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Services Trade Liberalisation

IDENTIFYING OPPORTUNITIES AND GAINS

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Working Party of the Trade Committee

SERVICES TRADE LIBERALISATION: IDENTIFYING OPPORTUNITIES & GAINS

OECD Trade Policy Working Paper No. 1

by Julia Nielson and Daria Taglioni

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ABSTRACT

Services liberalisation: identifying opportunities and gains

This study has two components: identification of concrete examples of services exports by developing countries, and quantitative studies on the gains from services liberalisation. While the study is by no means comprehensive, and is subject to many limitations, two fundamental findings emerge. The first of these findings, documented in Part I of the study, is that there is clear evidence that developing countries have important service sector export interests beyond mode 4 (temporary movement of services supplying personnel), being global or regional players in sectors such as business services (out-sourcing), port and shipping services, audiovisual services, telecommunications, construction services and health services. The second of these findings, documented in Part II of the study, is that for most countries, including many developing countries, export-related gains from services liberalisation are neither the only nor the largest basis of expected gains. A large portion of benefits from services liberalisation derive, not from seeking better market access abroad, but from the increased competitiveness and efficiency of the domestic market. Together, the study's two findings underscore the potential benefits of services liberalisation, both for developed and for developing countries.

Keywords: Services, exports, sectors, developing countries, barriers, benefits, liberalisation, computable general equilibrium.

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EXECUTIVE SUMMARY

1. This study has two components: identification of concrete examples of services exports by developing countries, and quantitative studies on the gains from liberalisation.

2. While the study is by no means comprehensive, and is subject to many limitations, a number of preliminary observations can be made. Of these, two emerge as fundamental findings of the study. The first of these findings, documented in Part I of the study, is that there is clear evidence that developing countries have important service sector export interests. The second of these findings, documented in Part II of the study, is that for most countries, including many developing countries, export-related gains from services liberalisation are neither the only nor the largest basis of expected gains. Together, the study's two findings underscore the potential benefits of services liberalisation, both for developed and for developing countries.

3. In Part I, on the identification of concrete examples of developing country exports, the study presents a sample of developing country exports for selected sectors, covering audiovisual and cultural services; business services; computer and related services; construction services; distribution services; financial services; health services; higher education and training services; port and related, and shipping services; professional services; telecommunication services and tourism and related services. Given the commercial realities of internet service and content providers, a separate section entitled "Internet services" has been included.¹

4. Notwithstanding the fact that several companies from developing countries successfully export a variety of services to both developed and developing countries, one observation is that a relatively limited number of developing countries seem to be heavily involved in services exports trade across a range of sectors. This fact might suggest that services exports, at the international level, are associated with higher levels of development and that not all developing countries are yet in a position to be large-scale exporters. This may be particularly true of sectors where export performance seems to be built upon a strong base of domestic demand (e.g., distribution, telecommunications, audiovisual). Equally, it reflects the nature of services trade in a globalised economy, with increasingly strong inter-linkages and synergies amongst different services sectors, and the tendency for large global players to form mergers and alliances across countries and sectors. The fact that exported services are concentrated in a relatively limited number of developing countries could also be due to the inherent geographical bias in the chosen method of research.

5. A further observation which can be made is that, while developed countries dominate services trade overall, **developing countries seem to be particularly successful in certain sectors**, such as port and shipping services, audiovisual services, construction services and health services. For example in some services — shipping and port services — developing countries are world players.

1. While GATS classifications treat the medium and content separately, many companies which are Internet service providers also provide content. In view of the difficulty of separating these activities, they have been grouped in a separate section as Internet services.

6. The study reinforces the fact that developing countries have a clear comparative advantage in labour-intensive services (construction services, data-processing), including — in a growing number of areas — at the higher skilled end of the chain. Technological advances in telecommunication and computer industries have allowed developing countries endowed with a well-educated and cost-competitive workforce to produce and export computer and related services worldwide. The spectacular Indian performance of the last twenty years is the most notable and documented case.

7. In this regard, **the importance of electronic supply of services for developing countries emerges strongly**. Out-sourcing and back office services, covering computer and related, business, professional and financial services are key areas of export interest for developing countries. ICT has created real opportunities for many developing countries by dramatically reducing the cost of transportation, and thus enhancing their comparative advantages. The relatively low cost of highly skilled labour and improvements in telecommunications means that this is clearly an area for potential future growth. Additionally, **out-sourcing can both leverage off, and help to support, existing service exports** — as in the audiovisual sector, where countries with large film industries are also increasingly moving into out-sourced post-production for other films. To take advantage of out-sourcing opportunities, developing countries will need both modern, efficient infrastructure, including telecommunications and energy, as well as access to developed country markets to provide services via mode 1.

8. The study also highlights **the importance of regional, often intra-developing country, trade**. In some sectors (e.g., telecommunications), the trade is primarily within the region. In other sectors, regional markets are important, including as a stepping stone to more global operations.

9. In many sectors, **a strong domestic market plays a key role as the platform for developing export capacity**. This pattern is evident in telecommunications, audiovisual, distribution, port and related services and higher education services — and even, in some cases, in e-commerce related sectors (e.g., one exporter of e-commerce solutions noted that it was hard to prove to foreign buyers that the e-solutions he had developed worked when there had been only a limited domestic market in which to test them). Companies tend to follow a pattern: serving the domestic market first, and then once the critical size had been reached, taking steps to export regionally and/or to countries, such as former coloniser, with which strong historical linkages exist. Finally, they may develop into a global player. Exceptions to this generalisation are ICT enabled and related services where geography is less important, and tourism, where a company may aim at global markets initially.

10. A variation on the “domestic-regional-global” pattern for the development of trade is cases where **a global domestic export capacity had been developed by imported services**. For example, while, in financial services the study found little evidence of indigenous developing country financial services firms exporting services, subsidiaries of developed country firms based in those countries were active in export markets, both to the home country of the parent company and to other countries, developed and developing.²

11. Indeed, the study underlines the **importance of linkages between companies** in developing export capacity — in particular partnerships with companies from developed countries, but also with companies in other developing countries. Very few exporters were single entrepreneurs. A current OECD study on services trade liberalisation in South East European countries, underlines that one factor

2. This observation also underlines another difficulty encountered in the study; in the age of the transnational corporation with subsidiaries and branches operating in many countries, and with mergers and acquisitions constituting a large portion of FDI flows, it is often difficult to talk about the nationality of a company - e.g., while the world's 13th busiest port is in the UK (Felixstowe), it is owned and run by a company from Hong Kong China.

influencing banking sector performance is the level of foreign participation, which can bring improved skills and business practices.

12. **Regional, linguistic/cultural and historical linkages (e.g. former colony/coloniser relationships) could also be important in business services.** Companies moving beyond the domestic market often exported first to those countries with whom such links existed, with diaspora populations proving important in areas spanning traditional medicine to audiovisuals. Indeed, real niche opportunities could be exploited where cultural and geographical elements were determinant of successfully marketing a service — e.g., the agro-theme park built in Colombia which now exports its concept both to other developing and developed countries, traditional healing services from a number of Asian countries and several eco-tourism initiatives. **Developed countries with historical and colonial links to certain developing countries could also represent a source of capital and credibility** for exporters from the latter.

13. The study also highlights, however, that, **in a number of sectors, there are few examples of companies from developing countries involved in export trade** (e.g., energy³ and environmental services). This may be due to the large fixed costs of entering these sectors, and to the global presence of some very large companies. Even in sectors where developing countries are exporting, the study also reveals a **number of key common problems** facing their exporters, including:

- Lack of access to financing for export or business development:
 - Developing country services exports are often in areas where capital requirements are relatively low, or where there is the possibility to gain access to capital via international partnerships.
 - The low level of income in the domestic market could make it difficult for companies to build up a sufficient client base at home to act as a platform for export.
- Difficulty establishing credibility with international suppliers, in particular, but not only, in high technology areas:
 - The perception that developing country service suppliers are not as capable remained in some sectors, including within developing countries' home markets. This could be a vicious — or virtuous — circle; lack of credibility means fewer clients, fewer clients means fewer opportunities to demonstrate credibility. Equally, once a sector in a country begins to establish a reputation, this credibility and recognition is self-reinforcing and leads to the development of clusters of exporters (e.g., ICT in India, data-processing in Barbados, health in Cuba). Problems with credibility were addressed in some instances by partnering with international companies.

³

There are some exceptions to this. Chile's Grupo Enersis is an electricity utility company primarily engages in the generation, transmission and distribution of electricity in Chile, Argentina, Brazil, Colombia and Peru. It is the largest privately-owned electricity distribution company in Latin America with over 10 million customers, and through Endesa-Chile, its largest consolidated subsidiary, is the biggest private sector electricity generation company in Latin America in terms of installed capacity. For the six years ending December 31, 2002, Grupo Enersis ranked as the largest private sector company in Chile, measured by consolidated assets and consolidated operating income, with consolidated assets for 2002 of Ch\$ 12,621.2 billion and consolidated operating income of Ch\$ 532.6 billion. Endesa-Spain, Spain's largest electricity generation and distribution company, owned 65% of the outstanding shares as of December 31, 2002.

- Lack of access to reliable and inexpensive infrastructure:
 - Poor telecommunications services impacts on out-sourcing or back office export potential, while a lack of reliable energy and transport raises costs for all service sectors.
 - Poor infrastructure could also affect the ability of a company to provide reliable service and thus exacerbate the credibility problem with clients (e.g., some companies report losing foreign clients when slow or unreliable internet linkages meant that their services were not delivered in time).
- Lack of access to a range of formal and informal networks and institutional facilities necessary for trade:
 - These could include everything from a sound domestic legal environment for business, links to other exporters or export associations or to broader business networks.
 - For services in particular, given the close linkages and symbiotic relationships between service sectors, problems could arise for services companies with the lack of availability of important ancillary or supporting services in the home market. One consulting company in a developing country reported having to rely on overseas companies (often competitors) for important supporting services.

14. Lastly, it should also be noted that while the study has identified a wide range of exports from developing countries, for these countries, as well as for a number of developed countries, services remain a relatively small part of their trade **compared with exports in manufacturing and agriculture**. Nevertheless, the examples in this study indicate that there could be further scope for increasing developing country services exports.

15. In Part II, the study complements these concrete examples with a critical assessment of the macro-economic benefits of services liberalisation, focusing on quantitative studies modelling the gains from services liberalisation. It reviews work on estimates of services barriers, welfare gains from services liberalisation obtained through econometric estimations and calibrated simulations and sectoral studies. It extracts separately the gains for developed and developing countries and carries out a comparative analysis of estimates of services barriers, welfare gains, and sectoral performance drawing comparisons between developed and developing countries, as well as sectoral or modal variations. The study also explores the broad methodological issues which arise, including the extent to which methodology might explain differences in the magnitude of results (and impact upon the reliability of those results).

16. **Restrictions on trade in services impose costs**, usually in the form of higher prices for businesses and consumers. Restrictions limit domestic and international competition, decrease efficiency and permit incumbent service suppliers to charge prices above those in a competitive market. Estimating the extent to which restrictions increase prices or impede competition crystallises the benefits of removing restrictions for consumers, policymakers and trade negotiators.

17. All the studies reviewed find that, regardless of the sector under analysis and the methodology used, **on average, developing countries have more restrictive barriers than developed countries**.

- Telecommunication, banking and financial sectors are characterised by high barriers in developing countries and low barriers in developed countries.

- There is less of a clear breakdown between developing and developed economies in a number of other sectors (education, maritime, professional services and distribution).
- Equally, price-based measures of barriers provide a less clear correlation between the level of estimated barriers and welfare and production indicators.

18. To date, most studies indicate that services liberalisation is likely to imply potentially large gains for countries with high initial trade barriers. Consequently, **developing countries, that on average have more restrictive barriers than developed countries, are expected, in the long run, to gain most from services liberalisation.** Most of these gains arise from liberalising one's own domestic service sector, not from seeking better market access to foreign services markets. In the short and medium run, however, gains may be negatively affected by the adjustment costs of barriers removal and re-regulation. These are likely to be particularly burdensome in developing countries depending on the service sector that is liberalised.

- Adjustment following trade liberalisation, while challenging, can be facilitated by the adoption of appropriate policy frameworks; and indeed, there is some evidence that adjustment costs may be lower for trade in services than for manufacturing. In this context, attention to the nature, pace and sequencing of liberalisation will be key to both managing adjustment and to ensuring that liberalisation is underpinned by sound regulatory frameworks. The need for careful consideration of the nature, pace and sequencing of liberalisation is reflected in the structure of the GATS itself, with its in-built flexibilities and emphasis on progressive liberalisation. Equally, however, for least developed countries and many developing countries, the creation of appropriate regulatory frameworks for liberalisation — and the ability to enforce them — may require significant capacity building.

19. **Gains from services liberalisation are also found to exceed those from goods liberalisation by up to a factor of five.** Estimates, however, vary on the basis of the size of initial trade barriers, theoretical frameworks, modelling techniques and datasets used. For this reason, it does not seem appropriate to single out as representative of potential gains from trade liberalisation any specific figure or range.

20. **The wide range in the estimated initial size of policy interventions is reflected in the differing welfare effects from services liberalisation generated by general equilibrium models.** The studies that use Hoekman's "guesstimates" for the initial interventions generally report large welfare gains from services trade liberalisation. By contrast, studies that employ the estimates determined on the basis of price or quantity impact measures tend to generate lower, though still sizeable, welfare gains.

21. **The nature of barriers and of other restrictions to trade is responsible for the dimension of gains from liberalisation.** When restrictions are rent-creating they are responsible for raising prices above costs, i.e. creating rents for the incumbent producers. Hence, liberalising rent-creating restrictions can lead to a large transfer from service providers to service users, and a relatively small net gain for the economy as a whole. By contrast, when restrictions are cost-increasing, they distort market conditions and are responsible for inefficient and costly modes of production. Liberalising restrictions that raise costs can yield a gain to both the services providers and their downstream users, for a relatively large gain to the economy as a whole. Thus, liberalising restrictions when they are cost-increasing can provide a larger "bang for the buck".

22. **Higher gains, but uneven across countries, are obtained when capital mobility and FDI are explicitly modelled and an imperfect competition setting is acknowledged.** Importantly, it seems that the large effects in these model results need not come from liberalization of service trade, per se, but from

the assumed accompanying liberalization of factor markets. This is parallel to work on goods trade, where accompanying liberalization of factor markets internationally produces sometimes large and uneven effects across countries.

23. **The studies that explicitly treat foreign direct investment as a mode of service supply report that services trade liberalization raises overall world income, but some countries experience small welfare losses.** Welfare losses can potentially come from three sources. First, removal of restrictions on foreign investment can divert capital to countries that previously had relatively high barriers to investment. Second, barriers to entry generate rents, some of which accrue to owners of foreign capital. With liberalization, these rents are eroded by competition, and thus countries that are important sources of foreign direct investment can lose. Finally, there are terms-of-trade effects as discussed below.

24. **The studies that focus on the movement of service-supplying personnel testify that this is a crucial means of delivery for exporting countries.** As with the studies analysing factor mobility and FDI, it seems that the assumed accompanying liberalization of factor markets is the main source of large gains. However, work on mode 4 is not without its difficulties, in particular because most countries require foreign workers to be paid at the same rates as nationals — thereby undermining the cost advantage of suppliers from developing countries. Failure to acknowledge this fact is a limitation on the quantitative studies showing gains from greater labour mobility. Equally, studies do not always take adequate account of the existing regulatory frameworks for labour markets, including with regard to pay and conditions and recognition of qualifications.

25. **Econometric studies that analyse the dynamic effects of liberalisation and the impact on specific sectors find higher gains than Computable General Equilibrium (CGE) simulations.** This result is likely to stem from the dynamic element of econometric studies which takes account of the long-run adjustments occurring through capital accumulation, population growth, and technological change.

26. From a methodological point of view the OECD study highlights the importance of seeing services trade liberalisation in a broad context, and certainly broader than goods market liberalisation.

- First, liberalisation will open markets to new local, as well as foreign, suppliers and consequently an important product of services liberalisation will be the welfare gains stemming not from seeking better market access to foreign services markets but from increased competition and efficiency of production at home.
- Second, a key factor in determining the effects of services liberalisation is whether a **genuinely competitive market has been created**. The transformation of public monopolies into private monopolies produces negligible gains and, equally, the structure of competition in the industry has important effects on the distribution of gains from liberalisation. Current OECD work on services trade liberalisation in South East European Countries finds that gains would be unlikely to accrue if these countries were to open up their fixed line telecommunication services to foreign equity participation, without also removing the current restrictions on new entry.
- Finally, some sectoral studies have shown that the sequencing of reform (e.g. privatisation then introduction of competition) can also be an important consideration.

27. A caveat should be kept in mind. The measurement of barriers to trade in services and the quantification of the gains from liberalisation of the services sector are a fairly recent area of research, characterized by theoretical frameworks, modelling techniques and datasets still in need of further development. Therefore the results described in Part II of this study are subject to the methodological and statistical limitations on our state of knowledge.

28. Nevertheless, progress is continuously being made in refining the theory and the empirical techniques while efforts to improve the statistical base of data are underway. On the modelling side the new studies aim at a more accurate representation of the economics of services sectors and trade, including the various forms of delivery, their distinctive functions and features and a more disaggregated treatment of services sectors. On the empirical side, consistent estimates of Foreign Direct Investment (FDI) and Foreign Affiliates Trade in Services (FATS) data on the activities of foreign affiliates at the bilateral and sectoral levels are being progressively introduced to represent commercial presence, which constitutes an important share of overall trade in services. Furthermore, in the last few years both academics and international institutions such as the IMF, Eurostat, OECD and WTO, have been working to increase the overall reliability of data on services trade and address the well known problems of data shortage, lack of concordance and comparability among the existing data series, limited sectoral disaggregation and absence of a classification by mode of supply.

PART I

EXAMPLES OF DEVELOPING COUNTRY SERVICES EXPORTS

INTRODUCTION

1. This paper responds to a request from the Working Party of the Trade Committee at its meeting held on 22 January 2003 for work to identify concrete examples of services exports from developing countries.⁴ Economies in transition have also been included in this study.

I. The shape of this study

2. The study discusses examples across geographic regions and a wide range of services sectors. It includes exports of services via all four modes of supply for trade in services outlined in the General Agreement on Trade in Services (GATS):

- Cross-border trade, where the service itself crosses the border (e.g., a Malaysian architect faxes a plan to a client in India).
- Consumption abroad, where the customer travels to the country where the service is supplied (e.g., where a Malaysian visits India for a holiday).
- Commercial presence, where the supplier establishes a commercial presence abroad (e.g., the Malaysian architecture branch opens an office in India).
- Movement of natural persons, where the provider of the service moves temporarily to the territory of another country to supply a service (e.g., a Malaysian architect goes to India for 3 months to supervise construction of the building).

3. Mode 4 is traditionally viewed as the mode of supply of most importance to developing country exports and indeed, in some sectors, it remains a major component of developing country trade. However, mode 4 exports can lead to, and be complemented by, exports in other modes (e.g., exports of ICT personnel have led to awareness of the skilled personnel in India and the growth of out-sourcing to Indian firms — mode 1/2 trade). Indeed, the story of developing country exports in services goes beyond mode 4 and this study aims to highlight examples of exports via other modes of supply. In particular, electronic supply of services (modes 1/2) emerges as being a key area of export activity and potential for developing country services firms, highlighting the importance of new technologies in expanding trade in services and, more particularly, in expanding the participation by SMEs from developing countries.

4. It should be recalled, however, that modes of supply were developed for making GATS commitments and they are not concepts generally used by the business community. Companies do not separately identify their activities by mode of supply, and many companies export services via several

4. For the purposes of this study, "developing countries" are considered to be those countries which have currently self-selected as developing for the purposes of WTO agreements.

modes. With the exception of some sectors where the distinctions are relatively clear (e.g., health services), the study does not attempt to attribute modes of supply to specific examples of services exports.

5. Similarly, while information on exports is presented on a sectoral basis, using the classifications in the WTO Services Sectoral Classification List (MTN.GNS/W/120, or “W/120”), activities of particular companies can span several service sectors. The issue of classification emerged as a particular problem for companies involved in out-sourcing or back office operations, which often provided a range of services, cutting across categories of computer and related services, other business services, and even financial services. While individual companies have been included under the sector which most closely corresponds to their primary activity, even though they may be exporting a range of other, related services, there is unavoidably some overlap. A particular problem arose with companies which were serving as both Internet Service Providers and content providers; to avoid difficulties in classification, they have been dealt with in a separate section.

6. The study also takes a broad approach to developing country exports — a service export is a service delivered by a “home-resident” to a “foreign-resident” customer regardless of where the service is provided. Indeed, mode 3 covers establishment abroad by services companies, and indirectly, the sales that result from such investment, which although not exports from a balance of payments perspective, are often an essential feature of the international commercial presence of the investing company’s home country. Similarly, a foreign company’s local subsidiary (e.g., PricewaterhouseCoopers Malaysia) can in turn be exporting to other markets (a services export of the host country). Local companies may also be supplying services to the foreign subsidiary established in their home market, although this is not a services export.⁵

7. In identifying examples of developing country services exports the study drew on a number of different sources. Extensive Internet research was supplemented by material provided by UNCTAD (drawn from its experts meetings on trade in specific service sectors) and a short on-line survey of individual companies. The survey was sent to companies and industry associations in both developed and developing countries. In developing countries, companies were asked whether they exported and, if so, to where. In developed countries, companies were asked whether they sourced services from companies in developing countries; whether they had branches and subsidiaries in developing countries; and, if so, whether these branches and subsidiaries exported to other markets. Around 90 responses to the survey were received, mostly from companies in developing and transition economies.

8. The current paper thus presents a sample of developing country exports for selected sectors, covering audiovisual and cultural services; business services; computer and related services; construction services; financial services; health services; higher education and training services; port and related, and shipping services; professional services; distribution services; telecommunication services and tourism and related services. Given the commercial realities of internet services and content providers, a separate section entitled “Internet services” has been included.⁶ These represent the main sectors where developing country exports were identified within the time frame of the project; further research may uncover examples in additional sectors.

5. This is not a services export as both the supplier and consumer of the service are considered to be domestic companies. However, in a broader sense, opportunities created for local companies, which can also be a source of technology transfer and capacity building, are part of the benefits of services imports (i.e., importation via mode 3) and is dealt with in the second part of the study.

6. While GATS classifications treat the medium and content separately, many companies which are Internet service providers also provide content. In view of the difficulty of separating these activities, they have been grouped in a separate section as Internet services.

9. The study is thus in no way comprehensive, but aims to present a sampling of developing country services exports in the chosen sectors to provide some indication, or flavour of the types of activity underway. It is hoped that this might have a demonstration effect; that is, these examples do not simply demonstrate existing trade, but could hopefully serve as inspiration for the development of future trade.

II. The context for this study

10. Services make up a major portion of the world economy. In 2000, the estimated total value of world services production was some USD 1.4 trillion. In developing countries, services made a major contribution to gross domestic product (GDP), with values ranging from 39 percent of GDP in Nigeria, to 89 percent in Hong Kong, China. Services are also significant for least developed countries (LDCs). In the 49 least developed countries, the average contribution of services exports to GDP was 10 percent, with some countries reaching peaks of over 50 percent (Vanuatu and the Maldives). Research by the International Trade Centre (UNCTAD/WTO) on 20 LDCs found that only three of them had a larger share of gross domestic product (GDP) from agricultural activities than from service industries. Further, for seven of these 20 LDCs, services are their main export [Source: UNCTAD and ITC].

11. Indeed, while the majority of world trade in services takes place among developed countries, it is by no means restricted to developed countries (see Table 1). Between 1991 and 2000, the world's developing economies as a group more than doubled their commercial services exports, from \$189 billion to \$399 billion, raising their share of global services exports from 23 percent to 28 percent during the decade. Over fifty developing and transition economies now export more than \$1 billion in services each year, with their number distributed throughout the developing economies of Asia (10), Africa and the Middle East (10), Europe (18), and the Western Hemisphere (13). [Source: Cleveland, Douglas (2003) "Services and the Doha Development Agenda", U.S. Department of Commerce, Washington, D.C.]

Table 1. World exports of commercial services by selected region 1990-2001

Region	% share 1990 of world exports	% share 2001 of world exports
North America	19.31	20.50
Canada	2.34	2.44
United States	16.97	18.06
Latin America	3.79	3.99
Western Europe	53.06	46.54
European Union (15)	47.18	41.94
Central and Eastern Europe	...	3.85
Africa	2.39	2.12
Middle East	...	2.24
Asia	16.79	20.75
Australia	1.26	1.08
Japan	5.28	4.37
New Zealand	0.31	0.29
World	100	100

Source: adapted from WTO statistics for 1980-2001, available at www.wto.org.

12. Additionally, recent OECD estimates of trade in services by partner country give an initial, if imperfect, indication of services imports from developing countries for Japan, the EU, and US.⁷ Of total imports of services to Japan in 2000, just under 14% came from three countries in Asia — Korea (5.4%), Singapore (4.2%); and Hong Kong China (4.2%). A further 20.1% of imports came from “Other Asia and Oceania” which includes a number of other developing countries — although this figure must be taken as a very rough estimate as it also includes imports from Australia and New Zealand. Imports from “other America” (which excludes the US, but includes Canada and Central and South America) accounted for 9%; and 3 percent originated from Africa. For the EU, imports of services from Other Asia and Oceania (excluding Japan but including Australia and New Zealand) accounted for 15.3% of total services imports, while 11.9% came from “other Europe” (excluding intra-EU trade, and trade with Norway and Switzerland). Africa accounted for 6.4% of services imports to the EU, and “other America” (excluding Canada and the US) accounted for 5.8% of imports. Finally, for the US, “Other Asia and Oceania” accounted for 18.6% of services imports; with 13.2% coming from “other America” (excluding Canada). Africa accounted for only 1.4% of services imports. “Other Europe” (excluding EU and Switzerland) accounted for 3.3% of services imports.

13. Trade in services between developing countries is more difficult to estimate. To date, the available bilateral data on such trade is scant and does not allow for satisfactory reports on those flows. However, business surveys, country studies and simulations made via mirror statistics would suggest that the figures might be significant in certain sectors and between certain countries. Indeed, evidence from a number of sources indicates that firms from developing countries mainly serve markets in neighbouring countries, whereas successful service export strategies aimed at the world market are limited in number.

14. More generally, it should be noted that trade in services statistics are likely to under-estimate trade in services. The importance of services in world exports has been increasing from 15 percent to almost 20 percent in the last twenty years. However, the annual pace of growth in services exports was only 7 percent, while the share of services in world production increased by almost 25 percent per year. The discrepancy in these data suggests that services are not only difficult to trade but that, more importantly, under current statistical concepts and methodologies, services trade flows are unlikely to be captured fully. Indeed, many statistics for trade in services are drawn from balance of payments (BoP) data, which has a number of limitations in measuring trade in services from a GATS perspective. Not all service sectors are captured and most figures tend to represent trade via modes 1 and 2 only — BoP figures do not capture trade via mode 3 and provide only rough proxies for mode 4.⁸ While measurement of trade in services will be significantly improved by the implementation of the recent *Manual on Statistics of International Trade in Services*, full implementation is likely to be a longer-term proposition.⁹

15. Such measurement difficulties are somewhat inherent to the very nature of services. Their intangibility makes them difficult to define and, once a definition is found, obtaining the required information on trade flows depends on, and is limited by, the extent of common international understanding of concepts and the availability of data providers. Furthermore, given that services trade is not necessarily associated with crossing a border, it is difficult to capture important modes of their

7. See *OECD Statistics on International Trade in Services: Partner Country Data and Summary Analysis 1999-2000*. It should be noted that partner country statistics for trade in services are a recent innovation and data is not yet completely satisfactory.

8. Mode 3 trade is better captured by Foreign Affiliate Trade in Services figures, but these are only collected by a minority of countries (about 20 so far). Proxies for mode 4 in BoPs - compensation of employees and workers' remittances - are only very approximate and can both under- and over-estimate mode 4 (e.g., they include persons working in sectors beyond services).

9. See United Nations, European Commission, IMF, OECD, UNCTAD, WTO *Manual on Statistics of International Trade in Services*, available at www.wto.org.

international delivery. Finally, service firms are not necessarily aware that they are exporters, especially if they are selling their services locally to foreigners. Foreign firms working in free trade zones, local offices of international financial institutions and (in the case of developing countries) donor organisations are often major clients for local business and service providers, but the firms may not think of themselves as exporters when dealing with such buyers.

III. The purpose of this study

16. These methodological problems suggest that current statistical concepts and methodologies lead to an underestimation of the amount of services traded internationally. In gathering examples of successful cases of exports in services from developing countries, we hope to shed light on the nature and size of aspects of trade in services which may not always be captured by current trade in services statistics.

17. While virtually every developing country already has successful service exporters, these success stories are not always reflected in traditional economic and market analysis. Some governments may not be fully aware of the capabilities that exist, and international donor agencies or potential partner or client companies in the sector may overlook the expertise that developing country companies have to offer. Lack of awareness of existing exports can undermine the potential growth of those exports. Indeed, some entrepreneurs have reported that the lack of international credibility and recognition is their greatest barrier to export growth. It is hoped that the examples highlighted in this study may contribute to greater awareness not only of the extent of current participation by developing countries in trade in services, but also of the enormous potential that exists to expand that participation.

IV. Initial observations from this study

18. The growth of the share of services in the global economy, greater liberalisation of the sector and resistance to that liberalisation, along with the perception by a number of developing countries that they have few interests in services trade, has led to increased attention to the patterns of trade in services. This study has attempted to gain some insight into the actual nature and extent of exports of services from developing countries by identifying concrete examples of those exports. While the study is by no means comprehensive, and is subject to many limitations, a number of preliminary observations can be made.

19. Notwithstanding the fact that several companies from developing countries successfully export a variety of services to both developed and developing countries, one observation from the survey is that **a relatively limited number of developing countries seem to be heavily involved in services exports trade across a range of sectors**. This fact might suggest that services exports, on a large international level, are associated with higher levels of development and that not all developing countries are yet in a position to be large-scale exporters. This may be particularly true of sectors where export performance seems to be built upon a strong base of domestic demand (e.g., distribution, telecommunications, audiovisual). Equally, it reflects the nature of services trade in a globalised economy, with increasingly strong inter-linkages and synergies amongst different services sectors, and the tendency for large global players to form mergers and alliances across countries and sectors.

20. The fact that exported services are concentrated in a relatively limited number of developing countries could also be due to the inherent geographical bias in the chosen method of research. The extent of documentation and secondary sources available varies considerably across sectors and countries; while information sources are relatively rich for the IT sector in India or the health sector in Cuba, information on services trade in much of Africa is often scanty. The nature of research, being heavily Internet based, including via an on-line survey, also favours those countries and companies with high rates of IT literacy or whose services exports are in some way IT-related. Finally, the degree of responsiveness to the survey

also determines the shape of the analysis, with the highest number of responses coming from companies in Japan, Colombia, Argentina, Kenya and Hong Kong China.

21. A further observation which can be made is that, while developed countries dominate services trade overall, **developing countries seem to be particularly successful in certain sectors**, such as port and shipping services, audiovisual services, construction services and health services. For example in some services — shipping and port services — developing countries are world players. Based on strong domestic ports serving as hubs for international trade and helped by the East Asia export boom, countries such as the Philippines and Hong Kong China have expanded into port management around the globe.

22. The study reinforces the finding that developing countries have a clear comparative advantage in labour-intensive services (construction services, data-processing), including — in a growing number of areas — at the higher skilled end of the chain. Technological advances in telecommunication and computer industries have allowed developing countries endowed with a well-educated and cost-competitive workforce to produce and export computer and related services worldwide. The spectacular Indian performance of the last twenty years is the most notable and documented case.

23. In this regard, the **importance of electronic supply of services for developing countries** emerges strongly. Out-sourcing and back office services, covering computer and related, business, professional and financial services are key areas of export interest for developing countries. ICT has created real opportunities for many developing countries by dramatically reducing the cost of transportation, and thus enhancing their comparative advantages. The relatively low cost of highly skilled labour and improvements in telecommunications means that this is clearly an area for potential future growth. Additionally, out-sourcing can both leverage off, and help to support, existing service exports — as in the audiovisual sector, where countries with large film industries are also increasingly moving into out-sourced post-production for other films. To take advantage of out-sourcing opportunities, developing countries will need both modern, efficient infrastructure, including telecommunications and energy, as well as access to developed country markets to provide services via mode 1.

24. The study also highlights **the importance of regional, often intra-developing country, trade**. In some sectors (e.g., telecommunications), the trade is primarily within the region. In other sectors, regional markets are important, including as a stepping stone to more global operations.

25. In many sectors, a **strong domestic market plays a key role as the platform for developing export capacity**. This pattern is evident in telecommunications, audiovisuals, distribution, port and related services and higher education services — and even, in some cases, in e-commerce related sectors (e.g., one exporter of e-commerce solutions noted that it was hard to prove to foreign buyers that the e-solutions he had developed worked when there had been only a limited domestic market in which to test them). Companies tend to follow a pattern: serving the domestic market first, and then once the critical size had been reached, taking steps to export regionally and/or to countries, such as former coloniser, with which strong historical linkages exist. Finally, they may develop into a global player. Exceptions to this generalisation are ICT enabled and related services where geography is less important and tourism, where a company may aim at global markets initially.

26. A variation on the “domestic-regional-global” pattern for the development of trade is cases where a **global domestic export capacity had been developed by imported services**. For example, while, in financial services the study found little evidence of indigenous developing country financial services firms exporting services, subsidiaries of developed country firms based in those countries are active in export

markets, both to the home country of the parent company and to other countries, developed and developing.¹⁰

27. Indeed, the study underlines **the importance of linkages between companies** in developing export capacity — in particular partnerships with companies from developed countries, but also with companies in other developing countries. Very few exporters are single entrepreneurs. A current OECD study on services trade liberalisation in South East European countries, underlines that one factor influencing banking sector performance is the level of foreign participation, which can bring improved skills and business practices.

