of firms in the distribution sector might be neutral or even positive. This is because the lack of property rights protection would generate off-setting benefits for the distributors of the pirated material — which would not be reflected in the data set used in chapter 3.

production sector of an economy. In the case of distribution, excessive protection for intellectual property is unlikely to be a significant problem.

As well as the above governmental restrictions, certain 'private sector practices' such as strong buyer-supplier relationships and soft cartels can also have an impact on trade in distribution services. These practices can hinder potential domestic and foreign distributors from entering the market for distribution services, by impeding their access to inputs necessary to establish a distribution firm. However, these practices have not been treated as formal restrictions in this paper.[2]

2.2 Restrictiveness index methodology

An index methodology is used here to quantify the nature and extent of restrictions on trade in distribution services. An index provides a guide to the extent to which comparable economies have more or less restrictive trading regimes for services. McGuire and Schuele (1999), McGuire et al. (1999) and Nguyen-Hong (2000) constructed similar indexes for banking**,** maritime services and professional services respectively.

The index methodology used in this study covers all restrictions, including those that may be justified for health, safety, urban amenity or other reasons. In general, restrictions on trade reduce competition and/or increase the operating costs of firms. The index therefore attempts to give an indication of the restrictiveness on competition of such restrictions. Doing this is not to imply that the restrictions may not have benefits, nor that those benefits are necessarily less than the efficiency costs. Nevertheless, measuring the cost of restrictions is an important input into an assessment of their overall net effects**.**

Table 2.2 shows the restrictiveness index for distribution services.

[2] The presence of such practices can arguably be attributed to insufficient government regulation of anti-competitive practices, and thus could be included as a trade restriction in the same way that a lack of enforcement on intellectual property rights can restrict trade. On this basis, the presence of private sector practices could be included in the trade restrictiveness index developed in this chapter. However, data limitations on the extent of such practices preclude their inclusion in the index (although a separate variable to control for their effects is included in the analyses of the price and cost impacts of the trade restrictions in chapters 3 and 4).

Table 2.2 **Restrictiveness index for distribution services**

Category weightings[a]			*Score*	*Restriction category*
R[b]	*MFN*[c]	*Total*[d]		
				Restrictions on establishment
0.2000	na	0.2000		**Restrictions on commercial land**
			1.00	Acquisition of commercial land is not permitted.
			0.50	Acquisition of commercial land is permitted, but is restricted to a certain size.
			0.00	No restrictions on the acquisition of land.
0.2000	na	0.2000		**Direct investment in distribution firms**
				The score will be inversely proportional to the maximum foreign equity participation permitted in a domestic distribution firm. For example, equity participation to a maximum of 75 per cent of an existing distribution firm receives a score of 0.25.
0.0500	na	0.0.500		**Restrictions on large-scale stores**
			1.00	National legislation prohibits large-scale stores.
			0.50	Regional and local authorities restrict large-scale stores.
			0.00	No restrictions on large scale stores.
0.0750	na	0.0750		**Factors affecting investment**
			0.30	Takeovers are hindered by regulation.
			0.30	Investors must meet performance requirements.
			0.20	Establishment subject to an economic needs test.
			0.20	Government screening of investment.
0.0750	na	0.0750		**Local government requirements**
			0.40	Establishment subject to a local environmental impact assessment or zoning requirements.
			0.40	Local employment requirements.
			0.20	Restrictions on operating hours.
0.0475	0.0025	0.0500		**Movement of People – Permanent**
			1.00	No entry of executives, senior managers or staff.
			0.80	Executives, senior managers or staff can stay a period of up to 1 year.
			0.60	Executives, senior managers or staff can stay a period of up to 2 years.
			0.40	Executives, senior managers or staff can stay a period of up to 3 years.
			0.20	Executives, senior managers or staff can stay a period of up to 4 years.
			0.00	Executives, senior managers or staff can stay a period of more than 4 years.

Table 2.2 continued

Category weightings[a]			*Score*	*Restriction category*
R[b]	*MFN*[c]	*Total*[d]		
				Restrictions on ongoing operations
0.0750	na	0.0750		**Wholesale import licensing**
			1.00	No new import licences are available for wholesalers.
			0.50	A limited number of new import licences are available for wholesalers.
			0.00	There are no limits on the issue of import licences.
0.0500	na	0.0500		**Limits on the promotion of retail products**
			1.00	Distribution firms are prohibited from using advertising and promotion to market retail products.
			0.50	Distribution firms are limited in their use of advertising and promotion to market retail products.
			0.00	No restrictions on advertising/promotion of retail products.
0.1000	na	0.1000		**Statutory government monopolies**
				The score for an economy is taken from a table of 16 product categories, in which distribution occurs through statutory government monopolies (see text).
0.0500	na	0.0500		**Protection of intellectual property rights**
			1.00	An economy is on the USTR priority 301 watch list.
			0.50	An economy is on the USTR priority watch list.
			0.00	Intellectual property rights are not on USTR watch lists.
0.0475	0.0025	0.0500		**Licensing requirements on management**
			1.00	All directors or managers or at least a majority of them must be nationals or residents.
			0.75	At least 1 director/manager must be a national or resident.
			0.50	Directors and managers must be locally licensed.
			0.25	Directors and managers must be domiciled in the foreign economy.
0.0237	0.0013	0.0250		**Movement of people – Temporary**
			1.00	No temporary entry of executives, senior managers or staff.
			0.75	Temporary entry of executives, senior managers or staff up to 30 days.
			0.50	Temporary entry of executives, senior managers or staff up to 60 days.
			0.25	Temporary entry of executives, senior managers or staff up to 90 days.
			0.00	Temporary entry of executives, senior managers or staff over 90 days.
0.9937	**0.0063**	**1.00**		**Total**

na not applicable. **a** Totals may not add due to rounding. **b** R is the restriction category weighting. **c** MFN is the most-favoured-nation category weighting. **d** Total of the restriction category and MFN category weightings.

Classifying restrictions on trade in distribution services

The index methodology classifies restrictions on distribution services in two ways, both of which align closely with the classification of restrictions under the General Agreement on Trade in Services (GATS).

Establishment and ongoing operations

The first way of classifying a restriction is by whether it applies to:

- a business's *establishment* — the ability of service providers to establish a physical outlet in a territory and supply services through those outlets; or
- a business's *ongoing operations* — the operations of a service provider after it has entered the market.

the restrictions on establishment relate to:

- the acquisition of commercial land;
- direct investment in distribution firms;
- large-scale stores;
- factors affecting investment;
- local government regulations; and
- the permanent movement of people.

The restrictions on ongoing operations relate to:

- the issuing of wholesale licences;
- promotional activities;
- a lack of protection of intellectual property rights;
- the presence of statutory government monopolies; and
- licensing requirements on management and the temporary movement of people.

The reason for distinguishing restrictions on establishment from restrictions 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 affecting the output of distribution service firms. Further, the classification aligns closely with the modes of supply used in the General Agreement on Trade in Services (GATS), where barriers to establishment can be seen as a subset of barriers to 'commercial presence'.

Discrimination between foreign and domestic distributors

The second way restrictions are classified is according to whether they are:

- *non-discriminatory* — that is, restrictions that treat domestic and foreign service providers equally, but restrict activity; and
- *discriminatory* — that is, restrictions that treat foreigners differently from, and generally less favourably than, domestic service providers.

This classification is in accordance with GATS framework, where 'market access' barriers lead to non-discriminatory restrictions and derogations from 'national treatment' lead to discriminatory restrictions.

These indexes quantify the extent to which regulation restricts domestic and international competition. The foreign index covers both discriminatory and non-discriminatory restrictions. It represents all the restrictions that hinder foreign firms from entering and operating in an economy. The domestic index covers non-discriminatory restrictions and represents restrictions that are relevant to all distribution firms. Thus, the difference between the foreign and domestic index score is a measure of discrimination against foreigners.

Consequently, fewer restriction categories are relevant for the domestic index than the foreign index. The domestic index excludes the discriminatory restrictions covering firm entry, licensing requirements on management, and restrictions on the movement of people. Most favoured nation (MFN) exemptions — discussed further below — are also not relevant, as governments generally do not apply these restrictions to domestic firms. The maximum possible value for the foreign index is 1. The maximum possible value for the domestic index is 0.875 (table 2.3).

Table 2.3 **Restriction categories in the foreign and domestic indexes**

Restriction category	*Relevant for foreign index*	*Total weight*	*Relevant for domestic index*	*Total weight*
Restrictions on commercial presence				
Restrictions on commercial land	Yes	0.200	Yes	0.200
Direct investment	Yes	0.200	Yes	0.200
Restrictions on large-scale stores	Yes	0.050	Yes	0.050
Factors affecting investment	Yes	0.075	Yes	0.075
Local government requirements	Yes	0.075	Yes	0.075
Movement of people – Permanent	Yes	0.050	No	na
Other restrictions				
Wholesale import licensing	Yes	0.075	Yes	0.075
Limits on promotion of retail products	Yes	0.050	Yes	0.050
Statutory government monopolies	Yes	0.100	Yes	0.100
Protection of intellectual property rights	Yes	0.050	Yes	0.050
Licensing requirements on management	Yes	0.050	No	na
Movement of people – Temporary	Yes	0.025	No	na
Total weighting or highest possible score		**1.00**		**0.875**

na not applicable.

Restrictiveness category scores and weights

The restrictiveness of an economy's trading regime depends on the number of trade restrictions it has and how restrictive each of those restrictions is. Economies with many restrictions, or with several highly restrictive restrictions, will obviously have a more restrictive regime overall than economies with few, or weak, restrictions.

The index methodology reflects this in the following ways.

Under each restriction category, an economy receives a score depending on how stringent its restrictions in that category (if any) are. The more stringent the restriction, the higher the score. For example, within the 'promotion of retail products' category, an economy that bans advertising gets a score of 1; an economy that merely limits advertising gets a score of 0.5; and an economy with no restriction gets a score of 0.

Then, each category is given a weight to reflect how restrictive that class of restrictions is, relative to other classes. The more restrictive the category, the higher the weight. For example, the 'promotion of retail products' category receives a weight of 0.05, while the 'restrictions on the acquisition of commercial land' category gets a weighting on 0.2. This is because restrictions on the acquisition of

commercial land are judged to have a larger impact on trade than restrictions on advertising.

Finally, an economy's restriction category score is multiplied by the category weight, and the sum of all weighted scores produces a total restrictiveness index score for each economy.

The derivation of the scores and weights used in the index — set out in table 2.2 — is explained below.

Restriction category scores

Within the categories that measure the level of government regulation that restricts trade — all categories other than intellectual property rights — the greater the restrictiveness of a particular regulation, the higher its score. Scores range from 0 to 1, with 0 being least restrictive and 1 being most restrictive.

For the intellectual property rights category, higher levels of regulation attract a lower score. This is because a lack of legislation to protect intellectual property rights can act as a barrier to trade in distribution services (see section 2.1). An economy receives a score according to whether it is on the USTR 301 watchlist, the USTR Priority 301 watchlist or not on any USTR watchlists (refer to table 2.1 and table 2.2).

Importantly, scores are assigned according to actual restrictions rather than stated limits. Some statutory restrictions may not bind in practice. For example, government regulation may restrict foreign equity participation in a firm to 15 per cent, but the government may usually approve investment above this limit. Where possible the score reflects actual restrictiveness, after taking into account approvals above stated limits. Thus, a restriction that is applied as prescribed receives a higher score than a restriction where government approval is usually forthcoming.

The score for a few restriction categories — factors affecting investment, local government requirements — is calculated by the addition of similar restrictions. These restrictions categories cover a number of restrictions that are additive rather than mutually exclusive, so the overall score in these categories is the sum of the scores from the separate restrictions. For example, in the factors affecting investment category, a score of 0.5 is assigned where there are restrictions that hinder takeovers (0.3) and government screening of investment (0.2).

For the government monopoly category, the score an economy receives is based on the presence of government monopolies in 16 selected product categories shown in table 2.5. As discussed in section 2.1, if selected products are distributed by

statutory government-owned monopolies, this prevents other domestic and foreign firms from entering the distribution market for those selected products and limits the ability of foreign firms to supply the selected products through the cross-border mode. To reflect this, the presence of government monopolies in any of the 16 product categories receives a score of 1 (see table 2.4), and the scores from each product category are totalled and divided by 16 to show the extent of the restrictions for all product categories.

