UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

# Measuring Restrictions on FDI in Services in Developing Countries and Transition Economies

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# Preface

The world economy has shifted markedly towards services. This shift manifests itself in several ways. First, services assume increased importance for the competitiveness of firms in all sectors. Second, new technology has made it possible for more services to be internationally traded, with new export opportunities for developing countries as a result. Third, reflecting these developments, the national as well as international policy agenda – ranging from liberalization to promotional efforts – is increasingly tilting towards services.

Services – particularly in infrastructure, finance and business – are critical to the development of a competitive business sector. As documented in the *World Investment Report 2004: The Shift Towards Services,* transnational corporations can contribute to enhancing the provision of such services and have an indirect impact on the systemic competitiveness of host economies. At the same time, however, foreign direct investment in services can generate concerns and potential costs that have to be addressed through appropriate policies. The potential costs rise when efficient regulation is missing; when institutions and instruments needed to manage privatization and utilities, for example, are weak; or when the investment is undertaken in socially or culturally sensitive areas. Indeed, as many services are embedded in the social, cultural and political fabric of societies, the challenge is to strike a balance between economic efficiency and broader development objectives.

Despite the importance of services, our knowledge of the extent to which developing countries have opened up to foreign direct investment in services is very limited. Most available studies have relied primarily on the information provided through country schedules of the General Agreement on Trade in Services (GATS) under Mode 3 (commercial presence). Important drawbacks to that approach are that the schedules do not take account of unilateral steps taken to liberalize services beyond what has been committed to under the GATS, and that the schedules are not necessarily up to date.

As part of UNCTAD's work on assisting developing countries in their policy formation and implementation in the light of international developments, this study aims to fill at least a part of this information gap. It attempts to quantify and analyse the existing and available measures of restrictions on FDI in the services sector for developing countries. It is my hope that its findings will stimulate further discussion and contribute to better assessments of the dynamic interaction between FDI in services, national policies and the implications for development.

Supachai Panitchpakdi
Secretary-General of UNCTAD

Geneva, July 2006

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This report is part of a new Series of Current Studies on FDI and Development published by UNCTAD. The series aims to contribute to a better understanding of how transnational corporations and their activities impact on development. The present study quantifies and analyses measures of restrictions on inward FDI in the services sector for developing countries. It aims at stimulating discussion and further research on the subjects addressed.

The study was prepared under the overall guidance of Anne Miroux and Torbjörn Fredriksson. It is based on a manuscript prepared by Stephen Golub with the assistance of Qing Ling. Abraham Negash was the project officer responsible for its production.

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# Executive summary

Notwithstanding the worldwide trend towards liberalization since the early 1990s, there remain substantial disparities between regions and individual countries in the severity of observable restrictions on inward foreign direct investment (FDI) in services. This paper quantifies and analyses such restrictions in the services sector of developing countries and economies in transition, using a methodology developed in a recent study of OECD countries.

The study contains a more comprehensive and up-to-date compilation, quantification and analysis of restrictions on FDI in services in developing countries than prior studies, many of which have tended to rely on the General Agreement on Trade in Services (GATS) schedules for information. It draws on a large number of sources in addition to the GATS.

The study is confined to measuring restrictions discriminating between foreign and domestic investors and does not take into account policies impinging on all investors, such as product or labour market regulations. The sample includes 50 developing countries in Latin America, Asia, Africa and Europe.

Several different types of restrictions are considered: limitations on foreign ownership, screening or notification procedures, management restrictions and operational restrictions. These restrictions on FDI are computed for a large number of services industries and aggregated into a single measure for the services sector as a whole in each country. The results should be interpreted carefully in the light of the frequent changes to, and complex nature of, national policies on FDI, which render classification and quantification challenging.

The study finds that the GATS schedules by themselves are poor guides to the stance of policies on FDI for most countries and generally underestimate the extent to which countries have opened up their services industries to FDI. It provides a heretofore unavailable systematic and internationally-comparable set of indicators for policies on FDI in services that will be of value to policymakers concerned with international negotiations on FDI and researchers studying FDI.

Moreover, the analysis suggests that Latin America and economies in transition generally have relatively low levels of restrictions, whereas higher levels of restrictions are found in East Asia and the Middle East. Inward FDI in services is strongly negatively correlated with the severity of restrictions.

# I. Introduction

Since the early 1990s developing countries have increasingly liberalized, privatized and deregulated their service industries, with a view to greater participation in the global economy. More welcoming policies on foreign direct investment (FDI) have been a prominent component of this trend. National policies on FDI typically feature measures aimed at both attracting and discouraging inflows. Policies to attract FDI such as tax breaks, favourable regulatory treatment and subsidies of various sorts are usually focused on manufacturing.[1] Meanwhile, policies restricting inward FDI are mainly concentrated in the service sector.[2] This paper focuses on the latter.

Services now constitute the largest recipient sector of FDI, accounting for about two thirds of FDI inflows worldwide, and about 55 per cent of FDI inflows into developing countries.[3] However, very little systematic quantification and analysis are available on the policies on FDI in services.

Countries welcome FDI because of its potential benefits for employment creation, capital accumulation, transfer of technology, improved provision of services and increased competition. Nevertheless, inward FDI can also impose costs in the form of displacement of local firms and workers and possible monopolistic practices, and there can be valid economic rationales for restricting inward FDI. There may also be non-economic reasons for limiting foreign ownership and control, relating to national security or economic nationalism. Services are generally subject to more restrictions than manufacturing and natural resources.[4] For example, such industries as telecommunications, banking, transportation and electricity provision are often viewed by host countries as strategic or sensitive.[5] These sectors are typically subject to economic or prudential regulation, because of tendencies towards natural monopoly or other market failures, although such market failures do not in themselves provide a clear-cut rationale for discrimination between local and foreign investors. Infant "entrepreneurship" arguments have been used in favour of discrimination against foreign investors. This paper does not attempt to assess the welfare effects of these policies or make any recommendations regarding policy changes.[6] Its goal is mainly to develop and analyse a database on selected policies on FDI in services. The paper also provides a preliminary analysis of the correlation of FDI flows with these policies.

The present study is subject to several limitations. First, policies on FDI are diverse and complex, and therefore not easily quantified even when they are known. Second, descriptions of these policies are not readily available and must be sought in a variety of sources, which sometimes provide conflicting or incomplete information. Third, policies are not static; on the contrary, Governments have frequently altered policies in recent years. It is therefore important but not always easy to obtain up-to-date information. Fourth, the focus here is on policies that discriminate between foreign and domestic investors, that is deviations from "national treatment". Regulations of labour and product markets and other policies that apply equally to foreign and domestic investors are not considered here, with the exception of State monopolies. For example, domestic content requirements, price ceilings, prudential regulations and other barriers to entry are not addressed.

Fifth, this study is limited to overt restrictions on FDI, mostly ignoring any informal private or official efforts to tilt the playing field in favour of domestic over foreign firms. Sixth, the breadth and degree of enforcement may not always be easily inferred from the descriptions of the statutes. Seventh, this study does not take into account "positive" discrimination towards foreign investors such as special tax breaks. As such positive discrimination is more common in manufacturing than in services, this is not a major problem in this study, however.

Despite these limitations, this study sheds new light on the current state of policies in a wide range of developing countries and economies in transition, in respect of which there has been heretofore little systematic classification and analysis.

Unlike in the case of international trade, where international comparisons of tariff and non-tariff barriers are widely available, there have been few previous efforts to quantify and systematically compare national policies on FDI. However, summary indicators of the stance of policy on FDI are just as important as measures of trade barriers, given the prominence of FDI in the world economy and the policy debates surrounding FDI. Both policymakers and researchers stand to benefit from the use of the indicators presented here. The first step in any international negotiations related to FDI involves improved information on policies towards FDI.[7] The influential knowledge-capital model of FDI suggests that restrictions on FDI are an important variable for inclusion in empirical analysis. In econometric tests of FDI, researchers have sometimes resorted to measures based on surveys of investor opinion, rather than objective measures of openness to FDI, but the reliability of these subjective measures is open to question.[8]

This study contains the most comprehensive and up-to-date compilation and analysis of restrictions on inward FDI. Given the difficulties in classifying and ranking the various restrictions, some studies (e.g. Sauvé and Steinfatt, 2001; Hoekman, 1995) are limited to counting the number of restrictions. While this has the advantages of simplicity and lack of arbitrariness, some restrictions are bound to be more important than others. For example, a ban on foreign ownership is much more restrictive than a screening or reporting requirement. It therefore seems preferable to attempt to weight different restrictions according to their significance, even though such a procedure surely brings in arbitrary judgements and errors as well.

Several studies of restrictions on FDI in services (Hoekman, 1995; Pacific Economic Cooperation Council, 1995) use the GATS commitments related to mode 3 (commercial presence) as their primary data source. GATS commitments are made in the form of “positive” lists, i.e., they represent official commitments to open markets. This is in contrast to “negative” lists of exceptions to liberalization.[9] A problem with the GATS positive lists is that the absence of a positive commitment in some sectors does not necessarily imply a restriction. A country may simply have chosen not to list this sector in its schedule to retain policy flexibility. Or, if the sector is restricted, GATS may be silent on the nature of the restriction. Also, the current GATS schedules date from around 2000 and may not adequately capture recent changes at the national level.

The Australian Productivity Commission and affiliated researchers carried out a number of sectoral studies of impediments to trade in services: telecommunications (Warren, 2001), banking (McGuire and Schuele, 2001), maritime transport (McGuire and Smith, 2001), education (Kemp, 2001), distribution (Kalirajan, 2000) and professional services (Nguyen-Hong, 2000). These studies focus on all modes of service delivery rather than FDI per se, however, and many of them rely primarily on the GATS, with the related limitations noted above (see also McGuire, 2002).

Another study used the UNCTAD data set on national policy changes to show that liberalization efforts greatly outnumber increased restrictions in the 1992-2001 period (Kobrin, 2005). However, UNCTAD's database provides no information about the level of restrictions, only the number and nature of changes that are observed in different years. Others have used a comprehensive approach to barriers to inward FDI but covered only a limited number of countries (e.g. Hardin and Holmes, 1997, 2002).

The most comprehensive analysis to date mapped the situation for most OECD countries (Golub, 2003). Golub adopted a variant of Hardin and Holmes’ approach, and the present study extends this methodology for the first time to a large number of developing countries and economies in transition. The GATS schedules are only one of a number of data sources used, and the results confirm that reliance on the GATS schedules alone provides an incomplete understanding of the pattern of policies on inward FDI.

# II. Methodology[10]

The purpose of this paper is to obtain summary measures of the policies discriminating between foreign and domestic investors by scoring particular policies and aggregating them into a country total. There are several issues involved in computing the restriction scores. A classification of various types of restrictions, a choice of industries and a system of weighting are needed.

## A. Classification and scoring of policies

The approach draws heavily on Golub (2003), which in turn was inspired by Hardin and Holmes (1997, 2002). Restrictions can be separated into those affecting market entry and those affecting post-entry operations.[11] The former is emphasized here, given the predominance and importance of policies restricting entry. As pointed out elsewhere, post-entry national treatment is more widely accepted and institutionalized than the right of establishment (UNCTAD, 2003, chapter 5).

Restrictions on entry can take the form of limitations on foreign ownership and screening requirements. Ownership restrictions specify permissible maximum foreign equity participation, ranging from a complete ban on foreign holdings to allowing 100 per cent foreign ownership. Usually, ownership limitations are applicable to a particular industry. Screening requirements, on the other hand, often apply to all sectors. Screening can vary widely in its stringency, from routine notification and automatic approval to a national-interest test where the foreign investor has to make a case for entry rather than the Government having to justify denying entry. Post-entry operational discrimination against foreign-owned firms is more diverse. In the service sector, the main such restrictions are stipulations regarding the nationality and citizenship of managers or board members, limits to temporary entry of expatriate personnel, and other nationality requirements for staff. Occasionally, foreign firms face higher taxes and other charges than domestic firms.[12] In transportation, cabotage is often restricted to domestically-owned firms.

As noted above, the focus is on departures from national treatment rather than regulatory barriers hampering market access for both domestic and foreign firms. An exception is made for State monopoly or near-monopoly, however, as government monopoly is in effect a de facto ban on FDI. Industries reserved for the State are scored as though ownership is banned. Where State ownership was determined to be greater than 50 per cent in key industries such as telecommunications, electricity and transport, a partial ownership restriction was imputed.[13]

As in Golub (2003), overall restrictiveness is measured on a 0-1 scale, with 0 representing full openness and 1 a de facto or actual prohibition of FDI.[14] Table 1 presents the weights, using the three types of restrictions: ownership, screening and post-entry operation. Given their evident importance, ownership restrictions receive a substantial weight. In the case of a ban on foreign ownership, other restrictions become irrelevant. The ownership scores in table 1 are constructed so as to capture non-linearities in ownership restrictions as well as the inverse relationship between permissible foreign equity share and restrictiveness. A complete ban on ownership is much more restrictive than allowing even a small foreign shareholding. Also, allowing majority foreign ownership (51 per cent foreign equity) is considerably less restrictive than a limitation to 49 per cent foreign equity or less.

Screening is perhaps most subject to ambiguity in determining the extent of restrictiveness, as the extent of enforcement or interpretation of approval procedures is difficult to determine from the statutes. Clearly, however,

simple notification is less restrictive than an approval requirement. An effort was made to determine whether approval is generally granted, in which case the score is 0.1, or is subject to a national-interest test, in which case the score is 0.2.

Despite efforts to rely on multiple sources and objective reports, there is always an unavoidable element of arbitrariness and subjectivity to the scoring. Given that this study covers 50 countries, 11 industries and 18 sub-industries, there are numerous instances requiring judgement about the relative severity of restrictions. There is no international agreement on standardized reporting of policies on FDI in services, with the partial exception of the GATS schedules. It can be argued that the restriction scores for the services sector as a whole may be more accurate than the scores for individual industries, insofar as errors in the latter may be smoothed out in the overall score. The results should be interpreted as estimates rather than precise and definitive findings.

**Table 1. FDI restriction scores**

| | |
|---|---|
| **Foreign ownership** | |
| No foreign equity allowed | 1 |
| 1 to 19 % foreign equity allowed | 0.6 |
| 20-34% foreign equity allowed | 0.5 |
| 35-49 % foreign equity allowed | 0.4 |
| 50-74% foreign equity allowed | 0.2 |
| 75-99% foreign equity allowed | 0.1 |
| **Screening and approval** | |
| Investor must show economic benefits | 0.2 |
| Approval unless contrary to national interest | 0.1 |
| Notification (pre- or post-) | 0.05 |
| **Operational restrictions** | |
| Board of directors/managers | |
| majority must be nationals or residents | 0.1 |
| at least 1 must be national or resident | 0.05 |
| Movement of people | |
| less than one year | 0.1 |
| one to two years | 0.05 |
| three to four years | 0.025 |
| Other operational restrictions | |
| Labour market or other restrictions | up to 0.1 |
| **Total** (capped at 1.0) | **Between 0 and 1** |

*Source*: UNCTAD.