28. **Regional, linguistic/cultural and historical linkages (e.g., former colony/coloniser relationships) could also be important in business services.** Companies moving beyond the domestic market often exported first to those countries with whom such links existed, with diaspora populations proving important in areas spanning traditional medicine to audiovisuals. Indeed, real niche opportunities could be exploited where cultural and geographical elements were determinant of successfully marketing a service — e.g., the agro-theme park built in Colombia which now exports its concept both to other developing and developed countries, traditional healing services from a number of Asian countries and several eco-tourism initiatives.

29. Developed countries with historical and colonial links to certain developing countries could also represent a source of capital and credibility for exporters from the latter.

30. The study also highlights, however, that, **in a number of sectors, there are few examples of companies from developing countries involved in export trade** (e.g., energy, research and development, and environmental services). This may be due to the large fixed costs of entering these sectors, and to the global presence of some very large companies. Even in sectors where developing countries are exporting, the study also reveals a **number of key common problems** facing their exporters, including:

- Lack of access to financing for export or business development:
 - Developing country services exports are often in areas where capital requirements are relatively low, or where there is the possibility to gain access to capital via international partnerships:
 - The low level of income in the domestic market could make it difficult for companies to build up a sufficient client base at home to act as a platform for export.
- Difficulty establishing credibility with international suppliers, in particular, but not only, in high technology areas:
 - The perception that developing country service suppliers are not as capable remained in some sectors, including within developing countries' home markets. This could be a vicious — or virtuous circle; lack of credibility means fewer clients, fewer clients means few opportunities to demonstrate credibility. Equally, once a sector in a country begins to establish a reputation, this credibility and recognition is self-reinforcing and leads to the development of clusters of

10. This observation also underlines another difficulty in the study; in the age of the transnational corporation with subsidiaries and branches operating in many countries, and with mergers and acquisitions constituting a large portion of FDI flows, it is difficult to talk about the nationality of a company - e.g., while the world's 13th busiest port is in the UK (Felixstowe), it is owned and run by a company from Hong Kong China.

exporters (e.g., ICT in India, data-processing in Barbados, health in Cuba). Problems with credibility are addressed in some instances by partnering with international companies.

- Lack of access to reliable and inexpensive infrastructure:
 - Poor telecommunications services impact on out-sourcing or back office export potential, while a lack of reliable energy and transport raises costs for all service sectors.
 - Poor infrastructure could also affect the ability of a company to provide reliable service and thus exacerbate the credibility problem with clients (e.g., some companies reported losing foreign clients when slow or unreliable internet linkages meant that their services were not delivered in time).
- Lack of access to a range of formal and informal networks and institutional facilities necessary for trade:
 - These could include everything from a sound domestic legal environment for business, links to other exporters or export associations or to broader business networks.
 - For services in particular, given the close linkages and symbiotic relationships between service sectors, problems could arise for services companies with the lack of availability of important ancillary or supporting services in the home market. One consulting company in a developing country reported having to rely on overseas companies (often competitors) for important supporting services.

31. Lastly, it should also be noted that while the study has identified a wide range of services exports from developing countries, for these countries, as well as for a number of developed countries, services remained a relatively small part of their trade compared with **exports in manufacturing and agriculture**. Nevertheless, the examples in this study indicate that there could be further scope for increasing developing country services exports.

AUDIOVISUAL AND CULTURAL SERVICES

I. Overview

32. Under the WTO Services Sectoral Classification List (W/120), audiovisual services form part of communication services and comprise: motion picture and video tape production and distribution services; motion picture projection services; radio and television services; radio and television transmission services; sound recording; and other. W/120 also includes recreational, cultural and sporting services, under which news agency services are classified. The following section focuses primarily on film and television, with some material on radio and news agency services. The sectors are dealt with by region, rather than by type of service, given the growing convergence between different types of technologies and the synergies between film, TV and other media.

33. Although the world film and music markets are dominated by few majors, some developing countries are particularly active, in particular in television. Overall, several interesting features might be noted. Some countries with previously strong film industries (Egypt, Brazil) have become less important in film but are key players in television programming. Other countries with strong domestic audiences for films have expanded their international reach, often linked to the presence of a large diaspora population (India). With changing times in the film industry, a number of large film-making countries are also now moving into high-technology post-production and visual effects work. This is also an area where other countries — particularly those with ICT-skilled workforces — see niche opportunities. Additionally, countries with their own film industries are also increasingly marketing themselves as locations for other film-makers to shoot their work, highlighting the availability of skilled personnel and crews.

II. Asia/South Asia

34. **India** is the largest film producing country in the world, producing on average 800 feature films and 900 short films in 52 different languages and dialects. And the industry is growing: in 2001 India produced 1 013 feature films against 855 in 2000. In addition to films, India produces 40 000 hours of TV programming and 5 000 music titles. India is also the third largest producer of original entertainment software with over 40 000 hours of original programming in 2001. The entire Indian audio-visual and entertainment industry (including films, televisions broadcasting, cable television, telecoms software, music, radio and live entertainment) grew from Rs 100 billion in 2000 to Rs 130 billion in 2001, with varying projections saying that it will grow at an annual average rate of 25% or will reach Rs 481 billion in 2005 [Mukherjee (2002)].

35. The industry is also a major employer, providing direct employment to around 1 million people and indirect employment to another 4 million [Mukherjee (2002)]. Over 14 million Indians go to the movies every day, though the sales value of the Indian cinema industry is USD3.5 billion annually, around 1% of the world total [Source: UNCTAD].

36. **The international market** provides the major source of earnings for the Indian film industry, with film exports growing from Rs 2 billion in 1998 (198 titles) to Rs 4.5 billion in 2000 (412 titles) and Rs 5.25 billion in 2001. Indian films are **exported to around 95 countries worldwide**, the major markets being those with a large Indian diaspora (e.g., Middle East, US, UK, Canada) and neighbouring South Asian countries. The US and Canada accounted for 30% of total exports, followed by the UK at 25%.

37. **Overseas rights**, largely stemming from the South Asian diaspora, could cover the production cost of a new movie. Some production houses (**Yashraj Productions** and **Rajshri Productions**) have set up their own international distribution networks, while others are using international distributors (e.g., Sony Classic). Foreign conglomerates such as Sony and Star TV are buying movie rights from Indian producers. Star TV has bought rights of almost 500 Indian films and plans to launch a Hindi movie channel [Source: UNCTAD].

38. In recent years, efforts have also been made to develop studio facilities with high quality equipment and sophisticated production facilities — **Ramoji Film City** at Hyderabad has facilities similar to Hollywood studios. Additionally, **post-production facilities** — including animations, computer graphics and special effects — have been significantly developed, including with a view to developing as a post-production **out-sourcing hub** for other major film industries — some companies such as **SIBAR Media** and **Entertainment Limited** have already set up studios with the latest technologies in India.

39. In India as elsewhere, cinema and TV are increasingly intertwined. Liberalization in the 1990s brought opportunities for the proliferation of private TV channels and for the penetration of Indian movies and TV programs into the global market. At present, there are over 60 private TV channels and 60 million inhabitants have a TV, of which 28 subscribe to the cable TV. With skilled personnel, technical know-how and lower production costs, India is also exporting TV content. The Electronic and Computer Software Export Promotion Council estimated the **exports of TV content at Rs 3.5 billion in 2001** (20% of total revenue). A number of Indian content producing companies are also exploring **co-production arrangements** with established international players [Mukherjee (2002)].

40. Both the government and industry actively promote exports, with non-traditional markets — such as Japan and Kenya — increasingly being explored. The government also provides various incentives, including exempting revenue from exports of film software from income tax, and some duty drawbacks. However, the industry also faces a number of difficulties, including: lack of financing; lack of intellectual property protection, the cost of keeping up with technological advances and production standards in the industry; high duties on imported equipment; and location charges.

Zee TV is the largest TV station in the sub-continent and is now available in more than 100 countries around the world. In the UK, its regular audience is estimated at around 700 000 (Bentley 1999). As TV in the region is still a luxury, Zee TV reaches a distinctly upper class audience. It is a family entertainment channel, broadcasting programs in Hindi, Gujarati and English. Most content is produced in India, but some English-speaking programs are made in the UK. The “Bollywood Oscars” broadcast on Zee TV was watched by over 250million viewers, of which almost 1 million were in the UK [Source: UNCTAD]

Nimbus, an Indian television content producing company earned export revenue of Rs 65 million in 2000 through exports to the UK, UAE, Malaysia, South Africa, Mauritius, Sri Lanka, Bangladesh, the USA and Singapore [Source: Internet].

Indian TV companies such as **Television 18** and **New Delhi TV** have struck deals with CNBC and Star TV to provide programming. Indian companies such as **UTV Toons** and **Crest Communication** export 2-D and 3-D cartoons to other Asian and Western countries. The big Hollywood majors are becoming interested in this business as well [Source: UNCTAD].

“**All India Radio**” is one of the largest external radio networks in the world both in terms of reach and range. It covers around 100 countries (in Asia, Northwest and East Africa, Australia, New Zealand, UK, the Indian Subcontinent — but not the Americas) and broadcasts in 26 languages (16 foreign and 10 Indian). It also exports recordings of music and other programmes to around 150 countries and foreign broadcasting organisations. While conducting training programs with other foreign broadcasters (BBC, Deutsche Welle) it also offers training facilities to radio networks of other developing countries. It has co-production agreements with Deutsche Welle and the Australian Broadcasting Corporation. Internet broadcasting has recently allowed AIR to expand its services into the US, Canada and South Africa. In 2000, AIR launched a satellite digital radio service to the Middle East and both Africa. Given the size and

geographical spread of the Indian diaspora, a prime market, there appears to be considerable scope for growth in exports or partnerships with overseas stations. [Mukherjee (2002)]

Pentamedia Graphics is one of the top 3 computer animation companies in the world, behind Disney Studios and Lucas Digital. Headquartered in India, it recently invested in the US, opening the prospect of work in Hollywood. The global computer animation industry is growing at a rate of 20% per year (currently USD 25 billion); the Indian animation industry is worth around USD 500 million but growing at around 30% per year [Source: Mukherjee].

Globekids Digital Ltd, founded in 2000, was the first animation studio in **Bangladesh**. The studio draws on the enormous potential of the emerging artists and the computer programmers of Bangladesh to export computer animation to a range of markets. Over the last two years the studio, besides serving clients in North America and Europe, has grown to be one of the most recognised organisations to train and employ young talent in Bangladesh [Source: Evian Group].

41. **Hong Kong China** remains one of the world's major film exporters and producers ranking third behind the US and India. In 2001, driven by an easing of controls on private sector funding in film and an increase in overseas demand, Hong Kong China produced 126 films and about HK\$782 million of exports of films in the form of videotapes, laserdiscs and other compact discs. However, 2002 saw a particular slump, with only 92 films produced — 67 on film and 25 on digital video. [Source: BBC News Friday, 3 January, 2003, "Hong Kong film industry suffers slump"; Monday, 7 January, 2002, "Upswing for Hong Kong film industry"].

42. The Film Development Fund (USD 12.82 million) was established in 1999 to promote the long term development of the industry via: sponsoring training courses for film art directors, scriptwriters, film production personnel, stuntmen and special effects operators; funding a study to explore ways to assist the industry in tackling difficulties in film financing; sponsoring films nominated for overseas film festivals; and providing financing for projects (15 in 2001 at a cost of around USD 3.01 million). The Fund has also created the "Hong Kong — Asia Film Financing Forum" to create opportunities for joint investment in and production of films by Hong Kong China and Asian countries. The Hong Kong China Film Archive, another body aimed at promoting Hong Kong China movies to overseas countries, was set up in January 2001.

43. Hong Kong China is also moving into the growing field of visual effects, with a growing number of digital production, post-production, special effects and animation companies. The Film Development Fund has been in discussions with both tertiary institutions and the industry about the future demand for digital visual effects and animation personnel [Source: <http://www.hongkong.org>]. Additionally, Hong Kong China also markets itself as a location for overseas crews making commercial films, TV programmes and advertisements. The Film Services Office makes available a directory on film production and related companies in Hong Kong China [Source: The film Services Office, Television and Entertainment Licensing Authority, Hong Kong China <http://www.fso-tela.gov.hk>].

44. Problems faced by the industry include: lack of intellectual property rights protection, especially in the lucrative China and South East Asia exports markets; potential competition from China as a film production market; the cost of keeping up with the latest production techniques and standards, including in relation to special effects; lack of financing [Source: "Exit the Dragon?" PricewaterhouseCoopers, www.pwcglobal.com]. Accessing the Chinese market is complicated both by language (Cantonese versus Mandarin) and the fact that China classifies Hong Kong China films as foreign and subjects them to quota. [Source: "Hong Kong Film at the End of the Reel?", www.time.com]

45. **Thailand** is also emerging as a player in the audiovisual industry, producing film, TV programs, music and animation. The government is strongly supporting exports of Thai entertainment via trade fairs at home (the annual Bangkok Entertainment Show Thailand — BEST) and abroad (e.g., Asia Pacific Film Festival). The government also arranges meetings between groups of foreign buyers interested in Thai

entertainment services and groups of Thai producers 2-3 times per year, as well as occasional overseas missions. Thai films are encouraged to participate in international film festivals and dedicated Thai film festivals are organised around the world (e.g., in 2002 in London — www.thaifilmfestival.com) [Source: www.thainationalfilm.com]. Additionally, Thailand is offering production support services for international clients filming in Thailand. Like other countries, Thailand is also moving into post-production services, including computer animation and effects.

Established in 1951 as a radio drama troupe, **Kantana** now employs 1000 professionals locally and internationally and company consists of 20 businesses divided into Television & Broadcast, Production and Related Businesses. **Television & Broadcast** produces game, talk, variety and comedy shows. In an effort to expand into the international market, Kantana has acquired the operating rights for Channel 5 in Cambodia and has established representative offices in Indonesia, Malaysia, Vietnam, Cambodia, with others planned [Source: www.kantana.com].

Kantana Film & Commercial Production provides production and post-production services for the TV and film industry, serving international clients such as 20th Century Fox, Warner Brothers and Lucasfilms. Kantana also undertakes joint film production with international companies, produces international TV commercials, music videos and documentaries and provides production support for international projects filming in Thailand. **Related businesses** provides supporting services such as marketing, music, organisation and events managements, distribution and educational material for an MBA in Entertainment Management [Source: www.kantana.com].

Filmart/Hong Kong China International Film and TV Market, organised by the Hong Kong Trade Development Council, has been held annually since 1997. This trade fair serves as the first-choice platform in the region for worldwide buyers and sellers to conduct business deals on films and TV programmes. Filmart 2002 attracted 1 612 buyers from 36 countries and regions [Source: <http://www.hongkong.org>].

China Star Entertainment plans to produce about 20 to 30 films on a total budget of HK\$200 million (USD 25.6 million) to HK\$300 million (USD 38.4 million) in 2002. [Source: [Xinhua News Agency](http://www.xinhuanews.com) January 14, 2002].

As part of the 10th Five-Year Plan (2001-05), **China's film industry** is seeking to become increasingly international. China will sponsor five Chinese film festivals annually, to expose around 50 domestically made films to international audiences and a new team for overseas marketing will identify ways to sell Chinese films to overseas markets through international cooperation. The plan also involves encouraging overseas investors to invest in upgrading existing Chinese cinemas and in shooting films on cooperative terms. Between 1996 and 2000, Chinese films won 82 prizes at 58 international film festivals, and sales of Chinese films in overseas markets stood at 115 million yuan (USD 13.86 million). [Source: © China Internet Information Centre, Xinhua 03/29/2001].

III. Africa and the Middle East

46. **Egypt** previously dominated the Arab film market, producing around 60-70 films a year at its peak, including highly popular musicals. By the 1990s, film production had fallen off by around 75%, but TV has production remained strong, in particular for clients in the Persian Gulf States. Egypt's Media Production City supplies much of the Arabic speaking world, with Egyptian soap operas and radio programs sold to a number of Arab countries including Saudi Arabia, Kuwait and the United Arab Emirates. Additionally, Egyptian Satellite channels broadcast to the Middle East, Africa, Europe, Asia and the U.S. East Coast via NileSat, Egypt's own satellite, which also rents out its channels to other stations (e.g., Dubai 33). Egyptian Radio transmits daily overseas in 33 languages [Source: www.newsvote.bbc.co.uk].

Media Production City (MPC) in Egypt is the biggest ever built information and media complex, which, together with the Egyptian satellite "NileSat", allows Egypt to maintain its pioneering role in the field of satellite television and to provide television and film production facilities able to meet the requirements of live broadcast in the age of space telecommunications. The project aims at providing television production of a competitive nature to meet local and foreign market requirements, provide film production with a basic capacity of 100 long films per year; use the MPC as a tourist attraction, and as a training centre for national and regional professionals. The MPC comprises of 14 high technological studios of various sizes, open-air shooting areas, and a covered Theatre Hall for television production which can be also used as an auditorium for conferences and festivals. The services complex provides fabricating and processing facilities; film laboratory for film, colour correction, editing (montage), final sound recording and dubbing and final version printing are also provided. The MPC attracted investment from the Radio and Television Union which is the public broadcasting operator of Egypt, domestic banks and public shareholders. Along with NileSat, MPC ensures that the presence of the Egyptian media and information will be further intensified by the export of high-quality and outstanding media products [Source: <http://www.touregypt.net/mpc.htm>].

AllAfrica Global Media is the largest electronic distributor of African news and information worldwide. The company likes to describe itself as the "entry point to a global, Africa-interested audience, as well as a pioneering set of technologies that addresses a significant marketplace gap for secure, accessible and cost-effective transactions and data management". Registered in Mauritius, with offices in Johannesburg, Dakar, Abuja and Washington, D.C., AllAfrica is one of a family of companies that aggregate, produce and distribute news from across Africa to tens of millions of end users. **AllAfrica's electronic information services** sells to hundreds of international clients including information wholesalers such as LexisNexis, Reuters (Factiva), Bloomberg and the Financial Times Information Service. AllAfrica's offerings also include premium business feeds and continuously refreshing news for wireless devices such as cell phones and handheld organizers. The Johannesburg-based **AfricaNet Trust**, is a subsidiary of the company producing original "Dateline Africa" products for broadcast and the Internet. The **AllAfrica Foundation**, a non-profit organization, sponsors African women journalists and that develops topical channels devoted to urgent African issues, including conflict resolution, science and technology, health and medicine, and sustainable development. AllAfrica is the successor to the non-profit **Africa News Service**, which produced prize-winning print and broadcast reporting for major media such as National Public Radio, the Washington Post and the BBC for two decades, prior to developing an online venture. In late 1999, the Africa News Board of Directors recognized that the site's 25%-a-quarter growth rate could not be sustained without investment. To ensure its survival, the project's archive was transferred to AllAfrica, which has expanded the base of content providers and developed new services [Source: Internet].

Al-Jazeera (The Peninsula), the popular Arab satellite TV channel prides itself on reporting on the Middle East from an Arab perspective, while drawing on the professional experience of staff who have worked in the Western media. It has consistently topped viewer ratings in the Middle East and claims 35m viewers. Since its launch in 1996, the channel has relied on funding from the Qatari Emirate, advertising and viewer revenue and deals with other broadcasters. It recently signed a deal to broadcast on Sky Digital to the UK and Europe. The channel's popularity stems from its news coverage and lively talk shows on sensitive political, social and even sexual issues. Al-Jazeera's journalistic scoops have turned the spotlight on the channel [Source: [BBC Monitoring](#)].

IV. Latin America

47. In the early part of the twentieth century, cinema production in **Brazil** was reaching 100 movies a year. Subsequent ups and downs as a result of governmental interventions, market trends and economic downturns lasted until 1993. Gradual liberalisation and a new audiovisual law in 1993 stimulated competitiveness in cinema production and distribution. This was followed by the development of infrastructure through joint public/private initiatives, supported by a system of incentives. As a result, from 1995, the cinema market and the audio-visual sector was ranked between 8th and 10th in the world, with turnover of production between USD 8- 10 billion, representing nearly 1% of GDP [Source: Diagnostico Governamental, Secretaria do Audiovisual, Ministerio do Cultura 2000].

48. Television has become a major industry in Latin America, with large players operating a range of joint ventures and other partnerships throughout the region.

With its television, radio, and publishing interests, **Grupo Televisa** is number one in the Latin media world. The firm is Mexico's number 1 TV broadcaster with four networks and more than 225 affiliated stations (about 200 are company-owned). It also has a 51% stake in cable joint venture Cablevisión and a 60% stake in Innova, which operates the SKY direct-to-home satellite system (of which Televisa owns 30%).

The company's publishing unit, **Editorial Televisa**, is a leading producer of Spanish-language magazines. Televisa also owns two soccer teams, a sports stadium, and 50% of 17 Mexican radio stations. Although Televisa remains the heavyweight in Spanish-language television, other groups in the region are teaming up with foreign partners to grab a bigger share of the market. Among them are Argentina's **Grupo Clarin**, a \$2.2 billion newspaper publisher and broadcaster, and the \$594 million television division of Venezuela's **Cisneros** group.

A regional satellite-TV venture called **Sky Latin America** links Televisa with Rupert Murdoch's News Corp., Brazilian broadcaster Organizac Centeses Globo, and Liberty Media International in Englewood. Televisa has a 60% stake in Sky's Mexican unit. With 348,000 customers as of July 1, it is the venture's most successful operation.

Televisa also has minority holdings in other units. The company is also exploiting its beachhead in the U.S. Hispanic market. Allied with the **Cisneros Group's Venevision** and a U.S. producer, Televisa bought Los Angeles-based Univision in 1992. In exchange for programming that has helped Univision gain more than 80% of the U.S. Spanish-speaking audience, Televisa gets a cut of revenue. Televisa and Univision, which had \$577 million in sales last year, are now looking to introduce Televisa's pay-TV channels to U.S. cable.

Negotiations on a joint venture to promote Televisa's singers and other musicians abroad are well advanced. And partnerships in Spain and France will translate its soap-opera formula to Europe. Televisa *telenovelas* have already made a name for themselves abroad [*Source: Newsweek online edition*].

49. Trade in content is also significant both within the region and beyond. "Telenovelas" are Latin America's most successful programming export, with the main exporters being **Televisa (Mexico)**, **TeleFe (Argentina)**, **Venevision and RCTV (Venezuela)** and **TV Globo (Brazil)**. These companies sell their productions to the international marketplace, including sales amongst themselves. Major buyers include the other Latin American countries, Spain, Italy, Russia, Singapore and Malaysia. Telenovelas have also made their way into U.S. Hispanic broadcast channels such as Univision, Telemundo and GEMS International. Indeed, a number of cable channels originating in the U.S. source much of the programming from Latin America [*Source: www.channel1.com*]

GEMS International Television, launched in Miami in 1992, is a 24-hour Spanish-language programming service designed for Hispanic women. The channel imports from Latin America approximately 75% of its programs and has 3.7 million subscribers in Latin America and 864,000 in the United States. GEMS includes in its daily programming lineup two to three imported telenovelas, as well as game shows, variety magazines and talk shows [*Source: www.channel1.com*].

Other U.S. originated cable channels aimed at the Hispanic market that buy or re-uplink programming produced in Latin America are: **Galavision** an all-family entertainment network, which imports mainly variety shows and sitcoms; **Canal Sur**, which retransmits daily newscasts and shows from leading South American networks to 4.8 million households in Latin America and the United States; **TeleNoticias**, an all news-network partly owned by **Telemundo** and reaching 20 million households in the United States, which transmits short news segments originated in **Mexico, Argentina and Venezuela**. Global markets for Indian audiovisual software are also growing. India's exports of all audio-visual products have experienced a rapid increase in the last decade, with exports of video/films/software increasing by 65% from Rs 7.25 billion in 1999-2000 to Rs 12 billion in 2000-2001 [*Source: www.channel1.com*].

50. Trade in cultural services is also perceived to offer some real opportunities in the region.

The Brazilian **Instituto Plano Cultural** organises cultural events and offers services in culture sponsorship assessment to companies (and local branches of companies) based in the region (Argentina, Chile Uruguay and Paraguay) in the US, in Europe, in China and in Nigeria. Rafael Raddi, a representative from the company says that "Brazil is able to offer lots of opportunities and perspectives in culture sponsorship assessment". He explains that there is a huge market demand to incorporate the Latin American culture image and use it worldwide while the local supply is limited to few professionals [*Source: OECD Survey*].

BUSINESS SERVICES

I. Overview

51. This section deals with a range of services falling under the WTO Services Sectoral Classification List (W/120) category of “business services”. It excludes professional services and much of computer and related services, which are the subject of separate sections, e.g., companies which are mainly focused on data processing have been included under computer and related services. Nonetheless, this section includes some companies which are engaged in a range of business services, where data processing forms only one element of the range of services provided to clients. Equally, some of the companies included in this section may also provide software related services as part of a general package. While efforts have been made to identify the primary activities of companies included in each section, there is some unavoidable overlap between sections. This section also includes selected services from some of the other categories under business services — i.e., research and development services, real estate services and other business services — including advertising, market research, management consulting, placement services, and other technical support services such as printing and translating services.

52. Collectively, business services have been growing at around 10% per year with overall turnover for 1999 close to USD 1.5 trillion. In OECD countries alone, they have been estimated to create employment for at least 11 million persons [*Source*: OECD (1999)]. This overall strong performance is driven by several factors: the general shift towards services in the economy, the rise of the knowledge-based economy, the need for greater flexibility within firms, specialisation and increased division of labour in many areas, outsourcing by established firms, and the trend towards smaller production units and firms. Governments influence the demand for business services by promoting private sector investment in intangibles such as R&D and business organisation, and by supporting the supply of these services through a range of intermediary agencies.

53. Equally, the convergence of computing and lower-cost international telecommunications has turned data into a commodity that can be moved around the globe instantaneously. The processing of a range of non-core service functions, including routine administration tasks, customer service and technical support is increasingly gravitating to places where it can be performed most efficiently. Outsourcing and offshore back office operations, which involve the ongoing use of an outsourcing base in another country, are an increasingly common practice of OECD companies and are becoming one of the fastest growing industries in developing countries.

54. Given the importance of outsourcing as a phenomenon, and the fact that out-sourced activities include a wide range of services, often cutting across several different services classifications, this section focuses first on out-sourcing, then on specific examples of services exports from services such as consulting, marketing, labour recruitment and other business and technical support services.

II. Outsourcing/Back office services

55. The range of outsourced administrative and customer support services has been growing rapidly. At the end of 2001, the global offshore market was estimated at USD 6.4 billion, which is expected to reach USD 62 billion by 2008. As such, the industry is expected to experience tremendous growth [*Source*:

Evalueserve]. A list of global companies outsourcing to developing countries is at Table A.1 in the Annex, Part I.

56. Thanks to a combination of significant labour cost arbitrage and the entrepreneurship and computer literacy of their workers, developing countries are capturing an increasingly large share of the world market for services ranging from remote call centres to sophisticated software development. This can lead to cost savings for companies in the range of 30-35%, or up to 50% over the long-term [*Source: Evalueserve*]. Activities commonly outsourced to developing countries include abstracting and indexing, data capture and processing, data warehousing, electronic publishing, legal transcription, litigation support, mailing list management, medical records management, medical transcription, remote secretarial services, technical writing, telemarketing, teleservices, web site design and management.

57. **India** has led the way in seizing opportunities for processing of IT and secondary business processes with USD 10 billion generated by the export of such services and around 185 of Fortune 500 companies having outsourced some part of their software requirement to Indian companies. A comparative analysis carried out by a private research institute, Evalueserve, has singled out India as the most attractive location for outsourced activities on the basis of the available qualifications, capabilities and strong work ethics of its abundant labour force (2.1 million graduates per annum and 300 000 postgraduates). The comparatively low cost of its highly skilled work force offers maximum labour arbitrage to companies based in Western Europe and U.S. both in terms of costs and productivity. Privatisation of the telecommunications sector has caused an 85% drop in costs over the past 3 years and the international bandwidth situation has improved to a large extent.

58. In South America, **Mexico** is becoming a favourite IT and engineering outsourcing haven for US companies that want to keep close to home. As car and electronics companies move manufacturing over the border, they are boosting demand for engineers. Cheap telecommunications costs and an educated workforce also make **San José (Costa Rica)** a thriving location for call centres targeting Spanish speaking consumers in the US and Europe [*Source: BusinessWeek*].

59. With some exceptions, back office operations in **Latin America** are still primarily captive operations of United States corporations. The major challenge to the growth of back office operations in Latin America has been the development and deregulation of telecommunications infrastructures. However, countries like Argentina, Brazil, Ecuador, Mexico and Peru now have teleports that could be leveraged. **Brazil's New Work Station Telemarketing** is one of the top ten call centres globally. **Costa Rica's** private free trade zone, **Metro**, is actively promoting call centre investment, and **Uruguay** is offering data processing services to foreign companies. Centres of excellence are being established in **Colombia** and **Venezuela** in support of international oil and gas companies.

60. The **Philippines, Poland, Hungary, Russia, Jamaica, China** and other developing and transition economies are also now entering the market. In the **Philippines**, more than 8000 foreign companies source work in nine different information technology parks with fibre-optic links. While **Romania and Bulgaria** are growing as IT workshops for German multinationals, American and Indian information technology service providers are opening offices in **Hungary, Poland and the Czech Republic** to tap the abundant German and English speaking workforce for European clients. In **Russia**, endowed with an untapped pool of masters and doctorates in sciences, IT, and mathematics, local software service exporters employ up to 10 000 engineers specialising in complex projects. **Boeing, Motorola and Intel** all have research centres in Russia. **China** is becoming a key product-development centre for **General Electric, Intel, Philips, Microsoft**, and other electronics multinationals, its strengths being hardware design and embedded software. Call centres for Japan and the Republic of Korea are also growing in China's coastal cities [*Source: BusinessWeek; www.infoworld.com*].

61. The countries of the **Caribbean** are also major providers of back office services. Countries such as **Jamaica** initially invested in teleports (i.e., “intermodal” hubs of broadband networks) to attract contracts for reservations and general reception in the tourism sector and to supplement basic data-processing contracts. Both **Barbados** and **Jamaica** have now developed flourishing back office industries, primarily based on attracting corporate captives (i.e. subsidiaries owned by a corporation to insure its own exposures). The **Dominican Republic** and **Santa Lucia** are more recent entrants, while smaller eastern Caribbean economies are increasingly collaborating to promote their back office capabilities.

62. Other areas with some back office activity supported by teleports are **Hong Kong China, the Republic of Korea, Malaysia, Pakistan, Singapore and Chinese Taipei**. Back office operations in **Viet Nam**, a low-cost market with a well-educated workforce, are just beginning.

Since its inception, **Airline Financial Support Services (AFSS India)** has existed as a joint venture between Swissair (holding 75.1%) and Tata Sons Ltd (holding 24.9%) to perform revenue accounting services. At present it employs about 400 people and its clients include Swiss International Air Lines, Austrian Airlines and Qualifyer. The company handles processes such as: revenue accounting (sales and refund, traffic accounting, interline accounting and cargo accounting), fare checks and pricing support, revenue management, shared service centre (for sales, refund and finance accounting for airline industry), E-help desk, query, data mining and analytical CRM, ULD tracking, flight navigation charting services and frequent flyer programs. [Source: Evalueserve]. AFSS has allowed the group to save CHF 8 million each year in data processing and back office activities.

Indosuez has been outsourcing activities to India for ten years, while international companies such as **Hewlett-Packard, Motorola, PSI Datasystems, Texas Instruments, Verifone, Tata Information Systems and Infosys** have all opened outlets in Bangalore. **Infosys Bangalore** processes home loans for Greenpoint Mortgage of Novato (California) [Source: *BusinessWeek*].

IBM India Research Laboratory was set-up in April 1998 as the eighth research laboratory of IBM research division worldwide. It is situated within the campus of Indian Institute of Technology, New Delhi. Currently, it houses about 75 researchers, half of which have doctorates in areas related to Computer Science and Information Technology. The research laboratory conducts research in the following areas: e-Commerce (Personalization, e-Coupons, e-Marketplace), Audio Visual Speech Recognition, Machine Translation, e-Governance, Intelligent Infrastructure (E-utilities, Networking), Knowledge Management (Media Mining, Bio-informatics) [Source: Evalueserve]

The Philippines, which produces a total of 700 000 new graduates each year and represents a large supplier of English speaking college-educated accountants, software writers, architects, telemarketers and graphic artists, is one of the major suppliers of information processing services. This country has developed into a **prominent hub for shared financial and accounting services**. The companies outsourcing to Philippines include **Caltex, P&G and Accenture** that have outsourced their back-office accounting functions. In addition, **AIG** has also chosen Philippines to set up its back-office operations for Asia-Pacific operations.

Evalueserve is an Indian firm that undertakes various business processes for clients in Europe and North America, offering cheaper, better and faster service than they can deliver themselves. The founders, Alok Aggarwal and Marc Vollenweider, saw the business opportunity provided by the fact that companies in OECD countries do lots of things that are expensive and necessary, and yet peripheral to their “core competence”. The main requirement for these tasks is an intelligent English-speaking workforce — which India has in abundance, at a small fraction of rich-country wages [Sources: OECD Survey and Evalueserve website]

Montego Bay teleport facilities are equipped to offer services as diverse as voice communication, tele- and video-conferences and data processing. **BS&T Direct** a Barbados-based internet provider has established a Call Centre that caters to enquiries of customers to e-commerce sites. The company is taking advantage of relatively cheap labour costs in the Caribbean region amidst a booming United States economy where finding workers is difficult, and a geographical proximity that makes for a closeness of working hours [Source: *Financial Times*].

63. Despite the fact that telecommunications infrastructure in **Africa** and the **Middle East** remains a challenge, some examples of outsourcing exist. **Tunisia** hosts three data processing companies, while other outsourcing activities exist in export free zones in **Mauritius** and the **United Arab Emirates**. The Israeli company **Gateway Ventures Ltd** has been piloting data processing in **Zimbabwe**.