An issue that arises in scoring economies in two of the categories — the movement of people and licensing requirements on management — is how to deal with MFN exemptions. These exemptions typically allow economies reciprocal or preferential treatment with a particular set of partner economies. If the details of the reciprocal or preferential treatment were known, this information could be built directly into the computation of the index as so far described, but on a bilateral basis. If an economy granted preferential treatment on the movement of people with a partner economy, for example, and the extent of preferential treatment were known, its

Table 2.4 **Scores for statutory government monopolies**

Score	*Presence of government monopolies*
1.00	*Product is distributed by a statutory government-owned monopoly.*
0.00	*Product not distributed by a statutory government-owned monopoly.*

Table 2.5 **Product categories**[a]

Product Categories
Motor Vehicles and MV parts and supplies
Furniture and home furnishings
Lumber and other construction materials
Professional and commercial equipment and supplies
Metal and minerals, except petroleum
Electrical goods
Hardware and plumbing and heating equipment and supplies
Machinery, equipment and supplies
Paper and paper products
Drugs, drug proprietaries and druggists' sundries
Apparel, piece goods and notions
Groceries and related products
Farm-product raw materials
Chemicals and allied products
Petroleum and petroleum products
Beer, wine and distilled alcoholic beverages

a The product categories are taken from the US Standard Industrial Classification (SIC). These product categories are SIC 501-508 and 511-518.

Source: OECD (2000)

index score for this restriction category could be computed separately for that partner economy, and would be lower than against other economies. The MFN exemptions scheduled under the GATS specify the sectoral coverage, the economies to which they apply and the intended duration. These exemptions can apply to selected or all WTO Members. However, the information sources typically do not spell out the nature or extent of the reciprocal or preferential treatment.

The treatment of MFN exemptions used in this study is the same as that used by McGuire et al. (1999). The type of exemption or bilateral arrangement is given a score, rather than adjusting each restriction category for any reciprocal or preferential arrangement between two economies. The scoring still recognises that an economy that applies a MFN exemption or bilateral arrangement to one or a number of economies has lower restrictions overall than an economy without such an arrangement. Thus, economies with MFN exemptions or bilateral arrangements receive a lower score than economies without those arrangements.

Table 2.6 outlines the scores for the two types of MFN exemptions — preferential treatment and reciprocity. The MFN exemption matrixes for distribution services are 38 by 38 and are used to calculate a score for the permanent and temporary movement of people and the licensing requirements on management.

MFN exemptions are assigned scores in a matrix to measure how the 38 economies treat each other. For example, suppose economy A has a preferential treatment MFN exemption with economies B, C, and D on licensing requirements on management. In the matrix, economies B, C and D receive a score of 0 and the 34 remaining economies receive a score of 1. The total score of 34 is divided by 37 to obtain a pro rata score for the number of economies to which the MFN exemption is not applied. The denominator of 37 reflects the number of economies in the sample that the economy can potentially trade with, since it cannot have a MFN exemption with itself. Thus, economy A scores 0.92 for licensing requirements on management. This score is then multiplied by the respective MFN weighting in table 2.2.

Table 2.6 **Scores for MFN exemptions — movement of people and licensing requirements on management**

Score	*Type of MFN exemption*
1.00	No MFN exemption.
0.50	MFN exemption with reciprocity with selected or all economies.
0.00	MFN exemption with preferential treatment with selected or all economies.

Restriction category weights

Weightings are assigned to restriction categories by making an *a priori* assessment of the cost of restrictions to trade in distribution services. Ideally, econometric analysis (such as that discussed in the following chapter) could be used to determine weights for each restriction category. However, the lack of in-sample variation for many restriction categories makes it difficult to estimate coefficients for individual restriction categories. Consequently, the determination of weights for restriction categories is subjective.

The approach in this paper is guided by that of Hardin and Holmes (1997), OECD (1997), Claessens and Glaessner (1998), McGuire and Schuele (1999) and McGuire et al. (1999). The OECD (2000) states that the largest mode of trade in distribution services is through the establishment of a commercial presence. Thus, restrictions that hinder the establishment of a commercial presence will have the greatest cost on trade in distribution services, and are given the largest category weighting. Of these, restrictions on the acquisition of commercial land and on foreign direct investment receive the largest category weightings (refer to table 2.2). While changes in the weights would lead to some changes in the rankings of the economies studies, the results using the chosen weights align closely with results of other studies of the effects of trade restrictions (see section 2.3).

2.3 Results for 38 economies

The index methodology developed in section 2.2 has been used to calculate individual economy scores for 38 economies from the Asia-Pacific, Europe and American regions.

A consolidated listing and description of restrictions on distribution services in these economies (wholesale and retail services) has been compiled from a number of sources:

- the GATS schedules for distribution services are the starting point (WTO 1994);
- WTO Trade Policy Reviews, which describe regulation applying to services, trade restrictions and trade policies for WTO Members (WTO 1996, 1997 and 1998);
- the National Trade Estimate Report on Foreign Trade Barriers from the Office of the United States Trade Representative, which covers information on restrictions on distribution services for most economies (USTR 1998);

- APEC Individual Action Plans, which list restrictions and liberalising commitments in reports covering services, investment, competition and deregulation (APEC 1997a and 1998);
- TradePort internet site, which covers information on restrictions for most economies (TradePort 1998); and
- OECD publications.

The information reflects, as far as possible, restrictions applying to distribution services as at June 1999.

The reliability of the index for different economies depends on the quality and depth of information. Given the number of economies covered, some restrictions may not be captured or may be scored differently from the way they are applied in practice. The danger is that a higher score may simply reflect a greater availability of data rather than a more restrictive regime. The sources used here are the best known sources of data on distribution services.

Some restrictions may not necessarily fit within a restriction category. This may be because, for example, certain restrictions apply only in one economy and are not covered by a restriction category in the index. These restrictions are not directly assigned a score but are used as background information in assigning appropriate scores in some restriction categories.

Aggregate results

The results show that restrictions on distribution services vary significantly among economies. Some economies have few restrictions, while others have a broad range of restrictions. Singapore, Chile and Hong Kong have relatively few restrictions in the distribution sector, while Belgium, India, Indonesia, France, Korea, Malaysia, the Philippines, Switzerland and Thailand are relatively restrictive (tables 2.7 and 2.8). These economies have high scores relative to the other economies mainly because they restrict the acquisition of commercial land and limit foreign direct investment. As noted earlier, the foreign index covers both discriminatory and non-discriminatory restrictions and the domestic index covers non-discriminatory restrictions. The difference between the foreign and domestic index score is a measure of discrimination.

Figure 2.1, 2.2 and 2.3 at the end of this chapter show the foreign and domestic index scores for selected economies. Table 2.9 to 2.13 provides the numerical results for the index split by groupings and restriction categories.

Table 2.7 **Summary of foreign restrictiveness index scores**

Restrictiveness scores from 0 to 0.15	*Restrictiveness scores from 0.15 to 0.30*	*Restrictiveness scores greater than 0.30*
Argentina, Australia, Chile, Hong Kong, Mexico, New Zealand, Singapore, South Africa, Turkey and Uruguay.	Austria, Brazil, Canada, Colombia, Denmark, Finland, Germany, Greece, Ireland, Italy, Japan, Luxembourg, Netherlands, Portugal, Spain, Sweden, the United Kingdom, the United States and Venezuela.	France, India, Indonesia, Malaysia, the Philippines, Korea, Switzerland, Thailand and Belgium.

Table 2.8 **Summary of domestic restrictiveness index scores**

Restrictiveness scores from 0 to 0.10	*Restrictiveness scores from 0.10 to 0.20*	*Restrictiveness scores greater than 0.20*
Argentina, Australia, Austria, Brazil, Canada, Chile, Denmark, Finland, Germany, Greece, Hong Kong, Indonesia, Ireland, Luxembourg, Malaysia, Mexico, Netherlands, New Zealand the Philippines, Portugal, Singapore, South Africa, Spain, Sweden, Thailand, Turkey, the United Kingdom, Uruguay and the United States	*Colombia, France, India, Italy, Japan, Switzerland, Venezuela and Belgium*	*Korea*

Asia Pacific economies

Foreign index

India, Indonesia, Malaysia, Korea, Thailand and the Philippines are the most restricted markets for distribution services in this region.

- India has restrictions on import licences for numerous goods that act as a virtual ban on imports. In addition, there are also limits on foreign equity, intellectual property rights concerns and statutory government monopolies that affect the ability of distribution firms to operate.
- Indonesia issues no licences for the import of agricultural produce and has restrictions on foreign direct investment in the distribution sector. Also, an Indonesian firm must also be employed for wholesale distribution where a foreign firm does not locally manufacture its products and foreign firms are prohibited from participating in retail distribution.

- Malaysia has limits on the number of import licences issued to foreigners and limits on foreign equity participation. There are also local content and employment requirements in Malaysia.
- In the Philippines, only Filipino citizens may engage in retail trade. There are also capital and performance requirements for foreign direct investment.
- In Korea, there are restrictions on foreign direct investment and non-discriminatory restrictions that are discussed in the domestic index.
- Thailand has restrictions on the acquisition of commercial land, restrictions on investment, wholesale import licences and restrictions on temporary and permanent movement of people.

Japan obtained moderate foreign index scores. Japan has zoning requirements and restrictions on advertising and promotional activities.

Australia, Hong Kong, Singapore, South Africa, New Zealand and Turkey obtained relatively low foreign index scores. Australia and New Zealand impose relatively minor administrative restrictions on foreign investment. Australia, Hong Kong, South Africa, Singapore and Turkey have some non-discriminatory restrictions (the details of which are covered in the domestic index).

Other studies of restrictions in the distribution market have found results similar to this study. During the Uruguay Round negotiations, the OECD (2000) found that the market for distribution services among developing economies appears to be the most restricted in India, Indonesia, Malaysia and the Philippines. In addition, *APEC Guidebook on Investment Regimes* states that the wholesale markets in Hong Kong, Singapore and China (not considered in this study) appear to be completely open (OECD 2000).

Domestic index

India, Japan and Korea obtained the highest domestic index scores in the region.

- India has restrictions on import licences for numerous goods, which act as a ban on importation. In addition, there are statutory government monopolies and inadequate enforcement of regulations to protect intellectual property rights.
- Japan has restrictions on large-scale stores, zoning and opening hours. Also, there exist statutory government monopolies, inadequate enforcement of intellectual property rights, restrictions on promotional activities and wholesale import licences.
- Korea has zoning regulations that restrict the availability of commercial land and national the establishment of large-scale stores.

Australia, Hong Kong, Indonesia Malaysia, New Zealand, the Philippines, Singapore, South Africa, Thailand and Turkey obtained relatively low scores in the domestic index. All these economies, apart from Malaysia and New Zealand, attracted a score for their level of enforcement of regulations protecting intellectual property rights. Indonesia, Thailand and Turkey also have state monopolies, which hinder the operation of private firms. Indonesia and Malaysia grant a limited number of wholesale import licences for the importation of selected goods and Malaysia also has screening on investments.

Discrimination between foreign and domestic firms

Malaysia and the Philippines are the most discriminatory against foreign firms in the distribution sector — foreign firms are treated significantly less favourably than domestic firms.

- Malaysia has foreign equity limits, local content restrictions, and stringent requirements on the licensing of management.
- The Philippines has regulations that forbid firms not wholly owned by Filipinos from participating directly or indirectly in retail trade. There are also performance requirements on foreign investment in the wholesale sector.

American economies

Foreign index

Venezuela and Brazil are the most restricted economies in the region.

- Venezuela has foreign direct investment restrictions, restrictions on the permanent and temporary movement of people and licensing requirements for management. In addition, there are sanitary and phytosanitary restrictions, which restrict the import of agricultural and food imports, statutory government monopolies and intellectual property rights concerns.
- Brazil has restrictions on foreign direct investment and the permanent and temporary movement of people. Further, there are statutory government monopolies, which hinder the operations of private firms in the distribution sector.

Argentina, Chile, Mexico, Canada, Colombia and the United States have lower foreign index scores. All the economies have restrictions on the temporary movement of people and licensing requirements on management. Argentina, Chile, Mexico, Canada and Colombia have restrictions on the permanent movement of

people. Argentina, Chile, Canada and Colombia are on the USTR priority watch list for infringements of intellectual property rights. Canada and the United States have restrictions on the acquisition of commercial land. Chile and Colombia have local employment requirements. Canada and Mexico screen foreign investment. Colombia also has wholesale licences, restrictions on promotional activities and state monopolies.

Uruguay is the most open economy in the region. However, Uruguay still screens investment, has restrictions on the temporary and permanent movement of people, licensing requirements for management and state monopolies.

Domestic index

Colombia and Venezuela obtained the highest domestic index score in the region.

- Colombia screens both domestic and foreign investment and has statutory government monopolies distributing selected goods.
- Venezuela has wholesale import licences, statutory government monopolies and inadequate enforcement of intellectual property rights regulations.

Argentina, Brazil, Canada, Chile, Mexico the United States and Uruguay obtained relatively low domestic index scores. Argentina, Chile, Canada and Colombia have intellectual property rights concerns. Brazil, Canada and Colombia have state monopolies. The United States had no restrictions that were picked up in the index.