## B. Industries and weights

Given that restrictions are often specific to a particular industry, a high level of disaggregation is necessary. The list of industries is shown in table 2.

While the industry-wise scores are of interest, the main objective is to aggregate them into a national composite score. Various alternative weights were considered, including FDI and GDP weights. FDI-based weights are clearly pertinent, but use of actual FDI flows raises a problem of endogeneity: highly restricted sectors may experience less FDI and hence receive too low a weight. An alternative is to use GDP weights, although some service sectors with relatively large shares of GDP are subject to very little FDI. See table 3 for the weights in the two cases. These GDP weights are used as the baseline, with some comparisons to the FDI weights provided. As shown below, the choice of weights is of little importance in most cases.

**Table 2. Service industries and sub-industries covered**

| |
|---|
| **Business services** |
| Legal |
| Accounting |
| Computer and related |
| R&D |
| **Communication services** |
| Fixed line telecommunication |
| Mobile telecommunication |
| Audiovisual |
| **Construction services** |
| **Distribution services** |
| Wholesale trade |
| Retail trade |
| **Education services** |
| **Electricity** (generation, distribution) |
| **Environmental services** |
| **Financial services** |
| Insurance |
| Banking |
| **Health services** |
| **Tourism services** |
| Hotel and restaurants |
| Travel agencies and tour operators |
| **Transport services** |
| International maritime |
| Domestic maritime |
| Domestic air |
| International air |
| Railway |

*Source*: UNCTAD.

**Table 3. Alternative industrial weights**

| Service industry | GDP* | FDI** |
|---|---|---|
| Business | 0.11 | 0.28 |
| Communication | 0.09 | 0.13 |
| Construction | 0.08 | 0.02 |
| Distribution | 0.27 | 0.15 |
| Education | 0.01 | 0.02 |
| Electricity | 0.04 | 0.09 |
| Environmental | 0.05 | 0.00 |
| Finance | 0.11 | 0.25 |
| Health | 0.10 | 0.00 |
| Tourism | 0.06 | 0.02 |
| Transport | 0.07 | 0.04 |
| All services | 1.00 | 1.00 |

*Source*: UNCTAD.
* GDP weights based on GDP for developing countries provided by UNCTAD, supplemented by United States GDP, from the OECD 2004 STAN database.
** FDI weights constructed from 1999-2002 inflows into developing countries, based on sectoral data in UNCTAD (2003, 2004).

**Table 4. Country coverage, by region**

| Africa | Asia | Latin America and the Caribbean | Europe |
|---|---|---|---|
| **North Africa** | **West Asia** | **South America** | **Transition economies** |
| Algeria | Qatar | Argentina | Czech Republic |
| Egypt | Saudi Arabia | Bolivia | Hungary |
| Morocco | Turkey | Brazil | Poland |
| Tunisia | | Chile | Romania |
| | | Colombia | Russian Federation |
| | | Ecuador | Slovenia |
| | | Paraguay | |
| | | Peru | |
| | | Uruguay | |
| | | Venezuela | |
| **Sub-Saharan Africa** | **South, East and South-East Asia** | **Central America and the Caribbean** | |
| Ethiopia | China | Costa Rica | |
| Ghana | India | Dominican Republic | |
| Kenya | Indonesia | El Salvador | |
| Mauritius | Korea, Republic of | Guatemala | |
| Mozambique | Malaysia | Jamaica | |
| Nigeria | Mongolia | Mexico | |
| Senegal | Pakistan | Trinidad and Tobago | |
| South Africa | Philippines | | |
| Tanzania, United Republic of | Sri Lanka | | |
| Uganda | Thailand | | |

*Source*: UNCTAD.

## C. Countries

This study covers 50 countries in Latin America, Asia, Africa and Europe.[15] The choice of countries was determined largely by data availability, notably whether they responded to the UNCTAD survey designed for this study and inclusion in the other sources described in annex I.

## D. Data sources

There is no comprehensive source of information on national FDI policies. For the purposes of gathering information for this study, a questionnaire was prepared and distributed by the UNCTAD secretariat to member countries. However, a number of countries did not respond to the questionnaire and many responses were incomplete or unclear. Therefore, a major effort was made to consult a wide range of other sources, including UNCTAD and OECD (see annex I).

Systematic classification and quantification of FDI restrictions are complicated owing to the disparate nature and inconsistent reporting of restrictions across countries. It may be difficult to determine the exact nature and incidence of a particular restriction without detailed knowledge of a country's productive structure and regulatory environment. There are occasional inconsistencies in some of the different sources, and it is possible that some recent policy changes are not reflected in the calculations.[16]

Finally, with a view to confirming the accuracy of the information provided, UNCTAD sent a draft version of the study to the countries concerned and invited their feedback. Responses were received from a small number of countries.

# III. Results

Examination of the available information reveals that restrictions on inward FDI decreased dramatically in the 1990s in most countries. In a few instances, however, more restrictive measures have been implemented recently, for example, in Argentina and Kenya, but the general trend towards liberalization is clear (Kobrin, 2005; UNCTAD, 2005). Nevertheless substantial de jure or de facto barriers to inward FDI remain.

## A. Overall results

Table 5 presents the summary results by principal industry and for the service sector as a whole, using the GDP weights. Annex table IV.1 presents the sub-industry details. Figure 1 shows the overall scores in ascending order of restrictiveness, as well as the breakdown of the overall national score into the three main types of restrictions: ownership limits, screening and operational barriers.

The total services restrictions vary considerably across countries from a low of under 0.1 in the case of the Czech Republic and Bolivia to more than 0.6 in Ethiopia, the Philippines, Indonesia and Saudi Arabia. Ownership limits account for the bulk of the restriction score in most countries, especially those with higher scores; that is, the variations across countries are primarily explained by differences in ownership restrictions. For example, in countries such as Saudi Arabia, Ethiopia and several Asian countries, a large number of service industries are subject to ownership restrictions.[16] Annex table II.1 provides a listing of ownership restrictions by industry and country.

## B. Results by industry and region

Table 6 and figure 2 show industry-based averages across the 50 countries. The electricity, telecommunications, finance and transport sectors are the industries in which FDI is most heavily restricted.[17] Business services and distribution are moderately restrictive. Social services such as health and education have few overt restrictions explicitly discriminating between foreign and domestic investors. Other non-discriminatory regulations limiting entry may help explain why there is little FDI in these areas. For example, hospitals and schools continue to be largely dominated by non-profit and public entities and are therefore less amenable to FDI, even if there may not be overt restrictions on foreign ownership.

Table 7 and figure 3 display averages by region and subregion for all services, using alternative weighting mechanisms. Notwithstanding considerable variation within regions, there are marked differences between regions (table 7). The lowest restriction scores are found in Latin America, especially South America, and in Europe. Asia displays the higher levels of restrictions, especially countries in West Asia (including Saudi Arabia) and South-East Asia. It may seem surprising that South-East Asian developing countries such as Thailand, Malaysia and Indonesia, known for their success in export-led growth, have such high barriers to inward FDI. This seeming anomaly reflects the selective attitude towards FDI in these countries: welcoming towards manufacturing and export-oriented FDI, while maintaining a more cautious policy stance with regard to FDI in services.

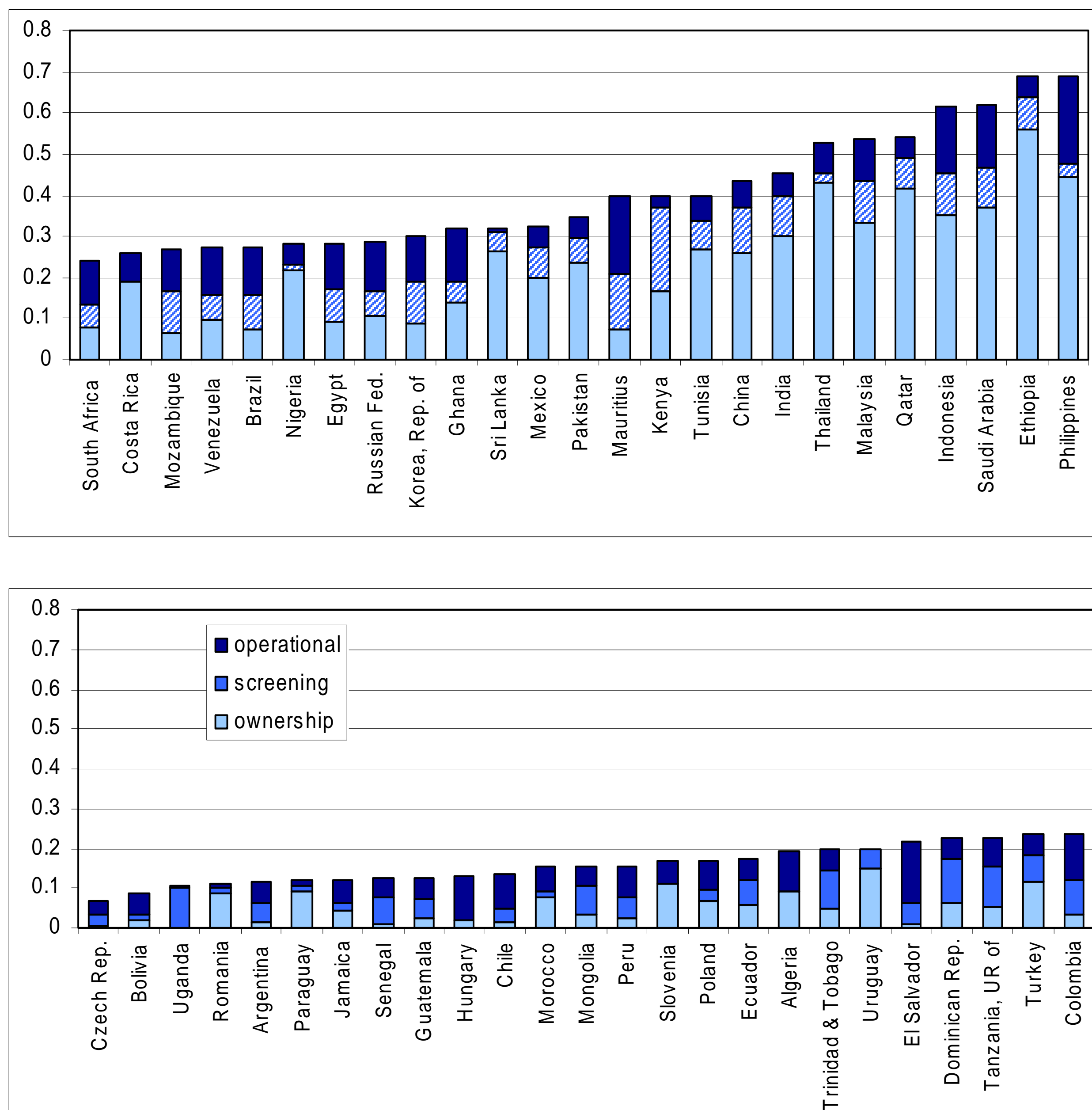
**Table 5. Summary results: Restrictions by industry, 2004 or latest available year**