64. **South Africa** is fast developing into an attractive alternative to India for outsourcing, where well educated speakers of French, English and German are staffing growing calling centres catering mainly to European companies. South Africa currently has large-scale unemployment and offers good labour arbitrage potential (25-30% cost savings as compared to 35-50% in India). It also has well-developed infrastructure, especially in telecommunications, and is culturally akin to Europe. The German national airline, **Lufthansa**, has established a call centre and companies from the U.K. are also running pilots with various service providers based in South Africa. [Source: Evalueserve]

German national airlines, **Lufthansa**, had set up a captive call-centre, **Global TeleSales**, in Cape Town, South Africa in May 1999. Lufthansa established this outsourcing subsidiary company to link together its various call-centre operations, to increase accessibility for its customers and provide 24/365 days customer support. Global TeleSales mainly serves customers in the European market. Of the total call volume handled, 80% calls are for customers in Germany and remaining 20% includes calls overflow from U.S., with some local South African calls. The unit acts as a call-centre for generation of bookings and ticket sales for Lufthansa Germany and South Africa with an monthly call volume of around 10 million [Source: Evalueserve].

Teknosell is a small Kenyan firm exporting up to 20 percent of its services to Uganda and Tanzania and serving local branches of American and German multinationals. According to Andrew Otsieno, an information and web designer with Teknosell, the best opportunities to export in the international marketplace for companies like his own, lie in the back office operations in information design. Mr Otsieno sees the major obstacles to the internationalisation of such activities by entrepreneurs in developing countries as being the lack of market information and the inability to win confidence that they can deliver advanced services such as information and web design [Source: OECD survey].

E-Business Solutions Ltd is a small Kenyan company offering back-office support services and exporting online research services to the US, UK and Australia. At present, the export activities of E-Business Solutions Ltd are lower than 10 percent. However its owner, Mr. Mugure Mugu, expects them to increase due to the general growth of this sector and to aggressive marketing strategies targeted to American and European markets that have already proven to be successful. According to Mr. Mugu, good prospects of exports lie in the business and professional services outsourced by firms from developed economies. Lack of government support, poor communication infrastructure and absence of credibility and trust, particularly important for services due to their intangible nature, are perceived as the main obstacles. E-Business Solutions Ltd witnesses having lost a US-based client after one month of service, due to poor communication and slow local Internet speeds. It also recalls having lost the opportunity to provide outbound call-centre services to a US-based client due to poor quality infrastructure, high costs and inability to use VOIP (Voice over IP technology) due to government policy [Source: OECD Survey].

65. While the digital divide is a serious challenge, many LDCs already have some form of Internet access, some with five or more Internet service providers (e.g., Bangladesh, Haiti, Mali, Tanzania). In large part, this development of services activities has taken place without targeted aid and often without support in national development plans.

III. Advertising and market research

66. Advertising services include planning, creating and placement of advertisements, sale and leasing of the advertising media, and miscellaneous services such as delivery of samples and advertising materials. This sector has been very trade-intensive mainly thanks to the strategies of multinational corporations aimed at strengthening the international brand identities of their products. Restrictions in the sector are decreasing over times, but a major remaining issue is the very diverse range of regulations in all countries on the kinds of marketing and advertising allowed, including controls designed to protect health, uphold decency, and protect privacy (OECD, 1999).

67. The sector is likely to undergo major changes as more suppliers sell directly to consumers (disintermediation), in many cases via electronic versions of established catalogue shopping, and as electronic databases containing information on shoppers and subscribers enable more personalised, electronic-based consumer marketing. In an increasingly interconnected business environment, as market leaders migrate to an e-business model, smaller service firms are being pressured to migrate as well and even very small business service firms can have a global reach. Centrally located regional business centres

such as Hong Kong China in Asia and Kenya in East Africa may have strong advantages in providing advertising services.

Market Test AD is a Bulgarian company offering marketing research services, data and reports on the Bulgarian market. Its clients are either local branches of British, Greek, Swiss and Dutch companies or foreign companies from Serbia, Germany, Greece and UK interested in penetrating the Bulgarian market. Many opportunities for Bulgarian suppliers of advertising and market research services lie in assisting foreign clients wishing to enter the Bulgarian market but unwilling to directly invest themselves in country-specific advertising and market research activities. [Source: OECD Survey].

Zen Creation from Ivory Coast is supplier of business services including advertising campaigns, graphics, publishing services and management of company gifts. It exports to France and to the Republic of Korea. However export activities neither play nor are expected to play in the future an important role. Main obstacles are perceived to be border taxes and high transport costs [Source: OECD Survey].

The **Marketing Society of Kenya (MSK)** has launched a co-operation agreement with London-based firm **creativebrief**, to promote a new online service to the Kenyan communications industry. The creativebrief service will help promote Kenya by providing a global platform on which local Kenyan agencies and creative talent can display their credentials online, principally to leading multi-national clients. MSK's Vice-Chairman, Paul Kukubo, commented "we believe creativebrief offers MSK members, and the Kenyan communications industry in general, an innovative and cost-effective means of raising their profile abroad and attracting new business from international clients". Creativebrief is the world's only online marketing and communications forum that enables clients and agencies to communicate directly — without intermediaries — streamlining the pitch process and saving both time and expense. The service connects client firms from around the world with the most appropriate talent for their brief — from large agency networks, independent marketing and PR agencies to media and promotional specialists, production companies and even creative freelancers. Since its launch in October 2002, approximately 200 multi-national clients have become password holders, including Diageo, Unilever, British Airways, Ford, Pfizer, Kodak, Siemens, and Warner Brothers. [Source: www.msk.co.ke]

IV. Consulting services

68. Developing countries' comparative advantage in providing management consulting services relies in a cost-base that allows them to compete against counterparts from developed countries. There is also scope for exports in those fields where knowledge of local markets is critical and difficult for outsiders to develop.

The Association for International Consulting Services of Bulgaria offers a vast array of business services, ranging from management consulting to organising fairs and exhibitions, market researches, investment management, personnel training and participation in infrastructural projects to clients in Serbia, Germany and Austria [Source: OECD Survey].

Performances Management Consulting from Dakar (Senegal) is a consulting firm employing 40 people. With offices in Dakar, Ouagadougou and Paris and new openings planned in Ivory Coast, Benin and Mali, the company services clients in West Africa, Mauritius, Rwanda and France [Source: OECD Survey].

Consultoria Colombiana S.A. is a company of 400 employees from Bogotá offering business support and consulting services to infrastructural projects in the fields of energy, transport, environment and sanitation. Their services include feasibility studies, design, project management and supervision and their expertise relies on a pool of professionals in disciplines as varied as engineering, economics, business administration and management, computer science, geomatics and environmental sciences. Up to 25% of their services are mainly sold to residents from Guatemala, Honduras, El Salvador, Costa Rica, Panama, Ecuador, Peru y Bolivia, while the company has engaged in a number of international joint ventures with companies from Canada, France, the Netherlands, Germany, Austria and the US. Examples of services exported include: the design of the Santo Domingo — Cruce Rincon de Molinillos Road and nodal factor studies of the Dominican Republic electric power system (Dominican Republic) and power losses study for the city of Tucson, Arizona (U.S.A.). Their representative, Henry Sanchez, expects the share of international activities to grow due to good market prospects in the above mentioned countries and to intense marketing efforts [Source: OECD Survey].

Logimex Limitada from Santiago (Chile) is a small consulting firm specialised in consulting services for importers, exporters and foreign investors earning up to 25 percent of total revenues from his foreign customers. While it organises the entire logistics of the Chilean branch of a foreign telecommunication company, it also act as the local representative of companies from the US, Canada, France, the Netherlands, Korea, Taiwan and China [Source: OECD Survey].

Zhejiang World Trade Information & Services Ltd. Affiliated to Zhejiang Chamber of Commerce, China Chamber of International Commerce (CCOIC) & Zhejiang Sub-council, China Council for the Promotion of International Trade (CCPIT), Zhejiang World Trade Information & Services Ltd. is specialised in providing information and consulting services for the promotion of trade and economic cooperation between Zhejiang and other countries and regions. Its business scope is very large and includes: supply and dissemination of international market and economic information to enterprises and import & export corporations at home and abroad; consulting services on trade and cooperation partnerships, choice of sales agent or distributors; consulting services for advanced technologies and equipment to and from China; market research and project feasibility studies; business activities including seminars, trade and investment talks, catalogue shows, factory tours market studies for foreign economic and trade missions; creation of trade delegations to foreign countries and regions for joint venture talks, trade promotion activities and market studies; and trade agency services for domestic and international business transactions.

69. Consultancy is also becoming a key field for many IT companies. As customers demand lower costs and higher quality, the pressure on IT companies to become genuinely innovative by providing technology-based business solutions is rising. According to the an article in the *Financial Times* **TCS, Wipro, Infosys, and other Indian companies** believe that if they install and maintain IT networks designed to enhance business, they may as well provide consultancy services on technology-based business solution in general. Their cost-base allows them to compete against global services companies, whose overheads are partly inflated by expensive partnership structures. The consequence is twofold. Indian companies, lacking the balance sheet strength to bid for IT majors, are targeting niche consultancy areas where specialist expertise is required. **Wipro** led the way by recently buying the energy and utility consultancy arm of American Management Systems. **Infosys** has strengthened its team of consultants and “domain experts”. **Mastek**, a Bombay-based software developer, has taken a different approach, forming a joint venture with Deloitte Consulting [Source: *Financial Times*].

Mastek is an Indian based global IT corporation worth USD 60 million and offering cost effective solutions to Fortune 1000 companies. Founded in 1982, Mastek has opened its first subsidiary abroad (Singapore) in 1990, with Mastek USA founded in 1993. Within 5 years, 4 additional subsidiaries were added in Malaysia, UK, Japan and Germany. Most recently, the company has expanded into management consulting.

V. Other business and technical support services

70. Niche markets for specialty, high quality services provide a number of additional opportunities for exports from developing countries.

B.A.G. Consulting Ltd from Barbados is a one-man company specialised in occupational safety and health certificates, organisation specific training, safety audits, accident and incident investigations and industrial relations support. B.A.G. consulting is able to offer such a wide array of services thanks to strategic alliances set in place with domestic and foreign companies that provide ancillary and support services. The business has only been operating for approximately one year but more than half of its services are marketed abroad, either to counterparts in the region (Trinidad & Tobago, St Kitts & Antigua) or to the UK. Although the business is already heavily export oriented, its owner expects it to grow due to prospects of an increase in the regional and international demand for, and a rising enforcement of, safety standards. Mr. Rocheford, the owner of B.A.G. sees bright perspectives for the future. He believes that “given the level of training we go through we can compete with any international company, however due to the lack of ancillary services such as testing and analytical support we have to resort to some international providers who might also be our competitors”. Finding financial resources has been a major challenge for B.A.G. export activity. Mr. Rocheford notes that “Small companies in our region have difficulty in accessing funding to acquire support service to deal with international companies that require up front cash while we can not get paid until the job is completed” [Source: OECD Survey].

Exel India Pvt. Ltd., which is a 100% subsidiary of Exel Plc, UK provides customised solutions in logistics to a wide range of manufacturing and retail industries. The company provides 3 PL services to its customers including several global clients through a network of 24 offices and around 700 employees. Its range of products includes comprehensive range of innovative logistics solutions encompassing complete supply chain from design and consulting through freight forwarding, warehousing and distribution services to integrated information management, e-commerce management and e-commerce support [Source: Evalueserve].

Friolatina S.A., one of the biggest manufacturers in Argentina, is specialised in the manufacture and world-wide commercialisation of commercial and industrial compact equipment of refrigeration, cameras and refrigerator chambers and insulating panels. It provides after-sales services to clients in the Americas (Bolivia, Chile, Ecuador, Porto Rico, Panama, Peru and the US) and in Europe (Finland, Italy and Spain) [Source: OECD Survey].

Editorial Lord Cochrane SA is a small Chilean company engaging in the export of printing services, commercial printing, pre-printing and marketing. Its export competitiveness derives from large investments in state-of-the-art technology and the ability to offer "one-stop" service [Source: OECD Survey]

Competitive prices offered by **Malaysian printers and publishers**, as well as the high quality of products and services, have attracted buyers from Singapore, UK, Thailand, Hong Kong China, South Africa, Brunei, Mauritius, Vietnam and Russia. The industry is constantly working to improve turnaround time, and many have invested in state-of-the-art technology to provide in-house finishing and binding services. The Malaysian authorities are committed to upholding intellectual property and copyright laws, and this assurance has enhanced the country's standing as a reputable centre for printing and publishing. The industry is also poised to export technology and know-how in specialised areas such as print management. Malaysian publishers and printers are also banking on their skills and expertise in order to develop smart partnerships and investment ventures abroad [Source: MATRADE].

A very small-scale translator in Togo, **Mr. Akoli Penoukou**, decided that his business was failing and that he needed to find a way to rebuild. He began to look for new opportunities. During a chance visit to a pharmacy, Mr. Penoukou noticed that many of the pharmaceutical products were imported from Europe and the labels were in Dutch, Spanish or French. In spite of the fact that he was a very small business, Mr. Penoukou was not deterred by the mammoth challenge of approaching large pharmaceutical companies abroad and offering to translate the labels online, thereby increasing their market share. He also contacted Chambers of Commerce and industry associations. Six months later, Mr. Penoukou reports that he is now a registered translation agency in Germany and receiving work from there. And he is in the final stages of being registered by firms in 3 other countries, including the US. As a result of this international expansion, three new jobs were created for Togolese translators, all of whom were about to seek work abroad due to the economic situation [Source: ITC].

Fast Sprint srl is a small Romanian company offering technical, commercial, notary and official translations into and from English, French and Spanish to clients from Serbia, Turkey, France and Austria and to local branches of French, Austrian and Greek companies. Given the growing demand of local entrepreneurs and foreign investors for consulting in business opportunities especially in foreign trade and international operations, the company has expanded the scope of its activities to this new sector [Source: OECD Survey].

The **Sino-Trust Business Translating Center** based in Beijing, China, provides translation services in most of the world's commercially significant languages as well as accessory services for visitors such as accommodations, oral interpretation and office incorporation services. [Source: Sinotrust]

Founded by two Princeton University alumni, **Shanghai Jinqiao Export Processing Zone Development Company Limited** develops and operates real estate, provides services in leasing and brokerage, invests on land use right, constructs municipal infrastructure, decorates, invests and operates in firms. Sales of buildings accounted for 75% of 2000 revenues; lease of buildings, 16%; land, 5% and land leasing, 4%.

COMPUTER AND RELATED SERVICES

I. Overview

71. The WTO Services Sectoral Classification List (W/120) definition of computer and related services include consultancy services related to installation of computer hardware, software implementation services, data processing services, database services, maintenance and repair services of office machinery and equipment including computers and other computer services. This section focuses on software and related services and data processing services; companies listed under “data processing” in this section are those which appear to have data processing as their primary activity (to the extent that available information permits us to judge). A number of the companies which may also be engaged in some data processing as part of a package of services provided to clients are also included in the “outsourced services section” of “business services”. Similarly, companies in the selection on software services below are often also engaged in the provision of other services, but have been included in this section as software related services appeared to form a significant part of their activities. This rather awkward classification is a reflection of the fact that, as noted in the Introduction (paragraph 5, page 12), companies do not follow the W/120 classifications or GATS modes in structuring their activities.

72. Computer and related services, along with telecommunication services, help create an essential infrastructure for cross-border supply of many services in which developing countries can compete.

II. Software services

73. Technological advances in telecommunication and computer industries have allowed developing countries endowed with a well-educated and cost-competitive workforce to produce and export computer and related services worldwide. The spectacular Indian performance of the last twenty years is the most notable and documented case.

74. The rapid growth of the **Indian software industry**, and its strong export orientation, was initially due to public policy strategies dating back to the 1980's. Between 1985 and 1990, with a very small domestic market for software and poor telecommunications facilities, Indian software companies concentrated on rendering on-site services to overseas clients, services which comprised 80 percent of export earnings in the sector. Indian software developers have been mainly involved in developing customised software for specific end-use applications, rather than in developing packaged software for standardised applications. Many Indian companies have concentrated on developing sub-systems which form part of the final product for major telecom and datacom equipment vendors. Through this widespread practice, they have developed skills in system software and embedded software segments, skills which enable them to expand into complete system integration and product development [*Source: Financial Times* various articles].

75. The Indian software services sector is now prospering. Companies such as **Infosys Technologies, Wipro, Satyam Computer Services, MphasiS, BFL Group and Digital GlobalSoft** have reported earnings growth ranging from 18 to 35 percent; and HSBC Securities and Capital Markets in Mumbai forecasts an export growth of 30 percent — worth over USD 7 billion — for 2003. The US is the dominant export market, absorbing over 60 percent of overall Indian produced software. The low cost of Indian products relative to their foreign competitors has allowed India to profit from current trends towards cost-cutting and business-process

outsourcing [*Source: Far Eastern Economic Review*]. Trade between India and other developing countries is also growing; in particular a number of partnerships are emerging with companies in Brazil.

Infosys Technologies Ltd. was established in 1981 and now employs 11 304 people. Annual revenue for 2001-2002 is estimated at Rs 26 035.9 million (approximately USD 546 million). Infosys Technologies provides consulting and IT services to clients globally. Headquartered in Bangalore, India, Infosys has offices in Argentina, Australia, Belgium, Canada, France, Germany, Hong Kong, India, Japan, the Netherlands, Singapore, Sweden, Switzerland, United Kingdom, United Arab Emirates and United States. Infosys uses a low-risk Global Delivery Model (GDM) to accelerate schedules with a high degree of time and cost predictability. Services are IT consultancy, systems integration, re-engineering, e-commerce solutions, offshore services, application development, banking solutions, software design and development. Export revenue was estimated at Rs 25 524.7 million (approximately USD 535 million) for 2001-2002, with major export markets being India, US, Japan, Canada, UK, Germany, Belgium, Scandinavia and Australia. [*Source: www.indiasoftware.com*]

Satyam Computer Services Ltd., established in 1987, now employs 8 634 people, with an estimated revenue for 2001-2002 of Rs 18 030.95 million (approximately USD 378 million). Satyam has development centres in India, USA, UK, continental Europe, Japan, Singapore and Australia through which it serves 260 global companies including around 67 Fortune 500 corporations. Export revenue for 2001-2002 was estimated at Rs. 17 030.78 million (approximately USD 357 million), with major markets being US, Canada, Germany, UK, Denmark, Singapore, Australia, Poland, Malaysia, Japan, Sweden, Netherlands and Kenya. A wide range of services are provided including telecom and financial services, as well as a wide range of software and IT services. [*Source: www.indiasoftware.com*]

Tata Consultancy Services, a software company established in 1983 and headquartered in Mumbai, employs 19 000 people. It is Asia's largest independent global software and services company, with revenue for 2001-2002 estimated at Rs 41 870 million (approximately USD 878 million). It has over 600 clients worldwide, several of whom are Fortune 500 companies. Exports for 2001-2002 were valued at RS 38 820 million (approximately USD 814 million) and covered services such as IT consultancy, e-commerce solutions, multimedia solutions, application development, banking solutions, software design and development. Export markets include US, Canada, UK, continental Europe, Japan, West Asia, South East Asia, South Africa, Malaysia, Singapore, Hong Kong China and Latin America. [*Source: www.indiasoftware.com*]

Tata Consultancy Services has launched operations in Uruguay, with a planned investment of USD 30 million and the creation of 500 jobs over the next 5 years. In addition to Uruguay, this operation — named the Global Development Centre — will service Chile, Argentina, Brazil and Venezuela, as well as some parts of the US. Clients served from the centre will include BCI Bank, AIG and Eli Lilly. The Uruguayan operation is Tata Consultancy Services' ninth centre, with others located in Budapest, Melbourne, Toronto, Tokyo, Phoenix, Columbus, Guildford, and New Jersey. [*Source: www.tcs.com*]

HCL Technologies Ltd. is one of India's leading global IT services and product engineering companies. Established in 1991, it now employs 6 463 people with annual revenue for 2001-2002 estimated at Rs 16 242.59 million (approximately USD 341 million). The company exports a wide range of services, including database solutions, telecommunications services, systems analysis & design, banking solutions, healthcare solutions and supply chain management. Export revenues for 2001-2002 were estimated at Rs 13 200 million (approximately USD 277 million) and major markets were Asia-Pacific, Europe, Japan and US. [*Source: www.indiasoftware.com*]

APTECH, an IT company imparting computer education in India, has finalised arrangements and signed Memoranda of Understanding with **two Brazilian firms, A-Hand and MASV Consultants in IT**, for running APTECH training centres in Sao Paolo, Parana, Santa Catarina and Rio Grande do Sul. Another Indian company, **Prologix Software Solutions Pty Ltd.** has entered into an agreement with Brazilians software company **SupportComm** for marketing their telecommunication software in Brazil. Finally, **Online Company** from Goa and the Brazilian company **Infocon** are working together to translate, localise and polish software products to be marketed globally. [*Source: Indian government website*]

76. Software success is not limited to India. Other regions of the world, in particular the Middle East and Latin America, have also seen growth in software services, including through organised efforts to promote the development of the sector. In Eastern Europe new initiatives are being born.

The Association of the Lebanese Software Industry (ALSI), created in 2002, is committed "to improve the competitiveness of the Lebanese Software Industry" by actively engaging its members in the creation, promotion and advancement of the Software Industry in Lebanon. ALSI attracts, retains, and develops a body of Members representing the majority of Lebanese Software companies, each actively engaged in the building of a vibrant Software Industry in Lebanon. Incorporated as an association, and based in Beirut, Lebanon, ALSI is independent from political, religious or partisan interests. It organised various activities for member companies as well as for a broader audience in order to create, promote and advance the Lebanese software industry through the launch of initiatives and the creation of partnerships. [*Source: <http://www.alsilebanon.org>; OECD survey*].

BML Istisharat from Lebanon is a recognised provider of Banking Insurance and ERP software products and services with more than 60% of revenues derived from exports to the U.S., Western Europe and the Middle East, international acceptance characterises BML Istisharat products. More than 300 clients worldwide, including several of Fortune 500 companies, the World Bank (IBRD) and the International Air Transport Association (IATA) are clients of BML Istisharat. Its management services are provided from a data entry factory that is equipped to accommodate up to 150 operators. A permanent staff of 10 includes network engineers, training professionals and supervisors. The company is also active in Interactive Media Response (IMR) solutions for interactive voice response, voice-enabled websites, computer telephony integration, fax on demand and advanced speech recognition. [Source: www.istisharat.com].

Rushmore from Kuwait provides businesses with turnkey solutions that include software and services. Electronic commerce, research & development, Internet Site Development and Custom Designed Business Software represent the core-business of the company. The services and products provided are focused on assisting customers in solving their business problems through the use of information technology, to provide a flexible, customer-oriented approach to every project and service delivered and to ensure customised solutions and cost-effective delivery. By developing a strong, worldwide partner community, the company aims at ensuring customers to purchase reliable solutions to solve their business problems. Their clients are almost exclusively from OECD countries. [Source: www.rushmorent.com]

Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, Dominican Republic, Ecuador, Mexico, Panama, Paraguay, Peru, Uruguay and Venezuela are all producers and exporters of software products and services. They formed the **Latin American Association of Companies of Technology and Información (ALETI)** with the sound objective of developing and promoting their national software industries. The **Uruguayan Chamber of Information Technologies**, member of the ALETI reports that many of its 170 member export their products and services to such clients as the European Community, Latin America, the Far East, the United States and Canada. [Source: www.cusoft.org.uy]

Over one hundred software development companies currently operate in **Costa Rica**, employing more than 1,000 professionals and exporting to countries in Latin America, the Caribbean, North America, South East Asia, Europe and even Africa. The total exports of the six largest software development companies in 1997 surpassed USD 25 million. The target for 2001 was to export over USD 200 million. According to the Costa Rican government, "software is destined to become in the coming century what coffee represented for the Central American country for over two centuries."

A critical element of Costa Rica's approach has been a focus on education. **Costa Rica** has high national standards of education, and has also worked on ensuring that education institutions produce appropriately skilled workers and professionals. Given the limited number of engineers and technicians, the government has embarked on an aggressive campaign to transform the knowledge base of the country in alignment with the requirements of the high-tech sector. The **Instituto Nacional de Aprendizaje (INA)**, an autonomous institution financed with public resources and private contributions, and the private **Instituto Tecnológico de Costa Rica (ITCR)** are the main providers of engineering professionals. Costa Rica has been supported in its efforts to upgrade its education system by the Inter-American Development Bank and private investor funding. To encourage demand, computer duties were removed in the 1980s. The falling computer prices stimulated usage and Costa Rica now has one of the highest rates of usage in Latin America. [Source: *Creating a development dynamic: final report of the digital opportunity initiative — UNDP, Accenture, Markle Foundation*].

The Camera of Producers of Software of Costa Rica, **CaproSOFT**, was constituted in 1997 to integrate the national software production companies into a strategic bloc to strengthen the sector and develop innovative, high quality products with worldwide reach. Its mission is to help Costa Rican software-producing companies by means of agreements, activities of qualification and the promotion necessary for their overall development. CaproSOFT also acts as a representative of its members before national and international bodies. CaproSOFT membership has grown rapidly, from 16 partners when it began in 1998, to 60 companies in 2000. A strategic association between CaproSOFT, the Promoter of Foreign Trade of Costa Rica (PROCOMER) and the Foundation National Alta Center Tecnología (FUNCENAT), secured the financial support of the Inter-American Development Bank to develop the Program of Support to the Competitiveness of the Software Sector in Costa Rica. This program aims at human resource improvement, implementation of systematised quality standards of world-wide application and strengthening of the institutional capacity of CaproSOFT, as the organisation representing the interests of software producers. [Source: www.caprosoft.org]

Latina Ltda from Chile is a company of 20 people specialised in producing urban road design and software specialised for the road design in cities. Its international activities are at present all directed towards Peru. However, its representative, Jaime Valenzuela Scholz expects export opportunities to increase for his company due to the marketing efforts his company has devoted to the promotion abroad of the latest version of their software DIVA. [Source: OECD Survey]

In Chile, **TUXPAN** a software development and consulting company has a strong client base which includes more than 50 among the most important private and public enterprises of the country. The next planned step is to enter the international markets via partnerships with software companies in the US and Europe. To date, Tuxpan internationalisation processes have failed due to the ignorance of the process of export of software, tariff regulations, unfavourable exchange rates and little capital to face the process of effective way, says Gonzalo Galleguillos Vega from TUXPAN. He estimates that the best opportunities lie in the provision of labour intensive basic software instruments and in the development of specific processes where Chilean companies have a comparative advantage linked to the cheap manual labour while the main obstacles are linked to the lack of certification of administrative processes (ISO) or of development (CMM). [Source: OECD Survey].

Xymbol, **AllAfrica Global Media's** technology services and infrastructure division, commercialises the company's core technology platform, providing flexible, scalable and interoperable solutions for data management, content delivery, work-flow management, transactional functionality and transference across platforms. Clients include major organizations with complex, sophisticated technology demands, including those outside the sectors of Africa-interest or media [Source: www.allAfrica.com].

The **National Association of the Formative Experts in Informatics, CPI-SA**, of Romania is a medium sized company specialised in training and research in IT and data processing. CPI-SA has created in the whole Romanian country a network of over 125 training centres. This network has been designed to have an accreditation system and functioning structure as similar as possible to the international networks of the most famous software products and now exports to other Central and Eastern European countries and to the Middle-East. [Source: OECD Survey] Polish **Prokom** and **Optimus** are successful software companies with clients across the East European region [Source: *Financial Times*].

III. Data Processing

77. Data processing services have also proved a successful niche export for a number of developing countries.¹¹

Equidata, **SGV** and **Software Ventures**, three companies headquartered in the Philippines, are among the leading data-processing companies worldwide. Other examples from the Philippines include **STA**, which has customers in the US; **Omega Computer Corporation**, which is focused on the European market; and **SVIC** which is able to process 175 million characters each month

Jamerican Associates is a Jamaican company specialised in data processing and operating from the tourist location of Montego Bay and servicing customers in New York, Toronto and Canada

EDM International, a US contract data processing company, has substantial operations located in the northern part of **Mexico**, taking advantage of the large pool of qualified computer operators and software engineers graduating from the many colleges and universities surrounding the international trade zone. The company employs over 2,300 people and processes more than 300 million documents per year for international clients. [Source: www.edmi.com/offshore.html]

11. It should be noted that data processing can be a not insignificant component of a number of other services, including insurance (claims entry) and health services (records entry).

CONSTRUCTION SERVICES

78. Construction services include general construction work for buildings and civil engineering, installation and assembly work, building completion and finishing work, pre-erection work at construction sites, special trade construction work, renting services related to equipment for construction or demolition of buildings or civil engineering works, with operator. The market structure is characterised by a large number of small firms active in limited geographical areas and a relatively small number of larger firms, which compete in the world market for large-scale projects. The ranking of firms in the industry changes from year to year signalling high market contestability. Construction services are primarily supplied through commercial presence, usually confined to the duration of the project. Joint ventures between domestic and foreign firms are quite common, often because of financing, transfers of technology and know-how, and domestic regulation considerations.

79. The world market for the industry is estimated at USD 3.2 trillion annually, with repair and maintenance work having provided the largest share of business opportunities in developed countries. In the last two decades, 70 percent of the international construction business opportunities, in terms of number and value of contracts, were undertaken in developing countries. In these countries, construction services are a fundamental economic activity, often constituting the largest single sector of the economy. Construction is also a key infrastructure service for all other industries and a tool for upgrading domestic welfare. Countries like Lesotho have used it to address rural poverty and women's unemployment. This is possible because its labour intensive character renders it a relatively large employer with an average 10 percent share of total employment. [UNCTAD, 1999]

80. The main international activity by developing countries' construction companies started after the oil price explosion of 1975, when the Middle East — where financing posed no problems — became the largest regional construction market. A few firms from a handful of countries within the region took advantage of the opportunity offered by this lucrative market and targeted infrastructure projects to which they assigned engineering personnel and construction workers from their home countries as well as low cost labour from other developing countries. At the beginning of the 1980's, their share of the international market approached its peak (20 percent) [UNCTAD, 1999].

KAZEMA Engineering Projects is a Kuwaiti Limited Liability Company founded in 1976 and incorporated in 1977. The Company is an integrated organisation engaged in the marketing of products, projects and services within Kuwait and Gulf Cooperation Council countries. The Company has been successful in achieving steady growth to reach its present position as one of the leading trading organisations in Kuwait. Its trading activities cover an extensive range of markets including government and public institutions, oil sectors, industrial sectors, commercial sectors and residential markets. KAZEMA Engineering Projects has developed trading association with manufacturers, suppliers and contractors on a worldwide basis in USA, Europe, Japan and the Far-East, Middle East and Gulf Countries. [Source: OECD survey]

One of the largest contracting firms on the Middle East — **Osman A. Osman & Co.** — has seen its turnover increase by USD 1 billion on a yearly basis. It has diversified in terms of services and markets and currently has 30 branches in Africa, Asia and Europe. [UNCTAD (2000)]

81. More recently new firms from China, the Republic of Korea, Brazil, Singapore, Indonesia, Argentina, Mexico and the Philippines have appeared among the top 250 contractors. Developing country construction companies are also now featuring in the list of major exporters of construction services. Of the top 150 construction companies in 2002, measured in terms of the amount of their 2001 revenue generated outside their home market, 51 were companies from developing countries, with one (Hyundai Engineering & Construction Company, Korea) in the top 20. Of those top 51 companies from developing countries, the

majority (24) were from China, 6 firms were from Turkey, 5 firms were from South Korea; and Brazil, Chinese Taipei and Lebanon each had two firms represented. Other countries with 1 firm in the top 150 were: Bulgaria; Egypt; Hong Kong, China; Former Yugoslav Republic of Macedonia; India; Israel; South Africa; and United Arab Emirates (see Table A.2 in Annex, Part I).

China has grown as an exporter of contract engineering, labour service cooperation and design consultation services. In the late 1970s, Chinese contractors' international business activities were limited to a small number of countries in the Middle East and North Africa. These have now expanded to more than 180 countries. In 2000, 34 Chinese companies were included in the top 225 international contractors and 5 Chinese design firms were listed in the top 200 international design firms.

Initially, Chinese companies mainly undertook building and road works projects, but since the late 1990s this has extended into large scale projects in a wide range of fields including civil infrastructure development, power, telecommunication and environmental restoration. China's tenth "Five year Plan" sets the following strategic targets: in 2005, China will achieve a contract value of USD 28-33 billion and revenue of USD 22-25 billion, with both the contract value and revenue due to increase at an annual rate of 14-17% between 2001 and 2005. In this same period, the number of Chinese working abroad will also increase by 6% annually, reaching 550 000 — 600 000 by 2005.

Between 1982 and 2000, approximately 60% of export contract value came from the Asian market. Africa is another important market, accounting for USD 2.29 billion of contract value and USD 1.29 billion of revenue in 2000. Together, the Asian (72.2%) and African (13.8%) markets account for 86% of exports in terms of both contract value and revenue, with American (6.4%), European (5.8%), and Oceania (1.8%) markets contributing the remaining 14%. However, Chinese firms experienced strong growth in the European market, where contract value increased by 19.4% and revenue by 77.2% in 2000. The Latin American market experienced only weak growth, with a 3.6% increase in the annual contract value. Chinese contractors currently have around 4% of the global market in revenue terms.