Discrimination between foreign and domestic firms

Brazil, Mexico and the United States are the most discriminatory against foreign firms. Both Mexico and Brazil discriminate against foreign investment, through screening in Mexico and through foreign equity limits in Brazil. The United States discriminates against foreign ownership of land and has restrictions on the temporary movement of people and licensing requirements on management.

European economies

Foreign index

All the economies in the region have restrictions on the permanent and temporary movement of people, nationality requirements on the licensing of management, intellectual property rights infringements (USTR priority 301 watchlist), and restrictions on the acquisition of commercial land by foreigners.

Belgium, France, Italy and Switzerland are the most restrictive economies in the region. These economies have significant non-discriminatory restrictions that are covered in the domestic index, as well as significant discriminatory restrictions.

Denmark, Finland, Germany, Greece, the Netherlands, Portugal, Spain and Sweden all obtained a moderate foreign restrictiveness index score. Finland has a licensing requirement for non-European Economic Association residents in selected industries. Greece has licensing requirements for foreign sales agents and limits on the repatriation of royalties. Portugal screens foreign investment. These economies also have non-discriminatory restrictions, which are covered in the domestic index. Austria, Ireland, and the United Kingdom are the most open markets in the region.

Domestic index

Belgium, France, Italy and Switzerland obtained the highest domestic index scores in the region. They all restrict promotional activities by distribution firms.

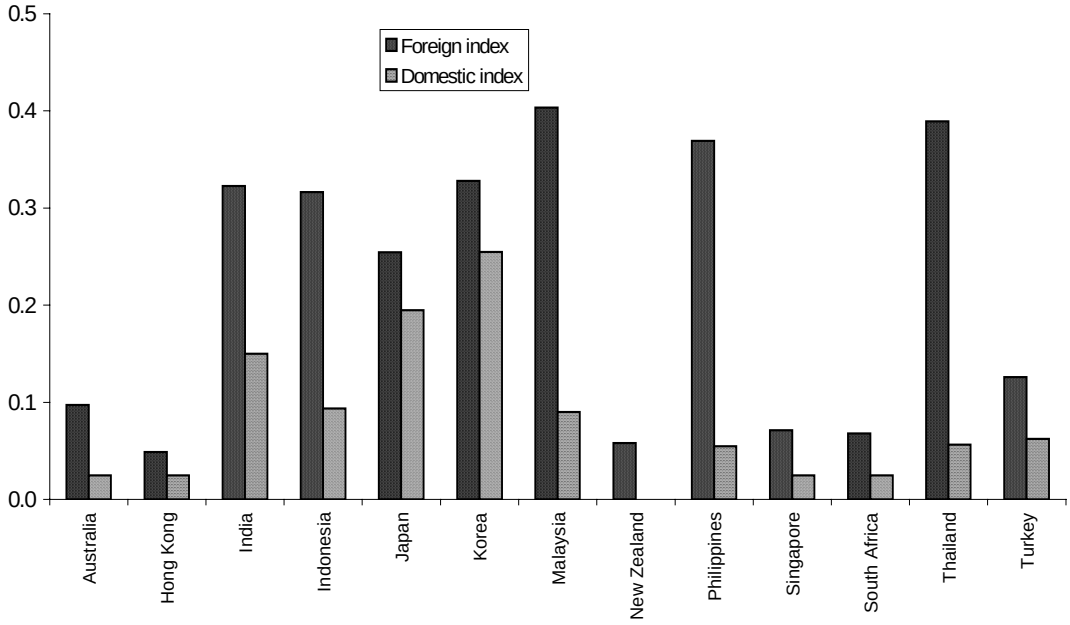
- France also has stringent requirements on domestic firms being able to acquire other firms, restrictions on store sizes, opening hours and government monopolies that distribute selected goods.
- Belgium has restrictions on takeovers and mergers, regulations to protect small stores from competition and state monopolies.
- Italy has restrictions on takeovers, large stores and operating hours.
- Switzerland has restrictions that hinder the takeover of domestic firms, restrictions on zoning and local employment, and has statutory government monopolies that distribute selected goods.

Austria, Denmark, Finland, Germany, Greece, Ireland, the Netherlands, Portugal, Spain, Sweden and the United Kingdom obtained lower domestic index scores. Denmark has a minimum capital requirement for investment, and there are restrictions on promotional activities. Germany has measures that hinder takeovers and restrictions on promotional activities. In the Netherlands, there are restrictions on promotional activities. Spain has restrictions on large-scale stores. Sweden has practical impediments that restrict investment.

Discrimination between foreign and domestic firms

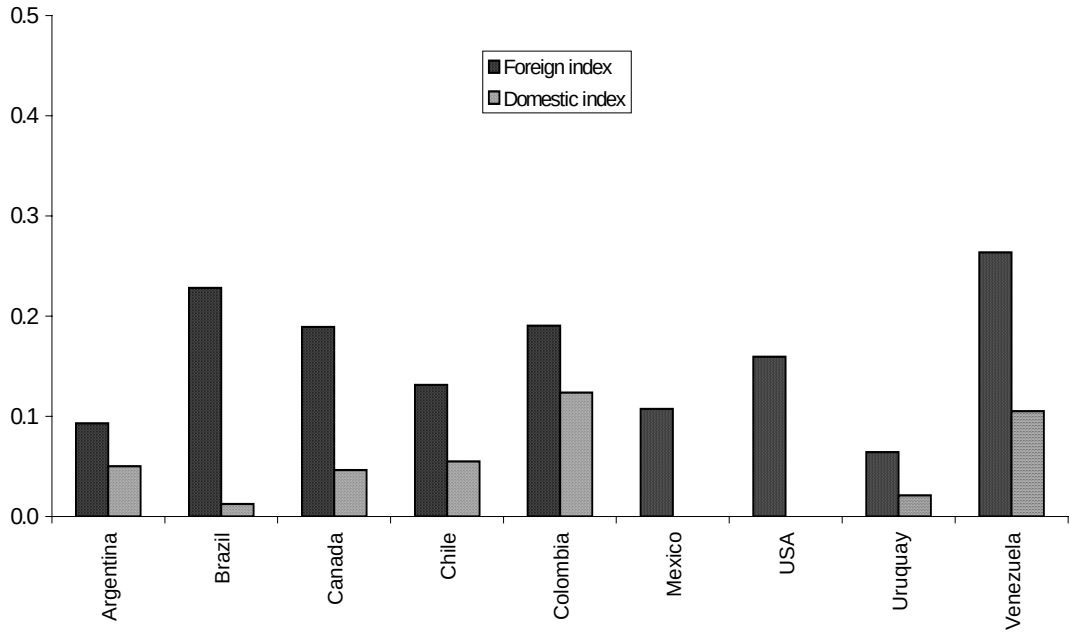
Greece is the most discriminatory economy in the region. Greece requires licences for foreign firms, places restrictions on the repatriation of royalties and on the licensing of management.

Figure 2.1 **Restrictiveness indexes for selected Asia Pacific economies, South Africa and Turkey**[a]



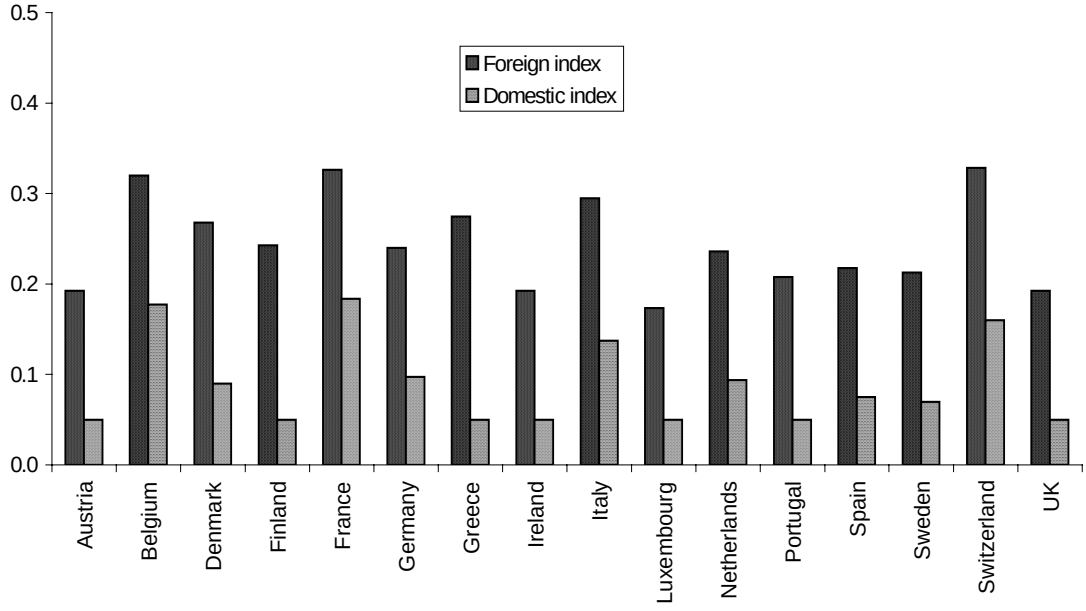
a The higher the score the more restrictive an economy. Scores range from 0 to 1.

Figure 2.2 **Restrictiveness indexes for selected American economies[a]**



a The higher the score the more restrictive an economy. Scores range from 0 to 1.

Figure 2.3 **Restrictiveness indexes for selected European economies[a]**



a The higher the score the more restrictive an economy. Scores range from 0 to 1.

Table 2.9 **Restrictiveness indexes for distribution services[ab]**

score

Economy	*Domestic*			*Foreign*		
	Establishment	*Ongoing operations*	*Total*	*Establishment*	*Ongoing operations*	*Total*
Argentina	-	0.05	0.05	0.02	0.07	0.09
Australia	-	0.03	0.03	0.03	0.07	0.10
Austria	-	0.05	0.05	0.12	0.07	0.19
Belgium	0.10	0.08	0.18	0.22	0.10	0.32
Brazil	-	0.01	0.01	0.17	0.06	0.23
Canada	0.02	0.03	0.05	0.14	0.05	0.19
Chile	0.03	0.03	0.06	0.06	0.07	0.13
Colombia	0.03	0.09	0.12	0.05	0.14	0.19
Denmark	0.02	0.08	0.09	0.14	0.13	0.27
Finland	-	0.05	0.05	0.14	0.11	0.24
France	0.10	0.08	0.18	0.22	0.10	0.33
Germany	0.02	0.08	0.10	0.14	0.10	0.24
Greece	-	0.05	0.05	0.20	0.07	0.27
Hong Kong	-	0.03	0.03	-	0.05	0.05
India	-	0.15	0.15	0.12	0.21	0.32
Indonesia	-	0.09	0.09	0.17	0.14	0.32
Ireland	-	0.05	0.05	0.12	0.07	0.19
Italy	0.09	0.05	0.14	0.22	0.07	0.29
Japan	0.10	0.10	0.20	0.10	0.16	0.25
Korea	0.21	0.05	0.26	0.26	0.07	0.33
Luxembourg	-	0.05	0.05	0.10	0.07	0.17
Malaysia	0.05	0.04	0.09	0.31	0.09	0.40
Mexico	-	-	-	0.09	0.02	0.11
Netherlands	-	0.09	0.09	0.12	0.11	0.24
New Zealand	-	-	-	0.04	0.02	0.06
Philippines	0.03	0.03	0.06	0.29	0.08	0.37
Portugal	-	0.05	0.05	0.14	0.07	0.21
Singapore	-	0.03	0.03	-	0.07	0.07
South Africa	-	0.03	0.03	0.02	0.05	0.07
Spain	0.03	0.05	0.08	0.15	0.07	0.22
Sweden	0.02	0.05	0.07	0.14	0.07	0.21
Switzerland	0.12	0.04	0.16	0.23	0.09	0.33
Thailand	0.03	0.03	0.06	0.26	0.13	0.39
Turkey	-	0.06	0.06	0.03	0.10	0.13
United Kingdom	-	0.05	0.05	0.12	0.07	0.19
United States	-	-	-	0.10	0.06	0.16
Uruguay	0.02	0.01	0.02	0.04	0.03	0.06
Venezuela	0.03	0.08	0.11	0.13	0.13	0.26

- Nil **a** Figures may not added to total due to rounding. **b** The restrictiveness index scores range from 0 to 1. The higher the score, the greater the restrictions for an economy.