GDP Weights

| | Business | Communication | Construction | Distribution | Education | Environment | Finance | Health | Tourism | Transport | Electricity | All services |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Algeria | 0.10 | 0.37 | 0.10 | 0.10 | 0.10 | 0.10 | 0.37 | 0.10 | 0.10 | 0.30 | 0.70 | 0.19 |
| Argentina | 0.10 | 0.27 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.12 |
| Bolivia | 0.05 | 0.22 | 0.05 | 0.05 | 0.05 | 0.05 | 0.12 | 0.05 | 0.05 | 0.17 | 0.15 | 0.08 |
| Brazil | 0.20 | 0.45 | 0.15 | 0.15 | 0.15 | 0.15 | 0.52 | 0.20 | 0.15 | 0.51 | 0.65 | 0.27 |
| Chile | 0.10 | 0.22 | 0.08 | 0.08 | 0.18 | 0.08 | 0.18 | 0.18 | 0.08 | 0.42 | 0.05 | 0.14 |
| China | 0.23 | 0.55 | 0.15 | 0.55 | 0.25 | 0.25 | 0.48 | 0.55 | 0.15 | 0.61 | 0.55 | 0.44 |
| Colombia | 0.23 | 0.57 | 0.10 | 0.20 | 0.20 | 0.10 | 0.30 | 0.20 | 0.20 | 0.10 | 0.40 | 0.23 |
| Costa Rica | 0.10 | 0.88 | 0.05 | 0.05 | 0.20 | 0.05 | 0.45 | 0.10 | 0.15 | 0.49 | 1.00 | 0.26 |
| Czech Rep. | 0.13 | 0.06 | 0.03 | 0.03 | 0.15 | 0.03 | 0.13 | 0.13 | 0.03 | 0.03 | 0.23 | 0.07 |
| Dominican Rep. | 0.25 | 0.32 | 0.15 | 0.15 | 0.15 | 0.15 | 0.35 | 0.15 | 0.15 | 0.55 | 0.15 | 0.23 |
| Ecuador | 0.13 | 0.62 | 0.10 | 0.10 | 0.10 | 0.10 | 0.15 | 0.10 | 0.10 | 0.15 | 0.55 | 0.17 |
| Egypt | 0.15 | 0.57 | 0.55 | 0.15 | 0.15 | 0.15 | 0.35 | 0.15 | 0.35 | 0.23 | 0.80 | 0.28 |
| El Salvador | 0.20 | 0.38 | 0.15 | 0.15 | 0.25 | 0.25 | 0.32 | 0.25 | 0.15 | 0.21 | 0.15 | 0.22 |
| Ethiopia | 0.14 | 0.82 | 0.15 | 1.00 | 0.15 | 0.10 | 1.00 | 0.65 | 0.41 | 0.51 | 0.65 | 0.69 |
| Ghana | 0.25 | 0.25 | 0.25 | 0.35 | 0.25 | 0.25 | 0.32 | 0.25 | 0.25 | 0.25 | 0.25 | 0.32 |
| Guatemala | 0.10 | 0.27 | 0.10 | 0.10 | 0.10 | 0.10 | 0.13 | 0.10 | 0.10 | 0.10 | 0.30 | 0.13 |
| Hungary | 0.13 | 0.10 | 0.10 | 0.10 | 0.20 | 0.10 | 0.15 | 0.10 | 0.10 | 0.26 | 0.30 | 0.13 |
| India | 0.60 | 0.45 | 0.35 | 0.60 | 0.15 | 0.15 | 0.58 | 0.35 | 0.13 | 0.47 | 0.15 | 0.45 |
| Indonesia | 1.00 | 0.65 | 0.68 | 0.35 | 0.65 | 0.35 | 0.57 | 0.65 | 0.75 | 0.59 | 1.00 | 0.61 |
| Jamaica | 0.11 | 0.38 | 0.05 | 0.05 | 0.13 | 0.05 | 0.18 | 0.18 | 0.13 | 0.08 | 0.05 | 0.12 |
| Kenya | 0.34 | 0.43 | 0.33 | 0.33 | 0.33 | 0.33 | 0.56 | 0.35 | 0.33 | 0.33 | 1.00 | 0.40 |
| Korea, Rep. of | 0.18 | 0.51 | 0.33 | 0.18 | 0.78 | 0.28 | 0.24 | 0.23 | 0.20 | 0.49 | 1.00 | 0.30 |
| Malaysia | 0.74 | 0.63 | 0.20 | 0.70 | 0.20 | 0.20 | 0.40 | 0.20 | 0.70 | 0.40 | 1.00 | 0.54 |
| Mauritius | 0.27 | 0.55 | 0.25 | 0.45 | 0.35 | 0.35 | 0.23 | 0.15 | 0.62 | 0.35 | 1.00 | 0.40 |
| Mexico | 0.36 | 0.68 | 0.15 | 0.15 | 0.15 | 0.05 | 0.38 | 0.45 | 0.15 | 0.43 | 1.00 | 0.33 |
| Mongolia | 0.10 | 0.35 | 0.15 | 0.10 | 0.15 | 0.15 | 0.15 | 0.15 | 0.05 | 0.19 | 0.40 | 0.15 |
| Morocco | 0.18 | 0.08 | 0.15 | 0.05 | 0.05 | 0.05 | 0.05 | 0.05 | 0.08 | 0.75 | 0.75 | 0.15 |
| Mozambique | 0.20 | 0.53 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 0.20 | 1.00 | 0.27 |
| Nigeria | 0.05 | 0.42 | 0.05 | 0.55 | 0.05 | 0.05 | 0.12 | 0.05 | 0.31 | 0.05 | 1.00 | 0.28 |
| Pakistan | 0.51 | 0.48 | 0.10 | 0.30 | 0.50 | 0.30 | 0.40 | 0.33 | 0.30 | 0.30 | 0.50 | 0.35 |
| Paraguay | 0.05 | 0.38 | 0.15 | 0.00 | 0.00 | 0.00 | 0.13 | 0.00 | 0.00 | 0.22 | 1.00 | 0.12 |
| Peru | 0.14 | 0.26 | 0.13 | 0.13 | 0.13 | 0.13 | 0.16 | 0.13 | 0.13 | 0.33 | 0.13 | 0.16 |
| Philippines | 0.95 | 0.80 | 0.70 | 0.30 | 0.60 | 1.00 | 0.63 | 1.00 | 0.60 | 0.68 | 0.70 | 0.69 |
| Poland | 0.08 | 0.50 | 0.04 | 0.14 | 0.04 | 0.04 | 0.30 | 0.04 | 0.04 | 0.20 | 0.54 | 0.17 |
| Qatar | 0.50 | 0.50 | 0.50 | 0.50 | 0.35 | 0.50 | 1.00 | 0.35 | 0.35 | 0.50 | 0.52 | 0.54 |
| Romania | 0.06 | 0.08 | 0.00 | 0.00 | 0.00 | 0.00 | 0.18 | 0.10 | 0.00 | 0.41 | 1.00 | 0.11 |
| Russian Fed. | 0.15 | 0.45 | 0.15 | 0.15 | 0.15 | 0.15 | 0.58 | 0.20 | 0.20 | 0.60 | 0.65 | 0.29 |
| Saudi Arabia | 0.25 | 0.92 | 0.45 | 0.65 | 0.25 | 0.25 | 0.65 | 0.65 | 0.26 | 1.00 | 1.00 | 0.62 |
| Senegal | 0.10 | 0.18 | 0.10 | 0.10 | 0.10 | 0.10 | 0.15 | 0.15 | 0.15 | 0.10 | 0.20 | 0.13 |
| Slovenia | 0.11 | 0.35 | 0.05 | 0.05 | 0.15 | 0.05 | 0.18 | 0.08 | 0.05 | 0.74 | 0.45 | 0.17 |
| South Africa | 0.15 | 0.50 | 0.15 | 0.15 | 0.15 | 0.15 | 0.23 | 0.15 | 0.15 | 0.35 | 1.00 | 0.24 |
| Sri Lanka | 0.09 | 0.38 | 0.05 | 0.45 | 0.45 | 0.05 | 0.45 | 0.08 | 0.15 | 0.67 | 0.65 | 0.32 |
| Tanzania, UR of | 0.18 | 0.18 | 0.18 | 0.38 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.18 | 0.23 |
| Thailand | 0.53 | 0.58 | 0.55 | 0.45 | 0.45 | 0.45 | 0.65 | 0.45 | 0.45 | 0.45 | 1.00 | 0.53 |
| Trinidad & Tobago | 0.18 | 0.48 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.15 | 0.30 | 0.25 | 0.05 | 0.20 |
| Tunisia | 0.59 | 0.66 | 0.16 | 0.56 | 0.56 | 0.11 | 0.16 | 0.06 | 0.38 | 0.16 | 1.00 | 0.40 |
| Turkey | 0.13 | 0.53 | 0.10 | 0.10 | 0.65 | 0.10 | 0.25 | 0.10 | 0.10 | 0.54 | 1.00 | 0.23 |
| Uganda | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.10 | 0.15 | 0.10 | 0.10 | 0.10 | 0.10 | 0.11 |
| Uruguay | 0.00 | 0.83 | 0.00 | 0.00 | 0.10 | 0.00 | 0.47 | 0.10 | 0.03 | 0.24 | 1.00 | 0.20 |
| Venezuela | 0.83 | 0.37 | 0.15 | 0.15 | 0.15 | 0.15 | 0.23 | 0.18 | 0.15 | 0.15 | 0.55 | 0.27 |
| | | | | | | | | | | | | |
| Average | 0.25 | 0.44 | 0.18 | 0.24 | 0.22 | 0.16 | 0.33 | 0.22 | 0.21 | 0.35 | 0.59 | 0.28 |

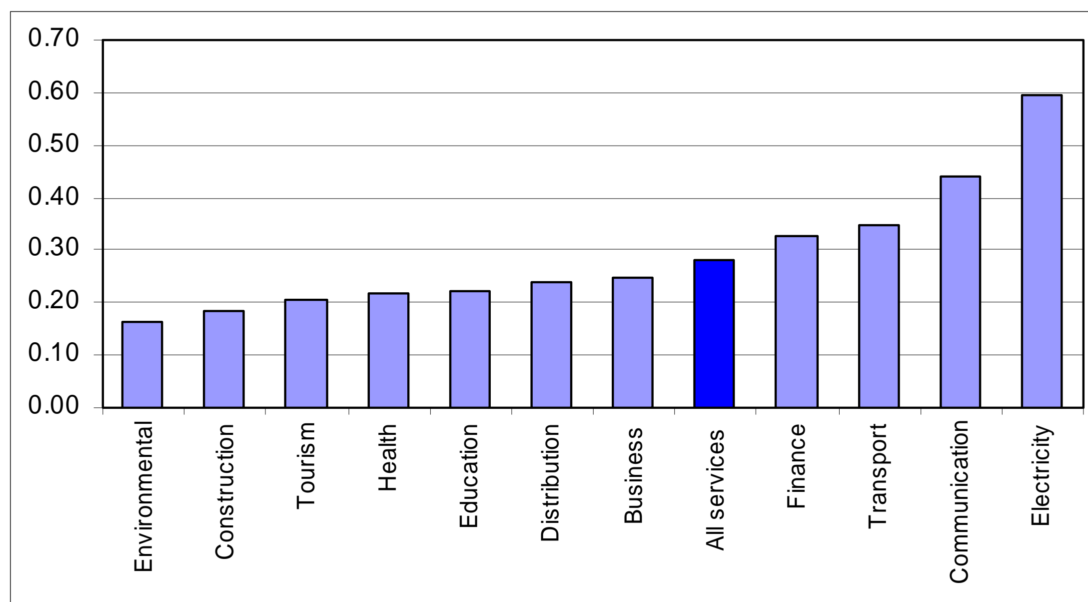
*Source*: UNCTAD.

**Figure 1. Total services restrictions, by type of restriction, 2004 or latest available year**




*Source*: UNCTAD.

**Figure 2. Sectoral restriction scores by industry, average of all countries, 2004 or latest available year**




*Source*: UNCTAD.

A number of East Asian countries, such as China and the Republic of Korea, have relatively high restriction scores, although the East Asia average is lowered by Mongolia's low score. The East Asian scores may furthermore be affected by the fact that Hong Kong (China), Singapore and Taiwan Province of China are not part of the sample. Africa displays greater national diversity than other regions, with some countries very highly restricted (Ethiopia, Kenya), while others have low levels of restrictions (Senegal, Uganda).

The choice of weighting system does not much affect these broad interregional comparisons.[18] FDI restrictions based on GDP weights generally yield lower scores than the FDI weighting system. This is because GDP weights are higher on some sectors such as health, in which there are low restrictions, whereas they are generally low on highly restricted sectors such as transport, electricity and finance (table 3). In addition to lowering scores in all regions, this effect varies somewhat by region. In particular, the scores of East Asia, West Asia and North Africa drop more under GDP weights than other regions' scores do.

It may be interesting to compare the results with those presented in the study of OECD countries referred to above (Golub, 2003). The average score for the OECD as a whole was about 0.18, as compared with the average of 0.28 in this study. While the methodologies used in the two studies are not exactly the same, and the periods are different, there are interesting similarities. For example, in both studies communications and electricity were the two most restricted services industries, whereas tourism and construction industries in both studies were the most open.

**Table 6. Average restrictions by sector and sub-sector, average of all countries, 2004 or latest available year**

| Sector | Sub-sector | |
|---|---|---|
| Business | | 0.24 |
| | Legal | 0.25 |
| | Accounting | 0.26 |
| | Computer | 0.19 |
| | R&D | 0.22 |
| Communication | | 0.45 |
| | Fixed | 0.49 |
| | Mobile | 0.35 |
| | Audiovisual | 0.48 |
| Construction | | 0.18 |
| Distribution | | 0.24 |
| | Wholesale | 0.23 |
| | Retail | 0.25 |
| Education | | 0.23 |
| Environmental | | 0.16 |
| Finance | | 0.33 |
| | Insurance | 0.32 |
| | Banking | 0.34 |
| Health | | 0.22 |
| Tourism | | 0.21 |
| | Hotels & restaurants | 0.20 |
| | Agencies | 0.24 |
| Transport | | 0.35 |
| | International maritime | 0.28 |
| | Domestic maritime | 0.32 |
| | Domestic air | 0.39 |
| | International air | 0.34 |
| | Rail | 0.40 |
| | Road | 0.26 |
| Electricity | Generation, distribution | 0.60 |
| All services | | 0.28 |

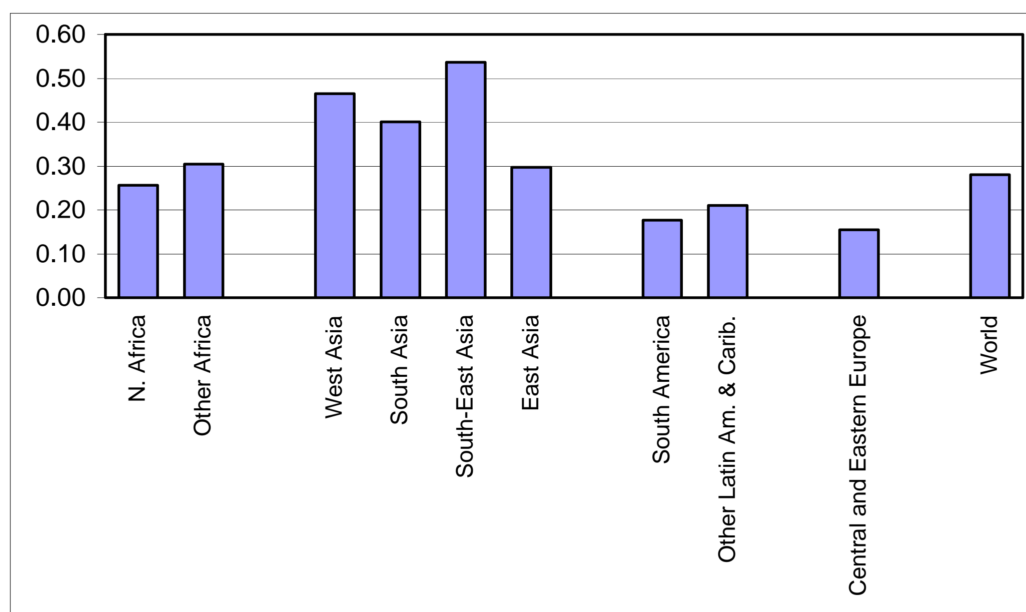
*Source*: UNCTAD.

**Table 7. FDI restrictions by region (simple averages), all services, alternative weighting systems, 2004 or latest available year**

| | GDP | FDI |
|---|---|---|
| **Africa** | 0.29 | 0.33 |
| North Africa | 0.26 | 0.32 |
| Other Africa | 0.31 | 0.33 |
| | | |
| **Asia** | 0.44 | 0.49 |
| West Asia | 0.46 | 0.53 |
| South Asia | 0.40 | 0.42 |
| South-East Asia | 0.54 | 0.60 |
| East Asia | 0.30 | 0.31 |
| | | |
| **Latin America & Caribbean** | 0.20 | 0.19 |
| South America | 0.18 | 0.23 |
| Other | 0.22 | 0.25 |
| | | |
| **Transition economies** | 0.15 | 0.14 |
| | | |
| **All countries** | 0.28 | 0.32 |

*Source*: UNCTAD.