Most Chinese contracting organisations are in one form or another owned by the state or collectively owned. While relatively low labour costs have been a strong comparative advantage, Chinese labour costs have increased nearly 20 times since the early 1980s. Chinese firms have reported impediments to growth as being: slow reform of government regulation; weak trade associations compared to developed countries; small business scale; low competence in applying advanced technologies; short international contracting expertise; inadequate financing capacity; human resource deficiency; and lack of modern techniques and practices for project management. The granting of additional export licenses to Chinese companies (2000 licenses at end 2001) has also created fierce competition, with some claiming that this reduces the award price to the point where the winning company cannot make a profit. [Source: *Chen and Mohamed*]

82. The low costs of unskilled and skilled construction labour are no longer the only competitive strength of developing country companies. Managerial and organisational improvements coupled with substantial progress in producing professionals with specific skills such as engineers, architects, designers, economists, IT-specialists, financial analysts and ecologists contribute to their attractiveness. Many firms in Asia and Latin America are nowadays able to offer a wide range of post-construction operations and maintenance services, based on maintenance management software while information and communication networks have allowed entrepreneurs from any wired developing country to compete more systematically even in far away markets.

83. In the advanced industrial economies, the rapidly changing economic environment, privatisation of public utilities and increasing domestic and international competition have encouraged companies to undertake new business strategies and to reorient themselves towards growing internationalisation of production. In particular, they have been experimenting new modes of production and marketing techniques to spread risk across different market segments and/or countries and to reduce internal costs of production and expenses associated with investment in new technologies. Outsourcing, externalisation of intermediate services and the forming of strategic alliances have been the means to achieve their goals.

84. Developing countries have been positively affected by the changed strategies of their counterparts in developed countries. Subcontracting has allowed small and medium sized enterprises from developing countries to play a role in specific market niches. For example, **Bechtel (USA)**, one of the main

world contractors, opted for the establishment of low cost execution centres in Saudi Arabia and India staffed by local and third country professionals. Technology co-operation agreements have helped to reduce organisational and transaction costs, facilitated international sourcing of technology and contributed to improve marketing and managerial practices.

Bechtel India was established in 1994 as a wholly owned subsidiary of the Bechtel Group to provide engineering, procurement, construction and support services. It has a total workforce of about 400, serving Bechtel's projects in India and the rest of the world. The company has provided engineering and construction support to various Bechtel projects, including Quezon power plant (Philippines), Ghazlan power plant (Saudi Arabia), Emcali power project (Colombia), Ras-Tanura petrochemical project (Saudi Arabia), Ibn Rushd PTA aromatics plant (Saudi Arabia), Samalayuca II power project (Mexico), Chevron paraxylene project (US), Dubai International Airport Expansion (UAE), Rocksavage power plant (UK) and Spalding power project (UK) [Source: Evalueserve].

Orascom Construction Industries (OCI) is one of Egypt's largest construction and building materials companies, providing engineering, procurement and construction services to public and private customers. OCI has formed alliances with a range of international construction companies operating in Egypt, including Bechtel, Consolidated Contractors, Besix, Morrison-Knudsen and Krupp to pursue specific projects. Developing-to-developing country trade has also grown, including joint investments or other forms of co-operation between exporter and importer. Joint ventures, joint bidding procedures and inter-firm co-operation in tapping international financial resources for project financing have been put in place.

85. The **Malaysian Penang Bridge**, the longest bridge in Asia (13.5 km), was possible thanks to a co-operation arrangement with partners from the Republic of Korea. In turn, **Malaysian construction companies** have undertaken projects in developing countries in Africa and Asia, including India, China, Vietnam, Chile, Argentina, Myanmar, Cambodia, the Philippines, Sudan and Namibia. Projects have included roads and highways, housing, hotels, dams, factories and power generation plants [Source: *MATRADE Malaysia External Trade Development Corporation*]. Similarly, an Indo-Malaysian venture has allowed technical personnel from Malaysia to be trained in India in the building of modern textile mills [Source: *Far Eastern Economic Review*]. As at the end of 1999, **Brazil** had set up 193 investment projects in China, mainly including the consulting service project of the stone-slab dam of the Grade 1 hydropower of Tiansheng Bridge, a road construction project, and the tender submission for the Phase II Project of the permanent ship lock of the Three Gorges Project [Source: Chinese government website].

DISTRIBUTION SERVICES

I. Overview

86. Commercial considerations, and trade restrictions, appear to have lead to only relatively large operators expanding their operations abroad. Few developing country companies appear in the list of the top 200 global retailers, with the list dominated by companies from the US, Germany, France, UK and Japan. It should be noted, however, that many of the companies from these countries also operate primarily, if not solely, in their home market. While just under half of the top 200 retail companies operate only in their home markets (90 out of the top 200); the majority of those in the top 50 operate in a number of countries.

87. While not yet exporters, a number of developing country retailers and wholesalers also enjoy a significant position in their domestic market, including in the face of competition from larger developed country firms. Success stories include, for example, Beijing's **Wumart Group**, Indonesia's **Matahari Putra Prima Tbk**, Chile's **Mall Plaza** and Mexico's **Soriana and Controladora Comercial Mexicana**.

88. Of the nine developing country companies listed in the top 200 retail companies, four come from Mexico (Wal-Mart Mexico, ranked 58; Controladora Comercial Mexicana, ranked 140; Grupo Gigante, ranked 152; and Soriana, ranked 156) but all bar one of these companies (Grupo Gigante) operates only in the home market of Mexico. Similarly, Brazil's only entry (Pao de Acucar) operates only in the home market. Two Korean companies operate in both their home market and China and are ranked at number 94 (Lotte Shopping) and 133 (Shinsegae) respectively. Other developing country companies are ranked at 101 (Dairy Farm International, Hong Kong China) and 109 (Pepkor, South Africa). [Deloitte Touche Tohmatsu (2003)].

89. Even when not exporting distribution services, these retailers can promote the export of other services and goods. For example, Brazil's biggest retailer **Companhia Brasileira de Distribuicao (CBD)** owns the supermarket chains Pao de Acucar and Barateiro, as well as Eletro electronics and appliances stores and e-commerce sites. Pao de Acucar's export division aims to use the group's purchasing power to bring Brazilian food products to the international markets. CBD is an export hub for Casino (which owns 24% of CBD), exporting to Argentina, Uruguay, Venezuela, Colombia and France. The export division has also cut deals to export to a Montreal-based supermarket chain and is prospecting for business in Australia and Africa. [Source: <http://biz.yahoo.com>]

II. Latin America

Grupo Gigante (Mexico) operates discount, food service, hypermarket, specialty and supermarket stores and warehouses, with retail sales valued at USD 3 243 million in 2001. The company operates in the US and Mexico [Deloitte Touch Tohmatsu (2003)].

Cencosud, a Chilean retailer, is expected to buy the Argentine supermarket chain Disco (around 237 stores in Argentina) from Dutch retailer Ahold by the end of 2003, having acquired the Chilean supermarket chain Santa Isabel from Ahold earlier this year [Source: <http://boz.yahoo.com>].

Mall Plaza is one of the principal operators of commercial centres in Chile, and expanded into the United States with the establishment of Mall Plaza Los Angeles in March 2003. [Source: www.mallplaza.cl].

III. Africa

The **Shoprite Group**, Africa's largest food retailer, operates 645 corporate outlets across Africa. The Company's headquarters are situated in the Western Cape province of South Africa, and the Group currently trades in 15 African countries (Angola, Ghana, Egypt, Mauritius, Madagascar, Uganda, Zambia, Tanzania, Mozambique, Zimbabwe, Namibia, Lesotho, Swaziland, Botswana and Malawi) with plans to open an outlet in Mumbai (India) by the end of 2003. The expansion strategy of Shoprite beyond South African borders started 9 years ago and is considered by the group an essential development. The Group's expansion programme in Africa has also resulted in the creation of a substantial export market for South African producers and manufacturers [Source: <http://www.shoprite.co.za/>]

Initially managed by Spa of Italy, **Uchumi** reverted to a Kenyan management team in 1989. Uchumi is the largest supermarket chain in Kenya with a 15 branch network, the majority of which are in Nairobi. In 2002 the company opened in Kampala (Uganda) its 27th outlet [Source: *AllAfrica*]

Pepkor (South Africa) operates department, discount, specialty and supermarket stores and registered retail sales of USD 4 601 million in 2001. In addition to its home market, the company operates in Australia, Ghana, Malawi, Mozambique, UK and Zambia [Deloitte Touch Tohmatsu (2003)].

The **Pick 'n Pay** Group is one of Africa's largest and most successful retailers of food, clothing and general merchandise for the past three decades. Founded in 1967 and listed on the JSE Securities Exchange South Africa since 1968 (as Pick 'n Pay Stores Limited), the Group has entered the Australian market in 1985. In Australia it now owns 74 stores purchased from the Franklin's Supermarket Chain and the Fresco Chain. All these stores trade under the Franklins' banner. Non core activities of the Group include **Go Banking**, a division that seeks for new investment opportunities for the Group in southern Africa and abroad [Source: <http://www.pnp.co.za/>]

IV. Asia

Lotte Shopping (Korea) operates convenience stores, department stores and supermarkets in both Korea and China. It posted 2001 retail sales of approximately USD 5 400 million [Deloitte Touch Tohmatsu (2003)].

Dairy Farm International (Hong Kong China) operates a range of retail stores — convenience, discount, drug, hypermarket, specialty and supermarkets — with 2001 retail sales valued at USD 4 877 million. In addition to its home market, the company operates in Australia, China, India, Indonesia, Malaysia, New Zealand, Singapore and Chinese Taipei [Deloitte Touch Tohmatsu (2003)].

AS Watson & Co began in Guangzhou, China in 1828 and opened in Hong Kong China in 1841. AS Watson Group now operates over 3 000 retail stores and employs over 50 000 staff in 20 countries in Asia and Europe. It has three core areas: retail food, retails non-food and beverages. Retail food includes **PARKnSHOP** which has 250 stores in Hong Kong China and Asia and the largest operator of specialist wines stores in Hong Kong China, which has just moved into Europe having acquired a Swiss wholesaler. The non-food division includes **Watsons Your Personal Store** health and beauty stores with 650 outlets in the Asia-Pacific, **Nuance-Watson**, a leading operator of duty-free stores in Hong Kong China and Singapore; **Fortress**, which has 70 retail outlets for electrical appliances in Hong Kong China and Asia; and **Savers**, which operates 280 discount stores in the UK. The Group has also recently acquired **Kruidvat** which has a health and beauty store profile of 1900 in six countries.

Shanghai-based **Lianhua Supermarket Holdings Co.**, one of China's largest retailers, is set to establish its first overseas subsidiary in Belgium as it moves towards its ambition of launching chain stores in Europe. Lianhua plans to take advantage of its ready access to Chinese-made products by setting up a distribution company in Belgium specialising in foods exports. Established in 1991, Lianhua has more than 2000 chain stores in China with annual sales of more than USD 2.1 billion in 2002. [Source: www1.chinadaily.com.cn]

Convenience Retail Asia Limited is a member of the Li & Fung Retailing Group and has the exclusive right to use the Circle K brand name for convenience retailing in Hong Kong, Macau and China.

NTUC Fairprice is the leading supermarket retailer in Singapore with an annual turnover exceeding Singapore \$1 billion and a market share of more than 50%. Having pulled out of Malaysia 4 years ago, NTUC Fairprice is again planning to expand overseas with the opening of stores in China and India. The company's overseas operations will be run in partnership with both a local retailer and a major international player. [Source: www.dbs.com.sg; www.siamfuture.com]

HIGHER EDUCATION AND TRAINING SERVICES

I. Overview

90. Almost two million students worldwide are involved in formal education outside their own country. The worldwide market for education services is estimated to triple its size over the next 20 years. This is considerably faster than the growth rates observed over the previous 20 years when the market for education services doubled its size.

91. This growth is driven by a range of factors, including the greater demand for linguistic skills and understanding of other countries as the 'knowledge-based economy' expands. Estimates by the Malaysian government indicate that the number of knowledge workers employed has increased at an average 16% since 1995. Estimates for OECD countries show that close to 30% of the workforce is highly skilled and employed in knowledge intensive jobs in advanced economies. The global market for foreign students is estimated at \$30 billion, which represents roughly 3% of the international trade in services in OECD countries. [Source: www.sitrends.org]

92. Mode 2, consumption abroad (i.e., students moving abroad to study) is currently the most frequently used mode by which education services are traded, followed by mode 3 commercial presence (e.g., universities setting up branch campuses in other countries). However, new information technologies are changing the landscape of world trade in education. These new technologies are making possible the delivery of content in audio and visual formats inexpensively which has led to a surge in mode 1, cross border education supply in electronic format. In the U.S. the electronic learning market is already worth over USD 8 billion and has been growing at an average of 98% over the past five years. Although most of the e-learning customers remain U.S. residents, the potential for world e-learning is huge given that the costs of delivering e-learning services through the internet is about the same for a closely located US resident and for a Malaysian resident in Kuala Lumpur once the information technology infrastructure is in place. The expanded use of all kinds of interactive and distance learning, often combined with increased international supply of education and training services offer enormous potentialities. [Source: www.sitrends.org].

II. Higher education services

93. Movement of students for undergraduate and postgraduate education takes place between countries at all levels of development: between developed countries, from developing to developed countries and vice-versa and also among developing countries. According to an APEC survey, the Asian region has been the major source of students (46%), with North America and Europe being important destinations.

94. While most international trade in higher education services takes place among OECD countries (which received 85% of the world's foreign students). Some developing countries are establishing a strong presence in the market. While mostly aimed at attracting offering students to study in their home country, some developing country institutions, for example from China and South Africa, are themselves looking to expand abroad. India's Mahatma Ghandi University has a branch in the United Arab Emirates [The Observatory on Borderless Higher Education (2002)].

95. Among developing countries Malaysia is a leading exporter of education. In 2000, about 26 000 foreign students from nearly 100 countries including Indonesia, China, India, West Asia and Africa studied in Malaysia. Twinning programs exist with foreign universities from the UK, US and Australia, enabling students to take degrees accredited by these countries in a lower-costs environment [*Source*: MATRADE: Malaysia External Trade Development Corporation].

In the late 1980s, in **Malaysia**, an innovative form of higher education emerged in the form of twinning arrangements with foreign universities, whereby students do part of the programme domestically and the rest overseas. In order to cater to both local and foreign demand, more than **600 private education institutions** ranging from secondary schools to universities and branch campuses of foreign universities have been set up and twinning arrangements are mainly with universities in UK, US, Canada, Australia and New Zealand. The quality of education is strictly monitored. Courses conducted at private institutions of higher learning meet strict standards set by the National Accreditation Board (NAB). Many private institutions of higher learning have also set up a special department to look after the welfare of international students. Apart from high educational quality, Malaysia has a number of features that make the country an attractive location for foreign students. These include a sunny climate, diverse cultures and communities, a reasonable cost of living, competitive educational costs, safety, extensive use of English as a medium of communication and an excellent quality of life. Students can earn diplomas and degrees in fields as diverse as liberal arts, law, computing, business administration, engineering, communications and multimedia. Malaysian education is also highly competitive in terms of cost, since students can undergo twinning programmes with foreign universities from the UK, the USA and Australia [*Source*: www.studymalaysia.com]

96. Similarly, Thailand, where education is considered a key service sectors for export, has placed great efforts in advertising its universities internationally as providing quality programs in many specialised fields including: engineering, agriculture, public health, humanities, the liberal arts, forestry, science, business administration, and the hospitality industry. [*Source*: www.exporter.thaitrade.com]

Dusit Thani College, exploiting the worldwide renown of Thai cuisine, offers Bachelor of Business Administration programs in Hotel Management, Kitchen and Restaurant Management, Tourism Management and Management. In addition to the four-year programs, Dusit Thani College also offers numerous training programs as well as executive programs for middle management and executives. All programs are conducted by experienced experts and instructors from renowned educational institutions around the world and reinforced by first-class training facilities. Dusit Thani College has modern classrooms with audiovisual equipment, computer laboratories, a front office mockup room, an extensive library, a language laboratory, demonstration room and a large auditorium. In addition to classroom study students are obliged to follow 1 000 hours of practical training [*Source*: Internet].

97. In Latin America, a number of countries have a long established tradition of providing tuition to foreign students. Argentina is capitalising on the fall of its currency exchange rate in the aftermath of the financial crisis to offer its high international standards of teaching at competitive price levels.

The Buenos Aires based **Universidad de Belgrano** is one of the biggest universities in Argentina and attracts students from all over the American continent as well as from the European Union, Israel, New Zealand, Australia, China and Japan. The university offers MBAs at international standards, programs of Latin American studies, Spanish as a foreign language, summer courses in environment and anthropology based in a Patagonia's location named La Angostura. The **Universidad de Belgrano** extensively uses the argument of the recent Argentinean financial crisis in its marketing efforts to attract foreign students. In addition to marketing itself as an economical but high quality educational establishment, it offers a graduate program on globalisation and the deriving business opportunities from the Argentinean standpoint with an emphasis on the increasing interdependence of the US and other countries and the Argentinean experience. Its web-site reads: "Subscribe a customized course for EXMBA's allowing for on-site analysis and live your own experience of a crisis that marked a turning point in international economic recipes". [*Source*: OECD Survey]

The small **Universidad Pedagógica Nacional** of Bogotá is an exporter of academic programs and consulting services in educational matters through agreements with similar institutions in Chile, Argentina, Brazil, Mexico, Cuba, Spain, Italy and Germany. At present its international activity is very small (up to 10 percent of the total), however its representative, Ms. Eliska Krausova, expects this percentage to grow resulting from intensified efforts of internationalisation. The main perceived obstacles are with visas and legal restrictions on the approval of programs [*Source*: OECD Survey].

The Instituto Tecnológico de Estudios Superiores de Monterrey (ITESM), commonly known as Tec de Monterrey, was founded in 1943 by a group of entrepreneurs headed by Don Eugenio Garza Sada. The university, in Mexico, has become a leader in Latin America with 3 500 foreign students, an international faculty and visiting professors of renown, nine branches of specialisation, a highly touted virtual learning programme and fifteen liaison offices throughout the United States, Canada, Europe and Latin America. [Source: Latin Trade Magazine and Internet]

98. In Africa, Uganda, South Africa and Kenya are endowed with post-secondary institutions where a number of regional business and political leaders have been trained.

III. Training services

99. In addition to traditional award-based university education services, there has been a strong international growth in other forms of education and training, with training related to IT a particularly string area of growth.

20 years ago, in 1981, IIT Delhi batch mates Rajendra S. Pawar, Vijay K. Thadani, and P. Rajendran, came together to create the **NIIT**, a company specialising in IT learning , Software and Knowledge Solutions which focuses on both individuals and companies. Since the beginning the company vision was “Of bringing People and Computers together in a country barely waking to IT” and their corporate strategy focused on giving a “mass-based” flavour to computer education including spreading IT-literacy among slum children. Today NIIT has grown into a global corporation with a presence in 38 countries and his ranked among the top 10 software exporters from India. The company has over 1000 corporate customers through wholly-owned subsidiaries in 38 countries through Asia Pacific, Europe, Japan and the US. **NIIT** focuses on providing advanced training on various software platforms and creating “*industry-ready*” professionals that have the necessary skills to make a career in IT. NIIT is involved in distance learning/e-learning through NetVarsity, its on-line university. Today, half of the company's revenues come from the US, Europe, and the Asia-Pacific region. The company registered a global turnover of Rs 7.9 billion in 2002 [Source: Internet].

IPSEL Training is a division of Indo-Pacific Software and Entertainment Ltd, having a working and technical alliance with Germany's Mindrome Technologies GmbH. It provides high-end certification technologies, custom training and learning for individuals, corporations and government agencies. IPSEL is a publicly held company, with offices and affiliated franchises throughout India, and training partners around the world. IPSEL had revenues worth Rs 61.52 million in 2002 [Source: Evalueserve].

Centre for the Improvement of Management Performance (CIMP) is a non-governmental Romanian management consultancy and training organisation acting both on the internal and external market. CIMP was founded in 1992 by the British Government “Know How Fund” joint with the Romanian Ministry of Industry, the Romanian Ministry of Development, the University of Hertfordshire — UK and the Universitatea Politehnica Bucharest. CIMP has clients in UK, Denmark, Belgium, Ireland, France, Netherlands and Germany. CIMP offers highly intensive and interactive programs covering wide managerial and non-managerial areas including strategic management, effective management, marketing and sales management, human resources management, total quality management, financial management, team development, conflict resolution and training programs for public administration. [Source: OECD Survey].

Cuban specialists in the field of gastronomy and hotel management will administer courses in Angola's Luanda, Huila, Benguela and Cabinda provinces, over the second semester of 2003. The head of the Luanda Association of Hotels, Restaurants and Similar Outlets (Horsil), Joao Gonçalves, revealed that this project is the result of contacts between the Angolan and Cuban governments. These courses are meant to help local institutions carry out their programme of training more people so that hotel keeping in the country may be properly prepared to respond to demand. Joao Gonçalves explained that these moves are also aimed at preparing Angola hotel management professionals for the International Festival on Gastronomy scheduled for 2005 in Angola [Source: Cubanet].

FINANCIAL SERVICES

I. Overview

100. Under the GATS Classification (W/120), financial services encompasses both insurance and insurance-related services, as well as banking and other financial services (including financial information services)

101. Many of the examples of developing country exports in financial services take the form of joint ventures or subsidiaries of large financial service or insurance companies based in OECD countries. These developing country subsidiaries provide services not only to the parent company and the local market, but are also involved in export trade, including to other developing country markets. It should be noted that, in a number of the examples in this section, the company is also involved in a range of activities for the parent company which could be classified as other business services. However, given the financial services component of their business they have been included here.

II. Banking and other financial services

102. Several large financial services companies in OECD countries have made a strategic decision to invest in companies in developing countries, with a view to both increasing the efficiency of their own operations and expanding into new markets, including in other developing countries in the region. For example, the US banking industry is reported to have saved USD 6-8 billion to date by outsourcing work to India as well as achieving gains in quality and productivity. Indeed, some have calculated that a typical western bank can outsource 17-24% of its cost base, reducing its cost-to-income ratio by 6-9 percentage points, and in many cases doubling its profits [*Source: Evalueserve*].

E-Serve International Ltd., formerly known as Citicorp Securities and Investments Ltd., started its operations in India in 1992. E-Serve focuses on providing IT-enabled Services (ITES) to the global financial services industry and caters to the needs of companies engaged in banking, insurance, capital markets, mutual funds and e-markets. The company provides services such as transaction processing, cheque processing, credit/debit card services. The company employs about 3,000 personnel and had ITES export revenue of Rs 1,947 million in 2002. E-Serve's clientele is global and includes Citigroup entities from several regions such as Asia, South Africa and Europe [*Source: Evalueserve*].

The business concept of a large European **provider of financial services** is to collaborate with independent distributors and fund managers to deliver innovative, world-class financial services. While most of the value chain is outsourced, operations are concentrated on certain areas that the company has defined as its core abilities (product development, marketing, selection of funds, selection of fund managers and market support to the distributors). The company is present in developing countries (Chile, China, Colombia, Cyprus, Mexico and the United Arab Emirates) with a number of subsidiaries. The purpose of these subsidiaries is to liaise with local external investment managers, to outsource labour-intensive segments of the value chain from other subsidiaries located in countries with higher labour costs and for corporate consulting. The **Colombian** subsidiary sells consulting services to its **Chilean, Mexican Swedish and US counterparts** and processes outsourced IT tasks for the Mexican and US branches [*Source: OECD Survey*].

A joint venture between a leading Indian IT company and a large European bank is headquartered in Bangalore, India. Over the years, the company has grown into a strong banking and financial services provider focused on IT with more than 450 software and banking professionals based in Bangalore, Singapore, Frankfurt, New York and London. The company also has a vast experience in, and an excellent track record of, providing IT services to the large European bank of which it forms part. It offers end to end solutions in application and development. The company is able to bring together in-depth business knowledge in areas including trade finance, custodial services, private banking, asset management and electronic banking with IT skills to deliver high quality and cost effective services. The company's infrastructure comprises a modern state of the art Centre of Excellence spanning over 75,000 square foot of office space in Bangalore. The joint venture provides the Indian IT company with a strong platform to strengthen its global presence in the financial services segment; one of the largest end-user markets for IT services globally [Source: OECD Survey].

Reuters Hong Kong Ltd provides financial information, data and news services to overseas branch offices of banks and industries from China, Taiwan and Hong Kong in need of information from the Greater China region. It also sells its services to international companies wishing to enter into business with Chinese entities without establishing a local office. It provides news and information also to local branches of companies from all over Asia, the US, Europe and Australia [Source: OECD Survey].

103. Other examples of developing country financial services exports involve show where they have been successful in developing indigenous financial services, including by catering to the strong market in developing countries for micro-finance operations.

In 1984, the **Kenya Rural Enterprise Programme** started out as a five-year project to address the financial, management and technical needs of non-governmental organizations involved in the micro and small enterprises development sector. K-Rep has developed into a respected multi-functional microfinance enterprise that is poised to meet the challenges of the African microfinance industry in the 21st century. What began as a five-year project funded by USAID has now spawned a group of four autonomous institutions that make up the K-Rep Group of Companies: K-Rep Development Agency, K-Rep Bank Limited and K-Rep Advisory Services Limited which exports its services all over Africa. The managing director of K-Rep, John Kashangaki, sees a bright future for the micro finance sector with the emergence of village banks as core financiers. Village banks or financial services associations are institutions managed at the local level where small-holder business people can buy shares and expect some return. [Source: *The East African Evening Standard*, 31/3/2003]

104. In other cases, the financial services industry has been able to create a niche market in offshore activities. The development of **offshore activities in Mauritius** includes investment funds, investment holding and international trading. In 1999, UNCTAD estimated the total direct and indirect benefits of the offshore sector at 2.5 per cent of GDP. A double taxation agreement with India, which coincided with the liberalisation of the Indian economy and launching of the offshore business in Mauritius, provided an opportunity for channelling investment into India. An estimated USD 6 billion worth of funds has been invested in India through Mauritius, thus representing 32% of India's total foreign direct investment inflows and foreign portfolio investments (1999 figures). More recent areas of expansion in the Mauritius' offshore sector are the development of captive insurance business and of an aircraft registry and financing centre for mortgaging and leasing of aircraft and its spare parts. Crucial factors for success have been the excellent international image achieved through good tourism services, the country's geographical location, its membership in regional blocs and a sound legal, regulatory and fiscal framework. [Source: UNCTAD and MOBAA]

105. Other niche markets may be internet banking, ecommerce and the development of secure payment and other supporting systems for electronic commerce. However, electronic payment clearing services depend on the successful mix of advanced technologies and an understanding of the market and legal frameworks constraining these services and defining their possibilities. Exporting these services often requires credible evidence of their ability to solve market needs, meaning that developed local markets where a track record has been established can be a prerequisite to their successful export. This factor could act as a brake for a number of countries, along with the problem of misperceptions about the ability of developing country suppliers to provide high technology solutions.

DBS Bank is the flagship bank of DBS Group Holdings in Singapore. It is ranked among the top banks in Asia and is the 70th largest in the world. A recognised leader in Internet banking and e-commerce, DBS is the market leader in Singapore-dollar loans and deposits, and equity fundraising. Beyond Singapore, DBS Group serves corporate, institutional and retail customers through subsidiaries in Hong Kong, China, the Philippines, Indonesia and Thailand and international banking services through a network of 13 overseas branches and offices [Source: www.dbs.com.sg]

Decidir, a Mexican on-line B2B company, provides secure payment and authentication services for around 130 000 companies in Argentina, Brazil, Chile and Mexico. Principal clients include Banco Rio, Citibank, Peugeot, Unilever and American Express [Source: http://corp.decidir.com].

A company from Africa, which now exports secure payment services both regionally and to markets in Europe and North America, reports that the largest initial obstacle was overcoming scepticism at home about the ability of locals to develop and operate advanced technologies. Such attitudes, somehow typical of developing economies, penalize local entrepreneurs adept at using technology to solve market needs to the advantage of competitors from developed countries [Source: OECD Survey]

III. Insurance services

106. As for banking and other financial services, a number of large insurance companies have created subsidiaries in developing countries, with these subsidiaries in turn exporting services both to the parent company's offices around the world and to other clients in a range of countries.

GE Capital International Services (GECIS) was established in 1996 as a wholly owned subsidiary of GE Capital Services India. It has facilities at Gurgaon, Hyderabad, Bangalore and Jaipur with about 13,000 employees. The projected revenue of GECIS from insurance process handling was about Rs 300 million. The company handles insurance and banking processes for GE companies as well as for other companies such as J.C. Penny. The insurance processes handled span low-skill data entry and customer support functions to highly skilled decision-making functions. The high-end services include insurance underwriting and actuarial services. At the Hyderabad centre, GE has employed about 10 structural engineers specifically for flood insurance underwriting. The services provided by GECIS can be broadly classified as transaction processing, international accounting and call centres [Source: Evalueserve].

EXL Services (I) Pty. Ltd. began as an Indian start-up providing third-party insurance services and was soon acquired by US insurance major, Consec. Towards late 2002, the company again evolved into a third-party service provider and is currently one of the leading vendors for end-to-end insurance processes in India. The company's operations are spread across its three facilities at Noida. It currently has about 1,900 employees. At present, the company offers financial services such as agency contracting, claims processing, accounting transactions, debt management, new insurance and annuity business, annuity services premium administration etc. The company is licensed in US as a third-party administrator and hence has capabilities to handle underwriting as well. It holds underwriting licenses for about 30 states in US [Source: Evalueserve].

Swiss Re Shared Service Centre was set up in Bangalore, India in August 2000, with the aim of adopting a 'shared services centre' (SSC) approach to reinsurance business support. This was part of an initiative aimed at regrouping business support processes to exploit synergies and achieve better results in the non-life market divisions. Initial investment into the centre was about CHF 4 million. The centre in Bangalore currently handles processes such as contract administration, claims administration and reinsurance accounting and services markets in China, Australia/New Zealand, South-East Asia, Japan, Korea, India, the Arab states, as well as, operations in Zurich. The estimated value of business currently handled is CHF 2 billion and the centre employs about 70-80 people [Source: Evalueserve].

The American International Group (AIG) and PhilAm Life Philippines entered into a joint venture (99.99% American) to set-up an IT-enabled facility. Their business currently employs 484 for its operations. The unit mainly handles the life insurance processes of AIG, namely call centre, data entry and encoding, application forms transcription and processing imaging, claims processing, check preparation, accounting and disbursements. The firm registered with Philippine Economic Zone Authority, located in an IT Park, and started operations last December 2002. AIG made an initial investment of USD 3.6 million [Source: Evalueserve].

107. In Latin America, reinsurance firms are collaborating with providers of financial services and insurance firms to offer a range of competitive new products. One example is the formation of a strategic alliance of **Swiss Reinsurance with Enhance and Banco Pactual S.A.** (and its surety subsidiary in Brazil, **Seguradora Brasileira de Fianças S.A.**) which offers surety insurance and sophisticated credit-based products to underwrite privatization programs and large infrastructure projects both in Brazil and other Latin American countries. In Colombia, the **Compañía Central de Seguros S.A.** of Bogotá is an insurance company employing over 260 people which works with reinsurers mainly coming from abroad (Mexico, Panama, US, Spain, Switzerland and Germany. Its international activity is very high (up to 75 percent of the total) [*Source: OECD Survey*].

108. **Health insurance** is another area of exports in South America. Brazilian insurance companies have clients in Colombia and Chilean ones in Mexico [*Source: WHO*].

HEALTH SERVICES

I. Overview

109. The health care sector covers medical, dental, nursery and paramedical services, hospital, social and other human health services. It is one of the most rapidly growing sectors in the world economy. It is estimated to generate USD 3 trillion per year in OECD countries and is expected to rise to USD 4 trillion by 2005. The globalisation of health services is reflected in the growing cross-border delivery of health services (by traditional mail, electronic and other means), through the movement of personnel and consumers and in an increasing number of joint ventures and collaborative arrangements.

II. Mode 1

110. Cross border delivery (mode 1) includes shipment of laboratory samples, diagnosis, second opinion and consultation via traditional postal channels as well as via electronic means. Countries in different geographical regions are increasingly delivering on-line health services with a growing number of telemedicine links now operating in Asia and Latin America. For example, **China** offers on-line diagnosis services to patients in Taiwan, Macao and some South East Asian countries [*Source: UNCTAD/WHO*]. In India, 5 radiologists working for **Wipro Ltd.** interpret 30 CT scans a day for Massachusetts General Hospital [*Source: BusinessWeek*]. Medical samples going for diagnosis to **Mexico** from Central America are increasingly common. Many medical facilities are having now their medical records or patient interviews digitally transcribed in **Bangladesh, India, Pakistan, the Philippines or Zimbabwe**.

Max Health Scribe was founded in 1992 as a joint venture between Max India and the US-based HealthScribe Inc. It commenced its operations in Bangalore in 1994 and was the first medical transcription company in India. The company currently employs over 1 100 medical language specialists with 40 in-house doctors. It provides services to some major hospitals and medical clinics in the US and had a turnover of USD 7.8 million for the year 2001-2002 [*Source: Evalueserve*].

111. The emerging “wellness” industry, predicted by Paul Zane Pilzer (the economist who predicted the rise of the Internet) to be the next trillion dollar industry, is likely to offer new niche markets in support services. Health professionals will need support to reposition their expertise from disease treatment to disease prevention. Health care practitioners in the US, for example, are already offering their patients personalised websites through which they can access self-assessment tools, chronic disease management aids, their own e-health records, customised health information, and much more. The 20,000+ health information websites offer opportunities for content feed, and the growing shift to e-health offers a range of consulting possibilities. [*Source: ITC*]

III. Mode 2

112. Consumption abroad (mode 2) refers to the movement of consumers for diagnosis and treatment to the country providing the service. Under this mode patients seek affordable high-quality treatment or alternative medicines and treatments in both developed and developing countries. Several are the developing countries exporting health services via consumption abroad. In the **MERCOSUR** countries (Argentina, Brazil, Paraguay, Uruguay), for example, the “Tarjeta Mercosur” initiative allows those

enrolled in health co-operatives in one country to receive health care from an associate co-operative in another MERCOSUR country.