Table 2.10 **Restriction categories in the establishment grouping of the foreign trade restrictiveness index[ab]**

score

Economy	*Restrictions on commercial land*	*Direct investment*	*Restrictions on large-scale stores*	*Factors affecting investment*	*Local government requirements*	*Movement of people - permanent*	*Total*
Argentina	-	-	-	-	-	0.02	0.02
Australia	-	-	-	0.02	-	0.01	0.03
Austria	0.10	-	-	-	-	0.02	0.12
Belgium	0.10	-	0.05	0.02	0.03	0.02	0.22
Brazil	-	0.10	-	-	0.03	0.04	0.17
Canada	0.10	-	-	0.02	-	0.02	0.14
Chile	-	-	-	-	0.03	0.03	0.06
Colombia	-	-	-	-	0.03	0.02	0.05
Denmark	0.10	-	-	0.02	-	0.02	0.14
Finland	0.10	-	-	0.02	-	0.02	0.14
France	0.10	-	0.05	0.02	0.03	0.02	0.22
Germany	0.10	-	-	0.02	-	0.02	0.14
Greece	0.10	0.06	-	0.02	-	0.02	0.20
Hong Kong	-	-	-	-	-	-	-
India	-	0.10	-	0.02	-	-	0.12
Indonesia	-	0.10	-	0.02	0.03	0.02	0.17
Ireland	0.10	-	-	-	-	0.02	0.12
Italy	0.10	-	0.05	0.04	0.02	0.02	0.22
Japan	-	-	0.05	-	0.05	-	0.10
Korea	0.10	0.04	0.05	0.02	0.03	0.02	0.26
Luxembourg	0.10	-	-	-	-	-	0.10
Malaysia	0.10	0.14	-	0.04	0.03	-	0.31
Mexico	-	0.04	-	0.02	-	0.03	0.09
Netherlands	0.10	-	-	-	-	0.02	0.12
New Zealand	-	-	-	0.02	-	0.02	0.04
Philippines	-	0.20	-	0.04	0.03	0.02	0.29
Portugal	0.10	-	-	0.02	-	0.02	0.14
Singapore	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	0.02	0.02
Spain	0.10	-	0.03	-	-	0.02	0.15
Sweden	0.10	0.02	-	-	-	0.02	0.14
Switzerland	0.10	-	0.03	0.02	0.08	0.01	0.23
Thailand	0.10	0.10	0.03	0.02	-	0.02	0.26
Turkey	-	-	-	-	-	0.03	0.03
United Kingdom	0.10	-	-	-	-	0.02	0.12
United States	0.10	-	-	-	-	-	0.10
Uruguay	-	-	-	0.02	-	0.02	0.04
Venezuela	-	0.08	-	-	0.03	0.02	0.13

- Nil **a** Figures may not added to total due to rounding. **b** The restrictiveness index scores range from 0 to 1. The higher the score, the greater the restrictions for an economy.

Table 2.11 **Restriction categories in the ongoing operations grouping of the foreign trade restrictiveness index[ab]**

score

Economy	*Wholesale import licensing*	*Restrictions on promotion of retail products*	*Presence of government monopolies*	*Protection of intellectual property rights*	*Movement of people – temporary*	*Licensing requirements on management*	*Total*
Argentina	-	-	-	0.05	0.01	0.01	0.07
Australia	-	-	-	0.03	0.01	0.04	0.07
Austria	-	-	-	0.05	0.01	0.01	0.07
Belgium	-	0.03	-	0.05	0.01	0.01	0.10
Brazil	-	-	0.01	-	0.01	0.04	0.06
Canada	-	-	0.01	0.03	0.01	0.01	0.05
Chile	-	-	-	0.03	0.01	0.04	0.07
Colombia	0.04	0.03	0.01	0.03	0.01	0.04	0.14
Denmark	-	0.03	-	0.05	0.01	0.05	0.13
Finland	-	-	-	0.05	0.01	0.05	0.11
France	-	0.03	0.01	0.05	0.01	0.01	0.10
Germany	-	0.03	-	0.05	0.01	0.01	0.10
Greece	-	-	-	0.05	0.01	0.01	0.07
Hong Kong	-	-	-	0.03	0.01	0.01	0.05
India	0.08	-	0.03	0.05	0.01	0.05	0.21
Indonesia	0.04	-	0.01	0.05	0.01	0.04	0.14
Ireland	-	-	-	0.05	0.01	0.01	0.07
Italy	-	-	-	0.05	0.01	0.01	0.07
Japan	0.04	0.03	0.01	0.03	0.01	0.05	0.16
Korea	-	0.03	-	0.03	0.01	0.01	0.07
Luxembourg	-	-	-	0.05	0.01	0.01	0.07
Malaysia	0.04	-	-	-	0.01	0.05	0.09
Mexico	-	-	-	-	0.01	0.01	0.02
Netherlands	0.02	0.03	-	0.05	0.01	0.01	0.11
New Zealand	-	-	-	-	0.01	0.01	0.02
Philippines	-	-	-	0.03	0.01	0.05	0.08
Portugal	-	-	-	0.05	0.01	0.01	0.07
Singapore	-	-	-	0.03	0.01	0.04	0.07
South Africa	-	-	-	0.03	0.01	0.01	0.05
Spain	-	-	-	0.05	0.01	0.01	0.07
Sweden	-	-	-	0.05	0.01	0.01	0.07
Switzerland	-	0.03	0.01	-	0.01	0.05	0.09
Thailand	0.04	-	0.01	0.03	0.01	0.05	0.13
Turkey	-	-	0.01	0.05	0.02	0.01	0.10
United Kingdom	-	-	-	0.05	0.01	0.01	0.07
United States	-	-	-	-	0.01	0.05	0.06
Uruguay	-	-	0.01	-	0.01	0.01	0.03
Venezuela	0.04	-	0.01	0.03	0.01	0.05	0.13

- Nil **a** Figures may not added to total due to rounding. **b** The restrictiveness index scores range from 0 to 1. The higher the score, the greater the restrictions for an economy.

Table 2.12 **Restriction categories in the establishment grouping of the domestic trade restrictiveness index[ab]**

score

Economy	*Restrictions on commercial land*	*Direct investment*	*Restrictions on large-scale stores*	*Factors affecting investment*	*Local government requirements*	*Total*
Argentina	-	-	-	-	-	-
Australia	-	-	-	-	-	-
Austria	-	-	-	-	-	-
Belgium	-	-	0.05	0.02	0.03	0.10
Brazil	-	-	-	-	-	-
Canada	-	-	-	0.02	-	0.02
Chile	-	-	-	-	0.03	0.03
Colombia	-	-	-	-	0.03	0.03
Denmark	-	-	-	0.02	-	0.02
Finland	-	-	-	-	-	-
France	-	-	0.05	0.02	0.03	0.10
Germany	-	-	-	0.02	-	0.02
Greece	-	-	-	-	-	-
Hong Kong	-	-	-	-	-	-
India	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-
Ireland	-	-	-	-	-	-
Italy	-	-	-	-	-	-
Japan	-	-	0.05	-	0.05	0.10
Korea	0.10	0.01	0.05	0.02	0.03	0.21
Luxembourg	-	-	-	-	-	-
Malaysia	-	-	-	0.02	0.03	0.05
Mexico	-	-	-	-	-	-
Netherlands	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-
Philippines	-	-	-	-	0.03	0.03
Portugal	-	-	-	-	-	-
Singapore	-	-	-	-	-	-
South Africa	-	-	-	-	-	-
Spain	-	-	0.03	-	-	0.03
Sweden	-	-	0.03	-	-	0.03
Switzerland	-	-	0.03	0.02	0.08	0.12
Thailand	-	-	0.03	-	-	0.03
Turkey	-	-	-	-	-	-
United Kingdom	-	-	-	-	-	-
United States	-	-	-	-	-	-
Uruguay	-	-	-	0.02	-	0.02
Venezuela	-	-	-	-	0.03	0.03

- Nil **a** Figures may not added to total due to rounding. **b** The restrictiveness index scores range from 0 to 1. The higher the score, the greater the restrictions for an economy.

Table 2.13 **Restriction categories in the ongoing operations grouping of the domestic trade restrictiveness index[ab]**

score

Economy	*Wholesale import licensing*	*Restrictions on promotion of retail products*	*Presence of government monopolies*	*Protection of intellectual property rights*	*Total*
Argentina	-	-	-	0.05	0.05
Australia	-	-	-	0.03	0.03
Austria	-	-	-	0.05	0.05
Belgium	-	0.03	-	0.05	0.08
Brazil	-	-	0.01	-	0.01
Canada	-	-	0.01	0.03	0.03
Chile	-	-	-	0.03	0.03
Colombia	0.04	0.03	0.01	0.03	0.09
Denmark	-	0.03	-	0.05	0.08
Finland	-	-	-	0.05	0.05
France	-	0.03	0.01	0.05	0.08
Germany	-	0.03	-	0.05	0.08
Greece	-	-	-	0.05	0.05
Hong Kong	-	-	-	0.03	0.03
India	0.08	-	0.03	0.05	0.15
Indonesia	0.04	-	0.01	0.05	0.09
Ireland	-	-	-	0.05	0.05
Italy	-	-	-	0.05	0.05
Japan	0.04	0.03	0.01	0.03	0.10
Korea	-	0.03	-	0.03	0.05
Luxembourg	-	-	-	0.05	0.05
Malaysia	0.04	-	-	-	0.04
Mexico	-	-	-	-	-
Netherlands	0.02	0.03	-	0.05	0.09
New Zealand	-	-	-	-	-
Philippines	-	-	-	0.03	0.03
Portugal	-	-	-	0.05	0.05
Singapore	-	-	-	0.03	0.03
South Africa	-	-	-	0.03	0.03
Spain	-	-	-	0.05	0.05
Sweden	-	-	-	0.05	0.05
Switzerland	-	0.03	0.01	-	0.04
Thailand	-	-	0.01	0.03	0.03
Turkey	-	-	0.01	0.05	0.06
United Kingdom	-	-	-	0.05	0.05
United States	-	-	-	-	-
Uruguay	-	-	0.01	-	0.01
Venezuela	0.04	-	0.01	0.03	0.08

- Nil **a** Figures may not added to total due to rounding. **b** The restrictiveness index scores range from 0 to 1. The higher the score, the greater the restrictions for an economy.

3 Modelling the effect of restrictions on distributors' price-cost margins

This chapter develops a quantitative model to explore some of the impacts of restrictions to trade in distribution services. The model enables the estimation of the effects of various determinants of distributors' profits (or 'price-cost margins'). The model is estimated using firm-level accounting data for food distributors in 18 economies, and the results indicate the relationship between trade restrictions and distributors' price-cost margins.

While this relationship of itself is of limited interest, the results can be used to help assess the effects of trade restrictions on unit prices and unit costs and, thus, the efficiency costs of the restriction. Indeed, in the next chapter the results are used to develop tentative estimates of the minimum cost impact of different countries' restrictions on trade in distribution services.

3.1 Using price-cost margins to measure the effects of trade restrictions

In general, restrictions to trade in services can have the following effects:

- they can restrict potential or existing firms from operating efficiently and thus push up business costs (cost-creating); and/or
- they can protect incumbent firms from competition and thus allow those firms to expand their price-cost margins (rent-creating).

To measure these effects, it would be ideal to have data on unit costs and price-cost margins for firms operating under different restriction regimes. The sum of the higher price-cost margins directly attributed to rent-creating restrictions and the absolute value of higher costs created directly by restrictions would give a measure of the economic costs of the restrictions.

However, for the present study, this option is ruled out by the non-availability of data on unit costs (or unit prices[1]), so alternative approaches need to be explored.

One alternative is to use data on price-cost margins alone — which is readily available from accounting data sets — to gain an indication of the effects of restrictions. Increases in price-cost margins might be interpreted as evidence of the rent-creating effects of restrictions, while reductions in price-cost margins might be interpreted as indirect evidence of the cost-creating effects of restrictions.

However, two major complications arise under this approach.

First, price-cost margin data are likely to embody changes in prices and costs other than those created *directly* by the imposition of restrictions.

- In the case of rent-creating restrictions, price-cost margins will reflect the initial increase in prices facilitated by the imposition of the restriction, but could also reflect the subsequent increase in costs that results from the higher profitability of the business being capitalised into its sale price (box 3.1). The effect of these 'second round' cost increases would be to dilute the impact of the direct price increases in the price-cost margin data. For example, if a rent-creating restriction caused prices to rise by 6 per cent, but two-thirds of the value of the rents were capitalised such that costs subsequently increased by 4 per cent, the price-cost margin would show an increase of only 2 per cent.
- In the case of cost-creating restrictions, price-cost margin data will reflect not only the higher costs created by the restrictions, but also the higher prices that could follow as businesses seek to pass on as much of the higher costs as the market will bear (a box 3.2). Similar to the above, these 'second round' price increases would dilute the impact of the direct cost increases in the price-cost margin data.

Consequently, particular restrictions could have significant effects on prices or costs that would not show up in price-cost margin data.