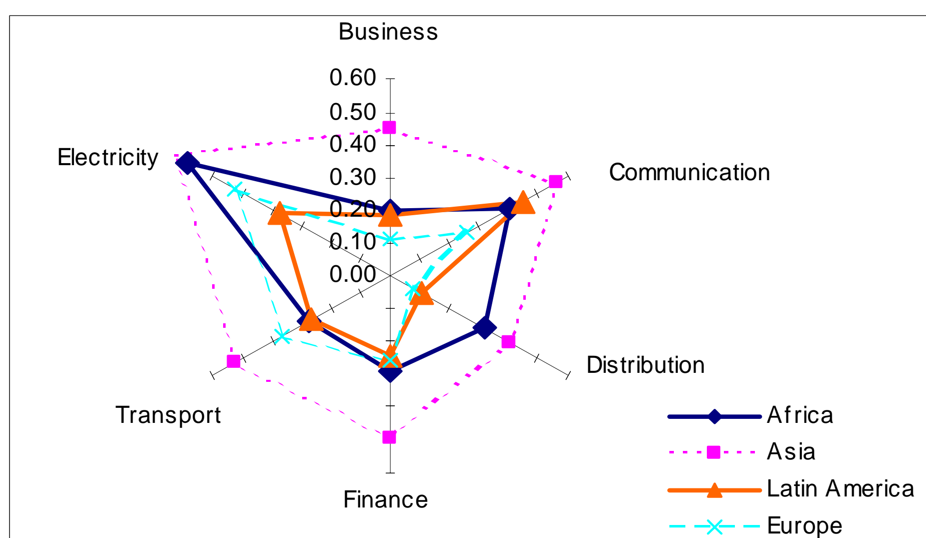
**Figure 3. FDI restrictions by region (simple averages), all services, 2004 or latest available year**




*Source*: UNCTAD.

Figure 4 illustrates regional differences by industry, showing that patterns of restrictions are broadly similar across regions (e.g. higher in electricity and communications than in business and distribution). High Asian restrictions for all major industries are also reflected in figure 4. African electricity and Latin American telecoms are partial exceptions, with elevated scores relative to the regional/industrial pattern. (See annex II for a closer look at the ownership restrictions by sector and country.)

**Figure 4. Regional differences for selected industries, 2004 or latest available year**




*Source*: UNCTAD.

## C. Results using GATS schedules only

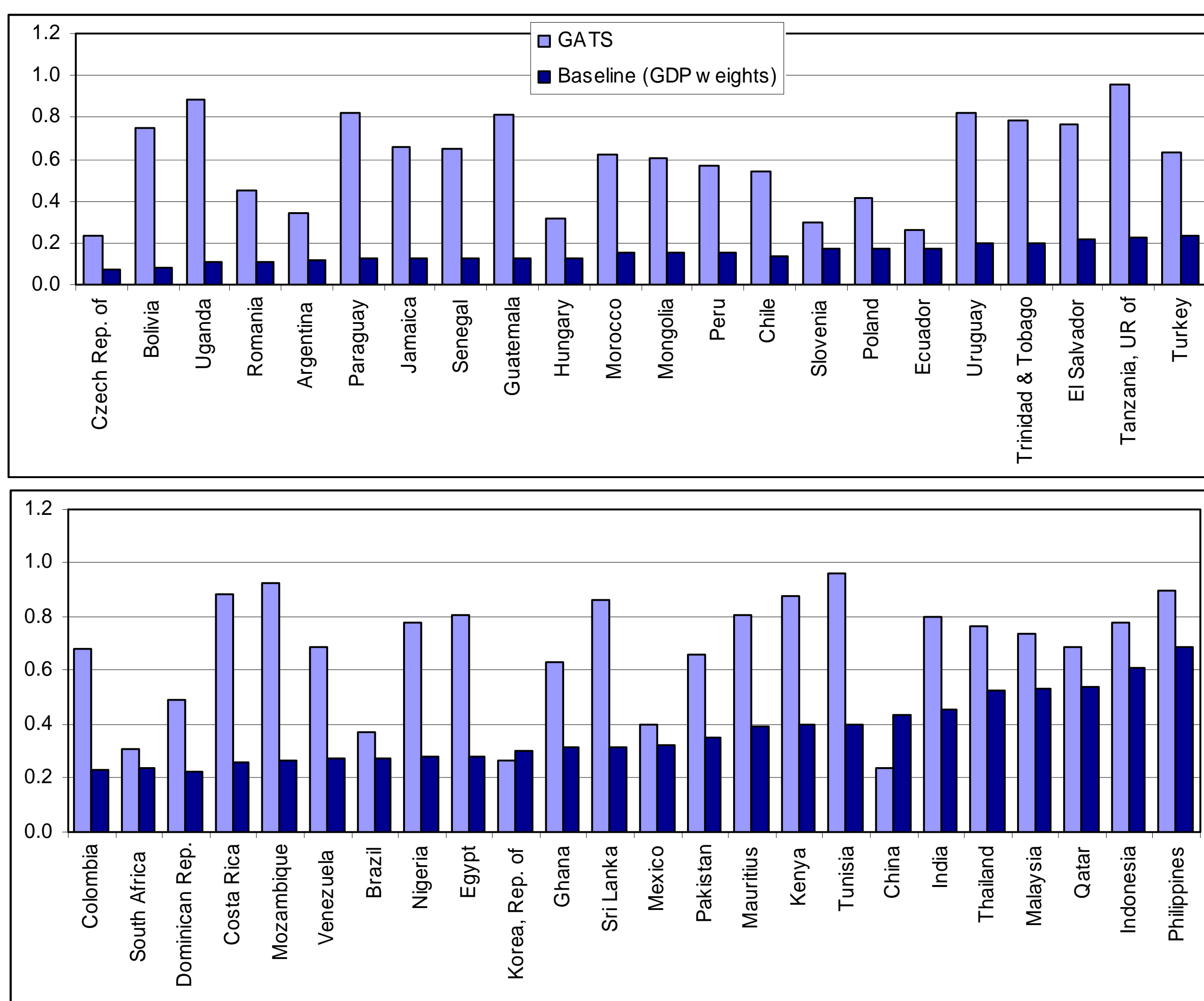
The only multilateral agreement related to FDI in services for developing countries is the GATS, which covers FDI under its "mode 3 (commercial presence) commitments on trade in services.[19] With its positive list approach – that is, it lists commitments to liberalization along with some reservations to those commitments – it does not provide a comprehensive picture of the extent to which a country permits FDI in services. An index of restrictions was computed using the GATS schedules only. Where no commitment is made in the GATS, the industry is assumed to be closed to FDI.[20] Figure 5 provides a comparison between the national average results using the GATS only to the baseline results presented earlier. GATS-only scores are considerably higher than the baseline scores for most countries.

This follows from the assumption that a sector is closed if there is no commitment in the GATS, but other sources may provide more precise information as to the extent of openness of the same sector. Also, in some cases, restrictions as listed in GATS have been liberalized or removed.[21] In a few countries and sectors, on the other hand, the GATS reports that there are no restrictions whereas other sources indicate otherwise. In such instances, GATS-only restrictions can be below those of the baseline indicator. For a number of East Asian countries, notably Indonesia, Malaysia, Thailand and the Philippines, and to a lesser extent China and the Republic of Korea, GATS-only and baseline yield similar results, suggesting that these countries have chosen to bind liberalization efforts multilaterally. For the vast majority of countries, however, the GATS-only restrictions are much higher. The simple average restriction score for

the 46 countries of the sample that are WTO members more than doubles from 0.27 to 0.64 when the GATS-only is used.[22]

In short, using GATS data only as a source of information tends to underestimate the extent to which countries have liberalized FDI in services, according to the interpretation to the effect that the lack of a GATS commitment reflects closure to FDI. This may reflect countries' greater willingness to engage in unilateral liberalization rather than commitment to multilateral liberalization, in order to maintain flexibility to alter their policies.

**Figure 5. Comparison between FDI restriction scores based on GATS with baseline case**




*Source*: UNCTAD.

# IV. Correlation between FDI patterns and restriction scores

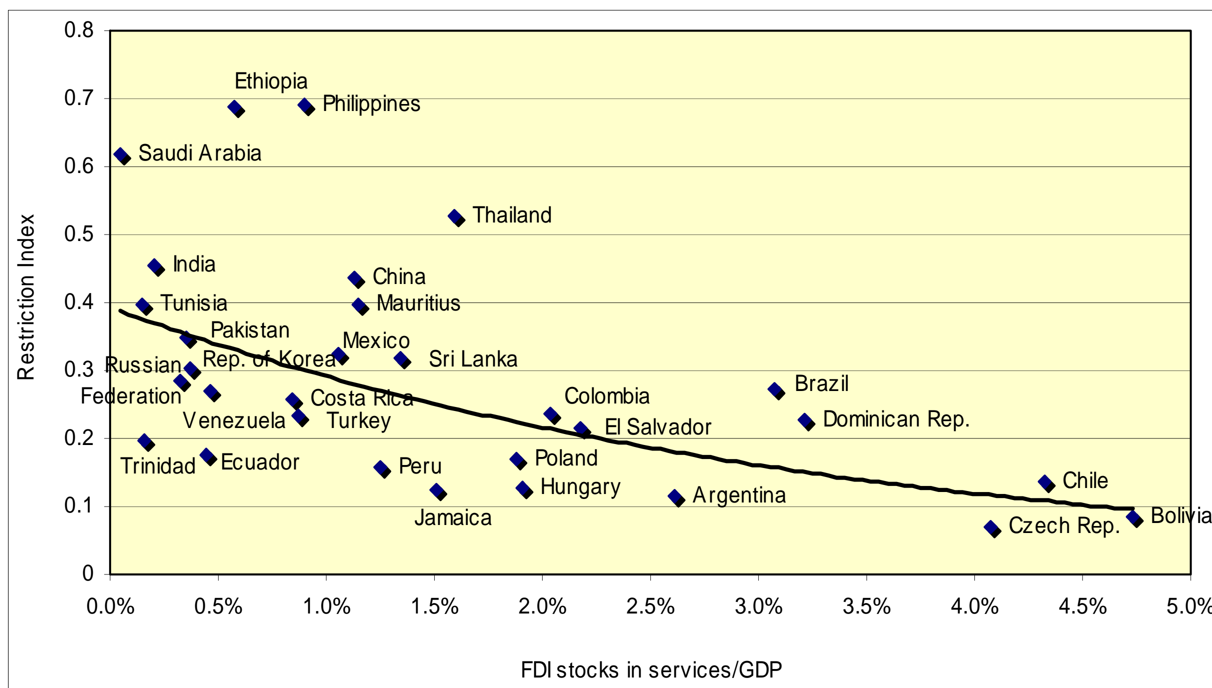
A full statistical analysis of the effects of the computed restriction scores on the behaviour of FDI is beyond the scope of this paper. As a first cut, however, this section presents correlation coefficients between the computed restrictions scores and stocks and flows of FDI in services.[23]

Data on FDI in services are available only for a limited number of countries. For the 50 countries in the sample, stock data are available for 23 countries and flow data for 30 countries. Stock data are for 2002 and flow data are average annual flows 1997-2002.[24] Both variables are scaled by dividing by 2002 GDP.[25] Figures 5 and 6 present the scatter plots for FDI stocks and flows, respectively, with the summary national measures of restrictiveness towards FDI.

A strong negative correlation is clear between restriction measures and FDI activity, with the correlation coefficient equal to -0.52 for stocks and -0.53 for flows.[26] Countries with low measures of restrictions such as Chile, Bolivia and the Czech Republic have high stocks and/or flows of FDI in services. Likewise, countries with higher restriction scores, such as Pakistan, India and the Republic of Korea, tend to have lower FDI. Some of the most restrictive countries, however, have somewhat higher FDI than predicted by the regression line. In the case of FDI stocks (figure 6), these outliers are mainly in East and South-East Asia (Indonesia, Malaysia, Thailand and China). The somewhat higher than predicted FDI for these countries may reflect the strength of other locational assets, including the size of their internal markets, especially for China. These factors may partially offset the relatively elevated restrictions in generating inward FDI. Market size and business climate may also help explain why Brazil and Chile have somewhat higher than predicted FDI stocks. Conversely, perceived weaknesses in the business climate could explain why the Russian Federation's FDI falls below the regression line. In the case of FDI flows (figure 7), the outliers again include some East Asian countries (the Philippines, Thailand and, to a lesser extent, China) as well as Ethiopia and Saudi Arabia, two countries with very high level of restrictions and low levels of FDI – but not as low as the regression line predicts. These latter two outliers may suggest some additional non-linearities in the relationship between restrictions and FDI – that is, even at very high levels of restrictions some FDI may occur beyond that suggested by the relationship in figures 5 and 6. In addition, imperfections in the data on FDI as well as all the limitations of the restrictions measures noted above introduce some additional randomness to both series, further reducing the observed correlation.

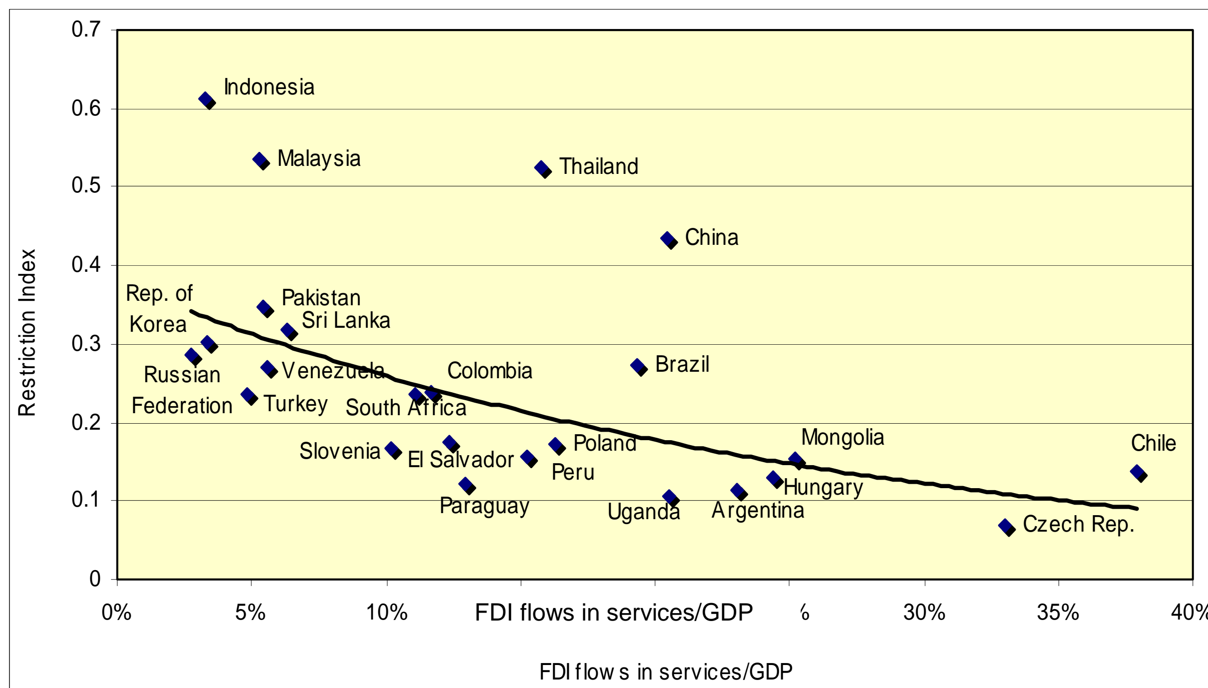
More generally, of course, FDI inflows are affected by many factors, such as domestic labour and product market characteristics, protection of property rights, market size, and other geographical and policy variables, in a way that would best be captured by multivariate regression analysis rather than simple correlation, as in Nicoletti et al (2003). Even after controlling for these variables, some idiosyncratic country variation is to be expected. It is therefore all the more interesting that the simple correlations shown here reveal a strikingly strong negative relationship between the measure of restrictions proposed here and FDI patterns, suggesting both that the restrictions measures are broadly accurate and that they matter greatly for FDI.