113. **Cuba** has made a conscious effort to attract to its highly specialised hospitals foreign patients from Latin America, the Caribbean, Europe, and Russia. It has also diversified its offer by focusing on the development of new procedures and drugs and on the treatment of certain skin diseases which are incurable in other countries such as pigmentary rethinopathy or vitiligo, a disease, which destroys the skin's pigment and leaves white spots. It has been estimated that in 1995-96, more than 25,000 foreign patients went to Cuba for treatment generating an estimated USD 25 million in sales of health services [*Source: UNCTAD/WHO*]. Clinics in **Costa Rica** report growing numbers of clients from the UK and Norway, as well as Canada and the US. [*Source: The Guardian 16/12/2000*] **Chile** also receives upper-income and upper-middle income patients from Bolivia and Peru and to a lesser extent from Ecuador [*Source: Pan-American Health Organization/WHO*].

Cira Garcia, a clinic adjoining Havana's wealthy Miramar neighbourhood, attracted nearly 1 300 foreign health-care tourists as in-patients, and thousands more as out-patients, in 2000. For prices that are about a third lower than in the United States, it offers everything from herniated disk repair — USD 4 570 including anaesthesia and two-week hospital stay — to laser eye surgery and liposuction. Patients who pay in dollars enjoy “all the comforts of the most modern clinics,” note the brochures, including cable television, air conditioning and 24-hour international fax service. Cira Garcia's most sought-after service is plastic surgery. About 80 percent of patients come from Latin America and the Caribbean, but the facility has attracted clients from as far away as Japan and Finland. [*Source: Cubanet, 2001*]

India is also a major exporter of health services via consumption abroad. Patients from Bangladesh, the Eastern Mediterranean, Nepal, Sri Lanka, the United Kingdom and the USA go to India for surgery and specialised services such as neurology, cardiology, endocrinology, nephrology, and urology. What attracts them is high-quality treatment at affordable prices. Medical charges in India are between one-tenth and one-thirtieth those in the US. For example, bypass surgery, which costs USD 13 000 in the United States, costs only USD 800 in India offering the same technologies and facilities. The British health minister even talked about flying-in British patients to India for treatment, to reduce the healthcare burden on the state. [*Source: Financial Times*]

Apollo Hospitals Group is the largest corporate hospital chain in India and has a presence in health insurance, pharmacies and training. It has been operating for almost 20 years and has established healthcare facilities at Chennai, Hyderabad, New Delhi and Dubai. The hospital maintains a number of service distribution channels including a special channel for non-resident Indians, which is dedicated to providing quality healthcare services at reduced costs [*Source: Evalueserve*].

South Africa has become a major destination for patients seeking plastic surgery. The Association of Plastic and Reconstructive Surgeons of South Africa web-page contains specialised information for visitors from overseas travelling to South Africa for cosmetic surgery, including information on how to find a surgeon, planning the surgery, hospitals and anaesthesia and costs. A quick Internet search indicated over 20 clinics advertising cosmetic surgery for overseas visitors to South Africa. Reasons cited by patients include the high quality at a low cost, and the advantage of privacy of having surgery while on holiday. Exact figures are not available, but at least several hundred Britons have undergone cosmetic surgery in South Africa in recent years [*Source: The Guardian, 16/12/2002*].

Surgeon and Safari, one of the most successful combination surgery and tourism ventures in South Africa reports that they are bringing in 20-30 people per month, and that these numbers are escalating. 90% of Surgeon and Safari clients undergo cosmetic surgery, with half coming from the UK and the other half from the US. **Afrisurge**, another company, offers similar services, but is also increasingly catering to clients visiting headache, dental and eye clinics. Indeed, both the South African Dentists Association and Cape Town Tourism describe “dental tourism” as a growing phenomenon [*Source: www.safrica.info*]. Other companies (e.g., **Mediscapes**) are offering a wide range of medical services, including cardiology, addiction, gastrointestinal and infertility treatments [*Source: “Sun surf and surgery”, 24/7/2002 available at www.safrica.info*].

One scheme to promote **South Africa** as a destination for cosmetic surgery involved a partnership between one of South Africa's leading private hospitals and an on-line auction house to auction plastic surgery on-line, with a different operation offered each day of the week. [*Source: BBC on-line, 24/7/2000*].

114. Several developing countries have also diversified into areas such as medical and paramedical education, health tourism, and alternative medicine and treatment. In **Thailand**, for example, Pramongkutkiao Hospital and Medical College and other medical schools reserve places for students from other developing countries while other Thai medical institutions offer combined care and tourist packages. Traditional medicines are exported both within the region and worldwide. **Indonesia** imports traditional Chinese and other Eastern medicines from China, Taiwan and Korea while it exports Javanese traditional medicine, known as *jamu*, to its neighbours. The **Ayurvedic School in Kottakkal, Kerala** (India) is a holistic care centre that attracts patients from the Eastern Mediterranean, Germany, Malaysia, the United Kingdom and the US. In **Malaysia**, tour operators are working on packaging elective health services and hospital stays at the country's 49 private medical centres for visitors to Malaysia [*Source*: MATRADE — Malaysia External Trade Development Corporation].

IV. Mode 3

115. Commercial presence abroad (mode 3) involves the establishment of hospitals, clinics, diagnostic and treatment centres, and nursing homes. Countries such as India, Indonesia, Nepal, Sri Lanka have become increasingly open to foreign investment. **Gleaneagles International** is a joint venture with partners in India, Indonesia, Malaysia, Sri-Lanka and the United Kingdom to create an international chain of hospitals. Another leading **Indian hospital group** has planned 1000 extra new hospitals by 2008 to be built across India, Sri Lanka and Nepal: 16 in the metropolises providing super-speciality care, 32 speciality hospitals in other big cities, and the rest in smaller towns.

116. **China** has also been active in establishing wholly Chinese-owned or small joint venture clinics abroad. At the end of 1995, wholly Chinese-owned clinics or joint venture hospitals numbered about 100, registered in more than 20 host countries in Asia, the Middle East, Europe (including the former USSR and Eastern European countries) and the US. The size of these facilities is relatively small, using around USD 200 000 — 300 000 and they usually practice traditional Chinese medicine (e.g., acupuncture and moxibustion) [*Source*: UNCTAD]. Chinese investment in Brazil amounted to 50 enterprises in 1999 (Chinese contribution being around USD 50.3 million). While other trades predominated in this investment (production and processing of food, clothing and certain kinds of light industrial products, smelting, forestry development, wood processing, transportation), medical and health services were also included [*Source*: Chinese government website].

V. Mode 4

117. Health services are also traded via the movement of health personnel (mode 4), including physicians, specialists, nurses, paramedics, midwives, technicians, consultants, trainers, health management personnel, and other professionals. The movement of health care professionals includes both temporary and permanent flows.

118. While permanent migration is mainly a South-North phenomenon triggered by wage differentials and the expectation of living standard improvements, temporary flows are mainly the resultant of bilateral agreements between governments wishing to foster co-operation. Both **China** and **Cuba**, for example, send health personnel on temporary remunerated contracts in Africa. A very recent example is the two year programme started in February 2003 under which seventy-four Cuban doctors and medical specialists have been deployed in provincial and district hospitals across Zimbabwe. The medical practitioners, who included fifty general medical officers and specialists in urology, dentistry, gynaecology and paediatrics, are expected to ease the critical shortages of doctors and specialists in the country [*Source*: All Africa]. Similarly **Ghana** sends health care professionals to Jamaica and **India** to the Eastern Mediterranean. The latter is an important host market for physicians, nurses, X-ray technicians, laboratory technicians, dental hygienists, physiotherapists, and medical rehabilitation workers from many developing countries.

INTERNET-RELATED SERVICES

119. Provision of services via the Internet include both supply of the Internet itself (which involves telecommunication services) and supply of content, which often includes a mix of business services, audiovisual services and computer and related services. While the GATS classifies the medium, or means of transportation, and content separately, many companies which are Internet Service Providers are also in the business of providing content. Given the difficulty of separating these activities and determining where companies should fall, a separate section has been used to group these activities.

120. Latin American internet companies have expanded to cover other countries in the sub-continent building on the common language base. Eager to expand also beyond the region, some Latin American companies have increasingly been targeting Spanish speakers in the US and in Spain and Portugal.

Starmedia is one of the biggest and most successful Internet companies in Latin America, with branch offices in seven countries and millions of subscribers throughout the region. Similarly, the Buenos Aires based **EI Sitio** serves millions of Spanish and Portuguese-speaking users in the region. **Mercado Libre** is an Internet auction site [Source: *New York Times*, August 2000].

Universo Online International (UOL) with headquarters in downtown Sao Paulo, is the biggest South American Internet provider, with portals in Argentina, Chile, Venezuela, Colombia, Mexico and Spain. UOL, which began operations in 1996, boasts a growing war chest. It is majority owned by the Folha group, Brazil's biggest newspaper company, and No. 1 magazine publisher Abril. Its strength in Brazil and abroad has been to attract "page views" through exclusive content agreements with local media groups. Along with other Latin American internet companies, UOL has been forced to expand across borders in order to break even and cover for low GDP levels and poor connectivity at home [Source: *New York Times*, August 2000 and *Newsweek* 1999].

The Singapore based **PACnet** is reported to earn almost half of its revenues in other English speaking Asia-Pacific countries (Hong Kong, Philippines, Thailand, India and Australia) first and then to non English speaking Asia. This latter was possible thanks to the translation support offered by its Israeli partner **Babilon.com**. Through the acquisition in 2000 of a corporate travel group, PACnet has started collecting business-to-business vertical portals that bring traditional businesses to the Internet with its e-commerce vehicle **PACfusion** serving as the Asian gateway. It then broadened its content to offer e-mail global access services, Standard Chartered Bank online products and services and Asiahotel.com online reservation services. Larry Ang, PACfusion president, reports that the company's strategy is to hire professionals in each of the countries it enters to localise content [Source: *Financial Times*].

TerraGroup is a holding company that was founded in 1997 to provide a broad spectrum of telecommunications and Internet products and services for the local, Middle Eastern and international markets. In addition to its Beirut based headquarters, TerraGroup maintains branch offices around the world. The group derives its strength and exclusive position in the market in that it takes advantage of the combined special capabilities of its controlled companies. TerraGroup is composed of three main companies, TerraNet, TerraGate and TerraVision. TerraNet is an Internet Service Provider (ISP) which provides leading Internet services. TerraGate, is an e-commerce development company specialising in the supply, integration and installation of e-commerce and e-banking services. TerraVision is Web design and e-solution company whose mission is to utilize the full potential of Internet technology to help companies transform their business into e-business, achieve positive return on investment and reach leading positions in the International market [Source: <http://corp.terra.net.lb>].

Alibaba.com, headquartered in Hong Kong, with its operational base in Hangzhou, China, a subsidiary in Japan and branch offices in California, London, Shanghai, Beijing and over 10 regional sales offices throughout mainland China, advertises itself as the world's largest marketplace for global trade and the leading provider of online marketing services for importers and exporters. Alibaba's web properties have over 1,600,000 registered members from more than 216 countries, growing at a rate of over 3,000 members each day. Alibaba.com was named "Best of the Web: B2B" by Forbes magazine and selected as the most popular B2B website by readers of the Far Eastern Economic Review [*Source: Internet*].

www.amarillas.com, launched in May 2002 by Mercantil Inc., is a portal for SMEs in Latin America which allows them to buy and sell their goods and services throughout the Latin American region as well as North America and Europe. This portal, along with www.mercantil.com, allows SMEs to build a free home-page, list their products and services online and market their brands to the world. The portals offer a range of other services, including a news section, business opportunity identification tools and equity research [*Source: www.mercantil.com*].

PORT AND RELATED, AND SHIPPING SERVICES

I. Overview

121. The bulk of the world's freight travels by sea. A typical modern container ship sailing 80% full might carry 3 000 containers and generate more than 100 000 documents [*Source*: Latin Trade Magazine].

II. Port and related services

122. A number of developing countries feature in the top 20 container terminals in the world, which altogether account for 54.34% of total container shipping. In particular, 4 out of the top 5 container terminals in terms of throughput are in developing countries: Hong Kong China is the number one container terminal, followed by Singapore, the port of Kaohsiung in Chinese Taipei and Busan in the Republic of Korea. Other developing countries in the top 20 include China (Shanghai), UAE (Dubai), Malaysia (Port Klang), Indonesia (Tanjung Priok) and the Philippines (Manila). (See Table A.3 in Annex, Part I). Shanghai, Port Klang and Tanjung Priok, all secondary ports, have all recorded very high increases in container throughputs because global alliances of carriers have begun to provide multiple, overlapping service strings comprised of a blend of services that call only at main hub ports and services that call at secondary hub ports. All three ports also made substantial investments in infrastructure and efficiency-improving technology and management systems in collaboration with the private sector. [*Source*: ESCAP].

123. **Sri Lanka** has also successfully exploited its natural advantage in developing port services as a leading hub-port for container traffic in the South Asian region. The transportation sector plays an increasingly important role with the overall net surplus increasing at a rate of 13 percent since a few years. Its specialisation as a purpose built container terminal was supported by internal capacity building, leading to productivity gains and growing export earnings. Over the 1979-1997 period, container throughput grew nearly hundredfold with the country's experiencing an excess demand for container handling at the port of Colombo in 1993. Since then, further expansion and modernisation of the facilities is underway and emphasis has been put in the upgrading of human resource to use modern technology, information and computing systems. [*Source*: UNCTAD].

124. **Dar es Salaam port** has handled a large proportion of the cargo transported by road and rail to and from Zambia, Burundi, Rwanda, Uganda and Democratic Republic of Congo. The Tanzanian Harbours Authority leased the container terminal to a private operator as part of the privatisation process and, in 2002, the Dar es Salaam port had container terminals approaching international standards and a productivity rate 50% higher than some other African ports (e.g., Mombassa in Kenya)¹² [PricewaterhouseCoopers (2003a)]. The development of a free-port area in **Mauritius** as a hub port for

12. Recently, a reversal in the trend of liberalisation of the Tanzanian shipping industry has taken place. After an attempt by the government to bring the ship agency business back to state monopoly, new legislation was passed which states that, for a firm to be licensed as a shipping agent, it must belong to a citizen of Tanzania, or be incorporated under the Companies Ordinance according to which more than 51 percent of the share capital must be held directly or indirectly by a citizen of Tanzania. Some argue that the stand-off between shipping companies and the Tanzanian government has triggered concerns amongst operators over the future of the shipping agency business and led to a retreat of private and foreign investment from the sector. [*Source*: The East African on the Web, June 3, 2002]

servicing southern and eastern Africa has been a successful example of a broader government strategy to increase and diversify exports in the services sector [Source: UNCTAD]. Almost the totality of Morocco's external exchanges is made through the maritime channel. **Moroccan ports** record annually nearly 14 000 stopovers of boats which load or unload cargoes coming from or destined to 120 countries. [Source: www.arabicnews.com].

125. Before 1990, **Argentinean ports** were characterised by institutional inadequacies (including a major corruption problem), inefficient cross-subsidisation and insufficient investment in the modernisation of the sector. Tariffs charged were among the highest in the world. In the 1990's the government initiated an overall reform project which in ten years allowed to quadruple the volume of seaborne trade (249 000 to 1 070 million TEUs). Two important elements of the project were private sector participation and promotion of service competition. In the case of the port of Buenos Aires, six terminals were competitively given in concession to the private sector, with payment of a leasing fee to the government for use of infrastructure assets, following the landlord port model. Contestability was improved by allowing free entry into the market, with any operator allowed to build, maintain and operate a port for public or private use. As a result of the reforms Argentinean ports became the cheapest ports in Latin America and private investment started flowing in. Productivity has grown sharply, significantly reducing operational costs and duration of stays in ports. This combined with other already mentioned factors, has resulted in a reduction of overall container terminal handling prices (see Table 2).

Table 2. Container terminal handling prices in Argentina

Indicator	1991	1997
Cargo (thousands of tons)	4000	8500
Containers (thousands of TEUs)	300	1023
Capacity (thousands of TEUs)	400	1300
Cranes (number)	3	13
Productivity (per employee)	800	3100
Average container time at port (days)	2.5	1.3
Charges per container (US\$/TEU)	450	120

Note: TEU, 20-feet equivalent unit

Source: B. Hoekman *et al.* (2000), *Development, Trade and the WTO: A Handbook*, the World Bank

126. A number of companies from developing countries have become global leaders in provision of port and related services. In many cases, as with companies from Hong Kong China and Singapore, this has been built on the success of large domestic ports.

Hutchison Port Holdings (HPH) (Hong Kong China), is a leading port investor, developer and operator with interests in 15 countries in Asia, the Middle East, Africa, Europe and the Americas. HPH operates a total of 175 berths in 31 ports along with a number of transportation related service companies. It also operates the UK's busiest port (Felixstowe — see table above). In 2002, HPH handled 35.8 million TEUs. The company's e-logistics arm was launched in 2000. HPH is part of the Hutchison Whampoa Ltd, a multinational conglomerate with businesses spanning 41 countries. Port and related services are but one of 5 core businesses of the company [Source: www.hutchison-whampoa.com].

PSA Corporation of Singapore currently operates the world's largest container trans-shipment hub in Singapore. It provides every shipper with a choice of 200 shipping lines with connections to 6000 ports in 123 countries. Besides its operations in Singapore, the PSA group participates in 14 port projects in eight countries around the world, including Belgium, Brunei, China, India, Italy, Korea, Portugal, and Yemen [Source: www.psa.com].

International Container Terminal Services Inc. of the Philippines is involved in the management, operation and development of container ports and terminals worldwide. In addition to several ports in the Philippines, as of 2001, the company operated six overseas terminals and was planning to further expand its international operations. Recent new operations include the Suape Container Terminal in Brazil and the Baltic Container Terminal in Poland. The company is also looking to expand its operations in Asia, the Middle East and the Americas. As a port operator, the company provides a variety of cargo handling services, including the loading, unloading and storing of commercial cargo; as a manager and developer it plans, funds and implements a growth scheme involving continuous improvements in port infrastructure, equipment and information technology to enable the port to efficiently respond to the demands of international trade [Source: www.ictsi.com].

The Colombian **Empresa Portuaria Iquique** specialised in docking and cargo loading services exports up to 25 percent of its services. Its clients come from all over the Americas, Europe (both Western and Eastern Europe), Asia and the Middle East. Company representative Ronnie Manzo Barriga states that the Port of Iquique facilities constitute a natural doorway for Bolivian imports and exports. This fact and commercial agreements underway with Bolivia on one hand and with EU, US and Korea are expected to boost the port activities at Iquique [Source: OECD Survey].

III. Shipping services

127. Companies in a number of developing countries, including Chinese Taipei, China, Singapore, Malaysia, Kuwait and the Republic of Korea, have also taken a lead role in world shipping, while others, such as Mexico, Colombia and Chile, are playing an important regional role. In addition, among the leading container service operators, measured by the number of vessels and total shipboard capacity, there are several companies from developing countries. The formation of regional joint ventures for the operation of specific types of services on selected trade routes, the concentration on intra-regional trade or the provision of feeder services in co-operation with global mainline carriers have contributed to the emergence of the above mentioned developing countries as market leaders.

128. Developing countries are also the main supplier of the world merchant fleet. The Philippines, the world's largest supplier of shipboard labour, accounts for more than 20 percent of total seagoing staff. An estimated 50 percent of crews on vessels flying flags of OECD member countries are nationals of non-OECD countries.

Orient Overseas Container Line Ltd (OOCL), headquartered in Hong Kong China, is an international container transportation and logistics service provider. One of the leading transportation carriers serving China, the company offers transportation services to all major trading economies of the world, linking Asia, Europe, North America, the Mediterranean, the Indian sub-continent, the Middle East and Australia/New Zealand. OOCL also operates the world's largest container ship (the OOCL Shenzhen), built by Samsung Heavy Industries Co. of Korea. A further 9 such vessels are planned, the first (OOCL Long Beach) to be delivered in June 2003 [Source: www.psa.com].

Mitsui O.S.K. Lines Ltd is a large shipping company relying on partners in the Philippines, Vietnam and Indonesia for crew manning. One of their providers of crew manning services is Magsaysay Maritime Corporation. The company founded in 1948, is engaged in a broad range of maritime-related services such as ship owning, ship management, crewing, training, insurance and agency services. They operate and man various types of vessels with a total complement of more than 17,000 people of various disciplines, expertise and skills, based on shore and at sea [Source: OECD Survey].

Beijing Yansha Billion International Transport Service Company (Beijing Long Distance E-commerce Co., Ltd.), is an international freight forwarder of personal effects, licensed by China's Ministry of Foreign Trade and Economic Cooperation (MOFTEC). Established in 1992, its clients include foreign guests, fund enterprises and embassies in China. The scope of the company's service scope is very wide and includes: import & export, booking shipping space, applying to customs, checking up, professional packing, free storage, insurance, certificates of antiquity, loading and unloading of container and freight consultation. The company has a network of agents in the some of the main ports of the world. The company also acts as a broker for transactions between locals and foreigners on specific products, such as Chinese antiques, antique furniture warehouses and factories, stone sculptures, bronze items, porcelain, carpets and paintings [Source: Internet].

Marindolestari Guna is a marine-cargo-transportation company founded in 1984, and now operates cargo barges to satisfy the marine transportation needs of customers in Indonesia and its neighbouring countries. Their extensive fleets of long-range tugs and barges move cargo throughout Indonesia, Singapore and Malaysia. With full coverage of the Indonesian archipelago from Sabang to Merauke, they deliver cargoes anywhere in Indonesia. Marindolestari Guna specializes in the transportation of aggregates, asphalt, coal, heavy equipment and logs [*Source: Internet*].

Essar Shipping (India) provides optimal integrated sea logistics solutions through a diversified fleet of vessels, storage facilities and supply chain management services. It has an asset capitalisation of USD 1 billion and has two business units: Energy Transportation Group (ETG), and Integrated Coastal Transport (ICT) Group. While ETG provides sea transportation management services to the global energy industry, ICT Group provides supply chain management services for the sea transportation of bulk cargo and refined products. It has operations in the US and Europe. ESL recorded total revenues of Rs 4 822 million in 2000-01 (USD 101 million). [*Source: Evalueserve*]

PROFESSIONAL SERVICES

I. Overview

129. Professional services consist of the following categories: legal services, accounting, auditing and bookkeeping services, taxation service, architectural, engineering and related services, medical, dental, nursery and paramedical services, veterinary services. This section will focus on the legal and accounting professions, as well as architectural, engineering and related services. Medical, dental, nursery and paramedical services are dealt with in a separate section on health services.

130. Global demand for business and professional services, especially specialised services, is very high as every organisation — whether public or private, for-profit or non-profit, large or micro-enterprise — has support functions that are critical to its survival and competitiveness but that are not their core mandate or competency. Examples include accounting (in non-accounting firms), training (in non-training institutions), market research (in non-market research firms), and computer services (in non-IT firms). No organisation, no matter what its size, can operate for long without functions like these as they improve the management and productivity of the enterprise.

131. Professional services are of particular importance for economic development, in terms of both their contribution to the building up of infrastructure (engineering, architecture), and the creation of an investment and business friendly environment (legal and accounting services). Granting market access for these services can be important for attracting FDI and for promoting the transfer of knowledge.

132. Developing countries have clearly expressed their interest in exporting professional services, for two reasons. The first is that their professionals are competitive in international markets. The second is that professional services can be supplied without the need to establish a commercial presence. Such export interest is reflected in several negotiating proposals and in the requests addressed by developing countries in the WTO request-offer process.

133. There are at least four common characteristics among all professional services. First, skills and quality of the human capital is a key factor in determining business success. Second, despite recent advances in Internet and telecommunications technology, commercial presence and movement of personnel are still critical modes of supply. Third, most professional services are subject to stringent domestic regulations for public policy and consumer protection purposes. Finally, these services are often under-supplied in developing countries.

134. Research in Latin America carried out in the 1980s by UNCTAD determined that one of the critical differentiating factors between developed and developing economies was the availability of high quality, specialised business and professional services. However, this picture is now changing. A growing number of developing countries are able to offer high quality professional services thanks to a combination of highly skilled human capital, cutting-edge technology and competitive prices.

135. **Kenya** is a good example of a country with a well-developed professional services sector. This is largely attributable to the public outlay on higher education and technical colleges, with six public universities and five private ones. In 1999, professional services, including business and government, gave

employment to approximately 140,000 professionals mostly concentrated in medical services, education, accounting and management.

136. However, service providers from developing countries still encounter major obstacles to their exporting activity. According to several entrepreneurs, the biggest constraint on the export of their professional services is a generalised mistrust on the part of potential buyers. A company from **Africa**, which now exports payment systems both regionally and to markets in Europe and North America, reports that the largest initial obstacle was overcoming scepticism at home and abroad about the ability of companies from developing countries to develop and operate advanced technologies. Furthermore, in the architectural and engineering profession, the preferences of multinationals and existence of tied aid packages result in employment of foreign professionals rather than locals. Visa restrictions on temporary business travel, a lack of mutual recognition of professional credentials, and domestic regulatory barriers to the provision of professional services by foreigners, are perceived as additional challenges to export activity.

II. Legal services

137. In the vast majority of countries, the legal profession is practised by individual professionals or by small firms, with large legal corporations still a localised phenomenon limited to a small number of Anglo-Saxon, Common Law countries. However, a flourishing market for international legal counselling has accompanied the increasing international mobility of people, capital, goods and services of the last 20 years. Additional growth has resulted from the emergence of new fields of practice, in particular in the area of business law. Sectors such as corporate restructuring, privatisation, cross border mergers and acquisitions, intellectual property rights and competition law have generated demand for increasingly sophisticated legal services. Since lawyers are asked to have a deep knowledge of both the regulatory environment in which a firm operates and the practices and laws in the place of business, scope for international transactions arises when those differ.

138. Unfortunately, comprehensive disaggregated data on the size and trade flows of the sector are available only for a handful of OECD countries. The demand for legal services comes from business and organisations, which have a need for a constant flow of legal advice, as well as from individual citizens, which need it only occasionally and in areas as varied as divorce, succession, purchase of real estate and criminal matters. Foreign lawyers supplying legal services cross-border or by means of establishment mainly act as foreign legal consultants, that is to say, they provide advisory legal services in international law, in the law of their home country or in the law of any third country for which they possess a qualification.

139. Exports from developing countries in the vast majority of cases take place through cross border (mode 1), and where the destination market allows it, travelling as individual professionals or as employees/partners of a foreign established law firm (mode 4). Commercial presence (mode 3) is relatively little used. Among the world's 135 leading law firms, only three establishments from developing countries have offices abroad: Kim & Chang (Republic of Korea), Deacons (Hong Kong, China) and Pinheiro Neto (Brazil) all of which have one foreign office.

140. Affiliation to reliable international networks or integrated partnerships and good international communication strategies are important for small and medium sized law firms seeking to offer their services at the international level.

Me Mohamed Remmal and Dr Fruhbeck Consultants S.A. (Maria Elena Pubillones Marin) are two law firms, the first from Casablanca (Morocco) and the second from Havana (Cuba). Despite their small size, they market their services internationally thanks to their affiliation to "International Law Firms", an association of independent commercial law firms in all major cities of the world, each specialising in those areas of commercial law which are important in those cities. The network relies on a personal relationship between all the members so that clients can be recommended to associated firms in other countries with complete confidence.

Castro Sammartino & Pierini is an Argentinean medium-size, full range, law firm, serving clients throughout Argentina and worldwide. The firm is divided into the following areas: services to business and institutional clients, services to private clients, tax, accounting and financial services, health care advising. Over the years, Castro Sammartino & Pierini has developed an extensive network of relationships with lawyers world-wide which enables them to provide clients with the benefits of a world-wide law firm while keeping alive the close and personalised client-professional relationship typical of a small organisation.

Mainly engaged in legal affairs for international economic and trade transaction, the Chinese **Zhejiang World Trade Law Firm** offers clients legal consulting services on international trade, economic co-operation projects, resource exploitation, foreign investment and finance, real estate, taxation, international shipping, maritime affairs, air transportation, insurance, company organisation. It also assists clients on drafting, examination, revision and negotiation of contracts, agreements, regulations and other legal documents and provides legal opinions while providing arbitration and litigation services and helping to mediate or resolve the disputes arising in international business.

III. Accounting, auditing and bookkeeping and taxation services

141. The function of auditors is to reassure users of financial statements that the facts are correct and to highlight any problems with the statements or with the financial position, irrespective of compliance with standards. Since most users hardly understand how the accounting and auditing standards are being applied, they most likely assume that statements are credible if they are prepared by brand name CPAs. The need for credibility and growing transaction costs in a highly capital intensive industry has led to the world market dominance by a handful of corporations, commonly known as the "Big-Four". However, often work is carried out by "affiliated firms" which benefit from the reputation gained through their affiliation to a major player, while offering cost-efficient audits of the local operations of their multinational clients. In Eastern Europe, for example, audited financial statements are prepared by local affiliates of the Big Four.

142. The world market for accountancy services is growing and changing rapidly. Electronic commerce, trade liberalisation, and the development of a commonly accepted set of international accounting principles have opened domestic markets to international competition and contributed to broaden the reach of accountancy-related professions. Furthermore, consumers of traditional tax, audit, and accounting services have been increasingly demanding all-inclusive financial solutions. As a consequence, the discipline has moved away from its narrow, more mature audit and taxation base to a profession encompassing a wide range of services such as corporate finance, business recovery and solvency, forensic accounting, litigation support, and corporate security business.

143. However, as the cross-selling of business advisory and other assurance services have become more frequent, the independence of the audit practice has been undermined. Major conflicts of interest have arisen, as evidenced by the Enron-Andersen and similar cases (i.e. Waste Management, Cendant, MicroStrategy, Xerox). CPA firms are therefore divesting non-core activities and focusing their resources on the most important functions and outsourcing other areas. Business process outsourcing (BPO) is the transfer of a function or service or delegation of day-to-day, non-fiduciary responsibilities to a third-party supplier. This makes best practices available at sometimes a fraction of the cost of in-house. The technological revolution of the last decade has made outsourcing more efficient and accessible than ever, while significantly enhancing the control and quality of the functions. BPO services have been predicted to

grow in leaps and bounds; Gartner Dataquest has predicted that BPO of finance services will exceed USD 38 billion in 2004.

Commonly outsourced processes include: bookkeeping for clients, tax co-sourcing solutions, document management, staffing and information technology (IT) services. **Kishore Mirchandani**, is CEO of **itAccounts**, a “business process-outsourcing” firm that provides accounting, tax processing, and document imaging services, with offices in Bangalore, Karnataka, India. Exports of this type take place, in the vast majority of cases, through cross border (mode 1), with transmission of documents and advice via traditional mail channels or electronic delivery. Technological developments in ICT allow for increasingly efficient and accessible modes of cross-border supply. Movement of individual professionals or employees/partners of a foreign established firm (mode 4) is also common.

Firms which are not affiliated with one of the “Big Four” may join the **Affiliated Conference of Practicing Accountant (ACPA)**, a world-wide network of 80 independent accounting firms in 35 countries, from 5 continents, which cross-reference each other. Affiliated companies from **South America** include Senso Auditores Independientes (Brazil), UC&CS (Mexico), Flores Konja y Asociados Contadores Publicos S.C. (Peru), and Briner & Asociados (Venezuela). In **Africa** the main references are the Egyptian Talaat I. Hanna & Associates and Aswin Brother from Kenya. The **Middle East** and the **Southern Mediterranean** are represented by Constantinou & Kyriacou from Cyprus, Hogan, Ginzburg Anvi & Co. of Israel, Vizyon Independent Accounting & Financial Consulting, Inc. from Turkey and Puthran, Chartered Accountants from Dubai. Finally, **Asian** affiliates are Sunil Goel & Associates (India), Salaki & Salaki (Indonesia) and the First United CPA Office (Taiwan).

IV. Architectural and engineering services

144. Architectural services cover advisory, pre-design, design, contract administration services, urban planning and landscape architectural services. Engineering services include design and consultative services for the construction of foundations and building structures, mechanical and electrical installations for buildings, civil engineering works, and industrial processes and production. In the great majority of countries, both service sectors are relatively closed to foreign suppliers.

145. Managerial and organisational improvements coupled with substantial progress in producing engineers and architects with specific skills and expertise have contributed to the appearance of an increasing number of professionals from developing countries. This factor is of fundamental importance since cross-border trade in architectural and engineering services tends to rise along with the complexity of and specialisation of the services involved.

146. Furthermore, the inter-linkages that architectural and engineering design services produce between different parts of the economy, in particular between productive units, local R&D activities, capital goods manufactures and financial services, are particularly important. Capacity in this sector, therefore, enhances developing countries' ability to bid for implementation of the construction projects domestically and internationally.

147. There are 15 companies from developing countries in the top 151 design (architecture and engineering) firms ranked according to revenue on projects performed outside of their home country. The highest ranked firm is an Egyptian company, ranked number 12 worldwide, with four other companies from developing countries in the top 100 — from China, Lebanon, Israel and Korea respectively. Other companies ranked between 100-151 include seven companies from China, one from Chinese Taipei, one from South Africa and one from Yugoslavia (see Table A.4 in Annex, Part I).

Dar Al-Handasah (Shair and Partners) is an international consultancy specialising in architecture, engineering, planning, environment and economics. Founded in 1956, today the firm is ranked as one of the largest design and engineering practice in the world (see Table A.1 in Annex, Part I). With main operations in London, Cairo and Beirut, Dar is staffed with over 4 000 professionals located in 50 offices in Africa, the Middle East, Asia and Europe.

Further trade is taking place between Brazil and other developing countries, notably China and India. The **Brazilian Engineering Design and Construction Co.** has set up a representative office in Beijing and, as part of the development of the Chinese Labour Service Contracting in Brazil, 8 engineering contracting projects with the contractual amount of USD 18.41 million had been developed up until the end of 1999. A Brazilian consultancy company on power projects, **M/s Enerconsult S.A.**, has entered into a joint venture with an Indian company, **Tata Consulting Engineers** in Sao Paulo, to provide services for power projects.