Second, restrictions may be both rent-creating and cost-creating, so there is a risk that their price- and cost-raising effects may cancel each other out to some extent in studies using price-cost margin data alone.[2] For example, consider a country that applies rent-creating restrictions, which directly push prices up by 5 per cent, and

[1] Technically, unit price data can allow the calculation of unit cost where data on the ratio of prices to costs, that is, is price-cost margins, is also available.

[2] This problem does not arise in studies that used data on unit costs as well. This is because the rent-creating effects of restrictions on firms' price-cost margins could be estimated by adjusting the observed change in the price-cost margins to take into account the cost-creating effects of the restrictions on the cost element of the margin.

cost-creating restrictions that directly push costs up by 3 per cent. In this case, the total effects of the restrictions would be 8 percent but the net impact of these restrictions on price-cost margins would be just 2 per cent.[3]

Together, these two complications mean that price-cost margins are unlikely to capture the full economic effects of restrictions except in limited circumstances. This would be the case, for example, if the restrictions were solely rent-creating or solely cost-creating, and there was no capitalisation of rents or pass-on of costs reflected in the data. This is unlikely to often be the case.

This has important implications for studies that use price-cost margins to study the effects of restrictions. It highlights the desirability of using additional cost data to estimate the effects of rent-creating and cost-creating restrictions separately. It also points to the desirability of augmenting the results with other judgments or information — that would give a view of the likely level of rent capitalisation[4] or cost pass-on[5] reflected in the price-cost margin data — to help assess the effects of restrictions on prices, costs and efficiency.

With these matters in mind, this study has used a model to analyse the effects of trade restrictions on price-cost margins. The model is developed in the next two sections. The results, and their interpretation, are discussed in the final section.

[3] For clarity, this example assumes that there is no capitalisation of rents or pass-on of costs reflected in the price-cost margins.

[4] To judge the degree of capitalisation, the first issue is the extent to which there exists a saleable asset into which rents could be capitalised (see box 3.1). If there is, the information necessary to assess the likely level of capitalisation could include the period of time since restrictions were imposed and the incidence of business sales during that period for businesses in the data set.

[5] To judge the potential for cost pass-on, indicators of firms' own-price elasticity of demand would be required. In the absence of direct information, indirect indicators may include the level of market segmentation and the level of competition, as well as the general price elasticity of demand or, were that not available, the availability of close substitutes for the product in question. Another matter to be considered is the timing of when cost increases occurred, because for more recent increases, it is less likely that they will have been fully passed on.

Box 3.1 Rent capitalisation

Restrictions that are rent-creating should allow existing distributors to charge higher prices. In the first instance, this would be expected to show up as an increase in distributors' price-cost margins in economies with higher restrictions of this type.

However, in cases where the rents are tied to a saleable asset (such as land, business license), the supply of which is artificially restricted, the value of these rents should subsequently be capitalised into the price of the asset, when it is first sold. Hence, owners of distribution businesses who purchase their businesses after restrictions are first imposed will not accrue any of the rents created by the restrictions. Rather, the value of these rents would be captured by the person or entity that owned the business when the restriction was imposed.

Importantly, this does not mean that there are no efficiency costs associated with the ongoing existence of the restrictions. Rather, it simply reflects that the higher immediate and future rents that a restriction allows would be capitalised into the sale price of the business.

That said, there are several reasons why rents may not be fully capitalised immediately following the imposition of rent-creating restrictions:

- The rents may not be tied to a saleable asset. This may be the case in relation to professional services, for example, where some restrictions affect the supply of professional persons (rather than professional service firms) and the rents accrue to the professional person (rather than the firm).
- Business owners may not properly estimate the additional current and future rents allowed by the restriction and may thus request too low a price.
- It may be many years after a restriction is imposed before the benefiting business is sold in an arms-length transaction. The business would continue to 'record' the extra profits during this period.
- Rents created by some restrictions may increase over time, as demand for the restricted product or service increases but its supply remains fixed.
    - In such cases, however, the sale price of factors which attract the rents would be expected to reflect estimates of the value of likely future increases in rents that the asset would attract. Hence, these too should be reflected in the sale price of firms and thus not affect significantly on observed price-cost margins.

It should also be recognised that some restrictions may create rents for the owners of inputs into distribution services. For example, a land-use zoning restriction may give market power to the owner of land on which a distribution service is located. In this case, the land-owner would be expected to increase its lease price to capture these rents. This would result in an increase in costs to the leasee; that is, the distribution firm. In these circumstances, the impact on the firm's price-cost margins would depend on the extent to which it could pass-on its higher costs to consumers in the form of higher prices (see box 3.2).

Box 3.2 Cost pass ons

Restrictions that are cost-creating would be expected, in the first instance, to show up as a reduction in distributors' price-cost margins in economies with higher restrictions of this type.

However, faced with higher costs, firms in the industry would be expected to seek to 'pass-on' as much of these higher costs as the market will bear, in the form of higher prices. Firms' abilities to pass costs on will depend on factors such as the elasticity of demand for the product as a whole, and the level of product differentiation and competition in the market place (and hence the extent to which firms' existing prices reflect monopolistic pricing strategies).

If the firm were already pricing at monopoly levels, and the costs created by the restrictions fed into fixed costs (rather than marginal costs), the profit-maximising strategy for the firm would be to absorb the full cost increase.

The greater the level of competition in the industry, and the lower the price elasticity of demand for the product, the greater the proportion of costs that would be passed on.

It should also be noted that, to the extent that distributors were unable to pass on all costs through higher prices, their profits would fall. In some circumstance this could be expected to be reflected in a reduced sale price when the business was first sold after the restrictions were imposed. In turn, this would be reflected in lower capital costs and, hence, this too would dilute the initial effects of cost-creating restrictions on price-cost margins.

3.2 The determinants of price-cost margins for distributors

Firm profitability can be determined by a combination of industry- and firm-specific characteristics. Apart from possible influences of 'barriers' or restrictions, firms' profits can arise due to industry structure, the extent of product differentiation, entrepreneurial ability and other factors. Although the relative importance of industry- and firm-specific factors in explaining profitability is subject to debate, it is not possible to rule out these industry- and firm-specific effects on an *a priori* basis. Surveys of the literature suggest that profit studies need to include all relevant industry- and firm-specific variables (Hay and Morris 1991 and Martin 1993).

Betancourt and Gautschi (1993), together with Mueller (1986), provide a basis to construct a model that is used to estimate the effect of restrictions on the price-cost margins of distributors. Betancourt and Gautschi (1993) classified retail distribution as providing five key characteristics — accessibility of location, assortment of goods available, assurance of product delivery in the desired form and at the desired

time, information and ambience. They expressed price-cost margins of distributors as a function of these characteristics. In addition to firm-specific factors, Mueller (1986) suggests that the profit of a firm also depends on economy- or industry-wide factors. These economy-wide factors are concentration (c_i) and barriers to entry (b_i).

Accordingly, the price-cost margins of firm *j* operating in the distribution industry in economy *i*, denoted $(\pi / pX)_{ij}$, is represented by the following function:

$$(\pi / pX)_{ij} = f(AC_{ij}, AS_{ij}, DT_{ij}, IN_{ij}, AM_{ij}, c_i, b_i) \quad (1)$$

where

AC_{ij}	represents accessibility of location of firm *j* operating in economy *i*;
AS_{ij}	represents the assortment of goods available at firm *j* operating in economy *i*;
DT_{ij}	represents the ability of firm *j* operating in economy *i* to deliver goods in the desired form and at the desired time;
IN_{ij}	represents the level of information provided by firm *j* operating in economy *i*;
AM_{ij}	reflects the level of ambience at firm *j* in economy *i;*
c_i	is the economy-wide variable that represents the level of concentration in distribution services in economy *i;* and
b_i	is the economy-wide variable measuring barriers to entry in distribution services economy *i.*

These variables can be expected to affect the price-cost margins of distributors as follows.

The greater the accessibility of location of firm *j* to its customers, the lower the search costs to customers. Lower search costs will increase patronage, which in turn will increase sales and profits.

The greater the assortment of goods available at firm *j*, the lower the search and transport costs for customers who purchase goods from the firm. Customers will be able to meet a large proportion of their demands without having to leave firm *j*. This

will attract more customers to firm *j* and subsequently generate greater levels of sales and profits.

If firm *j* fails to deliver a product in the desired form and at the desired time, customers will be lost to competitors and profits will fall.

Information reflects the level of awareness among the public about the available retail services at firm *j*. The greater the level of awareness among the public of firm *j* compared to its competitors, the greater will be the number of customers for firm *j*.

Ambience reflects a firm's efforts to differentiate the service it provides from that of its competitors by investing in fixtures and fittings (and as a result, improving its ambience). The better the ambience of a firm, the more customers will enjoy shopping at a firm compared to its competitors. This will lead to higher sales and profits for firm *j*.

The level of concentration indicates the level of actual competition in distribution services in the economy. The higher the level of concentration, the lower the actual competition and the greater the opportunity for the existing firms to collude to increase profits. Collusion by incumbents could involve price setting and reductions on quantity of goods and services supplied. The level of concentration in an industry in economy *i* would have a positive relationship with the profit margins of firm *j* operating in economy *i*.

Barriers to entry represent the impediments for potential competitors. The greater the barriers to entry, the more difficult it is for potential competitors to enter the market. Subsequently, incumbent firms face less competition from potential entrants into the market. The lack of potential competition may lead to higher prices and profits and lower quality of distribution services.

3.3 Estimating the impact of trade restrictions on the price-cost margins of distributors

The information presented in Betancourt and Gautschi (1993) and Mueller (1986), provides a basis to construct a model that isolates the effects of trade restrictions on the price-cost margins of distributors.

A two-stage approach is used to estimate the effect of government restrictions on price-cost margins of firms in the distribution sector. The two-stage estimation procedure separates the influence of firm-specific and economy-wide variables on the price-cost margins of firms. This approach overcomes an important statistical

problem. It avoids the use of a single equation containing firm-specific and economy-wide variables.[2]

First stage estimation

In the first stage, the price-cost margin of firms in the distribution sector PCM_{ij} is represented by the following function:

$$PCM_{ij} = a_0 + a_1(NRA_{ij}) + a_2(IV_{ij}) + a_3(IV^2{}_{ij}) + a_4(Sales^2{}_{ij}) + a_5(Sales^3{}_{ij}) + a_6\left(AM_{ij}\right) + a_7\left(K_{ij}\right) + \sum_{1}^{17} D_i \qquad (2)$$

where

a_o	constant;
NRA_{ij}	the proportion of non-retail revenue of firm *j* in economy *i;*
IV_{ij}	the ratio of the value of inventories to the value of total sales of firm *j* in economy *i;*
$IV^2{}_{ij}$	the square of the ratio of the value of inventories to the value of total sales of firm *j* in economy *i;*
$Sales^2{}_{ij}$	the square of the value of total sales of firm *j* in economy *i;*
$Sales^3{}_{ij}$	the cube of the value of total sales of firm *j* in economy *i;*
AM_{ij}	ambience, measured by the ratio of the value of fixed costs to total sales of firm *j* in economy *i;*
K_{ij}	cost of capital, measured by the ratio of the return to capital minus change in capital value to total sales of firm *j* in economy *i;*
D_i	economy-specific dummy variables for economies i = 1 to 27; so that
$a_o + D_i$	economy-specific profit (EPR_i) in the second stage.

[2] Moulton (1986) argues that such a combination of variables in a single equation could lead to bias in the model estimates as a result of group effects of firms within an economy. Hence, the estimation errors may be correlated and a single stage estimation could produce a biased estimate. This is because firms within an economy operate in the same distribution sector, distinct from distribution sectors in other economies.

The variables affect the dependent variable (price-cost margin) of distributors in the following way.

The non-retail activities variable (NRA_{ij}) represents the proportion of revenue firm *j* generates from activities in economy *i* that are not associated with distribution. Many modern firms engage in a wide variety of activities at one time, such as distribution, operating airlines and banking. The price-cost margins for firms represent all these activities. The (NRA_{ij}) variable attempts to isolate the effect on price-cost margins that is due exclusively to non-retail activities.

The inventory variables (IV_{ij} and IV^2_j) measure the ability of firm *j* operating in economy *i* to supply goods to its customers in the desired form and at the desired time. Inventories consist of stocks of finished goods, goods-in-process, raw materials and supplies held by business firms (Maccini 1987). The greater the level of inventories, the more stock on hand and the greater is a firm's ability to supply goods to its customers in the desired form and at the desired time. However, firms with excessive inventories will incur large overhead costs, mainly storage costs. These overhead costs can adversely affect the price-cost margin of firms. Thus, the value of inventories of a firm may have a non-linear relationship with its price-cost margin. This non-linearity is allowed for in equation (2) by using a quadratic form for the inventory variable.