**Figure 6. Scatter plot of FDI stocks in services (as percentage of GDP) and FDI restriction scores for all services, 23 countries, 2002**




*Source*: UNCTAD.

**Figure 7. Scatter plot of FDI flows in services (as percentage of GDP) and FDI restriction scores for all services, 30 countries, 1997-2002 average**




*Source*: UNCTAD.

# V. Conclusions

This study is a first attempt to provide quantitative measures of restrictions on FDI in developing countries, and the most extensive study to date of developing countries' policies.

Almost all countries now welcome foreign investment in export-oriented manufacturing. The service sector, however, remains more restricted, notwithstanding substantial liberalization in the past 15 years. This paper has sought to document and analyse the pattern of restrictions in the service sector for a large group of developing countries in Africa, Asia and Latin America, and in some transition economies. Indices of barriers to foreign ownership as well as operational restrictions on foreign firms were computed at a detailed industrial level and aggregated into an overall national indicator.

Some limitations of the analysis are worth re-emphasizing. The information upon which the restriction scores are based is often not complete or consistent. The policies under study are frequently modified and some recent changes may have been missed, although every effort was made to use up-to-date information. The study is mostly limited to statutory violations of national treatment and therefore does not provide a comprehensive measure of the business climate.

Despite these limitations, the study is more comprehensive than prior studies of policies on FDI in services in developing countries. Moreover, the indicators of restrictiveness are validated by their strong negative correlation with FDI activity, a fact that suggests both that the indicators are broadly accurate and that they matter for FDI determination. The results also suggest that reliance on the GATS schedules alone, as in many prior studies, underestimates the extent to which countries have opened up their economies to FDI in services.

As in the case of OECD countries (Golub, 2003), the most heavily restricted industries are those that are highly sensitive to national security or national sovereignty considerations: telecommunications, transport, finance, electricity and media. There is also a wide dispersion in the extent of openness towards FDI in services between and within regions. The most open economies in the study tend to be in Latin America and in the economies in transition. East, South-East and West Asia tend to be more restrictive.

Future research should seek to verify and refine the results reported here, and extend the data collection and analysis to additional countries. The impact of the computed restrictions on FDI stocks and flows using multivariate regression techniques rather than simple correlations as reported here should also be pursued. There is also a need for more detailed analysis of the FDI laws and regulations pertaining to services in different countries.

# Annex I. Data sources

**UNCTAD survey**. Thirty-one countries responded to the survey conducted for this study, which consisted of a table to be filled out regarding restrictions for each sector listed in table 2, and a questionnaire on the nature of restrictions. Of the 31 respondents, 27 were used in the sample. In four cases (Georgia, the Former Yugoslav Republic of Macedonia, Rwanda and Serbia) answers were incomplete and/or could not be corroborated by outside sources, and were not used. Conversely, many of the most economically important developing countries, including Brazil, India and Malaysia, did not respond to the survey. Therefore, 23 additional countries were added to the sample despite their not responding to the survey. These 23 were determined by economic significance as well as data availability. For a country to be added to the list, several sources of information were required. In all, the sample therefore consisted of 50 countries.

**Other UNCTAD sources**. As the international organization with primary responsibility for collecting information on foreign direct investment, UNCTAD has several internal and public sources which contain information on policies on FDI.

- A survey on the ***regulatory framework (RF)*** is carried out for the UNCTAD Investment Compass, a guide to the investment climate in UNCTAD member countries. This survey asks some but not all of the questions covered in the survey designed for this study. A greater number of countries have responded to the RF than to the UNCTAD survey.

- UNCTAD collects a list of ***policy changes*** each year from member countries. These reports do not specify the overall policies but only modifications or new policies. By themselves, therefore, the policy changes provide only partial information, but they can be useful when combined with other sources.

- UNCTAD ***Investment Policy Reviews (IPR)*** are country studies carried out on an irregular basis examining member country policies in considerable detail, resulting in a published monograph available online. These monographs contain a chapter on the legal environment affecting FDI.

**OECD sources**. The OECD's Directorate on Financial and Fiscal Affairs monitors FDI regulations among OECD member countries. A few of the newer OECD members were included in our sample (including Mexico, Poland, Hungary and Turkey). Increasingly, the OECD has extended its mandate towards non-member countries.

- Like UNCTAD, the OECD publishes ***Investment Policy Reviews***, similar in nature to UNCTAD's IPRs. Recently, the OECD issued a number of IPRs for non-member countries, including Brazil, China, the Russian Federation, Slovenia, Carribean Basin countries (Costa Rica, Jamaica and the Dominican Republic) and Romania.

- The OECD has recently released an analysis of the ***Regulatory Environment for Foreign Direct Investment in Africa*** in conjunction with the African NEPAD initiative. This study contains a list of policies on FDI for 11 African countries, 10 of which were included in the present study.

- The **Golub (2003)** study for the OECD included the four new members of the OECD mentioned above.

**US government sources**

- The ***United States Special Trade Representative*** (USTR) issues the National Trade Estimate Report on Foreign Trade Barriers, an annual analysis of impediments in other countries affecting US businesses. These include investment restrictions.

- In addition, the US Commerce Department prepares a regular analysis of the business environment in foreign countries in its ***Country Commercial Guides***. Each of these guides contains a chapter on the investment climate, which itself includes a section entitled "openness to foreign investment", which reports restrictions on FDI.

- For electricity, the ***US Department of Energy***'s Country Commercial Briefs generally provide information on the extent of State and foreign ownership.

**GATS commitment schedules**. The limitations of the GATS positive lists were discussed above, but they provide a useful supplemental source of information.

**Price Waterhouse Coopers** (PWC). PWC has a *Doing Business and Investing in Countries Worldwide* CD (2001) with descriptions of barriers to foreign investors in a large number of countries.

**Other sources**. The Inter-American Development Bank (IADB) issued a study of restrictions on FDI in Latin America in 1997. While quite comprehensive, it is in some cases out of date and used only as a last resort or to corroborate other sources.

For some countries, national sources were consulted, but the large number of countries in the sample precluded a systematic search of national sources.

## Annex table I.1. Country sources

| | UNCTAD Survey | UNCTAD RF | UNCTAD policy changes | UNCTAD IPR | PWC | US Country Comm. Guide | USTR 2004 | GATS Horiz. | GATS Sector | OECD IPR | OECD Africa | IADB Latin Amer. | Golub OECD Study |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Algeria | √ | √ | √ | √ | | √ | | | | | | | |
| Argentina | √ | | √ | | √ | √ | √ | √ | √ | | | √ | |
| Bolivia | √ | √ | √ | | √ | √ | √ | √ | √ | | | √ | |
| Brazil | | √ | √ | √ | √ | √ | √ | √ | √ | √ | | √ | |
| Chile | √ | √ | √ | | √ | √ | √ | √ | √ | | | √ | |
| China | √ | | √ | | √ | | √ | √ | √ | √ | | | |
| Colombia | | √ | √ | | √ | √ | √ | √ | √ | | | √ | |
| Costa Rica | | | √ | | | √ | √ | √ | √ | √ | | √ | |
| Czech Rep. | √ | | √ | | | √ | | √ | √ | | | | √ |
| Dominican Rep. | | | √ | | | | √ | √ | √ | √ | | √ | |
| Ecuador | | √ | √ | √ | √ | √ | √ | √ | √ | | | √ | |
| Egypt | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | | |
| El Salvador | √ | | √ | | | √ | √ | √ | √ | | | √ | |
| Ethiopia | √ | √ | √ | √ | | | | | | | √ | | |
| Ghana | | √ | √ | √ | | √ | | √ | √ | | √ | | |
| Guatemala | √ | | √ | | | √ | √ | √ | √ | | | √ | |
| India | | | √ | | √ | √ | √ | √ | √ | | | | |
| Indonesia | √ | | √ | | √ | √ | √ | √ | √ | | | | |
| Jamaica | | | √ | | √ | √ | | √ | √ | √ | | √ | |
| Kenya | | √ | √ | | | √ | √ | √ | √ | | √ | | |
| Korea, Rep. of | √ | √ | √ | | √ | √ | √ | √ | √ | | | | |
| Malaysia | | √ | √ | | √ | √ | √ | √ | √ | | | | |
| Mauritius | √ | | √ | √ | √ | | | √ | √ | | √ | | |
| Mexico | √ | √ | √ | | √ | √ | √ | √ | √ | | | √ | √ |
| Mongolia | √ | | √ | | | | | | √ | | | | |
| Morocco | | √ | √ | | √ | √ | √ | √ | √ | | | | |
| Mozambique | | | √ | | | √ | | | √ | | √ | | |
| Nigeria | | √ | √ | | √ | √ | √ | √ | √ | | √ | | |
| Pakistan | | √ | √ | | | √ | √ | √ | √ | | | | |
| Paraguay | √ | √ | √ | | √ | √ | √ | | √ | | | √ | |
| Peru | √ | √ | √ | √ | √ | √ | √ | √ | √ | | | √ | |
| Philippines | √ | | √ | | √ | √ | √ | √ | √ | | | | |
| Poland | | | √ | | √ | √ | √ | √ | √ | | | | √ |
| Qatar | √ | | √ | | √ | | | √ | √ | | | | |
| Romania | √ | | √ | | | √ | √ | √ | √ | √ | | | |
| Russian Federation | | | √ | | √ | √ | √ | | | √ | | | |
| Saudi Arabia | √ | √ | √ | | | √ | | | | | | | |
| Senegal | | √ | √ | | | √ | | | √ | | √ | | |
| Slovenia | √ | | √ | | | √ | | √ | √ | √ | | | |
| South Africa | | √ | √ | | √ | √ | √ | √ | √ | | √ | | |
| Sri Lanka | √ | | √ | √ | | √ | √ | √ | √ | | | | |
| Tanzania, United Rep. of | | √ | √ | √ | | √ | | | √ | | √ | | |
| Thailand | | √ | √ | | √ | √ | √ | √ | √ | | | | |
| Trinidad & Tobago | √ | | √ | | √ | √ | | √ | √ | | | √ | |
| Tunisia | √ | √ | √ | | | √ | | √ | √ | | | | |
| Turkey | | | √ | | √ | √ | √ | √ | √ | | | | √ |
| Uganda | | √ | √ | | | √ | | | √ | | √ | | |
| Uruguay | √ | √ | √ | | √ | √ | | √ | √ | | | √ | |
| Venezuela | | √ | √ | | √ | √ | √ | √ | √ | | | √ | |

*Source*: UNCTAD.

# Annex II. Ownership restrictions, by country and industry

Ownership restrictions are the dominant source of international variation in the aggregate measures of openness to FDI. Annex table II.1 provides a closer look at the international pattern of restrictions in some key industries. For brevity and clarity, industries in which there are few explicit ownership restrictions are excluded from the table. Where results for sub-industries are very similar, only a limited number of sub-industries are reported, for example only wholesale under distribution and only hotels and restaurants under tourism. The table separates ownership limits on foreign investors into four categories: bans,[1] minority ownership allowed, majority ownership allowed, and no restrictions, and includes State ownership as a de facto barrier. The share of State ownership is also indicated in the table as a de facto foreign ownership restriction, as explained earlier.[2]

For all industries, the most common entry regulation is no restriction. Complete bans, conversely, are rare. Minority foreign ownership limits are relatively common in telecoms, banking and transport, largely explaining the high overall restriction scores for these industries.

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[1] A State monopoly is considered tantamount to a ban, as noted earlier, and is included in the table. This is rare, however, for the sectors included in annex table II.1, except for telecoms. State monopoly in electricity is the predominant form of restriction, which is not included in the table since the focus here is on discriminatory restrictions rather than State monopoly.

[2] Where there is both State ownership and an explicit foreign ownership restriction, the higher of the two restrictions is listed in annex table II.1.