148. Specialised engineering consultancy services are an important export sector for **India**, first to Africa and Asia, then to the Middle East and lately to other markets. Most Indian engineering consultancies are involved in some form of environmental and energy consultancy. India's proven comparative advantage in the sector has encouraged the government to open its markets to competition by removing controls on foreign capital participation and extending full national treatment to foreign firms supplying their services in India. [*Source*: UNCTAD].

149. **Malaysian** architects have designed resorts, hotels, condominiums, office building, factories and residential developments in countries such as Vietnam, the Philippines, Namibia, South Africa and Australia [*Source*: MATRADE — Malaysia External Trade Development Corporation].

TELECOMMUNICATION SERVICES

I. Overview

150. As technology advances, the economy-wide importance of modern and efficient telecommunications services has increased. Indeed, telecommunications services are fundamental for the trade of many other services, including many of the services identified in this study such as business services, professional services and education. In recognition of this key role, many countries have undertaken significant liberalisation of their telecommunications sectors, seeking investment to provide the necessary infrastructure and state of the art technology. This is resulting in a highly internationalised industry, with major players — many of which originate in OECD countries — operating via wholly owned subsidiaries, joint ventures and partnerships in a range of markets worldwide. While many of the world's major telecommunication companies are based in OECD countries, some developing country companies are significant players, both regionally and, in some cases, globally.

151. The following examples of developing country companies exporting telecommunications services are divided by region, rather than by type of service, for two reasons. First, most of the companies listed below provide a wide range of telecommunications services, ranging from basic and mobile telephony through to the latest broadband services. Second, from these initial examples, the picture that emerges for many developing country companies is one of largely intra-regional trade, with Latin American companies largely serving the Latin American market and companies from Egypt and South Africa serving other countries on the African continent. While also involved in regional trade, companies in Asia seemed to have more global operations; although this may also be attributable in some cases to the different types of services being provided.

II. Africa

152. The mobile phone phenomenon is remarkable in the African context for being led by African companies. Big outside groups, such as Vodafone or France Telecoms' Orange, have been reluctant to invest since the telecoms sectors plunged into crisis in 2000 [*Source*: "How Africa joined the wireless world", *Financial Times*, Thursday 27 November 2003].

MSI Cellular, registered in the Netherlands, headed by Sudan-born Mohamed Ibrahim and better known by the brand name Celtel, is in a dozen African countries. [*Source*: "How Africa joined the wireless world" *Financial Times* Thursday 27 November 2003].

Econet, the creation of Zimbabwe entrepreneur Strive Masiyiwa and the only technology company traded on the Harare stock exchange has interests both in Africa — most recently in Kenya — and outside, including a GSM mobile service in New Zealand. [*Source*: "How Africa joined the wireless world", *Financial Times* Thursday 27 November 2003]

An Egyptian company, **Orascom Telecom**, now mainly active in North Africa, at one stage was the largest GSM network operator in the Middle East, Africa and Indian subcontinent, with 21 licenses in the region. In 2000, it bought Telecel, a pan-African group that originated in Congo. At the peak of its expansion, Orascom Telecom managed GSM networks in a range of countries in the Middle East and Africa, including: Algeria, Chad, Congo, Benin, Burkina Faso, Burundi, Central African Republic, Cote d'Ivoire, Democratic Republic of Congo, Egypt, Gabon, Jordan, Niger, Pakistan, Syria, Togo, Tunisia, Uganda, Yemen, Zambia and Zimbabwe. As of January 2002, Orascom Telecom and its GSM subsidiaries employed a workforce of over 6 757. However, since then, the company has resold most of these interests to reduce its debts.

In addition to its GSM operations, Orascom Telecom has other subsidiaries in the areas of internet and satellite technologies. The Internet subsidiary **LINKdotNET** is the largest ISP in Egypt and is a partner in MSN Arabia, the first international portal in Arabic and English serving the Arab world. LINKdotNET has regional offices in **Dubai, the Emirates and Jordan**. Orascom's two satellite services operations provide facilities and satellite links throughout both the Middle Eastern and African markets: **Egyptian Space Communications** provides design, installation and management of satellite communication links, and **M-Link** provides gateway services to route telephone traffic in and out of Africa [Source: www.orascomtelecom.com and "How Africa joined the wireless world" *Financial Times* Thursday 27 November 2003].

South African mobile groups **Vodacom** (which is controlled by the part state-owned Telkom group with Vodafone as minority partner) and its listed rival **MTN**. Between them, they have more than 15million mobile customers and operate in either countries outside their home market. MTN has spent USD600 million so far outside South Africa and is looking for other openings on the continent. It spent USD285 million on a Nigerian licence in 2001. [Source: "How Africa joined the wireless world", *Financial Times* Thursday 27 November 2003]

South Africa's MTN, launched in 1994, has one of the largest GSM networks in the world, providing access to 94.5% of South Africa's population. MTN has also rapidly expanded across the African continent, with operations in Cameroon, Rwanda, Swaziland, Uganda and Nigeria [Source: www.mtn.co.za; www.cellular.com].

MTN Cameroon provides coverage in 8 out of 10 provinces, with 66 operational stations across the country. The company states that it is dedicated to both in-house and external professional and technical training. **MTN Swaziland** covers 75% of the country and employs 72 staff. The company has almost doubled the country's telecoms operating markets and claims to have been largely responsible for teledensity increasing to almost 7%. In its single biggest investment outside South Africa, MTN invested USD 285 million in Nigeria for a GSM license. **MTN Nigeria** now has 453 cells live on 173 radio sites, with a further 55 transmission only sites. According to some reports [Source: *Lagos Vanguard*, 26/12/2002, at www.allafrica.com], MTN's investment in Nigeria prompted other South African companies (e.g., Eksom, SAA) to consider similar investments. **MTN Uganda** currently holds 65% of the entire telecommunications market and 83% of the mobile market. In line with its public service obligations, **MTN Publicom** (a subsidiary) has installed 1800 public payphones throughout the country. **MTN RwandaCell**, established in 1998, provides coverage over 11 major areas of Rwanda and employs 30 local staff. In line with MTN's philosophy of local participation, MTN Rwanda has expanded its distribution network with local businesses playing a pivotal role and over 70 outlets countrywide.

According to its website, MTN's operations engage with the local community. **MTN Rwanda** operates **community sponsorship initiatives** with Emergency Services, Children's Orphanage, Traffic Safety and Save the Gorilla Initiative and sponsors the Rwanda soccer team. **MTN Uganda** has committed over Ush 1 billion to various community and humanitarian projects. **MTN Swaziland** also sponsored the salary of a counselor at the Swaziland Action Group Against Abuse for a year, and served as the official Product Sponsor of the Swaziland Olympic and Commonwealth Games Association.

III. Asia/South Asia

Subsidiaries of **Telekom Malaysia** provide mobile telecommunications services in Bangladesh, Cambodia and Sri Lanka; telecommunications and related services in the Republic of Guinea and telecommunications services in Malawi. Associate Companies provide telecommunications and related services in Ghana, telecommunication services in South Africa, telecommunication and broadcasting services in Thailand and trunk land mobile radio services in Cambodia [Source: www.telekom.com.my].

Hutchison Telecommunications (Hong Kong China) operates a wide range of integrated telecommunications services worldwide and is one of the world's major providers of mobile communications. The Group's international footprint outside Hong Kong China covers Europe (where it built and subsequently sold the Orange PCS network), Australia, Israel, India, Thailand, Malaysia, Sri Lanka, Paraguay, Argentina and Ghana. The Group has been actively involved in 3G licenses in the UK (in a joint venture with NTT Do Co Mo and KPN mobile), as well as in Ireland, Italy, Sweden, Austria, Denmark and Israel via subsidiaries. Hutchison Telecommunications Australia was also awarded a 3G license in Australia and has formed a strategic alliance with Telecom Corporation of New Zealand to provide 3G services [Source: www.hutchison-whampoa.com].

Hughes Software Systems (HSS), an Indian company, is part of the Hughes Electronic Corporation. Founded in 1992, HSS offers outsourcing services to its clients ranging from 'new product design and development' to 'sustaining engineering and testing services' in a variety of domains. These include Wireless Networks, Network Management, Optical Networking, Switching Systems, Convergent networks, Broadband Networks etc. HSS also offers products for the 'Voice over Packet' and 'Mobile Data' along with Legacy solutions. HSS has more than 180 clients worldwide and employs about 1600 people. It has offices in the US, UK, Germany and India. It is represented through its distribution channels in China, Taiwan, Korea, Japan, Australia, New Zealand and Brazil. Its development centres are located at New Delhi and Bangalore in India [Source: Evalueserve].

Packetware India Ltd., established in 1996, employs about 50 professionals and has revenues of about Rs 15 million. It offers telecommunications software and services to clients in the US, Europe and Asia-Pacific. The company offers cost-effective offshore development and maintenance services, telecommunications application development and onsite consulting, through offshore offices and the development centre in Hyderabad, India [Source: Evalueserve].

The **Asia Satellite Telecommunications Company Limited** from Hong Kong China is a medium sized producer of satellite transponder capacity for broadcasting and telecommunications. The company is heavily oriented towards foreign markets, with clients from all continents but Africa. In Asia, it exports to South Korea, Myanmar, Malaysia, Singapore, Vietnam and Pakistan; in the Middle East to Kuwait and Saudi Arabia; in Europe to France, Germany and Portugal; in North America to the US; and in Oceania to Australia. In addition, it supplies local branches of Chinese, Australian and US companies. Given the oversupply in the sector and keen competition from other suppliers, it doesn't expect its business to grow [Source: OECD Survey].

The Indian Company **Data Access** has developed a global carrier network to carry voice and data between South Asia, Europe and the United States. In India, Data Access has developed a network with five operating centres (in Delhi, Mumbai, Bangalore, Chennai and Kolkata) and many points of interconnection with other operators. [Source: European Commission].

Reliance Infocom from India announced in October 2003 its plan to acquire FLAG Telecom, an international provider of wholesale telecom network transport and communications, for an aggregate amount of USD207 million. This will be the first international acquisition by Reliance and the largest such international acquisition in the services sector by an Indian company, according to Mr Anil Ambani, Vice-chairman and Managing Director of Reliance Industries. FLAG owns 50 000km of undersea optic fibre cable which will complement Reliance Infocom's vast 3G digital network in the country, said Mr Ambani. [Source: www.thehindubusinessline.com].

IV. Latin America

The mobile unit of Mexico's former state monopoly and dominant telecommunications company **Teléfonos de México (Telmex)**, **América Móvil**, has bought licenses in Brazil and expanded into nations in Central America and the northern Andean region. **América Móvil** states that it has 30.7 million subscribers in Argentina, Colombia, Brazil, Ecuador, Guatemala and Mexico (by equity participation), making it No.1 in the region ahead of Spain's Telefónica. It has 20 million subscribers in Mexico. The company posted an 18% increase in subscribers at home, and a 37% increase in subscribers region-wide, in 2002 [Source: LatinTrade].

Impsat Fiber Networks, an Argentine telecommunications company, is leading provider of fully integrated broadband data, Internet and voice telecommunications services in Latin America. Impsat owns and operates an extensive pan-Latin American high capacity broadband network using the most advanced technologies and provides fully integrated telecommunications services to more than 3000 national and multinational companies, government entities and wholesale services to carriers ISPs and other service providers throughout the region. In addition to Argentina, the company has operations in Colombia, Brazil, Venezuela, Ecuador, Mexico, Chile, Peru and the US. In 2000, network services accounted for 66% of revenues, internet 11%, turnkey projects 18% and telecommunications services 5% [Source: www.imsat.com; http://biz.yahoo.com; www.business.com].

In **Chile** at the beginning of the 1980's, the telecommunications industry was characterised by a lack of phone lines and investment funds for developing the necessary infrastructure. The sector was opened up for domestic and foreign private investment with the state withdrawing fully from ownership by the early 1990's. Subsequent to liberalisation, state of the art technology was introduced in Chile, including network digitalisation, fibre optics, and satellite equipment. Price-competitiveness and efficient infrastructure allowed the country to enter into agreements with Peru and Argentina to supply the border region with telecommunication services, its first export capacity regionally and a good basis for subsequent trade of telecommunication services on the international markets. [Source: UNCTAD].

The Chilean **ENTEL** is providing services in many Latin American countries and in the US. Its subsidiary **Americatel** operates in Peru, Venezuela and Central America on the market for international and domestic long distance calls. Sales through **Americatel** represent 30% of total ENTEL sales. In Peru and Venezuela, the company is holder of wireless licences. [Source: European Commission]

TOURISM AND TRAVEL RELATED SERVICES

153. Travel agencies and tour operators' services, tourist guides services and hotel and restaurant services are all important export sectors for developing countries, generating employment and foreign currency earnings. Destination marketing organizations — which often comprise partnerships among various tourism suppliers (airlines, hotels, attractions, tour operators) and government tourism boards — are a growing force in the travel industry worldwide helping destinations to promote their “information products” and acquire market presence and clients. They can be crucial for the success of tourism in developing countries, helping the national tourism industry to develop alternative channels for marketing and selling.

154. Given the importance of tourism to many developing countries, this section does not attempt to provide examples from all developing countries actively engaged in tourism. Rather, it focuses on three areas. First, it presents an example of one country from which we received a number of survey replies to highlight the range of activities which may be involved. This country, Colombia, is facing a particularly difficult domestic situation, and while some operators are not optimistic, others believe that business will grow. In one particularly interesting case, a Colombian company has exported a tourism concept (agricultural theme parks) to other countries, with the company acting either as a direct investor or selling the business concept and serving as a consultant. Second, it focuses on developing countries' exploitation of niche, or new kinds of tourism, such as eco-tourism. Third it looks at examples of e-tourism (on-line portals and reservation facilities), a major area of e-commerce potential for developing countries.

Expreso Viajes y Turismo — American Express is a Colombian company employing 120 people and operating in the sector of travel services. Their main export market is the US, which represents up to 10 percent of the total. However, according to the owner of this operator, prospects are not good for the tourism sector due to the extremely difficult situation in Colombia related to violence and guerrilla war [Source: OECD Survey].

Nevertheless, **Hotel Casa Madrigal**, a medium sized Colombian hotel specialising in receptions for institutional and corporate events, expects its international activity to grow, mainly due to the dollarisation of neighbouring Ecuador and to lowering tariffs and competitive prices. Another Colombian company, **La Casona del Patio Amarillo**, the partner of a UK-based company offering a world-wide system of reservation, expects to attract more foreign tourists via an intensive promotional activity targeting Internet portals and gateways [Source: OECD Survey].

Turismo Abordo is a travel agency promoting tourism towards the Colombian capital, Bogota, with up to 25 percent of its clients coming from Spain, Greece and France. It also serves branches of foreign companies based in Colombia, such as Pronet, Alborada Venezuela and Monigramm Gracia. Turismo Abordo expects its international client-base to grow, mainly due to its networks of contacts worldwide and participation to international fairs and events. According to its owner, the market opportunities within the sector are mainly in tourism for leisure and business travellers [Source: OECD Survey].

The **Hacienda El Eden Resort** is a medium sized tourist resort specialised in time-sharing and located in an area of Colombia particularly well suited for ecotourism and adventure sports, the *Valle del Cauca*. The owner, Mario Cifuentes Ortiz, estimates that its affiliation in international time-sharing networks and the business partnerships developed with companies and tourist resorts based in Ecuador, Peru, Venezuela and US, generates from 25 to 50 percent of the overall revenues. Mr. Ortiz expects the share of international activities to increase due to a number of factors including: the general growth of the ecotourism sector, the opportunities offered by timesharing in Colombia, the competitive prices that he is able to offer and an increasing popularity of the southern-west part of Colombia. “Better access to financing and improved telephone connections would further boost the business” says Mr. Ortiz [Source: OECD Survey].

Panaca S.A. (Colombia) is a large firm employing over 250 people consisting of a farm thematic park, a cultural and hotel enclosure, and a foundation. It offers interactive educational, cultural, commercial and consulting services in farming and agrotourism. With over 20 events organised for the year 2003, ranging from animal fairs and beauty contests for pets to educational days on topics such as sustainable development and local traditions, it attracts clients from Colombia and abroad. According to its representative, Mr. Novoa, its international client base — up to 10 percent of total revenues — is likely to grow in the future. The directors are also in the process of exporting their business concept to other countries, either by directly investing in new parks or simply selling their consultancy services to local investors. In **Mexico**, they already signed a tax exemption scheme to construct a park in the rural area of the city of Reinosá, an area bordering the US. This park, which is expected to open between January and March of the 2004, will be followed by three more parks in other areas of Mexico (one in Mexico City, another in the zone between Guadalajara and Querétaro and a third in San Miguel Allende). In **Costa Rica**, a park is planned for the zone of Orotina, in the area of a large national park, whereas in **Spain** the project is to find a location close to Madrid [Source: OECD Survey].

Travel Depot Representaciones is a Colombian company selling tourism services in the US, the Caribbean and South America. Juan Carlos Camacho expects that the international share of the business, currently 75 percent of the total, will grow. He estimates that the reduction in airplane fares and travelling costs and the attractiveness of Latin American destinations have greatly contributed to these developments [Source: OECD Survey].

155. In the last two decades, a new form of tourism has become increasingly in fashion: ecotourism. Several developing countries have engaged in promoting their unspoiled environmental heritage and ecological diversity in order to attract those tourists seeking alternatives to mass, packaged types of tourism. In **Tanzania**, tourism now contributes 14% to total GDP, with foreign exchange earnings generating USD 725 million in 2001, up from USD 259.4 million in 1995. This increase has been driven in part by expansion of new tourism products, including ecotourism (capitalising on Tanzania's extensive national parks and rich biodiversity) and new attractions such as beach tourism. [PricewaterhouseCoopers (2003)].

Cuba beyond the Beaches Eco-Tours are designed to bring tourists in touch with Eastern Cuba's unique natural environment. Based in Santiago de Cuba between the Caribbean and the Sierra Maestras, their tours move out along the shoreline and into the mountains to explore some of the local microclimates. All tours are accompanied by experienced translators, and bi-lingual staff. Carefully chosen accommodations (home stays, eco-resorts and 3 — 5 Star hotels), air-conditioned transportation and an inclusive package are offered [Source: Cubanet].

For 30 years, **TOURINDIA** has promoted tourism in the southern state of India of Kerala. The managing director, Babu Varghese, started Tourindia as a tourists' guidance bureau in the early seventies, when tourism was only emerging. In order to meet the nascent demand for backwater tourism he introduced the possibility to comfortably cruise in the local canals converting the traditional Kettuvallam cargo boats of Kerala into Kettuvallam Houseboats. Later ecotourism initiatives include: the "Treehouse experience at Green Magic Nature Resort" a genuine forest experience with minimal environmental impact where all essentials must be carried in and tourists use only local materials and indigenous techniques; and "Periyar Tiger Trail" — a protection-oriented adventurous trekking programme involving the former poachers [Source: ecotourism2002.org].

Successive governments in **Costa Rica** have made a real effort to preserve the country's image as an ecotourism heaven. **Costa Rica Rainforest Outward Bound** is dedicated to teaching leadership, personal development, outdoor skills and self-confidence through the medium of adventure, education and exploration. Its courses feature: stays with an indigenous community, free hiking and rafting, surfing, the exploration of hot springs, and an active volcanic region [Source: Internet].

Brazil has a large number of eco-tourism operators, reflecting the country's unique biodiversity and rainforest environments. **Viverde Turismo Ltda** is a travel agency specialised in the Amazon rainforest in Brazil, providing a range of community-based ecotourism, jungle expedition and wildlife viewing tours [Source: www.infohub.com].

With a population comprising more than two hundred and fifty ethnic groups having traditions dating a thousand years back, a biodiversity characterized by forest, savannah and mountains, the richest and most diversified fauna, **Cameroon** has an enormous ecotourism potential. **Ebene Voyages** organises eco-tourism to the four sites of Dja Forest Reserve, Korup National Park, Limbe Botanic Garden and Ebodje [Source: Internet].

In Ethiopia **Ec lodge Plc.** has a plan of development of 11 ecotourism centres in different localities of the country while **Village Ethiopia Plc.** is engaged in the development of three eco-lodges [Source: Africa News Service through Reuters Business Briefings].

The tourist operator **Gol Travel Co. Ltd.** was the representative of Mongolia at the World Ecotourism Summit 2002. As ecotourism has rapidly developed around the world, demand has also steadily increased in Mongolia. The government strictly regulates who can provide ecotourism services [Source: World Ecotourism Summit webpage].

156. E-tourism represents another promising area of export and is one of the fastest-growing e-commerce sectors. UNCTAD (2001) reports that competent, modern digital workforces in developing countries have acquired a competitive advantage in e-tourism, which at the point of sale is largely an information product. According to UNCTAD, in 2000 online travel bookings in the US and Europe nearly doubled, to USD 15.5 billion, and exceed online software and hardware purchases — previously the leading category in consumer e-commerce. Of the USD 64 billion in developed-country 1999 e-commerce sales, travel, transport and hotel reservations as a group represented the largest category, accounting for 38.5%.

157. UNCTAD estimates that tourism represents at least half of all e-commerce in developing countries and is the single most important e-commerce sector. Developing countries' e-tourism market is potentially worth USD 5 billion, but their current ability to acquire more than 10% of this amount is limited — mainly because they lack computer and Internet penetration and online credit card payment facilities.

158. However the fact that most tourism consumers come from developed countries with modern ICT and financial infrastructures may lessen the impediments faced by destinations in the developing world in securing online tourism bookings. Destination marketing organizations in developing countries can be crucial for the success of e-tourism, helping the national tourism industry to compete in the online market; they can even become national portals for prospective tourists. Two examples of e-tourism in developing countries that successfully exploit such partnerships are Asiatravelmart.com and Lakbay.Net.

Asiatravelmart.com, which bills itself as “Asia’s number-one online travel marketplace”, plays a dual role as an operator of an Internet travel reservation system and as a clearinghouse for secure e-commerce payment, collecting funds from buyers on behalf of suppliers. Individuals and corporate customers from around the world can interact with 43,000 travel suppliers and travel agents from 200 countries providing 110,000 wholesale products [Source: UNCTAD].

Kalakbayan Travel Systems Inc. has created **Lakbay.Net**, an Internet-based national travel reservation system that aims to provide travelers with accurate Philippine travel information and easy-to-use reservation and payment facilities. Its e-business model brings together a website for business-to-consumer (B2C) commerce; a B2B portal for tourism producers; e-services for the business community, consisting of a booking system and e-payment facilities; and offline marketing through a dedicated television channel, Lakbay TV. Lakbay is pioneering the concept of “appro-tech” — using technology that is appropriate for the competence of each individual network member, including short message service (SMS), e-mail and offline communication technologies [Source: UNCTAD].

159. Tourism operations in developing countries can also include subsidiaries of international companies, such as Kuoni Travel Ltd of Switzerland, which has 300 offices around the world. Equally, companies based in developing countries can also set up in a number of countries to promote travel to their home country.

Sita Inbound, a SBU of KUONI Travel India Ltd., is one of the leading Inbound Tour Operators in India. It has been in existence for last 45 years. The company has a network of 28 offices in India with associate offices in Nepal and Sri Lanka. The company also has overseas offices in more than 8 countries. Sita Inbound organizes tours to the Indian subcontinent for groups and individuals. The company handled approximately 100,000 foreign tourists in 2001, generating revenue of Rs. 1,300 million. Its key markets are Europe, UK and North America [*Source: Evalueserve*].

Travel Corporation of India (TCI) is a travel organisation offering national and international services under one roof. Its core activities include destination management services, business travel and leisure travel. The company has 27 offices in India and 10 offices overseas at strategic locations for integrated travel requirement for business or leisure. The international office locations include offices in Germany, UK, US, Spain, China, Japan, South Korea, Canada and Australia. TCI is a member of a number of international travel trade associations such as IATA [*Source: Evalueserve*].

ANNEX

Table A.1. List of Global Companies Outsourcing to Developing Countries

List Of Global Companies Outsourcing To Developing Countries					
India					
Company	Processes	Nature	Vendor	People employed (approx.)	
1 McKinsey	R&D (customised application software)	Captive		300	
2 British Airways	Back office operations for BA and 9 other airlines	Captive		1,200	
3 American Express	Fraud and risk modelling	Captive			
4 General Electric	Financial processing	Captive		13,000	
	Call center				
5 Swissair	Call center	Joint Venture			
	International accounting services				
	Transaction processing				
6 Netscape Communications	Revenue accounting and management	Captive		1,200	
	Fare checks and pricing support				
7 Oracle	E-help desk, query,	Captive		2,500	
8 Adobe	Call center	Captive		2,500	
9 World Bank	R&D	Captive		100	
	Accounting, procurement and loan disbursement	Captive			
10 Accenture	Procurement	Captive		1,000	
11 Standard Chartered Bank	Loan disbursement	Captive		2,200	
	R&D (software)	Captive			
12 HSBC	Banking operation	Captive	Satyam Computers, HCL Technol	2,000	
	IT services				
13 World Bank	Human resource services	Third Party		400	
14 Bechtel	Electronic data processing	Captive		N.A.	
15 Pfizer	IT services & support	Captive			
	Engineering design	Captive			
	R&D	Captive			
Philippines					
Company	Processes	Nature	Vendor	People employed (approx.)	
1 American International Group (AIG)	Call center	Joint Venture			
2 P&G	Data entry and encoding	Captive			
	Accounting/ financial reporting services				
3 Caltex	Employee services	Captive			
4 UPS Asia	Corporate back office	Captive			
5 SPI Technologies	Consolidated financial accounting	Captive			
6 International Red Cross (Swiss)	Accounting	Captive			
	Corporate technology support				
7 Citibank	Financial management services	Captive			
	Systems development support				
	General and passenger accounting				
8 Alitalia	Engineering design	Captive			
9 Bechtel Fluor Daniel Parsons	Engineering design	Captive			
10 Barnes & Noble AOL	Internet service	Captive			
11 Andersen Consulting	Developing and customising software	Captive			
South Africa					
Company	Processes	Nature	Vendor	People employed (approx.)	
1 Swisscard	Credit-card processing	Third party	Nedcor		
2 Lufthansa	Call Center	Captive		120	
China					
Company	Processes	Nature	Vendor	People employed (approx.)	
1 Microsoft	Technical support center	Captive			
2 GE Capital		Captive		350	
Malaysia					
Company	Processes	Nature	Vendor	People employed (approx.)	
1 ABN Amro	Customer Support Services	Third Party	Vsource		

Source: Evalueserve

Table A.2. Developing country firms included in top 150 construction firms according to construction revenue generated outside of each company's home country in 2001 in USD millions

Rank	Firm	Country	2001 revenue International (USD millions)	2001 revenue Total (USD millions)	New contracts (USD millions)
12	Hyundai Engineering & Construction Co. Ltd	Korea	2 036.2	4 245	4 709
22	China State Constr. Engineering Corp. +	China	1 093.5	5 815.8	7 326.9
29	Construtora Odebrecht +	Brazil	843	1 327	1 890
41	China Harbour Engineering Co. (Group) +	China	589.1	2 225.7	1 953.3
42	Paul Y.-ITC Constr. Holdings Ltd. +	Hong Kong China	586	1 407	833
43	SKEC +	Korea	576	1 476	1 568
46	Grinaker-LTA Ltd. +	South Africa	492	1 164	1 170
50	CNMEG +	China	456.6	783.1	2 061.4
57	Shanghai Construction (Group) General Co.	China	379.5	2 491.3	1 814.5
61	Daewoo E&C Co. Ltd +	Korea	328	2 343	3 093
68	China Civil Engineering Construction Corp. +	China	277.4	286.3	252.3
72	CMEC +	China	250.7	384.7	1 582.6
73	China Railway Engineering Corp. (CREC) +	China	249.2	4 781.8	5 575.6
74	China Road & Bridge Corp. +	China	243.4	1 389.1	1 895.4
76	Dongfang Electric Corp. +	China	217.2	217.2	361.4
78	Tekfen Construction & Installation Co. Inc. +	Turkey	196.6	337.7	318
83	Enka Construction & Industry Co.	Turkey	177.6	599.2	151.3

Table A.2 cont'd.

Rank	Firm	Country	2001 revenue International (USD millions)	2001 revenue Total (USD millions)	New contracts (USD millions)
86	The Arab Contractors O.A.O & Co. +	Egypt	164.4	1 344.7	673.6
88	Solel Boneh International la Ltd +	Israel	157.6	157.6	344.4
90	China Metallurgical Construction (Group) Corp. +	China	151	1 737.3	2 117
92	National Petroleum Construction Co. (NPCC)	UAE	147	296	428
94	Arabian Construction Co.	Lebanon	139.2	162.2	442.5
96	Construtora Andrade Gutierrez SA +	Brazil	137	544	698
98	Ssangyong Engineering & Construction Co. Ltd +	Korea	132	1 100	486.5
99	China Petroleum Eng. Construction +	China	131.9	213.9	434.2
100	China Jiangsu International Econ-Tech Coop. Corp. +	China	127.6	178.3	250.2
102	Contracting & Trading CAT Group of Co.s +	Lebanon	121.6	143.7	255
103	Energoprojekt Group +	Yugoslavia	121.3	165.2	188
105	Ircon International Ltd	India	115.5	179.4	91.2
107	China International Water & Electric Corp. +	China	109.9	174.4	383.6
113	China National Chemical Engineering Corp. +	China	96.5	504.2	337.7
115	China Railway Construction Corp. +	China	91.5	4 941.8	4 901.6
116	China National Overseas Engineering Corp. +	China	89.8	93.3	115.3
118	TEKSER Construction Industry and Trading Inc. +	Turkey	86.1	99.5	NA

Table A.2 cont'd

Rank	Firm	Country	2001 revenue International (USD millions)	2001 revenue Total (USD millions)	New contracts (USD millions)
119	China Nat'l Complete Plant Import & Export Corp. +	China	85.4	85.4	83.6
120	China Wanbao Engineering Corp.	China	83.5	99.9	110.3
121	China Wu Yi Corp. +	China	80.8	131.2	112.9
123	STFA Construction Group	Turkey	76.2	133.9	86.3
125	Bayindir Construction Inc.	Turkey	73.8	179.1	NA
127	Hanjin Heavy Industry & Construction	Korea	72.8	675.8	991.2
128	China Nat'l Water Res. & Hydro Engineering Corp. +	China	71.4	1 555.1	1 945
129	GAMA AS +	Turkey	70.8	244.3	278.8
132	RSEA Engineering Corp. +	Chinese Taipei	64	752.4	967.7
133	China Shanghai SFECO +	China	63	63	156.9
138	Glavbolgarstroy	Bulgaria	57	98.3	52
139	Harbin Power Engineering Co. Ltd.	China	55.5	96.4	286.4
141	Zhejiang Construction Engineering Group Co. Ltd. +	China	51	953.6	907.8
144	CTCI Corp. +	Chinese Taipei	48.4	305.2	542.2
146	Granit Construction Stock Co.	FYR Macedonia	45	181	127
147	China Electric Power Tech. Import & Export Corp. +	China	44.2	302	333.1
149	Italian-Thai Development PCL +	Thailand	43.5	401	548.9

Source: The ENR top 225 companies, © The McGraw-Hill Companies, Inc (<http://enr.construction.com>). Key: Companies are ranked according to construction revenue generated outside of each company's home country in 2001 in USD millions. Those with subsidiaries included (+) are listed by company rank. NA=Not available. Figures include prime contracts, shares of joint ventures, subcontracts, design-construct contracts and construction management "at-risk" contracts when a firm's risks are similar to those of a general contractor. Figures also include the value of installed equipment when a firm has prime responsibility for specifying and procuring it within the scope of a construction contract. Note: The company ranked 27th globally, Joannou & Paraskevaides (Overseas) Ltd. is formally attributed to Guernsey, UK, but the company originates in Cyprus.

Table A.3. Top 20 Container Terminals and their throughput 1999

Ranking	Port	TEU*
1	Hong Kong, China	16 100
2	Singapore	15 900
3	Kaohsiung (Chinese Taipei)	6 985
4	Busan (Korea)	6 439
5	Rotterdam	6 400
6	Long Beach	4 408
7	Shanghai	4 210
8	Los Angeles	3 829
9	Hamburg	3 750
10	Antwerp	3 614
11	New York/New Jersey	2 863
12	Dubai	2 845
13	Felixstowe (UK)	2 700
13	Tokyo	2 700
14	Port Klang (Malaysia)	2 550
15	Tanjung Priok (Indonesia)	2 273
16	Gioia Tauro (Italy)	2 253
17	Kobe	2 200
17	Yokohama	2 200
18	Bremen/Bremerhaven	2 181
19	Manila	2 104
20	San Jaun	2 085
Total top 20		109 221

* = twenty foot equivalents — i.e., containers.

Source: Mukherjee, (2001)

Table A.4. Developing country firms included in the list of top 150 design (architect and engineering) companies ranked according to revenue for design services performed on projects outside the firm's home country in 2001

Rank	Firm	Country	Type of firm	2001 revenue International (USD millions)	2001 International revenue as % of total
15	Dar Al-Handasah Consultants	Egypt	EA	350	99
64	Sinopec Engineering Inc.	China	EC	50	21
71	Khatib & Alami	Lebanon	EA	39.9	85
73	TAHAL Consulting Engineers	Israel	E	39.7	73
92	SKEC	Korea	EC	24.2	11
102	China International Water and Electric Corp.	China	EC	20.4	75
112	CNMEG	China	EC	16.1	18
113	China National Chemical Engineering Corporation	China	EAC	15.9	30
122	Africon	South Africa	E	12.9	34
132	Beijing Urban Construction Group	China	AEC	10.7	30
133	CTCI Corp.	Chinese Taipei	EC	10.7	23
139	China Huangqiu Chemical Engineering Corp.	China	EC	9.7	67
142	Chengdu Chemical Engineering	China	EC	9.3	42
147	China Power Engineering Consulting	China	EC	8.3	7

Source: The ENR top 225 companies, © The McGraw-Hill Companies, Inc (<http://enr.construction.com>). Key: A=architect; E=engineer; EC=engineer-contractor; AE=architect-engineer; EA=engineer-architect. Firms classified themselves.