The sales variables ($Sales^2_{ij}$ and $Sales^3_{ij}$) allows for initially increasing and later decreasing returns associated with increases in the size of firm *j*. This size variable proxies the assortment, accessibility of location and information provided by the firm (see section 3.1). As firm *j* gains in size, it will be better placed to provide a large variety of goods. Large supermarkets in general tend to have a wider variety of stocks than small corner stores. As firm *j* gains a larger distribution network, customers will have better access. Firms will also be able to achieve critical mass so they can efficiently provide information on price and quality of products through promotion. But the size variable could have a non-linear relationship with price-cost margins — these could level off and eventually decrease as the benefits from increased size level off. The sales variable is entered into equation (4) in a cubic form to capture this non-linear relationship.

The ambience variable (AM_{ij}) represents the effect of ambience on the price-cost margins of firms in the distribution sector. Higher levels of ambience provide customers with a more pleasant shopping experience. Higher fixed costs are an indication of greater investment in ambience.

The cost of capital (K_{ij}) is the return that shareholders expect to receive from alternative uses of the investment funds in a competitive environment and is used to proxy the capital-revenue ratio. As explained below, this variable is designed to

correct for the fact that the explanatory variable, the price-cost margin, uses an accounting rather than an economic definition of profit.

The economy-specific dummy variable (D_i) groups together firms from the same economy. Firms operating in the same economy operate in the same system, which is distinct from other economies. All the firms in an economy are affected by the same unobservable economy-wide factors, which are not reflected in firm-specific variables.

($a_o + D_i$) is the component of firm price-cost margins that is not explained by firm-specific factors. It becomes the dependent variable in the second stage.

Second stage estimation

The economy-specific component of profit (EPR_i) of firms in the distribution sector in each economy is a function of government regulation and private sector practices. The second stage of the estimation is performed across all economies.

The economy-specific economic profit of an economy is represented by the following function:

$$EPR_i = b_0 + b_1 TRI_i + b_2 Z_i \qquad (3)$$

where

EPR_i	the economy-specific profit in economy i — first stage constant (a_o) plus economy-specific dummy variable (D_i);
TRI_i	the trade restrictiveness index score in economy i; and
Z_i	a dummy variable for economies with significant private sector practices.

The trade restrictiveness index identifies the extent to which international and domestic competition is restricted by government regulation (refer to chapter 2). The foreign index quantifies the extent to which restrictions apply to foreign firms seeking to enter and/or operate in a foreign market. The domestic index estimates the extent to which restrictions apply to domestic and foreign firms equally. The above model is estimated twice to estimate separately the effect of the foreign and domestic index. This avoids problems associated with correlation between the two indexes leading to imprecise estimates of the coefficients of foreign and domestic TRI_i.

The dummy variable identifies economies where there are significant ‘private sector practices’. These practices include exclusive buyer-supplier networks, alliances and

cartels and can limit competition and increase the price-cost margins of firms operating in these economies. Tradeport (1998) states that Japan and Switzerland have significant 'private sector practices', and obtain a dummy variable score of 1.[6]

Mueller (1986) suggests that the level of concentration in an economy also affects the price-cost margins of firms in the distribution sector. Kalirajan et al (2000) and Nguyen-Hong (2000) use measures of concentration in estimating the affect of trade restrictions on the price-cost margins of firms in the banking and professional services sectors respectively. However, an accurate measure of concentration could not be estimated for this study as the distribution sectors in the different economies vary significantly. In some economies large corporations, such as those included in our data set, perform a large proportion of distribution services; while in other economies this function is performed mainly by sole proprietors. Pilat (1997) states that there is a relative preponderance of small shops in Italy, Belgium, Greece, Portugal and Spain, whereas stores are relatively large in the United States, the United Kingdom, Canada, Australia and Switzerland. However, data on sole proprietors are not available. Constructing a measure of concentration without considering the effect of sole proprietors could lead to erroneous conclusions.

Data sources and issues

The data for the trade restrictions are from the trade restrictiveness indexes calculated in chapter 2.

The principal source of the financial data on distributors is Disclosure's Worldscope database (Disclosure 2000). The Worldscope database provides standardised accounting data on publicly listed companies across a large number of economies.

The econometric exercise covers 179 firms primarily involved in the food distribution sector in 38 economies, as identified by the United States' Standard Industrial Classification (SIC). The study concentrates on food wholesalers and retailers because it enables reliable data for cross-country comparisons. Price-cost margins across the different sectors (wholesale, retail, commission agents and franchising) in the distribution sector vary considerably. Each sector provides a different service and margins vary accordingly. Margins also differ among different product categories and food retailing is the largest component of the retailing sector (Pilat 1997). Concentrating the study on wholesalers and retailers of food reduces some of the unaccountable variation in price-cost margins, and enables a more reliable cross-country comparison of distribution systems. One concern with this

[6] Other economies such as Korea have similar 'private sector practices'. However, as firm-level accounting data for these economies were unavailable, they have not been included in the study.

approach is that it does not distinguish between retailers and wholesalers. While there is some merit to this concern, Pilat (1997) states that there has been a trend to increasing vertical integration between retailers and wholesalers.

Data on the variables from the database is for the nearest financial year available prior to 31 December 1998.

Table 3.2 provides a summary of the data used for each economy. For distributor-specific variables, the arithmetic mean for each economy is reported. The economy-specific variables are presented in the form that they are used in the estimation. Table 3.1 provides descriptions and definitions of all the variables in this study.

Table 3.1 **Data specifications**

Variable	*Calculation and data used*
Price-cost margins *(PR_{ij})*	The price-cost margins variable is the ratio of economic profit of firm *j* to total revenue of firm *j* in economy *i,* calculated from company accounting data.
Non-retail activities[a] *(NRA_{ij})*	The non-retail activities variable is the proportion of non-retail income to total income.
Inventory variables *(IV_{ij})*	The inventory variable (IV_{ij}) is the ratio of the value of total inventories in firm *j* to the value of total sales of firm *j*.
Sales *($Sales_{ij}$)*	The sales variable is the value of total sales in US dollars of firm *j*. The variable is used as a measure of the size of firms.
Cost of capital *(K_{ij})*	The cost of capital variable is the ratio of an inflation adjusted market average return to capital of firm *j* and the change in market value of firm *j* to the total sales of firm *j*. The variable proxies the capital-revenue ratio (Waterson 1984).
Ambience *(AM_{ij})*	The ambience variable is proxied by the ratio of the value of property, plant and equipment to total revenue of firm *j* operating in economy *i*.
Trade restrictiveness index *(TRI_i)*	An index of restrictions faced by foreign and domestic firms (refer to chapter 2).

a The Worldscope database divides the business into income from primary and secondary activities. The primary activities include services for the delivery of food and secondary activities include non-retail activities — franchising, manufacturing and transport.

The price-cost margin is used as the measure of firm profitability in this estimation. The firm-level data available from Worldscope are accounting data. As noted, the measure of profitability from accounting data does not account for the competitive cost of capital, which is an integral part of economic profits.[3] In this study, accounting profits (earnings before interest and taxes) are adjusted to account for the opportunity cost of capital by adding back accounting depreciation to the

3 Accounting definition of profits is total revenue minus depreciation and total variable costs, or $\pi = R - depr - wl$. The economic definition of profits is total revenue minus total variable cost and the normal returns to capital (of which depreciation is a part), or $\pi = R - wl - rK$.

independent variable and including a capital-revenue ratio as an independent variable. Schmalensee (1992) notes that models where the price-cost margin is used as a measure of profitability generally employ the capital revenue-ratio as a control.

The cost of capital over sales revenue is measured here as:

$$K_{ij} = \frac{rK_m - dK_m}{PQ} \tag{4}$$

where rK_m is the product of the economy-specific interest rate on government bond yields (adjusted for the inflation rate) and the company market capitalisation of period *t-1*. This long-term interest rate is an approximation to the real rate of return to capital which varies between economies. dK_m is the change in market value of the firm, derived as the difference between the company's market capitalisation in period *t* and the company's market capitalisation in period *t-1*. A positive value for dK_m reflects capital gains in company assets during the year while a negative value would indicate economic depreciation.

Table 3.2 **Summary data for 18 economies[a]**

Economy	*Firms*	PR_{ij}	A_{ij}	K_{ij} [b]	$Sales_{ij}$	IV_{ij}	NRA_{ij}	*Foreign* TRI_i	*Domestic* TRI_i
	(No.)	(ratio)	(ratio)	(ratio)	(US dollars)	(ratio)	(ratio)	(score)	(score)
Australia	2	0.03	0.13	7.80E-05	2 534 605	0.07	0.00	0.10	0.03
Belgium	2	-0.06	0.43	1.71E-04	2 836 742	0.09	0.34	0.32	0.18
Canada	1	0.07	0.49	-2.08E-05	417 353	0.18	0.37	0.19	0.05
Chile	2	0.03	0.57	1.92E-04	1 090 170	0.08	0.00	0.14	0.06
France	8	0.06	0.33	-1.03E-05	7 172 129	0.11	0.17	0.33	0.18
Greece	1	0.06	0.32	-8.92E-05	459 418	0.10	0.05	0.28	0.05
Hong Kong	3	0.09	0.40	-1.11E-04	400 222	0.05	0.29	0.05	0.03
Indonesia	1	0.00	0.24	-6.83E-06	171 974	0.09	0.05	0.32	0.12
Ireland	1	0.05	0.14	5.75E-07	2 014 915	0.02	0.00	0.19	0.05
Japan	26	0.07	0.44	-1.88E-05	1 983 886	0.04	0.24	0.26	0.18
Malaysia	1	0.17	1.45	-1.47E-04	57 551	0.13	0.28	0.41	0.09
Netherlands	4	0.05	0.20	-1.39E-04	9 227 729	0.06	0.03	0.24	0.09
New Zealand	1	0.02	0.25	8.14E-05	1 070 286	0.05	0.01	0.06	0.00
Singapore	2	0.07	0.47	2.47E-04	86 916	0.10	0.18	0.07	0.03
South Africa	3	0.06	0.12	1.23E-04	2 467 328	0.11	0.23	0.07	0.03
Switzerland	2	0.05	0.34	1.82E-05	849 883	0.15	0.28	0.33	0.12
United Kingdom	12	0.08	0.46	-1.22E-04	7 497 221	0.07	0.04	0.19	0.05
United States	37	0.05	0.30	-2.99E-05	5 705 764	0.07	0.09	0.16	0.10
Average	**6**	**0.05**	**0.39**	**1.20E-05**	**2 558 005**	**0.09**	**0.15**	**0.21**	**0.08**

a Refer to table 3.1 for an explanation of the data. **b** The term E used in this column denotes a scientific notation that represents the value of the number before the E being multiplied by 10 to the power of the number after the E. For example 1.20E-05 = 1.20 * 10^{-5}.

Source: Disclosure (1999) and TradePort (1998).

3.4 First stage results

As discussed in section 3.2, the first stage estimates the effects of firm-specific factors — non-retail activities, inventories, sales, fixed costs, cost of capital — and the economy-specific dummy variables on the price-cost margins of firms in the distribution sector.

The estimated coefficient for non-retail activities is positive and statistically significant. This means that, in general, as the level of non-retail activities increases, the profit margins of firms also increase. This could reflect that the cost involved in non-retail activities engaged by distributors, such as franchising, is often less than the cost involved in distribution services and they add to the price-cost margins of distributors.

The estimated coefficients for the inventory variables indicate that increases in inventories will initially have a positive effect on economic profit margins, then the costs of holding inventories outweighs the benefits of greater sales.

The estimated coefficients for the sales variables indicate that as the level of sales increase, the price-cost margins of distributors initially increase and then start to decrease.[4] The larger the firm, the greater the ability of the firm to provide assortment, accessibility of location and information. However, after a point, the costs involved in increasing and maintaining larger firm size outweigh the economic benefits from it.

The relationship between fixed costs and the price-cost margins of distributors is positive and statistically significant. This suggests that ambience plays an important part in the activities of firms in the distribution sector.

The estimated coefficient for the cost of capital variable is negative and statistically significant. This result does not correspond with expectations from economic theory. However, Schmalensee (1992) notes that other studies of firm profitability have also obtained significant and negative estimates.

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4 Normally, a coefficient value of less than one would indicate decreasing returns to scale. However, in this case, as the dependent variable is a ratio, a coefficient estimate of less than one shows increasing return to scale. For example, as the value of sales (independent variable) increases by 1 per cent, the coefficient estimates for sales show that the value of the price-cost margin (dependent variable) increase by a proportion of this increase in sales. An increase in the price-cost margin means that the numerator (economic profit) has increased, while the denominator (sales) has risen by a relatively smaller amount. Given that sales (the denominator) have increased, for the price-cost margin to increase, the increase in economic profit has to be larger than the increase in sales. However, returns to increasing size (proxied by sales) decrease after reaching a maximum.