**Annex table II.1. Equity restrictions and government ownership (*) in selected industries, 2004 or latest available year**

| Permissible foreign share | Business services (selected industries) | | Telecoms | |
|---|---|---|---|---|
| | **Legal** | **Accounting** | **Fixed** | **Mobile** |
| **None allowed** | India, Indonesia, Philippines, Saudi Arabia, Tunisia | Indonesia, Philippines, Saudi Arabia, Tunisia, | Costa Rica,* Mozambique,* Paraguay,* Saudi Arabia, Tunisia,* Uruguay* | Costa Rica,* Saudi Arabia |
| **1%-49%** | Malaysia, Pakistan, Qatar, Thailand, Venezuela | Malaysia, Mexico, Morocco, Pakistan, Qatar, Thailand, Venezuela | Algeria,* China, Ecuador,* Egypt, Ethiopia, India, Republic of Korea, Malaysia, Mauritius,* Mexico, Mongolia,* Philippines, Pakistan,* Poland,* Qatar, Russian Federation,* Slovenia,* South Africa,* Thailand, Trinidad & Tobago,* Turkey | Algeria,* China, Egypt, Ethiopia, India, Malaysia, Mongolia,* Philippines, Qatar, Republic of Korea, Slovenia,* South Africa,* Sri Lanka, Thailand, Tunisia,* Turkey, Uruguay* |
| **50%-99%** | Colombia, Ghana, Kenya | China, Ghana, India, Kenya, Slovenia | Bolivia,* Colombia, Ghana, Indonesia, Kenya, Senegal, Sri Lanka* | Bolivia,* Colombia, Ecuador,* Ghana, Indonesia, Kenya, Pakistan, Senegal, Trinidad & Tobago* |
| **No restrictions** | Algeria, Argentina, Bolivia, Brazil, Chile, China, Costa Rica, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Guatemala, Hungary, Jamaica, Mauritius, Mexico, Mongolia, Morocco, Mozambique, Nigeria, Paraguay, Peru, Poland, Republic of Korea, Romania, Russian Federation, Senegal, Slovenia, South Africa, Sri Lanka, Trinidad & Tobago, Turkey, Uganda, United Republic of Tanzania, Uruguay | Algeria, Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, Guatemala, Hungary, Jamaica, Korea, Mauritius, Mongolia, Mozambique, Nigeria, Paraguay, Peru, Poland, Romania, Russian Federation, Senegal, South Africa, Sri Lanka, Turkey, Trinidad & Tobago, Uganda, United Republic of Tanzania, Uruguay | Argentina, Brazil, Chile, Czech Republic, Dominican Republic, El Salvador, Guatemala, Hungary, Jamaica, Morocco, Nigeria, Peru, Romania, Uganda, United Republic of Tanzania, Venezuela | Argentina, Brazil, Chile, Czech Republic, Dominican Republic, El Salvador, Guatemala, Hungary, Jamaica, Mauritius, Mexico, Morocco, Mozambique, Nigeria, Paraguay, Peru, Poland, Russian Federation, Romania, Uganda, United Republic of Tanzania, Venezuela |

*Denotes 100% minus the government ownership percentage, i.e. the share of business held by the private sector.

**Annex table II.1. Equity restrictions and government ownership (*) in selected industries, 2004 or latest available year (continued)**

| **Permissible foreign share** | | **Distribution** | **Financial services** | |
|---|---|---|---|---|
| | **Construction** | **Wholesale** | **Insurance** | **Banking** |
| **None allowed** | None | Ethiopia | Costa Rica, Ethiopia, Qatar | Ethiopia, Qatar |
| **1%-49%** | Egypt, Indonesia, Mexico, Qatar, Thailand | China, Malaysia, Nigeria, Qatar, Saudi Arabia, Sri Lanka,* Thailand, Tunisia | Brazil, India, Jamaica, Mexico, Russian Federation, Slovenia,* Saudi Arabia, Sri Lanka, Thailand | Algeria, China, India, Indonesia,* Kenya, Pakistan, Saudi Arabia, Sri Lanka, Thailand, Uruguay* |
| **50%-99%** | Ghana, India, Kenya, Paraguay, Philippines, Saudi Arabia | Ghana, Kenya, Pakistan, United Republic of Tanzania | China, Ghana, Kenya, Malaysia, Pakistan, Poland, Romania, Uruguay* | Brazil, Czech Republic,* Egypt, Malaysia, Mexico, Philippines, Poland, Romania, Russian Federation, Slovenia* |
| **No restrictions** | Algeria, Argentina, Bolivia, Brazil, Chile, China, Columbia, Costa Rica, Czech Republic, Dominican Republic, Ecuador, Ethiopia, El Salvador, Guatemala, Hungary, Jamaica, Malaysia, Mongolia, Morocco, Mozambique, Nigeria, Pakistan, Peru, Poland, Romania, Russian Federation, Senegal, Slovenia, South Africa, Sri Lanka, Trinidad & Tobago, Tunisia, Turkey, Uganda, United Republic of Tanzania, Uruguay, Venezuela | Algeria, Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Guatemala, Hungary, India, Indonesia, Jamaica, Mauritius, Mexico, Mongolia, Morocco, Mozambique, Paraguay, Peru, Philippines, Poland, Republic of Korea, Romania, Russian Federation, Senegal, Slovenia, South Africa, Trinidad & Tobago, Turkey, Uganda, Uruguay, Venezuela | Algeria, Argentina, Bolivia, Chile, Colombia, Czech Republic, Dominican Republic, Ecuador, Egypt, El Salvador, Guatemala, Hungary, Indonesia, Mauritius, Mongolia, Morocco, Mozambique, Nigeria, Paraguay, Peru, Philippines, Republic of Korea, Senegal, South Africa, Trinidad & Tobago, Tunisia, Turkey, Uganda, United Republic of Tanzania, Venezuela | Argentina, Bolivia, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Hungary, Jamaica, Mauritius, Mongolia, Morocco, Mozambique, Nigeria, Paraguay, Peru, Republic of Korea, Senegal, South Africa, Trinidad & Tobago, Tunisia, Turkey, Uganda, United Republic of Tanzania, Venezuela |

*Denotes 100% minus the government ownership percentage, i.e. the share of business held by the private sector.

**Annex table II.1. Equity restrictions and government ownership (*) in selected industries, 2004 or latest available year (continued)**

| | Tourism | Transport (selected industries) | |
|---|---|---|---|
| | **Hotels & restaurants** | **Domestic maritime** | **Domestic air** |
| **None allowed** | None | China, Republic of Korea, Trinidad & Tobago* | Morocco,* Romania, Saudi Arabia, Sri Lanka, |
| **1%-49%** | Malaysia, Thailand, Tunisia | Costa Rica, Dominican Republic, Egypt, Malaysia, Mexico, Philippines, Qatar, Saudi Arabia,* Slovenia, Sri Lanka, Thailand, Turkey | Brazil, China, Dominican Republic, Ethiopia,* Hungary, India, Indonesia, Malaysia, Mexico, Peru, Philippines, Poland, Qatar, Republic of Korea, Russian Federation, Slovenia, Thailand, Turkey |
| **50%-99%** | Ghana, Indonesia, Kenya, Mauritius, Pakistan, Philippines, Qatar | Algeria,* Ghana, India, Indonesia, Kenya, Pakistan | Algeria,* Bolivia,* Costa Rica, Ghana, Kenya, Pakistan |
| **No restrictions** | Algeria, Argentina, Bolivia, Brazil, Chile, China, Colombia, Costa Rica, Czech Republic, Dominican, Ecuador, Egypt, El Salvador, Ethiopia, Guatemala, Hungary, India, Jamaica, Republic of Korea, Mexico, Mongolia, Morocco, Mozambique, Nigeria, Paraguay, Peru, Poland, Romania, Russian Federation, Saudi Arabia, Senegal, Slovenia, South Africa, Sri Lanka, Trinidad & Tobago, Turkey, Uganda, United Republic of Tanzania, Uruguay, Venezuela | Argentina, Bolivia, Brazil, Chile, Colombia, Czech Republic, Ecuador, El Salvador, Guatemala, Hungary, Jamaica, Mauritius, Mongolia, Morocco, Mozambique, Nigeria, Paraguay, Peru, Poland, Romania, Russian Federation, Senegal, South Africa, Tunisia, Uganda, United Republic of Tanzania, Uruguay, Venezuela | Argentina, Chile, Colombia, Czech Republic, Egypt, Ecuador, El Salvador, Guatemala, Jamaica, Mauritius, Mongolia, Mozambique, Nigeria, Paraguay, Senegal, South Africa, Trinidad & Tobago, Tunisia, Uganda, United Republic of Tanzania, Uruguay, Venezuela |

*Denotes 100% minus the government ownership percentage, i.e. the share of business held by the private sector.

*Source*: UNCTAD.

# Annex III. Alternative weights

## Annex table III.1. Comparison of results with alternative sectoral weights

| | FDI | GDP |
|---|---|---|
| Algeria | 0.27 | 0.19 |
| Argentina | 0.11 | 0.12 |
| Bolivia | 0.10 | 0.08 |
| Brazil | 0.35 | 0.27 |
| Chile | 0.14 | 0.14 |
| China | 0.43 | 0.44 |
| Colombia | 0.27 | 0.23 |
| Costa Rica | 0.36 | 0.26 |
| Czech Rep. | 0.10 | 0.07 |
| Dominican Rep. | 0.27 | 0.23 |
| Ecuador | 0.20 | 0.17 |
| Egypt | 0.33 | 0.28 |
| El Salvador | 0.23 | 0.22 |
| Ethiopia | 0.66 | 0.69 |
| Ghana | 0.36 | 0.32 |
| Guatemala | 0.13 | 0.13 |
| Hungary | 0.15 | 0.13 |
| India | 0.50 | 0.45 |
| Indonesia | 0.73 | 0.61 |
| Jamaica | 0.12 | 0.12 |
| Kenya | 0.48 | 0.40 |
| Korea, Republic of | 0.36 | 0.30 |
| Malaysia | 0.63 | 0.54 |
| Mauritius | 0.42 | 0.40 |
| Mexico | 0.41 | 0.33 |
| Mongolia | 0.17 | 0.15 |
| Morocco | 0.20 | 0.15 |
| Mozambique | 0.32 | 0.27 |
| Nigeria | 0.27 | 0.28 |
| Pakistan | 0.42 | 0.35 |
| Paraguay | 0.20 | 0.12 |
| Peru | 0.16 | 0.16 |
| Philippines | 0.69 | 0.69 |
| Poland | 0.23 | 0.17 |
| Qatar | 0.64 | 0.54 |
| Romania | 0.20 | 0.11 |
| Russian Federation | 0.36 | 0.29 |
| Saudi Arabia | 0.63 | 0.62 |
| Senegal | 0.13 | 0.13 |
| Slovenia | 0.22 | 0.17 |
| South Africa | 0.30 | 0.24 |
| Sri Lanka | 0.37 | 0.32 |
| Tanzania, UR of | 0.20 | 0.23 |
| Thailand | 0.60 | 0.53 |
| Trinidad & Tobago | 0.20 | 0.20 |
| Tunisia | 0.48 | 0.40 |
| Turkey | 0.31 | 0.23 |
| Uganda | 0.11 | 0.11 |
| Uruguay | 0.30 | 0.20 |
| Venezuela | 0.40 | 0.27 |
| Average | 0.32 | 0.28 |

# Annex IV. Complete results

## Annex table IV.1. Complete results

| | Algeria | Argentina | Bolivia | Brazil | Chile | China | Colombia |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.10 | 0.10 | 0.05 | 0.25 | 0.18 | 0.35 | 0.33 |
| Accounting | 0.10 | 0.10 | 0.05 | 0.25 | 0.08 | 0.23 | 0.20 |
| Computer | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.20 | 0.20 |
| R&D | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.15 | 0.20 |
| Total | 0.10 | 0.10 | 0.05 | 0.20 | 0.10 | 0.23 | 0.23 |
| Communication | | | | | | | |
| Fixed | 0.50 | 0.10 | 0.35 | 0.50 | 0.18 | 0.55 | 0.50 |
| Mobile | 0.50 | 0.10 | 0.25 | 0.30 | 0.18 | 0.55 | 0.50 |
| Audiovisual | 0.10 | 0.60 | 0.05 | 0.55 | 0.30 | 0.55 | 0.70 |
| Total | 0.37 | 0.27 | 0.22 | 0.45 | 0.22 | 0.55 | 0.57 |
| Construction | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.15 | 0.10 |
| Distribution | | | | | | | |
| Wholesale | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.55 | 0.20 |
| Retail | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.55 | 0.20 |
| Total | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.55 | 0.20 |
| Education | 0.10 | 0.10 | 0.05 | 0.15 | 0.18 | 0.25 | 0.20 |
| Environmental | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.25 | 0.10 |
| Finance | | | | | | | |
| Insurance | 0.10 | 0.10 | 0.25 | 0.70 | 0.18 | 0.35 | 0.30 |
| Banking | 0.50 | 0.10 | 0.05 | 0.43 | 0.18 | 0.55 | 0.30 |
| Total | 0.37 | 0.10 | 0.12 | 0.52 | 0.18 | 0.48 | 0.30 |
| Health | 0.10 | 0.10 | 0.05 | 0.20 | 0.18 | 0.55 | 0.20 |
| Tourism | | | | | | | |
| Hotels & restaurants | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.15 | 0.20 |
| Agencies | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.15 | 0.20 |
| Total | 0.10 | 0.10 | 0.05 | 0.15 | 0.08 | 0.15 | 0.20 |
| Transport | | | | | | | |
| International maritime | 0.30 | 0.10 | 0.05 | 0.20 | 0.18 | 0.55 | 0.10 |
| Domestic maritime | 0.30 | 0.10 | 0.05 | 0.30 | 0.38 | 1.00 | 0.10 |
| Domestic air | 0.30 | 0.10 | 0.25 | 0.70 | 0.38 | 0.55 | 0.10 |
| International air | 0.30 | 0.10 | 0.25 | 0.70 | 0.28 | 0.55 | 0.10 |
| Rail | 0.30 | 0.10 | 0.25 | 0.20 | 0.98 | 0.55 | 0.10 |
| Roads | 0.30 | 0.10 | 0.05 | 0.70 | 0.08 | 0.55 | 0.10 |
| Total | 0.30 | 0.10 | 0.17 | 0.51 | 0.42 | 0.61 | 0.10 |
| Electricity | 0.70 | 0.10 | 0.15 | 0.65 | 0.08 | 0.55 | 0.40 |
| All services | 0.19 | 0.12 | 0.08 | 0.27 | 0.14 | 0.44 | 0.23 |