PART II

MODELLING THE ECONOMIC BENEFITS OF SERVICES TRADE LIBERALISATION

INTRODUCTION

160. The purpose of this part of the study is to consider the implications for developed and developing countries of international trade liberalisation of the services sectors. Against the background of a general perception in a number of developing countries that they will lose from services trade liberalization, the study summarises and discusses the existing literature on quantifying the effects of services trade liberalisation.

I. Case for multilateral liberalisation

161. The service sector is becoming the largest and most important sector in most economies. Not only do economies derive the bulk of their employment and income from services, but many services — financial, telecommunications and transport — are vital intermediate inputs for the production of other goods and services. The efficiency of this sector is crucial for the efficiency of the overall economy. In addition, all developing countries have registered a considerable expansion of total services trade, though from low bases in most areas.

162. Restrictions on trade in services impose costs, usually in the form of higher prices for businesses and consumers. Restrictions limit domestic and international competition, decrease efficiency and permit incumbent service suppliers to charge prices above those in a competitive market. Estimating the extent to which restrictions increase prices or impede competition crystallises the benefits of removing restrictions for consumers, policymakers and trade negotiators. Multilateral liberalisation can be seen in this context as an invaluable component of countries' overall efforts to capture the benefits of competition. Indeed, despite their technical differences, the formal models surveyed in this study consistently indicate that the predicted gains from services liberalisation accrue not primarily to liberalising countries' trade partners, but to these liberalising economies themselves.

II. Some concerns of developing countries

163. There is a general perception in a number of developing countries that they will lose from global services trade liberalization since their domestic service industries are inefficient and non-competitive. This view is despite the arguments from economists as to the gains to domestic consumers from lower prices and the joint benefits which accrue to both exporting and importing countries from exploiting comparative advantage, improved market access opportunities abroad and more efficient markets at home. It is also despite the commonly held view that the production of many services are labour intensive, which economists believe should be the source of comparative advantage for poorer developing countries in services provision.

164. This caution towards global services trade liberalization in the developing world seems to reflect two concerns. One is the general assumption in the developing world that any future negotiated global liberalization of services trade will be largely one sided in the results it will yield. The other reflects the nature and size of the adjustments in domestic economies which services liberalization may imply.

165. The belief that any future negotiated global liberalization of services trade will be *de facto* largely one sided is based on the supposition that if new WTO multilateral (or even regional) services liberalization is negotiated, developed country service providers will likely gain significantly improved access to developing country service markets, but the converse (significantly improved access for developing country service providers to developed country service markets) will likely not happen. Asymmetry in negotiating power is one reason cited for this possible outcome; another mentioned reason is the extent of commitments made by developed countries at the end of the Uruguay Round.

166. The second concern that developing countries express is the nature and size of the adjustments in domestic economies which services liberalization may imply. One dimension of adjustment relates to potential foreign majority ownership and control of provision in key service sectors, and the related security and cultural concerns. Foreign entities having access to and control over bank records and financial information of domestic residents, for instance, is seen in some countries as unacceptable. Also, a vibrant and vital domestic broadcast or film industry may be viewed as integral to national cultural identity. Added to such concerns is the potential size of labour market adjustments if domestic banks are displaced by foreign banks, domestic by foreign airlines, and other large changes in the organization of labour intensive sectors which might follow after liberalization.

167. Several initial points could be noted to address these concerns. First, in reality, through the process of ongoing regulatory reform in the OECD, changes are in fact being made in market access arrangements which enable greater access by developing country service providers, though these are not necessarily reflected in scheduled commitments in GATS in the WTO. The current negotiations offer an opportunity for such openness to be reflected in commitments in sectors and modes of interest to developing countries. Furthermore, an important and neglected dimension of market access is South-South trade, and the potential that developing countries have to gain from liberalization of markets in other developing countries.

168. Second, adjustment following trade liberalisation, while challenging, can be facilitated by the adoption of appropriate policy frameworks; and indeed, there is some evidence that adjustment costs may be lower for trade in services than for manufacturing. In this context, attention to the nature, pace and sequencing of liberalisation will be key to both managing adjustment and to ensuring that liberalisation is underpinned by sound regulatory frameworks. The need for careful consideration of the nature, pace and sequencing of liberalisation is reflected in the structure of the GATS itself, with its in-built flexibilities and emphasis on progressive liberalisation. Equally, however, for many developing countries, the creation of appropriate regulatory frameworks for liberalisation — and the ability to enforce them — will require significant capacity building.

169. This study aims to contribute to WTO Members' consideration of these issues by presenting quantitative evidence on the effects of services trade liberalisation, for both developing and developed countries.

KEY FINDINGS FROM AVAILABLE STUDIES

I. Methodology

170. This part of the study aims to provide objective and quantifiable assessments of the benefits of services trade liberalisation, drawing upon the most recent modelling and econometric work on the gains from liberalisation of services and building upon previous work undertaken by the Trade Directorate.¹³ For both the new studies identified, and the studies covered in previous OECD work, the results relevant to developing and developed countries are extracted separately to allow for comparative analysis of the findings. With respect to services barriers, the study presents estimates of barriers for developing countries, analysing their sectoral variation and comparing them with estimates for developed economies. Similarly, in terms of modelling the welfare effects of removing those barriers, the study presents a quantitative picture of the gains for developing countries compared with the gains for developed countries, for the service sector as a whole, and for individual service sectors.

II. Barriers

171. Quantifying the welfare effects of liberalisation in services requires two steps: the estimation of barriers and the insertion of these estimates into a general equilibrium (CGE) framework (Jomini *et al.*, 2002). Measuring the magnitude of restrictions and barriers is thus a fundamental step towards a correct assessment of the impact of services liberalisation. It is also important *per se* because “it crystallises the costs of protection for governments, the benefits that will accrue from their removal and is impetus for reform”(McGuire, 2002).

172. The literature assessing the nature and magnitude of barriers mainly follows methodologies previously developed to measure Non Tariff Barriers (NTBs) in manufacturing.¹⁴ As a result, tools for measuring barriers to services trade and the impact of liberalization are still subject to some limitations and still need to be improved to address the distinctive features of services.

173. In addition to the larger spectrum of barriers than in the case of goods, it is necessary to determine whether regulations actually constitute barriers to trade, as one cannot simply equate regulations with barriers. Further, given that regulations on services are generally designed to serve a range of policy

13. See previous studies on the estimates of services barriers and welfare gains from services trade liberalisation: “Quantification of costs to national welfare from barriers to services trade: a literature review”, [TD/TC/WP(2000)24/FINAL].

14. NTBs are generally measures taken by governments. These measures can affect the entry and operations not only of foreign suppliers, but also of new domestic suppliers, and consequently directly raise the price or cost of both foreign and domestic supply. Conventional non-tariff barriers to trade can be classified as market access instruments or national treatment measures and can take the form of quantitative restrictions, price based instruments, licensing or certification requirements and discriminatory access to distribution or communication systems. Similarly, in services, trade restrictive measures either restrict market access or discriminate against foreign providers and barriers can be classified according to whether they impinge on the right of establishment (mode 3) or the right to supply or consume services in a foreign country (mode 1, 2, 3, 4). [See Findlay and Warren (2000), Chen and Schembri (2002) and McGuire (2002*b*) for detailed reviews on the literature and methodologies to measure the barriers to trade in services]

objectives, it might also be relevant to consider whether the regulation is more burdensome than necessary to achieve its policy objective and whether other, equally effective but less trade restrictive, measures might be available. These policy measures are not easy to quantify and require the development of sophisticated measurement methods.

174. The last few years have seen the development of a number of new methodologies for estimating the magnitude of barriers to trade in services [See APPENDIX 1 for a discussion]. In particular, new studies have tried, for the first time, to factor in the effect of regulations, proposing a sectoral and modal treatment of barriers as well as more advanced weighting methods. The studies, while containing very innovative methods, are based on available data which generally only covers the period up to the mid and late 1990's. Thus, recent developments in services market liberalisation in various countries are not always reflected. Equally, to the extent that these studies rely on GATS schedules of commitments as sources of information on existing barriers, they are subject to some limitations. In many cases, the existing level of liberalisation in a sector is greater than that committed to under the GATS and, further, not all types of measures are subject to scheduling under the GATS.

175. In summarising the different existing methodologies for measuring barriers the current study uses the method proposed by Deardoff and Stern (1998) and distinguishes three types of measurement: frequency measures, quantity-based measures and price-based measures. However, these methods need to be adapted to capture the special characteristics of services trade. In this context, they can also be divided into following used to measure the level of restrictions on services and methods used to measure the effect of restrictions on services. Broadly speaking, the first category contains frequency measures and the second quantity-based measures and price-based measures.

Frequency measures

176. Restrictions on trade in services are usually measured using an index, *i.e.* a system of scores and weights that converts qualitative information into quantitative measures based on the number and severity of restrictions. Since the pioneering "guessestimates" of Hoekman (1995) based on the GATS scheduled commitments, the quality and sophistication of the indices proposed has been progressively increasing. The most noteworthy advances have been in terms of the barriers addressed, which are collected from a growing number of sources, and of the measurement techniques and weighting methods employed.

177. **Hardin and Holmes (1997)** developed frequency indices to measure the size of barriers to FDI across industries. These indices have three important characteristics: First, moving beyond GATS schedules, the authors calculated the size of impediments to trade using information from the APEC countries' Individual Action Plans (IAPs), which have the advantage of being a more accurate representation of actual barriers. Second, they cover a broad spectrum of restrictions. Finally, weights are attributed to different types of barriers on the basis of perceived economic impact of identified policy categories. Their results indicate that communication and financial services are the most subject to FDI restrictions, while business, distribution, environmental and recreational services are the least restricted. Hardin and Holmes applied their methodology to 15 APEC economies and found that the most protected countries include the Republic of Korea, Indonesia, Thailand and China.¹⁵

178. Joint work by the Australian **Productivity Commission and Australian National University** developed frequency measures for six service industries: telecoms (Warren, 2001), banking (McGuire and Schuele, 2001), maritime transport (McGuire *et al.*, 2001), education (Kemp, 2001), distribution (Kalirajan, 2000) and professional services (Nguyen Hong, 2000). Their *trade restrictiveness indices* use

15. The findings by Hardin and Holmes are based on data of mid-1990s. The paper does not include recent developments of services market liberalisation in APEC countries.

information on restrictions for services sectors collected from a variety of sources including a number of international organisations and national trade agencies. Like Hardin and Holmes, this joint work represents an improvement on Hoekman's methodology, the major limitation of which was its reliance just on GATS schedules, which are very incomplete listings of services trade barriers. However, the extent of the information on restrictions collected and the sophistication of the index developed by the Australian Productivity Commission and Australian National University varies from sector to sector.

179. Other methods developed for specific sectors include: Marko (1998) on telecom services, Claessens and Glaessner (1998) and Mattoo (1998) on financial services, and Colecchia (2001) on professional services.

180. All the studies identified find that, regardless of the sector under analysis and the methodology used, on average, developing countries are more restrictive than developed countries. In what follows, we briefly summarise the main findings regarding the existing barriers in developing countries for 6 sectors. To assist in this analysis, sector specific charts can be found in **Appendix 5**. While reporting on individual countries' scores, these charts also propose aggregate scores for low and medium income economies (Average LMIEs) and high income economies (Average HIEs).

Financial and Banking Services

181. **Claessens and Glaessner (1998), Mattoo (1998), McGuire (1998), McGuire and Schuele (1999) and McGuire and Schuele (2000)** all developed methodologies to measure barriers to financial services. In spite of the different methodologies used, all these studies find that **Asian and South American economies are more restrictive and discriminatory than North American and European countries**. From this, McGuire (2002) has developed a comparison table where results from the studies above are reported with restrictiveness index scores ranging from 0 (least restrictive) to 1 (most restrictive). [See APPENDIX 4]

Distribution services

182. **Kalirajan (2001)** provides an index for distribution services for 38 economies from the Asia-Pacific, Europe and American regions. He finds that, **on average, in this sector, low and middle income economies are more protected than high income economies**. The most restricted markets are India, Indonesia, Republic of Korea, Malaysia, Philippines and Thailand. Common restrictive measures in these economies are prohibitions on participation in retail distribution, a limit on the number of import licences granted to foreigners, and limits and performance requirements on foreign equity participation in domestic firms. However, recent market liberalisation in the distribution sector of some of the countries analysed in Kalirajan study are not reflected in the findings. For example, in the second half of the 1990's Korea undertook significant liberalisation in its distribution sector.

Maritime services

183. **McGuire et al. (2000)** quantify the extent and nature of restrictions on maritime services for 35 economies worldwide. **On average, restrictions on maritime services are higher for low and middle income economies than for high income economies. Nevertheless they vary significantly from country to country**. While Canada, EU Member States, New Zealand and Singapore are relatively open, India, Indonesia, Republic of Korea, Philippines, Thailand, Malaysia, the United States, Brazil and Chile are found to have the highest barriers against foreigners. They also find that Turkey, the Philippines, Thailand, Chile and the United States have the most discriminatory restrictions.

Professional services

184. **Nguyen-Hong (2000)** calculates a restrictiveness index for 34 economies in the Asia-Pacific, European and American regions. **The study finds that professional services are most restricted in Indonesia, Malaysia, Mexico, the Philippines and Turkey.** These economies all have nationality and residency requirements for the delivery of professional services. In some professional services, they require foreign firms to enter the market through joint ventures with local firms, apply economic needs tests on the number of professionals admitted to practice, limit the form of establishment and limit foreign investment in local firms. **Indonesia, Malaysia and the Philippines are found to have the most discriminatory restrictions against foreigners. Argentina and South Africa are, on the contrary, are found to be the least restricted developing countries** with recognition of foreign qualifications and liberal requirements on foreign residence and foreign ownership.

Telecoms

185. **Warren (2001)** reports that **Burkina Faso, Costa Rica, Ethiopia, Malta, Syrian Arab Republic and Tunisia are the most restricted markets for telecommunications services among 136 countries world-wide.** In the Asia-Pacific, European and American regions the highest barriers to telecommunication services are imposed by India, Indonesia, Republic of Korea, Thailand and Turkey. These economies are characterised by major limitations on FDI in fixed network and mobile phone services. They tend to have higher restrictions on FDI in fixed network services than mobile phone services. They also have varying levels of restrictions on access to leased lines and networks. **Argentina, Brazil and Chile are found to be the least restrictive.**¹⁶

Education

186. **Kemp (2001)** estimates barriers in education services. Similarly to Hoekman (1995), the GATS schedules are the data source used to identify and measure the extent of trade and investment restrictions. It innovates however because its indices are calculated by taking the weighted average of scores associated with five identified subsectors of education in the four modes of supply and two categories of limitations (market access and national treatment). Two indices are proposed, which differ from each other in the scoring method. While according to the first scoring system, sectors unscheduled in the GATS are treated as being fully restricted and given a score of 1 (fully restricted), according to the second scoring system, sectors unscheduled in the GATS are treated as being unrestricted and given a score of 0 (no restrictions). Accordingly, results between the two indices are quite different. In the first case, education is found to be relatively protected, with most countries scoring higher than 0.5 and only one country (Lesotho) lower than 0.3. In the other case, education is found to be relatively unrestricted with only one country (Japan) receiving a score higher than 0.5 and 21 countries receiving a score below 0.3. **According to both indices, no noticeable differences exist between developing and developed countries taken as distinct groups.**

187. The difference in the results obtained by Kemp underlines the difficulty of assessing existing barriers on the basis of GATS commitments and the two sets of scores obtained should be considered as upper and lower bound for estimates. Markets may be open even in the absence of commitments, and any commitments made may also not reflect the existing level of market openness, including due to unilateral liberalisation undertaken since the Uruguay Round. While the evidence suggests that international trade in

16. However, the most recent developments in services liberalisation of the above mentioned countries is not reflected in Warren's work. For example, after the Asian financial crisis of 1997, Korea has achieved significant progress in the liberalisation of a number of sectors. In telecommunication services, important restrictions have been removed. On April 2001 the government has allowed foreign ownership in wire line and wireless telecommunication services up to 49%.

some education services is growing, this is not always reflected in countries' GATS commitments. An initial scan of commitments by WTO Members known to be involved in trade in post-secondary education services suggests that it is probably not accurate to assume that the absence of commitments indicates a closed market; however, the reverse assumption (that unscheduled sectors are completely open) is likely to over-estimate the extent of actual market openness.

Quantity based measures of trade restrictiveness

188. Quantity based measures of trade restrictiveness are usually derived from standard models of trade determination, *i.e.* Heckscher-Ohlin model of comparative advantage or Helpman-Krugman model of product differentiation, and estimated econometrically by means of gravity equations. The rationale behind this approach is very similar to approaches relevant for goods trade. It estimates what trade would be in the absence of barriers and compares this to trade actually occurring. Barriers are measured either in terms of residuals (difference between actual and potential level of trade) or using dummies.¹⁷ However, until very recently, it was difficult to apply this framework to the study of the barriers to trade in services because of a narrow base of bilateral (country to country) data for trade in services.¹⁸

189. Despite the shortage of data, three papers have developed quantity based measures of barriers: **Hoekman and Francois (1999), Fink, Mattoo and Neagu (2001) and Warren (2001)**. The first two papers develop a gravity model to explain US trade with its main trading partners, while the latter develops a measure of trade restrictiveness for telecom services. Warren's dataset, on barriers in the telecom sector, calculates impediments based upon a survey of actual policies rather than those inferred from commitments made in trade negotiations. Warren uses the quantities consumed instead of the quantities traded. In this paper, no residuals or dummies are estimated. Instead the impact of impediments to trade is depicted by a trade restrictiveness index. Warren calculates a set of five different indices for 136 countries from both developing and developed countries. **These indices identify as most liberal 9 developed countries and one developing country (Chile), while the 10 least liberal countries are all developing economies:** 6 from Africa (Burkina Faso, Ethiopia, Tunisia, Angola, Mali, Mozambique), 1 from Central America (Costa Rica) and 3 from the Middle East/South Mediterranean (Syria, Jordan and Malta).

190. Warren's use of quantities consumed rather than quantities traded may be more appropriate for two reasons. First, services trade barriers do not just discriminate against foreigners — they can also prevent entry by new domestic firms. It is possible that such market access barriers may reduce domestic supply as well as cross-border supply. Approaches that focus on quantifying the latter may miss the former effects. Second, in certain service sectors, including telecommunications, cross-border trade is minor. The important form of trade is via commercial presence, which is simply not captured in conventional trade statistics. Where commercial presence matters, total production or total consumption are much closer to the relevant quantity concept than is total trade.

Price-based measures

191. Measuring the effects of restrictions on trade in services on price or cost variables has, until recently, been considered too difficult. This is mainly because of the difficulty in identifying restrictions on services and the complexities connected with the calculation of a counterfactual, *i.e.* the price that would

17. It should be noted, though, that these trade restrictiveness indexes and policy indexes are more elaborate than traditional dummies taking zero-one values.

18. Since 2002, the OECD has produced some bilateral data on services trade. Nevertheless, these are still in a relatively early stage of development and are subject to some limitations [Source: see www.oecd.org/std/trade-services]. These data have been recently used by the OECD to assess the impact of the regulatory barriers on bilateral trade.

prevail in the absence of trade barriers.¹⁹ Two methodologies have been proposed. **Francois and Hoekman (1999)** developed a measure based on gross operating margins. These margins provide an indication of the relative profitability of different industries, and hence, the relative magnitude of the barriers to entry that may exist. A second methodology, developed by the **OECD (2001)**, assesses the impact of various regulatory measures on performance indicators for a number of service sectors. Performance measures vary, depending on the effects the barriers are expected to have (rent-creating or cost-raising).

192. This second methodology has in turn been developed by other researchers to estimate the impact of regulatory regimes on prices in various sectors in a number of developing and developed countries (see, in particular, joint work by Australian Productivity Commission and Australian National University). The Australian team obtained price-based measures for specific sectors: Trewin (2001) and Warren (2001) for telecoms, Kalirajan *et al.* (2001) for banking services, Kang (2001) for maritime services, Kalirajan (2001) for food distribution, Nguyen-Hong (2001) for professional (engineering) services, Doove *et al.* (2001) for air transport, telecommunications and electricity.

193. The above mentioned studies propose methods for measuring the level and the impact of restrictions on prices or on output at a sectoral level. They all develop sector-specific indexes with weighting methodologies which try to capture, in a subjective manner, the likely economic impact of individual restrictions. The key point is that, if components of the index are kept separate, they can be entered into the econometrics separately, so that the econometrics can be used to estimate the weights. Moreover, they differentiate between restrictions affecting cross-border trade, commercial presence or movement of people (modal differentiation). Presented below is a brief summary of those studies that model developing countries as separate economies. This summary is partly drawn from previous OECD analysis.

Telecommunications

194. **Trewin** identifies and decomposes the observed cost differences between telecommunications costs **in a sample of 13 low income and 24 high income countries and finds structural differences between the two sets of countries.** Warren assesses the effect of impediments to trade and investment in telecommunication services (mobile telephony and fixed network services). **Also in Warren, the estimates for the advanced industrialised countries are relatively low in comparison to the much higher estimates for the newly industrialising countries covered.** Warren finds that the price effect of restrictions on foreign telecommunication providers was less than 20% for the majority of economies

19. In the context of trade in homogeneous goods, price-based barriers would be estimated using the domestic-foreign *price-wedges*. The underlying assumption, in this framework, is that a market free from impediments to entry results in prices which equate with marginal costs. With perfect substitution between the domestic and foreign good, the foreign *mill* price, *i.e.* the price that a product has at the gates of the factory, provides an observable benchmark for what the domestic price would be in the absence of trade barriers. Hence the price wedge represents a good measure of the price impact of the barrier. Services, instead, are differentiated, not only across different producers but also differentiated by each producer for different consumers. There can be no presumption that the foreign price is the relevant benchmark. Instead, the counterfactual, *i.e.* the price that would prevail in the absence of trade barriers, needs to be constructed from an econometric model of what determines the *domestic* price within each economy. Such models are often estimated using cross-country data but the dependent variable is the domestic price (or price-cost wedge) in each country, not a domestic-foreign price wedge. Furthermore, services sectors are characterised by imperfect competition, differentiated products and increasing costs. Price-cost margins will be positive, even in the absence of trade barriers. But they will typically be smaller without trade barriers than with them. And the econometric models use cross-country variation to estimate the extent of this difference.

studied. Indonesia, Colombia, the Philippines, South Africa, Thailand and Turkey were found to be the most restrictive, with price effects ranging from 20% to more than 100%. The United States, Denmark, the Netherlands, New Zealand, Australia, Germany and Sweden were found to be the least restrictive. **Market access barriers, applying equally to domestic and foreign suppliers, are found to raise prices by up to 70%.**

Banking services

195. **Kalirajan *et al.*** estimate the price impact of non-prudential restrictions on the interest margins of 294 banks in 27 economies in Asia-Pacific, European and American regions. The restrictiveness index is calculated as the difference between a bank's lending rate and its deposit rate or cost of funds. Using a two-stage econometric technique, they separate the effects of bank-specific prudential regulations, such as capital requirements, reserve or liquidity requirements and net non-interest operating expenses, from factors such as interest rate volatility, market structure and the trade restrictiveness index. The authors find that non-prudential trade restrictions applied on a discriminatory basis to foreign banks raise the price, or "net interest margin", of the different banking services by 5% to 60%. **The price impacts of restrictions on foreign banks are found to be highest for Indonesia, the Philippines, Malaysia, Chile, Singapore, Republic of Korea and Thailand. By contrast, Argentina, Australia, Canada, the EU, Hong Kong (China), Switzerland and the United States appear to have relatively low non-prudential regulations for foreign banks.** The effect of market access barriers, applying equally to domestic and foreign banks, on the price of banking services is lower for these countries, ranging from 0 to 24%.

Maritime services

196. **Kang** uses the policy indicators (frequency indexes developed by McGuire) to estimate the impact of restrictive maritime policies (restrictions on market access and national treatment) on bilateral shipping margins. He finds that **maritime services restrictions imposed by exporting countries generally appear to have a much greater impact on margins than those imposed by importing countries.** As the low-income countries have more restricted markets, the benefits of eliminating restrictions on shipping services appear to be higher these latter than for high-income countries.

Food distribution

197. **Kalirajan** quantifies the effect of restrictions in distribution services in 38 developed and developing countries as the cost impact on the right to establishment. **Restrictions in Belgium, France, Malaysia and Switzerland are found to be highest, raising costs of firms by between 5 and 8%.** 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. **The most liberal countries are found to be Australia, Greece, Hong Kong (China), New Zealand, Singapore and South Africa with raising costs of less than 1% and some restriction on the permanent movement of people and foreign investment. Finally, countries with an intermediate level of restrictions are found to be Canada, Chile, Indonesia, Ireland, Japan, the Netherlands and the US.**

Professional (engineering) services

198. **Nguyen-Hong** estimates the price and cost impact of restrictions on engineering service firms for 20 economies from Asia-Pacific, European and American regions. Generally speaking, both price and cost impacts can be qualified from low to moderate and reflect a relatively open trading environment for engineering services in many economies. **Price impacts, which mainly impinge on the right of establishment, are found to be highest for Austria, Mexico, Malaysia, Indonesia and Germany and lowest for South Africa, the Netherlands, Australia and most European countries.** Cost impacts,

mostly reflecting domestic qualification requirements and restrictions on incorporation and non professional investment, are highest in Austria, Malaysia and the Netherlands. All remaining economies have very low cost impacts (below 5%).

Air transport and electricity

199. **Doove et al. (2001)** represents an early attempt to quantify the price rising effect of domestic regulatory regimes in international air passenger transport, telecommunications and electricity supply. The study adopts the approach of comparing the effect of the actual regulatory regime in place in various countries from the Asia-Pacific, European and American regions against the background of those regimes that the OECD (2000) suggest would minimise prices in the relevant services industries. It uses the OECD regulatory indices and econometric estimates to derive the impact of barriers in air transport and electricity supply, applying these results to developing countries as well as developed ones. While the index proposed for the telecommunication sector still needs to be refined, the indices for air transport and electricity already give useful indications.

200. The price impact of restrictions in **air transport** varies between economic regions and ranges from 3% to 22% for discount fares. **Asia Pacific economies tend to have relatively higher price effects, ranging from 12 to 22%** due to more restrictive passenger transport regulations and limited liberalisation achieved. **South American economies have price impacts between 11 and 18% while European and North American countries show the lowest price effects.**

201. The price impacts for the **energy sector** are, like those for the telecommunication sector, sensitive to small changes in the value of certain variables. Not surprisingly, **price impacts are lowest for those countries that have gone furthest in reforming their electricity supply industries. These include North European countries, United Kingdom, Australia, New Zealand and, among developing countries, Argentina, Chile and Colombia.**

III. Range of results and basic methodology of calibrated models of international trade

202. The economy-wide impact of liberalisation is most commonly estimated through calibrated models of international trade. These models are “calibrated” or “computable” because they posit explicit forms for demand and supply functions which make it possible to numerically solve the equilibrium values of prices and quantities once the model is fitted to a set of data. The parameter values of these models are normally chosen from existing estimates of barriers and the model is solved on the basis of a chosen theory from international trade. Findings are therefore heavily dependent on the quality of the estimates for trade flows, barriers and on the chosen representation of international trade. Models can be either partial equilibrium or general equilibrium. [See Appendix 2]

203. Calibrated models should be viewed as an adjunct to theory. They help us to understand which types of forces may be important and how different forces interact with each other in sometimes surprising ways. Their value lies more in mapping these general forces and relationships than in the specific numbers generated for particular countries.

204. Johnson *et al.* (2000) appears to be the only published partial equilibrium analysis. It estimates the effects of competition in air services and the effect on welfare of establishing an open club among Australia, China, Hong Kong (China) and Japan. With one exception, entry of a new Australian carrier on the routes with other Asian countries is estimated to increase consumer surplus and welfare for both Australian and foreign consumers. Welfare gains for Australia range from 28.4 per cent in 1995 to 32.4 in 1997, while gains for the other Asian countries (China, Hong Kong (China), Indonesia, Japan, Malaysia, Republic of Korea, Singapore, Chinese Taipei and Thailand) range from 12.4 in 1995 to 31.7 in 1997.

205. General equilibrium analyses are usually based on one of the following models:

- The Michigan Model of World Production and Trade modelled to include features of the New Trade Theory, *i.e.* imperfect competition, increasing returns to scale, and product differentiation as in Brown *et al.* (1996), Chadha (2000), Chadha *et al.* (2000) and Brown and Stern (2001).
- The GTAP model, a multiregion, multisector, computable general equilibrium model, <http://www.gtap.agecon.purdue.edu/products/images/model.gif> with perfect competition and constant returns to scale, as in Hertel *et al.* (1999), Australian Department of Foreign Affairs and Trade (1999) and Robinson *et al.* (1999).
- The FTAP model, an extension of the GTAP expressly built to account for commercial presence on a bilateral basis, as in Dee and Hanslow (2000) and Verikios and Zhang (2001).
- The G-cubed framework based on a forward-looking intertemporal model of optimisation which incorporates both real sector and financial sector interactions, as in Australian Department of Foreign Affairs and Trade (1999) and McKibbin and Wilcoxon (1996).

206. A thorough review of these models and their key characteristics, including the size, source and sectoral coverage of the initial barriers to services trade, is provided in Jomini *et al.* (2002), in Brown and Stern (1999) and in a previous OECD study quantifying the costs to national welfare from barriers to services trade (TD/TC/WP(2000)24/FINAL). Here we present only a summary of those studies that model developing countries as separate economies. It is important to recall that differences in estimated gains from services trade liberalisation come primarily from differences in the size of the initial barriers. Comparative tables of results can be found in Appendices.

Studies modelling services as cross-border trade (mode 1 of supply)

- **Brown *et al.* (1996)** simulate the impact of a 25% reduction in the *ad-valorem* tariff equivalents of services barriers, under various assumptions on variety, scale and competition. **Liberalisation is trade enhancing for all countries.** Relative to GDP, the maximum increase in welfare goes to Mexico (2% of GDP), Australia (1.9% of GDP) and Asian NICs (1% of GDP). **The terms of trade, however, move by small amounts** in favour of Asian NICs, EU and USA and against Canada, Mexico, Japan, Australia and countries classified as non Asian NICs. Uses Hoekman's (1995) "guessestimates" of tariff equivalents.
- **Chadha (2000)**, studies the effects of a reduction of 25% in the *ad-valorem* tariff equivalent on services sectors. Chadha's dataset is composed of three Asian developing countries and regions (India, Rest of South Asia, ASEAN-4 and NIC-4) and three developed countries/regions (European Union, Japan, and the United States). The estimated welfare gains are relatively large and characterised by **larger relative gains for Asian developing countries than for developed countries.** Welfare effects from liberalising trade in services results in a change of 0.7% for India, 0.9 for the rest of South Asia (including Bangladesh, Bhutan, Maldives, Nepal, Pakistan and Sri Lanka), 1.8 for the ASEAN-four (Indonesia, Malaysia, the Philippines and Thailand) and 1.7 for the NIE-four (Hong Kong (China), Singapore, South Republic of Korea and Chinese Taipei). Among developed countries, the US gains are equal to 1.0 per cent while the EU and Japan gain 0.8 per cent.
- **Chadha *et al.* (2001)** study the impact of a reduction in Hoekman's (1995) tariff equivalents of services barriers by 33 per cent. Their data set is composed of 15 developing and 5 developed countries. **The estimated welfare gain for developing countries is equal to 2.5 percentage**

increase as compared to 2% for developed countries. The biggest relative gains from multilateral liberalisation go to Hong Kong (China) (8.3 per cent) and Thailand (4.2%) followed by Singapore, the Philippines, Mexico and Turkey (all between 3 and 4%), Sri Lanka, Republic of Korea, Indonesia, Central European Countries and Central and South America (above 2%) and India, China, Malaysia and rest of South Asia with gains above 1%. Developed countries' gains range from 2.9% (Australia and New Zealand) to 1.9% (Japan and Europe). Of note is India which gains 1.6 percentage increase in welfare from a scenario of multilateral liberalisation and 1.3 from unilateral liberalisation. Overall liberalisation would entail larger gains than liberalisation limited to services.