Table 3.3 **Coefficient estimates from the first stage estimation[a]**

Explanatory variable	*Coefficient estimate[d]*
Non-retail activities *(NRA_{ij})*	0.099[b]
	(0.041)
Inventory *(IV_{ij})*	-0.682[b]
	(0.310)
Inventory^2 *(IV^2_{ij})*	2.516[b]
	(1.116)
Sales^2 *($Sales^2_{ij}$)*	0.947E-16[cd]
	(0.706E-16)[d]
Sales^3 *($Sales^3_{ij}$)*	-0.358E-23[cd]
	(0.254E-23)[d]
Fixed costs *(A_{ij})*	0.121[b]
	(0.049)
Cost of capital *(K_{ij})*	-117.59[b]
	(51.93)
Constant	0.035[b]
	(0.016)
Adjusted R^2	0.382

a Figures in parentheses represent standard errors. The estimates are corrected for heteroscedasticity. **b** Coefficient estimates are significant at the 5 per cent level. **c** Coefficient estimates are significant at the 10 per cent level. **d** The term E used in these estimates denotes a scientific notation which denotes the value of the number before the E being multiplied by 10 to the power of the number after the E. For example 1.20E-05 = $1.20 * 10^{-5}$.

The adjusted R^2 is 0.38 (R^2 = 0.49): that is, the model explains 38 per cent of the variation in profit margins of firms involved in distribution. This value is consistent with other studies. Kalirajan et al. (2000) and Nguyen-Hong (2000) conducted similar studies for banking and professional services, respectively and obtained similar values for the adjusted R^2 variable. Greene (1990) notes that cross sectional applications, values of 0.50 for R^2 relatively high.

3.5 Second stage results

The second stage estimates the effect of the different indexes of trade restrictiveness and private sector practices on the price-cost margins of distributors operating in an economy. The model is first estimated using the foreign and domestic trade restrictiveness index separately.[5] Then, the foreign and domestic indexes are separated into their two groupings — restrictions on establishment and restrictions

[5] The foreign index of an economy is equal to the domestic index plus the values assigned to those restrictions that discriminate against foreigners. This leads to a high level of multicollinearity between the foreign and domestic indexes and subsequently to imprecise results if they are included together.

on ongoing operations (table 2.1) — and the effects of these restriction categories on the price-cost margins of distributors operating in an economy are estimated.[6]

When considering the results, it is important to bear in mind the limitations of the econometric exercise. Among other things, the limited number of observations (only 18) and the influence of relatively significant outliers may reduce the accuracy of the coefficient estimates. Further, the first stage modelling generated a negative value for the cost of capital, which does not accord with theory. While other studies have generated similar results, its meaning remains unexplained. Overall, the limitations of the exercise mean that the results from the study should be treated as tentative. They are presented here mainly to assist in exploring the implications of this type of exercise for understanding the effects of trade restrictions.

Results using the foreign and domestic indexes

The results suggest that trade restrictions, as reflected in both the domestic and foreign trade restrictiveness indexes, have a significant and negative effect on the price-cost margins of distributors. The estimated coefficients indicate that a maximum value of 1 in the domestic (foreign) trade restrictiveness index will lead to a *decrease* of 0.4 (0.18) in the price-cost margins of distributors operating in an economy, holding all other variables constant.

Private sector non-competitive practices were found not to be a significant determinant of the economy-specific economic profit for either the domestic or foreign index simulations.

The adjusted R^2 is 0.25 (R^2 = 0.33) for the domestic index estimation: that is, the model explains 25 per cent of the cross-economy variation in the economy-specific profit. The equivalent figure for the foreign index estimation is adjusted R^2 = 0.21 (R^2 = 0.30).

What do these results imply? As discussed in section 3.1, restrictions to trade can either be rent-creating, reflected in higher prices, or cost-creating. Kalirajan et al. (2000) found that restrictions to trade in banking services were rent-creating. Restrictions to trade in banking services hindered the establishment of new banks

[6] As set out in chapter 2, restrictions in the establishment grouping affect the ability of service providers to establish a physical outlet in a territory and supply services through those outlets; while restrictions in the ongoing operations grouping affect the operations of a service provider after it has entered the market. As the restrictions within each grouping are mutually exclusive, there is no multicollinearity between them and they can be included together.

Table 3.4 **Coefficient estimates from the second stage estimation with the domestic and foreign trade restrictiveness indexes[a]**

Explanatory variable	*Coefficient values*	
	Domestic index	*Foreign index*
Trade restrictiveness index *(TRI_i)*	-0.395[b]	-0.182[b]
	(0.252))	(0.078)
Dummy variable *(Z_i)*	0.035	0.008
	(0.035))	(0.015)
Constant	0.053[b]	0.064[b]
	(0.012))	(0.012)
Adjusted R^2	0.2501	0.2071

a Figures in parentheses represent standard errors. The estimates are corrected for heteroscedasticity. **b** Coefficient estimates are significant at the 5 per cent level.

and thus created rents, as reflected in higher net interest margins, by limiting competition. Restrictions can be cost-creating by restricting a firm from operating efficiently. Nguyen-Hong (2000) found that restrictions on incorporation, non-professional investment and licensing requirements for domestic professional restricted the efficient operation, and subsequently increased the cost of firms in the professional services sector.

In this study, the negative relationship between the price-cost margins of distributors and the trade restrictiveness indexes suggests that the restrictions are *primarily* cost-creating.[7] However, the exact extent to which this is the case cannot be determined from the data as there is a possibility that some of the net costs directly created by the restrictions may have been passed-on to consumers in the form of higher prices (see section 3.1).

Another possible explanation is that the restrictions are in fact primarily rent creating, but because of the timing of the imposition of the restrictions, the snap-shot data set has captured mainly the 'second round' cost-increases resulting from the capitalisation of the rents, not the initial increase in prices that the restrictions caused. However, testing this hypothesis would require significant information about when restrictions were introduced in different economies, plus judgments about the likely rate of capitalisation over time.

[7] This implies that the reduced price-cost margin associated with higher restrictiveness can be explained by costs rising. Mathematically, the same result could be obtained by prices falling. However, there is no obvious reason why restrictions should cause prices to fall, while theory provides clear reasons as to why restrictions might cause costs to rise. Hence, this paper interprets the reduction in price-cost margins associated with restrictions as deriving from increases in costs (or, at least, greater increases in costs than in prices).

Results using the establishment and ongoing operations groupings

A more precise feel for the impacts of different restrictions may be gained by studying individual restrictions, or sub-groups of restrictions, separately. Accordingly, the restrictions are next tested according to whether they affect establishment or ongoing operations.

The results suggest that restrictions on establishment are a significant, negative determinant of the price-cost margins of distributors. The estimated coefficient indicates that a maximum value of 1 in the establishment grouping of the domestic (foreign) index cause a *decrease* of 0.61 (0.2) in distributors' price-cost margins.

Restrictions on ongoing operations for either domestic or foreign firms are not a significant determinant of economy-specific economic profit. In other words, restrictions on ongoing operations in general do not have a significant an impact on the price-cost margin of distributors.

The adjusted R^2 is 0.27 ($R^2 = 0.40$) for the domestic index simulation, and 0.16 ($R^2 = 0.31$) for the foreign index simulation.

These results suggest that most of the cost-creating effects of the restrictions on distribution services are accounted for by restrictions on establishment. Examples of potentially cost-creating restrictions within this grouping include restrictions on large-scale stores, operating hours and zoning requirements. To the extent that these restrictions are cost-creating, they could have a negative effect on the price-cost margins of distributors. That said, the price-cost margin may not reflect the full increase in these costs, due to potential increases in price to cover the higher costs.

It is also possible that this grouping includes rent-creating restrictions. The restrictions on investment and on the acquisition of commercial land are examples. Further, the restriction on large size stores could have both rent-creating and cost-creating effects.[8] However, the results suggest that the effects of these restrictions on price-cost margins are outweighed by the effects of the cost-creating restrictions or, alternatively, that the timing issues discussed earlier mean that the data set has captured mainly the 'second-round' cost increases associated with the capitalisation of rents, and not the initial increase in prices that the restrictions allowed.

The lack of a significant, negative effect of restrictions on ongoing operations in the study seems surprising. This category contains restrictions thought to have solely

[8] Barriers to large-scale stores may prevent new stores from establishing an efficient scale of operation and may thus be cost-creating for those new stores. However, where these regulations have been 'grandfathered', such that existing stores need not meet them, the restrictions are likely to be rent-creating for those stores because they limit competition.

cost-creating effects, which could be expected to be reflected in lower price-cost margins. Three possible reasons for the lack of such a relationship are that:

- the restrictions are cost-creating but that these costs have been largely passed on to food consumers in the form of higher prices;
- the restrictions in the category also have some rent-creating effects which have pushed up prices, thus diluting the effects of any cost increase; and/or
- there is a negative relationship between restrictions on ongoing operations and firms price-cost margins, but that limitations of the data and specification mean that this relationship has not been reflected in the results.

Table 3.5 **Coefficient estimates from the establishment and ongoing operations restriction groupings of the foreign index[a]**

Explanatory variable	*Coefficient estimate*
Restrictiveness index for establishment	-0.205[b]
	(0.087)
Restrictiveness index for ongoing operations	-0.086
	(0.137)
Dummy variable	0.004
	(0.016)
Constant	0.059[b]
	(0.013)
Adjusted R^2	0.1576

a Figures in parentheses represent standard errors. The estimates are corrected for heteroscedasticity. **b** Coefficient estimates are significant at the 5 per cent level.

Table 3.6 **Coefficient estimates from establishment and ongoing operations restriction categories of the domestic index[a]**

Explanatory variable	*Coefficient estimate*
Restrictiveness index for establishment	-0.605[c]
	(0.379)
Restrictiveness index for ongoing operations	-0.142
	(0.150)
Dummy variable	0.047
	(0.042)
Constant	0.046[b]
	(0.009)
Adjusted R^2	0.2676

a Figures in parentheses represent standard errors. The estimates are corrected for heteroscedasticity. **b** Coefficient estimates are significant at the 5 per cent level **c** Coefficient estimates are significant at the 10 per cent level.

4 Quantifying the cost impact

This chapter develops a quantitative indicator of the cost to food distributors in selected economies of the restrictions to trade in their economy.

The indicator uses:

- the coefficient estimate of the establishment grouping of the trade restrictiveness index (TRI), calculated in chapter 3; and
- the TRI score derived for each of the 18 economies in chapter 2;

to calculate a 'cost impact' indicator for restrictions on trade in distribution services for each economy.

Importantly, the indicator accurately measures all the price and cost impacts of restrictions only if certain assumptions hold. The appropriate interpretation of this measure is discussed at the end of this chapter.

4.1 Deriving a cost impact measure for restrictions on trade in distribution services

The index scores for restrictions on establishment have a negative relationship with the price-cost margin. To the extent that this derives solely from the direct cost-creating effects of restrictions — keeping prices constant — a measure of cost impact can be derived from the coefficient for the price-cost margin, using the following methodology.

The effect of restrictions on establishment on the price-cost margins of distributors is given by:

$$\frac{P - v}{P} - \frac{P_o - v_o}{P_o} = -\beta * TRI \qquad (10)$$

where $(P - v)/P$ is the current price-cost margin with restrictions and $(P_o - v_o)/P_o$ is the price-cost margin in the absence of restrictions. The difference between the two — the effect of restrictions — is a function of the coefficient estimate from the second stage (β) and the restrictiveness index score for the establishment grouping (TRI). Both the coefficient estimates and trade restrictiveness indexes associated

with barriers to establishment for domestic and foreign firms are used. Equation (10) can be rewritten as:

$$\left(1-\frac{v}{P}\right)-\left(1-\frac{v_o}{P_o}\right)=\frac{v_oP-vP_o}{P_oP}=-\beta*TRI \tag{11}$$

Assuming $P_o = P$, then $-\beta*TRI$ shows the increase in cost resulting from restrictions, while all other factors remain constant. Thus, we have:

$$v_o-v=-P\left(\beta*TRI\right) \tag{15}$$

or:

$$v-v_o=P\left(\beta*TRI\right) \tag{16}$$

and variable costs per unit in the absence of restrictions is:

$$v_o=v-P\left(\beta*TRI\right) \tag{17}$$

Using (16) and (17), the cost impact of restrictions (in percentage terms) is measured as:

$$\begin{aligned}\left(\frac{v-v_o}{v_o}\right)100&=\left(\frac{P\left(\beta*TRI\right)}{v-P\left(\beta*TRI\right)}\right)100\\&=\left(\frac{PQ\left(\beta*TRI\right)}{vQ-PQ\left(\beta*TRI\right)}\right)100\end{aligned} \tag{18}$$

The cost impact can be estimated for a given economy by using the *TRI* index values, the coefficient estimate β, and the sample mean of revenue (PQ), and variable costs ($vQ = PQ - EBIT - d_a$), where *EBIT* is earnings before interest and tax, d_a is accounting depreciation and vQ is total variable costs.