## Annex table IV.1. Complete results (continued)

| | Costa Rica | Czech Rep. | Dominican Republic | Ecuador | Egypt | El Salvador | Ethiopia |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.10 | 0.10 | 0.35 | 0.13 | 0.15 | 0.25 | 0.10 |
| Accounting | 0.10 | 0.10 | 0.35 | 0.13 | 0.15 | 0.25 | 0.15 |
| Computer | 0.10 | 0.13 | 0.15 | 0.13 | 0.15 | 0.15 | 0.15 |
| R&D | 0.10 | 0.18 | 0.15 | 0.13 | 0.15 | 0.15 | 0.15 |
| Total | 0.10 | 0.13 | 0.25 | 0.13 | 0.15 | 0.20 | 0.14 |
| Communication | | | | | | | |
| Fixed | 1.00 | 0.13 | 0.15 | 0.75 | 0.78 | 0.25 | 0.75 |
| Mobile | 1.00 | 0.03 | 0.15 | 0.35 | 0.78 | 0.25 | 0.60 |
| Audiovisual | 0.55 | 0.03 | 0.65 | 0.75 | 0.15 | 0.65 | 1.00 |
| Total | 0.88 | 0.06 | 0.32 | 0.62 | 0.57 | 0.38 | 0.82 |
| Construction | 0.05 | 0.03 | 0.15 | 0.10 | 0.55 | 0.15 | 0.15 |
| Distribution | | | | | | | |
| Wholesale | 0.05 | 0.03 | 0.15 | 0.10 | 0.15 | 0.15 | 1.00 |
| Retail | 0.05 | 0.03 | 0.15 | 0.10 | 0.15 | 0.15 | 1.00 |
| Total | 0.05 | 0.03 | 0.15 | 0.10 | 0.15 | 0.15 | 1.00 |
| Education | 0.20 | 0.15 | 0.15 | 0.10 | 0.15 | 0.25 | 0.15 |
| Environmental | 0.05 | 0.03 | 0.15 | 0.10 | 0.15 | 0.25 | 0.10 |
| Finance | | | | | | | |
| Insurance | 1.00 | 0.13 | 0.55 | 0.15 | 0.15 | 0.35 | 1.00 |
| Banking | 0.15 | 0.13 | 0.25 | 0.15 | 0.45 | 0.30 | 1.00 |
| Total | 0.45 | 0.13 | 0.35 | 0.15 | 0.35 | 0.32 | 1.00 |
| Health | 0.10 | 0.13 | 0.15 | 0.10 | 0.15 | 0.25 | 0.65 |
| Tourism | | | | | | | |
| Hotels & rest. | 0.05 | 0.03 | 0.15 | 0.10 | 0.35 | 0.15 | 0.15 |
| Agencies | 0.45 | 0.03 | 0.15 | 0.10 | 0.35 | 0.15 | 1.00 |
| Total | 0.15 | 0.03 | 0.15 | 0.10 | 0.35 | 0.15 | 0.41 |
| Transport | | | | | | | |
| International maritime | 0.45 | 0.03 | 0.65 | 0.15 | 0.55 | 0.25 | 0.10 |
| Domestic maritime | 0.45 | 0.03 | 0.65 | 0.15 | 0.55 | 0.25 | 1.00 |
| Domestic air | 0.25 | 0.03 | 0.65 | 0.15 | 0.15 | 0.25 | 0.60 |
| International air | 0.25 | 0.03 | 0.15 | 0.15 | 0.15 | 0.25 | 0.10 |
| Rail | 1.00 | 0.03 | 0.65 | 0.15 | 0.15 | 0.15 | 0.65 |
| Roads | 0.45 | 0.03 | 0.65 | 0.15 | 0.15 | 0.15 | 0.60 |
| Total | 0.49 | 0.03 | 0.55 | 0.15 | 0.23 | 0.21 | 0.51 |
| Electricity | 1.00 | 0.23 | 0.15 | 0.55 | 0.80 | 0.15 | 0.65 |
| All services | 0.26 | 0.07 | 0.23 | 0.17 | 0.28 | 0.22 | 0.69 |

## Annex table IV.1. Complete results (continued)

| | Ghana | Guatemala | Hungary | India | Indonesia | Jamaica | Kenya |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.25 | 0.10 | 0.13 | 1.00 | 1.00 | 0.08 | 0.38 |
| Accounting | 0.25 | 0.10 | 0.13 | 0.55 | 1.00 | 0.13 | 0.33 |
| Computer | 0.25 | 0.10 | 0.13 | 0.35 | 0.68 | 0.13 | 0.33 |
| R&D | 0.25 | 0.10 | 0.13 | 0.35 | 0.88 | 0.13 | 0.33 |
| Total | 0.25 | 0.10 | 0.13 | 0.60 | 1.00 | 0.11 | 0.34 |
| Communication | | | | | | | |
| Fixed | 0.25 | 0.10 | 0.10 | 0.35 | 0.35 | 0.05 | 0.53 |
| Mobile | 0.25 | 0.10 | 0.10 | 0.35 | 0.35 | 0.05 | 0.43 |
| Audiovisual | 0.25 | 0.60 | 0.10 | 0.65 | 1.00 | 1.00 | 0.33 |
| Total | 0.25 | 0.27 | 0.10 | 0.45 | 0.65 | 0.38 | 0.43 |
| Construction | 0.25 | 0.10 | 0.10 | 0.35 | 0.68 | 0.05 | 0.33 |
| Distribution | | | | | | | |
| Wholesale | 0.35 | 0.10 | 0.10 | 0.15 | 0.25 | 0.05 | 0.33 |
| Retail | 0.35 | 0.10 | 0.10 | 1.00 | 0.45 | 0.05 | 0.33 |
| Total | 0.35 | 0.10 | 0.10 | 0.60 | 0.35 | 0.05 | 0.33 |
| Education | 0.25 | 0.10 | 0.20 | 0.15 | 0.65 | 0.13 | 0.33 |
| Environmental | 0.25 | 0.10 | 0.10 | 0.15 | 0.35 | 0.05 | 0.33 |
| Finance | | | | | | | |
| Insurance | 0.25 | 0.20 | 0.15 | 0.65 | 0.35 | 0.45 | 0.43 |
| Banking | 0.35 | 0.10 | 0.15 | 0.55 | 0.68 | 0.05 | 0.63 |
| Total | 0.32 | 0.13 | 0.15 | 0.58 | 0.57 | 0.18 | 0.56 |
| Health | 0.25 | 0.10 | 0.10 | 0.35 | 0.65 | 0.18 | 0.35 |
| Tourism | | | | | | | |
| Hotels & restaurant | 0.25 | 0.10 | 0.10 | 0.13 | 0.75 | 0.13 | 0.33 |
| Agencies | 0.25 | 0.10 | 0.10 | 0.13 | 0.75 | 0.13 | 0.33 |
| Total | 0.25 | 0.10 | 0.10 | 0.13 | 0.75 | 0.13 | 0.33 |
| Transport | | | | | | | |
| International maritime | 0.25 | 0.10 | 0.10 | 0.33 | 0.35 | 0.13 | 0.33 |
| Domestic maritime | 0.25 | 0.10 | 0.10 | 0.33 | 0.35 | 0.13 | 0.33 |
| Domestic air | 0.25 | 0.10 | 0.50 | 0.55 | 0.65 | 0.05 | 0.33 |
| International air | 0.25 | 0.10 | 0.50 | 0.15 | 0.65 | 0.05 | 0.33 |
| Rail | 0.25 | 0.10 | 0.10 | 1.00 | 0.65 | 0.05 | 0.33 |
| Roads | 0.25 | 0.10 | 0.10 | 0.15 | 0.65 | 0.13 | 0.33 |
| Total | 0.25 | 0.10 | 0.26 | 0.47 | 0.59 | 0.08 | 0.33 |
| Electricity | 1.00 | 0.30 | 0.30 | 0.15 | 1.00 | 0.05 | 1.00 |
| All services | 0.32 | 0.13 | 0.13 | 0.45 | 0.61 | 0.12 | 0.40 |

## Annex table IV.1. Complete results (continued)

| | Korea, Rep. of | Malaysia | Mauritius | Mexico | Mongolia | Morocco | Mozambique |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.20 | 0.78 | 0.25 | 0.15 | 0.15 | 0.05 | 0.20 |
| Accounting | 0.25 | 0.78 | 0.25 | 0.58 | 0.15 | 0.55 | 0.20 |
| Computer | 0.13 | 0.70 | 0.23 | 0.15 | 0.05 | 0.05 | 0.20 |
| R&D | 0.13 | 0.70 | 0.35 | 0.55 | 0.05 | 0.05 | 0.20 |
| Total | 0.18 | 0.74 | 0.27 | 0.36 | 0.10 | 0.18 | 0.20 |
| Communication | | | | | | | |
| Fixed | 0.63 | 0.60 | 0.95 | 0.75 | 0.35 | 0.15 | 1.00 |
| Mobile | 0.63 | 0.60 | 0.35 | 0.15 | 0.35 | 0.05 | 0.20 |
| Audiovisual | 0.28 | 0.70 | 0.35 | 1.00 | 0.35 | 0.05 | 0.20 |
| Total | 0.51 | 0.63 | 0.55 | 0.68 | 0.35 | 0.08 | 0.53 |
| Construction | 0.33 | 0.20 | 0.25 | 0.15 | 0.15 | 0.15 | 0.20 |
| Distribution | | | | | | | |
| Wholesale | 0.28 | 0.70 | 0.45 | 0.15 | 0.15 | 0.05 | 0.20 |
| Retail | 0.08 | 0.70 | 0.45 | 0.15 | 0.05 | 0.05 | 0.20 |
| Total | 0.18 | 0.70 | 0.45 | 0.15 | 0.10 | 0.05 | 0.20 |
| Education | 0.78 | 0.20 | 0.35 | 0.15 | 0.15 | 0.05 | 0.20 |
| Environmental | 0.28 | 0.20 | 0.35 | 0.05 | 0.15 | 0.05 | 0.20 |
| Finance | | | | | | | |
| Insurance | 0.18 | 0.40 | 0.23 | 0.45 | 0.15 | 0.05 | 0.20 |
| Banking | 0.28 | 0.40 | 0.23 | 0.35 | 0.15 | 0.05 | 0.20 |
| Total | 0.24 | 0.40 | 0.23 | 0.38 | 0.15 | 0.05 | 0.20 |
| Health | 0.23 | 0.20 | 0.15 | 0.45 | 0.15 | 0.05 | 0.20 |
| Tourism | | | | | | | |
| Hotels & restaurants | 0.20 | 0.70 | 0.50 | 0.15 | 0.05 | 0.05 | 0.20 |
| Agencies | 0.20 | 0.70 | 0.95 | 0.15 | 0.05 | 0.15 | 0.20 |
| Total | 0.20 | 0.70 | 0.62 | 0.15 | 0.05 | 0.08 | 0.20 |
| Transport | | | | | | | |
| International maritime | 0.13 | 0.70 | 0.35 | 0.45 | 0.15 | 0.25 | 0.20 |
| Domestc maritime | 1.00 | 0.70 | 0.35 | 0.45 | 0.15 | 0.05 | 0.20 |
| Domestic air | 0.68 | 0.70 | 0.35 | 0.65 | 0.15 | 1.00 | 0.20 |
| International air | 0.68 | 0.20 | 0.35 | 0.65 | 0.15 | 1.00 | 0.20 |
| Rail | 0.28 | 0.20 | 0.35 | 0.15 | 0.15 | 1.00 | 0.20 |
| Roads | 0.13 | 0.20 | 0.35 | 0.25 | 0.35 | 0.25 | 0.20 |
| Total | 0.49 | 0.40 | 0.35 | 0.43 | 0.19 | 0.75 | 0.20 |
| Electricity | 0.73 | 1.00 | 1.00 | 1.00 | 0.40 | 0.75 | 1.00 |
| All services | 0.30 | 0.54 | 0.40 | 0.33 | 0.15 | 0.15 | 0.27 |

## Annex table IV.1. Complete results (continued)

| | Nigeria | Pakistan | Paraguay | Peru | Philippines | Poland | Qatar |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.05 | 0.53 | 0.00 | 0.13 | 1.00 | 0.19 | 0.50 |
| Accounting | 0.05 | 0.50 | 0.00 | 0.15 | 1.00 | 0.06 | 0.50 |
| Computer | 0.05 | 0.50 | 0.00 | 0.13 | 0.20 | 0.04 | 0.50 |
| R&D | 0.05 | 0.53 | 0.20 | 0.15 | 1.00 | 0.04 | 0.50 |
| Total | 0.05 | 0.51 | 0.05 | 0.14 | 0.95 | 0.08 | 0.50 |
| Communication | | | | | | | |
| Fixed | 0.15 | 0.75 | 1.00 | 0.13 | 0.60 | 0.64 | 0.50 |
| Mobile | 0.05 | 0.35 | 0.00 | 0.13 | 0.60 | 0.24 | 0.50 |
| Audiovisual | 1.00 | 0.35 | 0.00 | 0.53 | 1.00 | 0.64 | 0.50 |
| Total | 0.42 | 0.48 | 0.38 | 0.26 | 0.80 | 0.50 | 0.50 |
| Construction | 0.05 | 0.10 | 0.15 | 0.13 | 0.70 | 0.04 | 0.50 |
| Distribution | | | | | | | |
| Wholesale | 0.55 | 0.30 | 0.00 | 0.13 | 0.20 | 0.14 | 0.50 |
| Retail | 0.55 | 0.30 | 0.00 | 0.13 | 0.40 | 0.14 | 0.50 |
| Total | 0.55 | 0.30 | 0.00 | 0.13 | 0.30 | 0.14 | 0.50 |
| Education | 0.05 | 0.50 | 0.00 | 0.13 | 0.60 | 0.04 | 0.35 |
| Environmental | 0.05 | 0.30 | 0.00 | 0.13 | 1.00 | 0.04 | 0.50 |
| Finance | | | | | | | |
| Insurance | 0.05 | 0.30 | 0.10 | 0.13 | 0.50 | 0.24 | 1.00 |
| Banking | 0.15 | 0.45 | 0.15 | 0.18 | 0.70 | 0.34 | 1.00 |
| Total | 0.12 | 0.40 | 0.13 | 0.16 | 0.63 | 0.30 | 1.00 |
| Health | 0.05 | 0.33 | 0.00 | 0.13 | 1.00 | 0.04 | 0.35 |
| Tourism | | | | | | | |
| Hotels & restaurants | 0.05 | 0.30 | 0.00 | 0.13 | 0.60 | 0.04 | 0.35 |
| Agencies | 1.00 | 0.30 | 0.00 | 0.13 | 0.60 | 0.04 | 0.35 |
| Total | 0.31 | 0.30 | 0.00 | 0.13 | 0.60 | 0.04 | 0.35 |
| Transport | | | | | | | |
| International maritime | 0.05 | 0.30 | 0.10 | 0.13 | 0.60 | 0.04 | 0.50 |
| Domestic maritime | 0.05 | 0.30 | 0.10 | 0.13 | 0.60 | 0.04 | 0.50 |
| Domestic air | 0.05 | 0.30 | 0.00 | 0.63 | 0.70 | 0.44 | 0.50 |
| International air | 0.05 | 0.30 | 0.00 | 0.63 | 0.70 | 0.44 | 0.50 |
| Rail | 0.05 | 0.30 | 1.00 | 0.13 | 0.60 | 0.04 | 0.50 |
| Roads | 0.05 | 0.30 | 0.00 | 0.13 | 0.80 | 0.04 | 0.50 |
| Total | 0.05 | 0.30 | 0.22 | 0.33 | 0.68 | 0.20 | 0.50 |
| Electricity | 1.00 | 0.50 | 1.00 | 0.13 | 0.70 | 0.54 | 0.52 |
| All services | 0.28 | 0.35 | 0.12 | 0.16 | 0.69 | 0.17 | 0.54 |