4.2 Results for 18 economies

Results using restrictions on establishment for foreign firms

The cost-raising impact of restrictions on establishment for foreign firms in the distribution sector range from around 0 to 8 per cent (table 4.1 and table 4.2).

Restrictions in Belgium, France, Malaysia and Switzerland raise costs of firms by between 5 and 8 per cent. These economies are characterised by restrictions on establishment such as limitations on foreign equity, restrictions on mergers and acquisitions and restrictions on the acquisition of commercial land.

Restrictions in Canada, Chile, Indonesia, Ireland, Japan, Netherlands, the United Kingdom and the United States of America raise costs by between 1 and 4 per cent. These economies have restrictions on establishment such as some restrictions on the acquisition of commercial land, restrictions on the permanent movement of people and local employment restrictions.

Restrictions in Australia, Greece, Hong Kong, New Zealand, Singapore and South Africa raise costs by less than 1 per cent. These economies have some restrictions on the permanent movement of people and foreign investment. Further, Greece also has some restrictions on the acquisition of commercial land.

Results using restrictions on establishment for domestic firms

Restrictions on establishment by domestic firms are estimated to raise costs by up to 8 per cent (table 4.1 and table 4.3). This is a measure of the increase in firm costs due to non-discriminatory restrictions.

Belgium, Canada, Chile, France, Japan, Malaysia and Switzerland have cost impacts greater than zero.

The other economies have no domestic restrictions on establishment that were included in this index and, thus, partial cost impacts have not been calculated.

Table 4.1 **The effect of trade restrictions on distributors for 18 economies**
per cent

Economy	*Cost impact of foreign barriers to establishment*	*Cost impact of domestic barriers to establishment*
Australia	0.57	-
Belgium	4.87	6.69
Canada	3.09	0.98
Chile	1.32	1.92
France	5.16	7.10
Greece	0.25	-
Hong Kong	0.06	-
Indonesia	3.66	-
Ireland	2.70	-
Japan	2.26	6.79
Malaysia	8.23	3.97
Netherlands	2.73	-
New Zealand	0.77	-
Singapore	0.03	-
South Africa	0.47	-
Switzerland	5.24	8.32
United Kingdom	2.76	-
United States	2.26	-

- Nil

Interpretation of the cost impact measure

In essence, the results presented above have been derived by converting the relationship between establishment restrictions and price-cost margins across various economies (as derived in chapter 3) into cost impact measures for each economy. From the discussion in section 3.1, these indicators would be accurate measures of the cost-creating effects of restrictions if:

- some of the restrictions in the category had cost-creating effects and there was no pass-on of costs in the form of higher prices in response to the costs created; and
- none of the restrictions had rent-creating effects.[1]

[1] From the discussion in section 3.1, it may at first appear that the accuracy of these cost impact measures would not be compromised even if the restrictions had rent-creating effects, *provided those effects were fully capitalised into higher costs*. However, where restrictions are both rent-creating and cost-creating, only net rents will be capitalised. Consequently, even where capitalisation of rents occurs, some of the direct costs that a cost impact indicator seeks to measure will be disguised by the price-raising effects of rent-creating restrictions.

Table 4.2 **Cost impact, by type of foreign barrier to establishment**
per cent

Economy	*Restrictions on commercial land*	*Direct investment*	*Restrictions on large-scale stores*	*Factors affecting investment*	*Factors affecting local establishment*	*Movement of people – Permanent*	*Total*
Australia	-	-	-	0.32	-	0.25	0.57
Belgium	2.17	-	1.09	0.49	0.65	0.46	4.87
Canada	2.26	-	-	0.34	-	0.49	3.09
Chile	-	-	-	-	0.65	0.67	1.32
France	2.31	-	1.15	0.52	0.69	0.49	5.16
Greece	0.12	0.07	-	0.03	-	0.03	0.25
Hong Kong	-	-	-	-	-	0.06	0.06
Indonesia	-	2.09	-	0.48	0.64	0.45	3.66
Ireland	2.23	-	-	-	-	0.47	2.70
Japan	-	-	1.16	-	1.04	0.06	2.26
Malaysia	2.67	3.73	-	1.00	0.80	0.03	8.23
Netherlands	2.25	-	-	-	-	0.48	2.73
New Zealand	-	-	-	0.32	-	0.45	0.77
Singapore	-	-	-	-	-	0.03	0.03
South Africa	-	-	-	-	-	0.47	0.47
Switzerland	2.23	-	0.56	0.50	1.68	0.27	5.24
United Kingdom	2.28	-	-	-	-	0.48	2.76
United States	2.21	-	-	-	-	0.06	2.26

- Nil

If there were no rent-creating restrictions on establishment, then the results could be interpreted as a ‘partial’ cost impact measure. This is because the compression of price-cost margins caused by restrictions would definitely reflect the costs created, but this effect *may* have been diluted by the pass-on of at least some of the costs in the form of higher prices (see box 3.2 in section 3.1). Under this interpretation, the measure would represent a minimum estimate of the cost impact of the restrictions.

The possibility that the establishment category contains at least some rent-creating restrictions does not invalidate this interpretation. In fact, the effects of rent-creating restrictions in the data set would tend to increase the measured price-cost margin. This would mean that the cost-creation effects had been further diluted in the data set. Hence, the interpretation of the measure as a minimum estimate of the cost impact is only strengthened by the possible existence of some rent-creating restrictions.

While these cost impact measures thus represent minimum estimates of the effects of restrictions on direct costs, the data and econometric studies provide no basis for determining how much higher the actual costs might be.

Table 4.3 **Cost impact, by type of domestic barrier to establishment**
per cent

Economy	*Restrictions on commercial land*	*Direct investment*	*Restrictions on large-scale stores*	*Factors affecting investment*	*Factors affecting local establishment*	*Total*
Australia	-	-	-	-	-	-
Belgium	-	-	3.26	1.47	1.96	6.69
Canada	-	-	-	0.98	-	0.98
Chile	-	-	-	-	1.92	1.92
France	-	-	3.47	1.56	2.08	7.10
Greece	-	-	-	-	-	-
Hong Kong	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-
Ireland	-	-	-	-	-	-
Japan	-	-	3.57	-	3.22	6.79
Malaysia	-	-	-	1.70	2.27	3.97
Netherlands	-	-	-	-	-	-
New Zealand	-	-	-	-	-	-
Singapore	-	-	-	-	-	-
South Africa	-	-	-	-	-	-
Switzerland	-	-	1.70	1.53	5.09	8.32
United Kingdom	-	-	-	-	-	-
United States	-	-	-	-	-	-

- Nil

Finally, it must be remembered that the cost impact measures are derived from the econometric exercise presented in chapter 3. As discussed there, the limited number of observations and potential influence of outliers means that the results can at best be seen as exploratory and tentative. The same qualification thus applies to the cost impact estimates presented in this chapter.

References

APEC (Asia Pacific Economic Cooperation) 1997, 1997 Individual Action Plan Submissions, http://www.apecsec.org, Singapore.

—— 1998, 1998 Individual Action Plan Submissions, http://www.apecsec.org, Singapore.

Betancourt, R. and Gautschi, D. 1990, *What determines US retail margins?*, Working paper No. 90-2, University of Maryland, Department of Economics, College Park, Maryland.

—— 1993a, 'The output of retail activities: concepts, measurement and evidence from U.S. census data', *Review of Economics and Statistics*, 75(2) pp. 294–304.

—— 1993b, 'Two essential characteristics of retail markets and their economic consequences', *Journal of Economic Behaviour and Organization*, vol. 21, pp. 277-294.

Claessens, S. and Glaessner, T. 1998, *The Internationalization of Financial Services in Asia*, World Bank, Washington DC.

Disclosure (1999), Global Researcher — Worldscope database, Disclosure, United States, January.

Findlay, C. and Warren, T. (eds) 2000, *Impediments to Trade in Services: Measurements and Policy Implications*, Routledge, Sydney (forthcoming).

Greene, W.H. 1990, *Econometric Analysis*, Macmillan, New York.

Hardin, A. and Holmes, L. 1997, *Services Trade and Foreign Direct Investment*, Industry Commission Staff Research Paper, AGPS, Canberra.

Hay, D.A. and Morris, D. J. 1991, *Industrial Economics and Organization: Theory and Evidence*, Second edition, Oxford University Press, New York.

Hoekman, B. 1995, 'Assessing the General Agreement on Trade in Services', in Martin, W. and Winters, L. A. (eds), *The Uruguay Round and the Developing Economies*, World Bank Discussion Paper 307, Washington DC, pp. 327–364.

IMF (International Monetary Fund 1998), *International Financial Statistics yearbook 1998*, IMF, Washington DC.

Kalirajan, K., McGuire, G., Nguyen-Hong, D., and Schuele, M. 1999, *The price impact of restrictions on banking services*, paper presented at the 28th Annual

Conference of Economist, La Trobe University, Melbourne, Australia 26-30 September.

Maccini, L. 1987, 'Inventories', in Eatwell, J., Milgate, M., and Newman, P. (eds), *The New Palgrave, a Dictionary of Economics*, The MacMillan Press Limited, London.

Martin, S. 1993, *Advanced Industrial Economics*, Blackwell Publishers, Cambridge, Massachusetts.

McGuire, G. and Schuele, M. 1999, *Restrictiveness of international trade in banking services*, paper distributed at the 28th Annual Conference of Economists, La Trobe University, Melbourne, Australia, 26-30 September.

McGuire, G., Schuele, M. and Smith, T. 1999, *The restrictiveness of international trade in maritime services*, paper presented at the Pacific Economic Cooperation Council Trade Policy Forum, Auckland, New Zealand, 3-4 June.

Moulton, B.R. 1986, 'Random group effects and the precision of regression estimates', *Journal of Econometrics*, vol. 32, pp. 385–397.

Mueller, D. 1986, *Profits in the Long Run*, Cambridge University Press, New York.

Nguyen-Hong, D. (2000), *Restrictions on Professional Services*, Productivity Commission Staff Research Paper, AusInfo, Canberra, (forthcoming).

OECD (Organisation for Economic Co-operation and Development) 1997, *Assessing Barriers to Trade in Services: Pilot Study Applications to the Accountancy and Telecommunication Sectors*, Working Party of the Trade Committee, TD/TC/WP(97)26, OECD, Paris.

—— 1999, *Assessing Barriers to Trade in Services, Revised Consolidated List of Cross-sectoral and Sector Specific Barriers*, Working Party of the Trade Committee, TD/TC/WP(99)58, OECD, Paris.

—— 2000, *Wholesale Trade Services*, Working Party of the Trade Committee, TD/TC/WP(99)18REV2, OECD, Paris.

—— 2000a, *Retail Trade Services*, Working Party of the Trade Committee, TD/TC/WP(99)41/REV1, OECD, Paris.

Pilat, D. 1997, *Regulation and Performance in the Distribution Sector*, OECD (Organisation for Economic Co-operation and Development), Economics Department working papers No. 180, OECD, Paris.

PC (Productivity Commission) 1999, *Trade and Assistance Review 1998–99*, AusInfo, Canberra.

Schmalensee, R. 1989, 'Inter-industry studies of structure and performance', in Schmalmensee, R. and Willig, R.D. (eds), *Handbook of Industrial Organisation*, volume 2, North-Holland, Amsterdam, pp. 951–1009.

TradePort 1998, Country Library — Market Research Reports, http://www.tradeport.org/cgi-bin/banner.pl/ts/countries/index.html.

Tulluck, G. 1980, 'The transitional gains trap', in Buchanan, J.M., Tollison, R.D. and Tullock, G. (eds) *Toward a Theory of the Rent-Seeking Society*, Texas A&M University Press, Texas.

USITC (United States International Trade Commission) 1998, *General Agreement on Trade in Services: Examination of the schedule of commitments submitted by Eastern Europe, the European Free Trade Association, and Turkey, Investigation No. 332-385, Publication 3127*, USITC, Washington DC.

USTR (United States Trade Representative) 1998, *National Trade Estimate Report on Foreign Trade Barriers*, http://www.ustr.gov, Washington DC.

Waterson, M. 1984, *Economic Theory of the Industry*, Cambridge University Press, London.

WTO (World Trade Organization) 1995, *Trade Policy Review* (for relevant WTO members), WTO, Geneva.

—— 1996, *Trade Policy Review* (for relevant WTO members), WTO, Geneva.

—— 1997, *Trade Policy Review* (for relevant WTO members), WTO, Geneva.

—— 1998, *Trade Policy Review* (for relevant WTO members), WTO, Geneva.

—— 1998b, *Distribution services*, background note by the secretariat, WTO, Geneva.