## Annex table IV.1. Complete results (continued)

| | Romania | Russian Fed. | Saudi Arabia | Senegal | Slovenia | South Africa | Sri Lanka |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.25 | 0.15 | 0.25 | 0.10 | 0.08 | 0.15 | 0.15 |
| Accounting | 0.00 | 0.15 | 0.25 | 0.10 | 0.28 | 0.15 | 0.08 |
| Computer | 0.00 | 0.15 | 0.25 | 0.10 | 0.05 | 0.15 | 0.10 |
| R&D | 0.00 | 0.15 | 0.25 | 0.10 | 0.05 | 0.15 | 0.05 |
| Total | 0.06 | 0.15 | 0.25 | 0.10 | 0.11 | 0.15 | 0.09 |
| Communication | | | | | | | |
| Fixed | 0.10 | 0.65 | 1.00 | 0.25 | 0.25 | 0.70 | 0.25 |
| Mobile | 0.10 | 0.15 | 1.00 | 0.20 | 0.25 | 0.65 | 0.45 |
| Audiovisual | 0.05 | 0.55 | 0.25 | 0.10 | 0.55 | 0.15 | 0.45 |
| Total | 0.08 | 0.45 | 0.92 | 0.18 | 0.35 | 0.50 | 0.38 |
| Construction | 0.00 | 0.15 | 0.45 | 0.10 | 0.05 | 0.15 | 0.05 |
| Distribution | | | | | | | |
| Wholesale | 0.00 | 0.15 | 0.65 | 0.10 | 0.05 | 0.15 | 0.45 |
| Retail | 0.00 | 0.15 | 0.65 | 0.10 | 0.05 | 0.15 | 0.45 |
| Total | 0.00 | 0.15 | 0.65 | 0.10 | 0.05 | 0.15 | 0.45 |
| Education | 0.00 | 0.15 | 0.25 | 0.10 | 0.15 | 0.15 | 0.45 |
| Environmental | 0.00 | 0.15 | 0.25 | 0.10 | 0.05 | 0.15 | 0.05 |
| Finance | | | | | | | |
| Insurance | 0.10 | 0.75 | 0.65 | 0.15 | 0.25 | 0.30 | 0.45 |
| Banking | 0.23 | 0.50 | 0.65 | 0.15 | 0.15 | 0.20 | 0.45 |
| Total | 0.18 | 0.58 | 0.65 | 0.15 | 0.18 | 0.23 | 0.45 |
| Health | 0.10 | 0.20 | 0.65 | 0.15 | 0.08 | 0.15 | 0.08 |
| Tourism | | | | | | | |
| Hotels & restaurants | 0.00 | 0.20 | 0.25 | 0.15 | 0.05 | 0.15 | 0.05 |
| Agencies | 0.00 | 0.20 | 0.28 | 0.15 | 0.05 | 0.15 | 0.45 |
| Total | 0.00 | 0.20 | 0.26 | 0.15 | 0.05 | 0.15 | 0.15 |
| Transport | | | | | | | |
| International maritime | 0.00 | 0.30 | 0.65 | 0.10 | 1.00 | 0.15 | 1.00 |
| Domestic maritime | 0.10 | 0.30 | 0.65 | 0.10 | 0.55 | 0.15 | 0.45 |
| Domestic air | 1.00 | 0.70 | 1.00 | 0.10 | 0.65 | 0.15 | 1.00 |
| International air | 1.00 | 0.70 | 1.00 | 0.10 | 1.00 | 0.15 | 0.45 |
| Rail | 0.00 | 0.15 | 1.00 | 0.10 | 1.00 | 1.00 | 1.00 |
| Roads | 0.00 | 1.00 | 1.00 | 0.10 | 0.05 | 0.15 | 0.05 |
| Total | 0.41 | 0.60 | 1.00 | 0.10 | 0.74 | 0.35 | 0.67 |
| Electricity | 1.00 | 0.65 | 1.00 | 0.20 | 0.45 | 1.00 | 0.65 |
| All Services | 0.11 | 0.29 | 0.62 | 0.13 | 0.17 | 0.24 | 0.32 |

## Annex table IV.1. Complete results (continued)

| | Tanzania, UR of | Thailand | Trinidad & Tobago | Tunisia | Turkey | Uganda | Uruguay |
|---|---|---|---|---|---|---|---|
| Business | | | | | | | |
| Legal | 0.18 | 0.55 | 0.25 | 1.00 | 0.20 | 0.10 | 0.00 |
| Accounting | 0.18 | 0.55 | 0.15 | 1.00 | 0.10 | 0.10 | 0.00 |
| Computer | 0.18 | 0.45 | 0.15 | 0.11 | 0.10 | 0.10 | 0.00 |
| R&D | 0.18 | 0.55 | 0.15 | 0.11 | 0.10 | 0.10 | 0.00 |
| Total | 0.18 | 0.53 | 0.18 | 0.59 | 0.13 | 0.10 | 0.00 |
| Communication | | | | | | | |
| Fixed | 0.18 | 0.65 | 0.75 | 1.00 | 0.50 | 0.10 | 1.00 |
| Mobile | 0.18 | 0.65 | 0.35 | 0.66 | 0.50 | 0.10 | 0.30 |
| Audiovisual | 0.18 | 0.45 | 0.35 | 0.16 | 0.60 | 0.10 | 1.00 |
| Total | 0.18 | 0.58 | 0.48 | 0.66 | 0.53 | 0.10 | 0.83 |
| Construction | 0.18 | 0.55 | 0.15 | 0.16 | 0.10 | 0.10 | 0.00 |
| Distribution | | | | | | | |
| Wholesale | 0.38 | 0.45 | 0.15 | 0.56 | 0.10 | 0.10 | 0.00 |
| Retail | 0.38 | 0.45 | 0.15 | 0.56 | 0.10 | 0.10 | 0.00 |
| Total | 0.38 | 0.45 | 0.15 | 0.56 | 0.10 | 0.10 | 0.00 |
| Education | 0.18 | 0.45 | 0.15 | 0.56 | 0.65 | 0.10 | 0.10 |
| Environmental | 0.18 | 0.45 | 0.15 | 0.11 | 0.10 | 0.10 | 0.00 |
| Finance | | | | | | | |
| Insurance | 0.18 | 0.65 | 0.15 | 0.16 | 0.25 | 0.15 | 0.20 |
| Banking | 0.18 | 0.65 | 0.15 | 0.16 | 0.25 | 0.15 | 0.60 |
| Total | 0.18 | 0.65 | 0.15 | 0.16 | 0.25 | 0.15 | 0.47 |
| Health | 0.18 | 0.45 | 0.15 | 0.06 | 0.10 | 0.10 | 0.10 |
| Tourism | | | | | | | |
| Hotels & restaurants | 0.18 | 0.45 | 0.35 | 0.46 | 0.10 | 0.10 | 0.00 |
| Agencies | 0.18 | 0.45 | 0.15 | 0.16 | 0.10 | 0.10 | 0.10 |
| Total | 0.18 | 0.45 | 0.30 | 0.38 | 0.10 | 0.10 | 0.03 |
| Transport | | | | | | | |
| International maritime | 0.18 | 0.45 | 0.15 | 0.16 | 0.50 | 0.10 | 0.10 |
| Domestic maritime | 0.18 | 0.45 | 1.00 | 0.16 | 0.50 | 0.10 | 0.10 |
| Domestic air | 0.18 | 0.45 | 0.15 | 0.16 | 0.50 | 0.10 | 0.10 |
| International air | 0.18 | 0.45 | 0.15 | 0.16 | 0.50 | 0.10 | 0.00 |
| Rail | 0.18 | 0.45 | 0.15 | 0.16 | 1.00 | 0.10 | 1.00 |
| Roads | 0.18 | 0.45 | 0.15 | 0.16 | 0.10 | 0.10 | 0.00 |
| Total | 0.18 | 0.45 | 0.25 | 0.16 | 0.54 | 0.10 | 0.24 |
| Electricity | 0.18 | 1.00 | 0.05 | 1.00 | 1.00 | 0.10 | 1.00 |
| All services | 0.23 | 0.53 | 0.20 | 0.40 | 0.23 | 0.11 | 0.20 |

## Annex table IV.1. Complete results (concluded)

| | Venezuela | All countries |
|---|---|---|
| Business | | |
| Legal | 0.83 | 0.28 |
| Accounting | 0.83 | 0.27 |
| Computer | 0.83 | 0.19 |
| R&D | 0.83 | 0.22 |
| Total | 0.83 | 0.25 |
| Communication | | |
| Fixed | 0.15 | 0.48 |
| Mobile | 0.15 | 0.34 |
| Audiovisual | 0.80 | 0.46 |
| Total | 0.37 | 0.44 |
| Construction | 0.15 | 0.18 |
| Distribution | | |
| Wholesale | 0.15 | 0.23 |
| Retail | 0.15 | 0.25 |
| Total | 0.15 | 0.24 |
| Education | 0.15 | 0.22 |
| Environmental | 0.15 | 0.16 |
| Finance | | |
| Insurance | 0.30 | 0.33 |
| Banking | 0.20 | 0.33 |
| Total | 0.23 | 0.33 |
| Health | 0.18 | 0.22 |
| Tourism | | |
| Hotels & restaurants | 0.15 | 0.19 |
| Agencies | 0.15 | 0.25 |
| Total | 0.15 | 0.21 |
| Transport | | |
| International maritime | 0.15 | 0.28 |
| Domestic maritime | 0.15 | 0.33 |
| Domestic air | 0.15 | 0.39 |
| International air | 0.15 | 0.35 |
| Rail | 0.15 | 0.40 |
| Roads | 0.15 | 0.26 |
| Total | 0.15 | 0.35 |
| Electricity | 0.55 | 0.60 |
| All services | 0.27 | 0.28 |

# Notes

[1] See Moran et al. (2005).

[2] See Golub (2003), Sauvé and Steinfatt (2001) and Hoekman (1995).

[3] Based on data from 1999-2002. See UNCTAD (2003, table A.I.4) and UNCTAD (2004, figure A.I.1, tables A.I.18 and A.I.20).

[4] Petroleum is also frequently highly restricted in developing countries.

[5] See UNCTC (1989, p. 132-135) and UNCTAD (2004) for a discussion of this issue.

[6] UNCTAD (2003, chapter 5) provides a discussion of the arguments for and against selective limitations on inward FDI.

[7] See Graham (2000), Robertson (2002), Sauvé and Wilkie (2000) for discussion of international agreements on investment.

[8] See Markusen and Maskus (2001) for a survey.

[9] A positive list consists of a set of industries open to inward FDI, with all others presumed closed. A negative list consists of an explicit set of reservations or exceptions from openness to FDI, with all other industries presumed to be open to inward FDI.

[10] This section draws on Golub (2003).

[11] See UNCTAD (2003, chapter 5) for a discussion of the distinction between pre- and post-entry national treatment.

[12] In the case of manufacturing, as noted in the introduction, policies sometimes discriminate in favour rather than against foreign-owned firms, for example in the form of preferential provision of infrastructure and tax credits.

[13] Data availability on State ownership is limited. In sectors such as education and health, the State typically controls much of the industry, but there is almost no information available, and consequently State ownership was ignored in the scoring. For other industries, notably telecoms and especially electricity, where more data on State ownership are available, the restriction score was calculated as follows:

| State ownership share | score |
|---|---|
| State monopoly | 1.0 |
| Privatization underway | 0.6 |
| 90 per cent or more | 0.4 |
| 75-90 per cent | 0.2 |
| Majority | 0.1 |

These scores are intended to reflect the fact that a State monopoly is equivalent to a ban on foreign ownership, but substantial State ownership does not necessarily preclude increased foreign ownership in the future. Thus current large State ownership shares may be consistent with large new greenfield FDI or even mergers and acquisitions if privatization is underway and no other restrictions on foreign ownership apply. These scores are therefore intended to roughly capture the extent to which large State ownership in effect impedes foreign participation.

[14] The index is capped at 1. As may be inferred from table 1, it is possible that the component restriction scores could sum up to more than 1 even if foreign equity is not banned, without the cap.

[15] "Transition economies" include countries that have become members of the European Union (Czech Republic, Hungary, Poland and Slovenia), as well as Romania and the Russian Federation.

[16] It is possible that some countries are more forthcoming than others in self-reporting their restrictions. As a result, more transparent countries receive higher scores, not because they are in fact more restrictive, but because they are more complete in their reporting.

[16] State ownership is considered a de facto restriction in addition to limits on foreign ownership per se.

[17] Note that the sectoral comparisons may be affected by the incomplete data on State ownership. As noted above, State ownership was ignored owing to lack of data for social services (education, health and environment), although it may be quite high for many countries.

[18] See also annex III for individual country results under alternative weighting systems.

[19] For operational restrictions, Mode 4 (movement of people) GATS commitments were also used, but scores for this category of restrictions play a very minor role in the comparison between the baseline and GATS-only scenarios, since they usually account for a very small part of restrictions scores.

[20] A few countries in the sample were not WTO members, and did therefore not report any GATS commitments (Algeria, Ethiopia, Russian Federation, Saudi Arabia). These were not included in the comparison.

[21] For example, in Argentina the GATS shows a restriction on entry of new insurance companies; in the Czech Republic the GATS lists a restriction that 60 per cent of the capital share or voting rights of accounting firms must be held by Czech citizens; in Mexico the GATS stipulates a limit of 49 per cent foreign shareholding in construction. More recent sources make no mention of these restrictions.

[22] The correlation coefficient between the GATS-only and the baseline is moderate at 0.33.

[23] The stocks and flows in services are from the UNCTAD FDI database.

[24] Flows were averaged over this period to smooth substantial year-to-year volatility and to deal with missing data for some years.

[25] Alternatively, one could divide by service-sector GDP, but this is unlikely to affect the correlations significantly since services account for a high share of GDP for all economies.

[26] The $R^2$ is about 0.4 for both stocks and flows; that is, the FDI restriction variable by itself explains 40 per cent of the variation in FDI service stocks and flows.

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***Foreign Direct Investment in Africa: Performance and Potential***. 89 p. UNCTAD/ITE/IIT/Misc.15. Free of charge. Also available from http://www.unctad.org/en/docs/poiteiitm15.pdf.

***TNC-SME Linkages for Development: Issues–Experiences–Best Practices****. Proceedings of the Special Round Table on TNCs, SMEs and Development, UNCTAD X, 15 February 2000, Bangkok, Thailand.*113 p. UNCTAD/ITE/TEB1. Free of charge.

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