- **Benjamin and Diao (2000) which use the GTAP database in a monopolistic competition setting**, model the liberalisation of trade in 11 single service sectors as the removal of market segmentation and a reduction in fixed costs by 10%. Welfare changes are estimated for the following developing countries: Mexico and Chile (gains ranging from 0.5 to 1.87%), Hong Kong (China) (from 0.98 to 5.99%), Chinese Taipei (from 0.61 to 10.80), China (from 0.02 to 7.33%) and the Rest of South Asia (from 0.91 to 7.72%). Among developed countries, the highest gain goes to Australia (2.95%) and the lowest to the European Union (0.19%).
- The Australian Department of Foreign Affairs (1999), based on the GTAP model and database covering 45 regions and 50 sectors, and on the G-cubed model with 18 regions and 6 sectors, simulates the effects of two possible scenarios: 50% and 100% reduction of distortions in the protection level of services. Welfare gains for Africa, Eastern Europe and Latin America are up to billions USD 4.7, billion USD 7.7 and billion USD 12.6 respectively. Individual developing countries results are reported for China, India and Republic of Korea which gain USD 9.8 billion, USD 2.6 billion and USD 3.9 billion respectively.
- **Robinson et al. (1999)** simulate several scenarios of policy change. They find that, as a whole, the welfare gains from a 50% cut of protection in services sectors are five times larger than those from similar cuts of protection in manufacturing. Furthermore, when import embodied technology transfers are considered, welfare increases substantially. Four types of welfare changes are estimated: (a) liberalisation of services sector without technology transfer (b) liberalisation of services sector with technology transfer (c) liberalisation of services and manufacturing sector without technology transfer (d) liberalisation of services and manufacturing sector with technology transfer. Gains are estimated for the following developing countries and regions: Asian NICs (gains from 1.85% for services liberalisation without technology transfer, to 7.87% for overall liberalisation with technology transfer), China (gains from 0.34 to 3.14%), South Asia (gains from 1.13 to 3.14%), Latin America (gains from 0.98 to 2.45%). **Gains for developed countries are extremely varied but in line with the ones accruing to their developing counterparts.**
- In **McKibbin and Wilcoxon (1996)** no specific estimates of data on services barriers are used. Instead exogenously specified changes in total factor productivity are considered. The focus is on the adjustments between 1995 and 2020 in many of the APEC economies following the Bogor Declaration of 1994 proposal of free trade in the Asia Pacific region by the year 2020. A key aspect of the study is the role of international capital flows, expectations and physical capital accumulation in determining the size and distribution of income gains from this ambitious program of trade reform. The paper compares the implication of full APEC trade liberalization with liberalization between APEC members on a preferential basis and with liberalization that is restricted to ASEAN member economies. **It finds that the largest gains for participating economies are realized by full non-preferential liberalisation.**

- **Francois et al (2002)** estimate the overall economic benefits of the Doha Round characterised by an input-output structure that explicitly links industries in a value added chain from primary goods, over continuously higher stages of intermediate processing, to the final assembling of goods and services for consumption. **Services are found to be an important source of gains, equal to over USD 50 billion globally. The highest gains accrue to the US and to India.**
- **World Bank (2002)** simulates a five years programme of policy changes leading to a phased elimination of all import tariffs, export subsidies, and domestic production subsidies. That is, in each year between 2005 and 2010, restrictions are reduced by one-sixth from their initial levels. According to the study, a reduction in services trade barriers that spurs cross-border trade in services and causes a 10% reduction in inefficiencies from protected services monopolies and a 10% reduction in price mark-ups due to imperfect competition is likely to increase the income of developing countries by the year 2015 by \$900 billion (9.4%) from 1997 levels.

Studies whose model structure accounts separately for FDI flows, activities of foreign affiliates and temporary movement of people (modes 3 and 4 of supply)

207. Several recent studies have focused more specifically on gains from liberalisation under modes 3 and 4. Liberalisation under mode 3, *i.e.* commercial presence, vitalises the economy by eliminating inefficiency through increased international competition. As the World Bank (2002) reports, “Services are available not only at lower prices but also in greater varieties through an increase in the number of firms that operate within a country”. Mode 4, *i.e.* the movement of service-supplying personnel, also remains a crucial means of delivery for exporting countries.

- In Dee and Hanslow (2000), liberalisation is modelled as a removal of barriers to trade in services. The gains vary among economies: the largest gains are projected for the economies with the highest barriers to trade in services, while relatively more liberal economies are projected to experience smaller gains or, in some cases, losses. Gains from services liberalisation are equal to 14.6% of GDP for China, 5.1% for Indonesia, 0.7% for Malaysia, 0.4% for the Philippines and Chile, 0.2% for Thailand and Chinese Taipei and 0.1 percent the rest of South America (Brazil, Argentina, Colombia and Uruguay). In this study, welfare losses are explained in terms of rents transfers and terms of trade effects. Countries with large FDI outflows lose because of reduced rents as host countries reduce their barriers. However, it should also be noted that not all barriers are rent-creating. If countries can lower resource costs, the gains accrue more directly, with less of the redistributive effects of rents. This study uses a sophisticated measure of barriers and an enhanced version of the GTAP where capital mobility and FDI are explicitly modelled and all sectors are characterised by imperfect competition, increasing returns to scale and large group monopolistic competition (FTAP model).
- **Verikios and Zhang (2001)**, which builds on the modelling structure in Dee and Hanslow (2000), undertakes a more extensive sectoral coverage and decomposes the liberalisation effects in gains from market access liberalisation and gains from national treatment. The study finds positive welfare effects from simulating full liberalisation in the telecommunications and the financial, insurance and business services sectors. **The distribution of global gains among regions is different in different policy scenarios. Complete liberalisation of trade in telecommunications leads to a gain for all regions, except Malaysia, Thailand and Mexico. Liberalisation in financial services leads to overall positive effects for most economies. The biggest winners are South East Asian and Latin American economies.** National treatment liberalisation gives all investing regions better access to markets abroad. As a consequence regions with high discriminatory barriers and large inflows of FDI may lose (*i.e.* Indonesia in telecommunications). However, almost all regions gains from the removal of market access

barriers. It is worth noting that the gains from complete liberalisation tend to be greater than the sum of the gains from the two partial liberalisation scenarios for regions with high barriers (usually developing countries) and lower for regions with low barriers (usually developed economies). This is because, compared with full liberalisation, partial liberalisation leaves some barriers, and thus rents, in place.

- **Brown and Stern (2001)** model liberalisation of trade in services as a 33% reduction of the *ad valorem* equivalent of estimates of services barriers based on the calculations of gross operating margins for services firms. Data on foreign investment used in this study are provided by the Australian Productivity Commission. **Welfare gains emerge for those countries that succeed in attracting physical capital, irrelevant of their stage of development.** In those countries, the capital inflow is correlated with an expansion in output by most or all sectors in the economy. Furthermore, firms in expanding sectors also increase output, thus realising economies of scale. By contrast, welfare effects for countries that experience a capital outflow are found to be generally negative. Thus, under the assumption of perfect international capital mobility and fixed world capital stock, the largest gains relative to GDP go to Indonesia, Canada, New Zealand and Chinese Taipei (with 15.6, 14.8, 9.1 and 7.6% respectively). Most Asian countries and regions, including China, Hong Kong, Chinese Taipei, Indonesia, Malaysia and Philippines receive gains ranging between 1.7 and 6.6%, gains higher than the ones accruing to the EU (0.5%), the US (0.5%) and Australia (1.8). Welfare losses are experienced by Latin American countries (between -4.3% and -2%), Korea (-2.8%), Thailand (-2.2%) and Japan (-2%). **The terms of trade move by small amounts** in favour of some of the Asian NICs (Indonesia, Korea, Malaysia and Thailand), Latin American countries, Japan, the EU and USA and against Australia, Canada, China, Hong Kong, Chinese Taipei, Philippines, Singapore and Taiwan.
- **Konan and Maskus (2002)**, modelling the welfare gains from liberalisation by Tunisia, consider how services liberalisation differs from goods liberalisation in terms of welfare, the levels and composition of output, and factor prices within a developing economy. The authors develop a general equilibrium model of the Tunisian economy and model services liberalisation as the removal of both restrictions on cross-border supply and on foreign ownership through foreign direct investment (FDI). **They find that comprehensive services liberalisation would raise Tunisian welfare by over 5% (as compared to the 1.5% welfare gains from goods trade liberalisation).** The bulk of these gains come from opening markets for finance, business services, and telecommunications.
- The methodology developed by the Australian Productivity Commission for measuring services barriers has been used in a model developed by **Markusen *et al* (2001)** of the gains from removing barriers in a particular subset of mode 4 restrictions that affect intra-company transferees. The study looks at the first use of this model for concrete analysis of the impact of liberalisation on a particular country in the context of a study on the economy-wide effects of Russia's accession to the WTO undertaken by Jensen, Rutherford and Tarr (2002). The numerical model is innovative as it recognises that the availability of foreign expertise is necessary to enable foreign firms to compete in the domestic services sectors. **The authors estimate that the removal of barriers to FDI in services accounts for about 70% of Russia's total gains from WTO liberalisation. They also report gains between 3 to 15% of GDP for restrictions that affect intra-company transferees. One of the most interesting results of this model, however, is that the real wage of domestic skilled labour increases with liberalisation of policies against foreign service providers, and the more foreign firms there are in the domestic market, the more the real wage of domestic skilled workers increases.**

- On mode 4, **Markusen and Rutherford (2002)** have studied the role of imported expertise, made possible by mode 4 liberalisation, on developing domestic entrepreneurship and growth. This paper builds on a premise that an important source of knowledge transmission to developing and transition economies is direct contact with foreign experts such as engineering and management consultants. This study shows that the use of foreign consultants can indeed have a large impact on growth and welfare for the domestic economy. Although the economy returns to the same steady state eventually, income remains at a permanently higher level in addition to the income gains during the transition period. Reforms allowing the home economy to borrow internationally at favourable rates and spillovers accruing directly in the form of increased productivity for the existing cohort of knowledge workers amplify the long run gains.
- Winters (2001), also on mode 4, has estimated that **increased international labour mobility could generate gains of over USD 300 billion per annum**, based on assumptions that: a worker moving from a low to a high income country makes up only one-quarter of the productivity or wage gap between the two countries; 50 million additional developing country workers work abroad in any year, equivalent to an increase of about 5% in industrial countries' populations; and an initial wage gap of USD 24 000 per annum.
- Other studies by **Winters and Walmsley (2002)** and **Winters, Walmsley, Wang and Grynberg (2002)** suggest that an increase in developed countries' quotas on the inward movements of workers from developing countries equivalent to 3% of the developed countries' total labour force would generate **an aggregate gain of USD 150 billion p.a., i.e. 0.6% of initial world income, with the gains for both developed and developing countries coming principally from the movement of low-skilled workers** (Winters *et al.*, 2002). The authors recognise, however, that the adjustment of wage levels to competition from low skilled developing-country workers has a high social cost and suggest a number of approaches to militate against this (*e.g.*, staged liberalisation; compensating affected workers with specific aid schemes). Similarly, **Rodrik (2001)** models the creation of a temporary work visa scheme, with a quota set at 3% of the developed countries' labour force, under which skilled and unskilled workers from developing countries would work in developed countries for 3-5 years, then return to their home countries to be replaced by a new wave of inflows. **Rodrik calculates that such a system would yield USD 200 billion annually.**

The role of competition and market structure

208. The results of CGE modelling rests on the expectation that reforms to liberalise service sectors will deliver more competitive market structures. However, the substitution of public monopolies for private monopolies, whether national or foreign, provided negligible gains in most cases studies. **Francois and Wooton (2001)** examine the importance of market structure on the transport sector for the distribution of gains from trade liberalisation. **They show that the welfare impact on three macro-regions (Latin America, South Asia and Sub-Saharan and Southern Africa) of full, unconditional market access in the maritime industry depends critically on the degree of competition in the shipping industry.** The less collusive the industry, the higher the share of realized gains derived from changes in market access that goes to producers or consumers instead of staying with the cartel.

IV. Econometric studies

209. To complement the discussion of modelling studies of welfare gains, this paper examines a number of econometric studies investigating the impact of liberalisation in specific service sectors on economic growth and production rates. The following paragraphs outline some of the potential advantages

in using econometric approaches to assessing economy-wide effects. Although, it is acknowledged that most of them are subject to important qualifications.

210. By testing the hypothesis that growth, production or other performance indicators, are a function of economic liberalisation, and allowing for the long-run adjustments occurring through capital accumulation, population growth, or technological change, these studies add an important dynamic dimension to general equilibrium studies, the majority of which only identify one-time static gains of eliminating or reducing barriers to trade in services²⁰. Although more limited in scope, their predictions represent a valuable instrument for assessing the effects of liberalisation. First, they require low information content, thereby reducing the impact of inadequate existing data on barriers to services on results. Second, their results rely on data and relatively uncontroversial assumptions (*i.e.* the productivity enhancing effect of greater economic openness) rather than on the validity of an extensive assumed theoretical framework. Finally, the accuracy and reliability of econometric estimates are easier to appraise and the differences among different studies easier to reconcile by means of confirmed statistical tests and theory.

211. However, most of these studies are subject to the criticisms of Rodriguez and Rodrik, who show how cross-country regressions are unable to control for many of the factors that should be controlled for when trying to isolate the effects of trade policies, most importantly rate of investment and rate of saving. Furthermore, once adequate control variables are singled out, the econometric relationships should be tested over time (*i.e.* via time-series analyses or panels of cross-sections). Another important criticism of Rodriguez and Rodrik relates to how trade policies are measured (or more accurately, not measured) in many openness/growth regressions.

212. Available econometric evidence on the role of services as intermediate inputs suggests that openness in the services sector influences long-run growth performance. This confirms predictions from economic theory, especially *Endogenous Growth* and *New Trade Theory*, which identify dynamic advantages stemming from increases in productivity and growth realized via technology transfers, X-efficiency, greater variety offered and improved quality of services. An important channel of dynamic gains is the improved productivity in downstream sectors due to enhanced access to a broader variety, better quality and lower cost of input (Rivera-Batiz and Rivera-Batiz 1992 and Markusen, 1989). Endogenous growth models, on the other hand, would suggest that due to a distinctive feature of services — *i.e.* mobile factors of production — growth stemming from trade in services is also enhanced if the country liberalizing has a comparative disadvantage in the sector (Mattoo *et al.*, 2001)²¹. The mobility

20. CGE models are neither designed to take into account the possible long-term effects on the growth rate (the dynamic gains) nor to model the link between trade reform and productivity. Due to the absence of this relationship in their modelling structures, they are said to account only for the static gains arising from reducing the economic inefficiencies linked to trade policy distortions. However, in reality, some dynamic gains coming from changes in investment and structure are present even in CGE models. Furthermore, those CGE models that include imperfect competition do include at least one source of endogenous growth — the endogenous ‘productivity-like’ boost from greater variety (à la Dixit-Stiglitz). This can be found in Markusen, Rutherford and Tarr, Brown and Stern, and Dee and Hanslow.

21. As suggested in Rodriguez and Rodrik (1999), the impact of trade liberalisation on growth depends on whether shifts of resources take place from sectors that do not possess the necessary attributes to ensure long run growth to sectors that do. Such attributes are primarily creation of knowledge and positive externalities. If certain conditions are verified (*i.e.* if services liberalisation succeeds in mobilizing resources from sectors that do not possess the necessary attributes to ensure long run growth to sectors that do, and if such sectors allow technology transfers and have the potential for generating scale effects) then a distinctive characteristic of trade in services is responsible for creating growth. This characteristic is the need for simultaneous production and consumption of many traded services, which in turn requires for factors of production (capital and labour) to move and to produce locally the “imports” of services (mode 3

of factors of production implies liberalisation measures that affect residents and non-residents without distinction by altering the contestability of a market and thus its growth potential. This thesis is reinforced by Francois and Wooton (2000) that find important linkages between the degree of competition, the mode and degree of market access, and the pro-competitive effects of liberalisation.

Financial services

213. Evidence of the growth inducing effects of financial sector openness, that is, the Schumpeterian thesis of banking sector development facilitating economic growth through technological change and capital accumulation, has been confirmed by a number of studies.

Early Literature

214. Though this work shows a significant and strong relationship between growth performance and openness in key service sectors, discussion of these issues is in fact considerably older. Goldsmith (1969), in a seminal earlier piece, placed heavy stress on the role of financial services in allowing financial investments to flow to their most productive uses, and hence in generating growth of output and income. He suggested that the ratio of the value of financial intermediary assets to GNP was a variable that in some way represented country performance of the financial sector. He used it in a regression in which economic growth rates were the dependent variable, and found what he termed a “rough parallelism” between growth performance and the level of financial development as represented by this variable. This led to later work all pointing in the same direction as recent work, namely that openness and degree of development of the service sectors is associated with stronger growth performance.

215. King and Levine (1993), in later work subsequently controlled for other factors influencing long run growth performance. They used further measures of country development for the financial sector in their growth regressions, including the ratio of liabilities in the financial system to GDP and the ratio of gross claims on the private sector to GDP. They found that these measures played an important role and implied an econometrically significant relationship. They assessed whether the level of country financial sector development in 1960 as measured by one of their ratios predicted the rate of growth for the country over the 1960-1990 period, and found that the level of financial sector development in 1960 was a significant predictor of later period economic growth.

216. In a later paper Levine (1997) further assessed the role that the financial sectors played in economic development. He evaluated five functions performed by the financial services sector, including facilitating the trading of risk, allocating capital to its most productive uses, monitoring managerial performance, mobilizing savings through financial innovation, and easing the exchange of goods and services.

Recent Work

217. It is only in more recent work, however, that the role of trade and openness in service sectors and their influence on growth surfaces more explicitly. **Claessens *et al.* (2001)** measure the impact of foreign bank participation on various indicators of domestic banking efficiency and find that **entry of foreign banks is associated with greater efficiency of the domestic banking system**. Their results are based on a

and 4) or for the consumer to consume abroad the “exported” services (mode 2). As a consequence effective liberalisation is likely to alter the contestability of a market and thus its growth potential. Because of the underlying changes to the market structure, growth stemming from trade in services is enhanced also if the country liberalizing has a comparative disadvantage in the sector. This is not the case for trade in goods. (Mattoo *et al.*, 2001).

weighted least squared panel estimation of 7900 banks from 80 countries worldwide with time and country specific fixed effects. Estimations are performed controlling for all the standard financial and macroeconomic factors entering into the tested relationships.

218. The link between efficiency and growth is clearly modelled and tested in **Eschenbach and Francois (2002)**. In their paper they highlight and test a number of channels through which financial services trade may lead to dynamic, pro-competitive effects. They conclude that, controlling for other relevant estimators and holding all else constant, **if a “typical” lower income country were to move from the average openness characterising the lower income regime to the more liberal average openness level characterising the high income countries (i.e. roughly 50% liberalisation by the measures here employed) the result would lead to an estimated difference in growth rates between roughly 0.4 and 0.6% per year on a per capita basis.**

219. **Mattoo et al. (2001)** test a standard growth equation on a sample of 60 countries worldwide, including 37 developing ones. They find that the coefficient for the financial sector liberalisation index is positive and significant at 5% level. Countries with some degree of financial liberalisation are found to grow up to 0.25% faster than countries with a closed financial sector. **Countries with full financial liberalisation are found to grow up to 1.2% faster than other countries.** Furthermore, the magnitude of the effect from liberalisation is much higher for regressions including in the sample only the 37 developing countries than for the regressions on the whole sample of 60 countries. It predicts that **developing countries with some degree of financial liberalisation tend to grow up to 0.36% faster than developing countries with a closed financial sector. Developing countries with full financial liberalisation tend to grow up to 2.3% faster than other developing countries.**

220. Similarly, **Francois and Schuknecht (2000)** conduct cross-country growth regressions on a sample of 93 countries and find a strong positive relationship between financial sector competition and financial sector openness, and between growth and financial sector competition. They interpret this as indicative of a causal chain linking openness with competition, and competition with growth. According to the net effects of this causal chain, **moving from a closed to a relatively open financial services regime is correlated with significant pro-competitive pressures and ultimately with large growth rates (0.7 percent for a typical developing country).**

Telecommunications

221. The growth effects of telecommunications liberalisation can be demonstrated by showing that a positive link exists between performance in the telecommunication sector and economic growth and that liberalisation leads to an improved performance of the telecom sector.

222. Despite the obvious policy relevance, there are few studies that investigate the specific role of performance in the telecommunication sector on economic growth and development but they all point at a positive casual link between telecommunications performance and economic growth. **Boylaud and Nicoletti (2000)** and **OECD (2001)** find a positive impact of telecoms prospective and effective liberalisation on sector efficiency, quality of services and prices in OECD countries. **Roller and Waveman (2001)** find a positive linkage between a country’s telecommunication infrastructure and economic growth. **Greenstein and Spiller (1996)** investigate the impact of telecommunications infrastructure (as measured by the number of fibre-optic cables and ISDN lines) on the economic performance in the United States and find that investment in infrastructure is responsible for a substantial fraction of the growth in consumer surplus experienced by the country in the 1990’s. **Norton (1992)**, uses data from 47 countries developed and developing countries for the period 1957-1977. Notwithstanding potentially relevant endogeneity problems, the study finds that the average stock of telephones is a significant and positive explanatory variable of the mean annual growth rate of a country. He also

estimates the higher growth rates that Burma, Honduras, Sri Lanka and Bolivia would have had given the estimated coefficients and either Mexico's or Canada's telephone penetration rates. He finds extremely high impacts and concludes that they must be due to the combined effect of the reduction in transaction costs determined by the telecommunications infrastructure and the growth of all other industries that telecommunications encourages.

223. The impact of telecom policy on the sector performance is analysed in **Fink, Mattoo, and Rathindran (2002)**. In particular they address three questions: First, what impact do specific policy changes — relating to ownership and competition — have on sectoral performance? Second, how is the impact of change in any one policy affected by the implementation of the other, and by the overall regulatory framework? Third, does the sequence in which reforms are implemented affect performance? **By estimating a dataset of 86 developing countries from Africa, Asia and Latin America for the period 1985-1999, they find that both privatisation and competition lead to significant improvements in performance.** A comprehensive reform program involving both policies and the support of an independent regulator produced an 8% higher level of mainlines and a 21% higher level of productivity compared to years of partial and no reform. **Interestingly, the sequence of reform matters: mainline penetration is lower if competition is introduced after privatization, rather than at the same time.**

224. More generally, a study by **Mattoo, Rathindran and Subramanian (2001)**, mentioned earlier in this paper, predicts that countries with some degree of telecom liberalisation grow up to 0.15% faster than countries with a monopolistic market for telecoms, where inward FDI is banned and no regulator exists. Countries with full telecom liberalisation tend to grow up to 1% faster than others. The coefficient for telecom liberalisation index is positive and significant at 10% level. It predicts that developing countries with some degree of telecom liberalisation tend to grow up to 0.32% faster than developing countries with a telecom sector characterised by a monopolistic market structure, ban of inward FDI and absence of a regulator. Developing countries with full telecom liberalisation tend to grow almost 2% faster than other developing countries. Both these figures are double the ones for the entire sample of 60 countries.

Maritime transport

225. **Fink, Mattoo and Neagu (2001)** employ a new World Bank database to test an econometric model of liner transport prices. The econometric analysis, which confirms the importance of all the standard determinants of transport prices, finds that both public policy and private practices exercise a significant influence on maritime transport prices²². The restrictions on the provision of port services are found to significantly raise prices while the cargo reservation policies²³ seem to be largely ineffectual. However, the most powerful effect in keeping prices high derives from private anti-competitive practices. **While trade liberalisation would lead to an average reduction in transport prices by 9% and cost savings of up to USD850 million, the break-up of private carrier agreements would cause prices to decline further by 25% and add additional cost savings of up to USD 2 billion on goods carried to the US alone.** The indirect benefits from the reduction in impediments to trade are also likely to be substantial. **This paper confirms the indications of the already mentioned paper by Francois and Wooton (2001) on the critical role of competition in transport services liberalisation.**

22. The term "private carrier agreements" can cover a multitude of things, some clearly anti-competitive (such as common rate settings), others probably efficiency enhancing (such as slot sharing and consortia).

23. Cargo reservation schemes require that part of the cargo carried in trade with other states must be transported only by ships carrying the national-flag or interpreted as national by other criteria. These policies have been typically justified either by security (self-sufficiency at times of war) or economic (infant industry) concerns. It should be noted however, that cargo reservation policies have disappeared following the de facto disappearance of the UN Liner Code in recent years.

226. **Clark, Dollar and Micco (2001)** in analysing port efficiency as a determinant of maritime transport costs, find that excessive regulation contributes to the relative inefficiency of South American ports. While the special requirements imposed on foreign suppliers of cargo handling services do not seem to significantly affect costs, the practice of mandatory port services for incoming ships is beneficial at low levels but negative at high levels. **An excessive level of mandatory port services is estimated to reduce port efficiency of 5%.** In terms of the sample analysed by the paper, Argentina seems to have taken advantage of a moderate level of regulation in its seaports, while Brazil is experiencing a noticeable reduction in port efficiency due to excessive regulation.

VI. Conclusion

227. Both the general perception and the findings of empirical studies support the view that services trade is considerably more heavily restricted than manufactures trade and considerably more so in the developing countries than in developed countries. Though, developing countries in reality are an extremely heterogeneous group with sharply differing characteristics and use of restrictions on service provision.

228. The precise extent of market segmentation across countries in services is not well documented, but is often claimed to be large. For example, despite claims of ever growing globalization, in most countries branch banking is still provided by local banks, insurance policies are still written by local companies, internal air transportation is by local carriers, as is road, rail, and maritime. Retailing continues to be dominated by domestic retailers in most country markets.

229. Among developed countries, there seems to be evidence of growing cross-country service trade. This is partly due to underlying market conditions such as strong market access commitments, openness, transparency, and domestic competition and partly to more immediate causes such as cross-country foreign direct investment or buyouts/mergers of local service providers by foreign entities. Thus, growing market integration in the services areas seems to be occurring in these countries, even though regulations often seem slow to change.

230. In the developing countries, by contrast, less market integration and cross market penetration in services seems to have occurred although the process is poised to accelerate more rapidly than in the developed world. For now, most local service providers remain as locally owned entities, and inter-developing country service trade is small in part because of barriers to foreign service providers. Service trade as a share of total trade is also correspondingly smaller in developing than in developed countries.

231. All the studies reviewed find that, regardless of the sector under analysis and the methodology used, on average, developing countries have more restrictive barriers than developed countries.

- Telecommunication, banking and financial sectors are characterised by high barriers in developing countries and low barriers in developed countries.
- There is less of a clear breakdown between developing and developed economies in a number of other sectors (education, maritime, professional services and distribution).
- Equally, price-based measures of barriers provide a less clear correlation between the level of estimated barriers and welfare and production indicators.

232. To date, most studies indicate that services liberalisation is likely to imply potentially large gains for countries with high initial trade barriers. Consequently, **developing countries are expected, in the long run, to gain most from services liberalisation.** Most of these gains arise from liberalising one's own

domestic service sector, not from seeking better market access to foreign services markets. In the short and medium run, however, gains may be negatively affected by the adjustment costs of barriers removal and re-regulation. These are likely to be particularly burdensome in developing countries.

- Adjustment following trade liberalisation, while challenging, can be facilitated by the adoption of appropriate policy frameworks; and indeed, there is some evidence that adjustment costs may be lower for trade in services than for manufacturing. In this context, attention to the nature, pace and sequencing of liberalisation will be key to both managing adjustment and to ensuring that liberalisation is underpinned by sound regulatory frameworks. The need for careful consideration of the nature, pace and sequencing of liberalisation is reflected in the structure of the GATS itself, with its in-built flexibilities and emphasis on progressive liberalisation. Equally, however, for many developing countries, the creation of appropriate regulatory frameworks for liberalisation — and the ability to enforce them — will require significant capacity building.

233. Gains from services liberalisation are also found to exceed those from goods liberalisation by up to a factor of five. Estimates, however, vary on the basis of the size of initial trade barriers, theoretical frameworks, modelling techniques and datasets used. For this reason, it does not seem appropriate to single out as representative of potential gains from trade liberalisation any specific figure or range.

- The wide range in the estimated initial size of policy interventions is reflected in the differing welfare effects from services liberalisation generated by general equilibrium models. The studies that use Hoekman's "guesstimates" for the initial interventions generally report large welfare gains from services trade liberalisation. By contrast, studies that employ the estimates determined on the basis of price or quantity impact measures tend to generate lower, though still sizeable, welfare gains.
- The nature of barriers and of other restrictions to trade is responsible for the dimension of gains from liberalisation. When restrictions are rent-creating they are responsible for raising prices above costs, i.e. creating rents for the incumbent producers. Hence, liberalising rent-creating restrictions can lead to a large transfer from service providers to service users, and a relatively small net gain for the economy as a whole. By contrast, when restrictions are cost-increasing, they distort market conditions and are responsible for inefficient and costly modes of production. Liberalising restrictions that raise costs can yield a gain to both the services providers and their downstream users, for a relatively large gain to the economy as a whole. Thus, liberalising restrictions when they are cost-increasing can provide a larger "bang for the buck".
- Higher gains, but uneven across countries, are obtained when capital mobility and FDI are explicitly modelled and an imperfect competition setting is acknowledged. Importantly, it seems that the large effects in these model results need not come from liberalization of service trade, per se, but from the assumed accompanying liberalization of factor markets. This is parallel to work on goods trade, where accompanying liberalization of factor markets internationally produces sometimes large and uneven effects across countries.
- The studies that explicitly treat foreign direct investment as a mode of service supply report that services trade liberalization raises overall world income, but some countries experience small welfare losses. Welfare losses can potentially come from three sources. First, removal of restrictions on foreign investment can divert capital to countries that previously had relatively high barriers to investment. Second, barriers to entry generate rents, some of which accrue to owners of foreign capital. With liberalization, these rents are eroded by competition, and thus countries that

are important sources of foreign direct investment can lose. Finally, there are terms-of-trade effects as discussed above.

- The studies that focus on the movement of service-supplying personnel testify that this is a crucial means of delivery for exporting countries. Similarly to the studies analysing factor mobility and FDIs, it seems that the assumed accompanying liberalization of factor markets is the main source of large gains. However, work on mode 4 is not without its difficulties, in particular because most countries require foreign workers to be paid at the same rates as nationals — thereby undermining the cost advantage of suppliers from developing countries. Failure to acknowledge this fact is a limitation on the quantitative studies showing gains from greater labour mobility. Equally, studies do not always take adequate account of the existing regulatory frameworks for labour markets, including with regard to pay and conditions and recognition of qualifications.
- Econometric studies that analyse the dynamic effects of liberalisation and the impact on specific sectors find higher gains than CGE simulations. When the econometric model is well specified, this result is likely to stem from the dynamic element of econometric studies which take account of the long-run adjustments occurring through capital accumulation, population growth, and technological change.

234. From a methodological point of view, the OECD's study highlights the importance of seeing services trade liberalisation in a broad context, and certainly broader than goods market liberalisation.

- First, liberalisation will open markets to new local, as well as foreign, suppliers and consequently an important product of services liberalisation will be the welfare gains stemming, not from seeking better access to foreign services markets, but from increased competition and efficiency of production at home. .
- Second, a key factor in determining the effects of services liberalisation is whether a genuinely competitive market has been created. The transformation of public monopolies into private monopolies produces negligible gains and, equally, the structure of competition in the industry has important effects on the distribution of gains from liberalisation. Current OECD work on services trade liberalisation in South East European countries finds that gains would be unlikely to accrue if these countries were to open up their fixed line telecommunication services to foreign equity participation, without also removing the current restrictions on new entry.
- Finally, some sectoral studies have shown that the sequencing of reform (*e.g.*, privatisation then introduction of competition) can also be an important consideration.

235. A caveat should be kept in mind. The measurement of barriers to trade in services and the quantification of the gains from liberalisation of the services sector are a fairly recent area of research characterized by theoretical frameworks, modelling techniques and datasets still in need of further development. Therefore the results described in this review are subject to the methodological and statistical limitations imposed by our state of knowledge. A number of these limitations are discussed in more detail in the next section.

PROBLEMS OF METHODOLOGY AND INTERPRETATION

I. Distinctive features of services: why services are different from goods

236. The presumption behind most discussion of potential gains from services trade liberalization is that countries gain from more open services trade in ways which are similar to trade liberalization in goods. This is based on the idea that countries have differing comparative advantages in the production of both goods and services, and more open trade will allow comparative advantages to be more fully exploited in all countries. While there is a certain appeal to the idea that propositions regarding the gains from freer trade apply equally to goods and services, there are, however, a number of difficulties with this approach.

237. It should also be noted that, even assuming that trade in services and goods can be treated as analytically similar, the issue of how developing countries benefit from services trade liberalization is subject to a number of nuances set out in the literature on trade policy, including arguments for an optimal tariff (terms of trade improvement from protection), for infant industry protection, for tariffs which transfer rents (rent shifting), and tariffs that offset other domestic distortions.

238. However, some distinctive features of services challenge the application of a rationale originally developed for trade in goods and call for an effort to explicitly model some of the characteristics of services. In particular:

- Since many services require proximity between producers and consumers, trade in services includes not only cross-border delivery, but also the movement of suppliers and consumers.
- Some barriers to trade in services are non-discriminatory (e.g. an economic needs test (ENT) limiting the total number of pharmacies per 1000 people can restrict entry of both foreign and local firms). Hence liberalisation of such measures opens services markets to new local, as well as foreign, entrants. It follows that important gains from services liberalisation are likely to stem from increased domestic competition and efficiency of production.
- The term services captures a heterogeneous group of activities spanning banking, insurance, transportation, telecoms, consulting services, retail and wholesale trade, and several others. Part of this activity plays an important role in facilitating transactions, providing the economic function of intermediation either through time (banking, insurance) or space (telecoms, transportation, retailing, wholesaling) which, as pointed out by Melvin (1989), when explicitly modelled as such can produce different theoretical implications for trade liberalization.
- Barriers to the flow of goods typically arise at customs and other physical restraints on trade administered at national borders. Thus, for goods trade, most discussion of liberalization focuses on tariffs and less on other instruments. However, the range and type of measures affecting trade in services are greater than that for goods, and include measures affecting local as well as foreign suppliers. Services tend to be heavily regulated, including to achieve important public policy objectives, and not all regulations can be equated with barriers to trade. Furthermore, in certain service sectors, including telecommunications, banking and insurance services, cross-border trade is minor. The important form of international sales of these services is via commercial presence,

which is simply not captured in conventional trade statistics. Where commercial presence matters, total production or total consumption are much closer to the relevant quantity concept than is conventional, cross-border trade.

239. Therefore, a key issue in discussing trade/liberalization in services and its impacts on developing countries is that the types and forms of liberalization need to be fully and carefully specified. As a result, these often have to be discussed in ways which do not arise with liberalization in goods trade.

The importance of market access as well as national treatment: increased domestic competition and efficiency of production

240. Restraints on trade no longer apply in the same way as for goods at borders; a wider variety of restraints than those typically applicable to goods apply beyond borders and hence within national markets. GATS includes market access barriers that protect incumbent firms from local as well as foreign new entrants. In so doing it assumes that services trade liberalisation will open services markets in developing countries to new local, as well as foreign entrants.

241. Notwithstanding the gains resulting from increased access to foreign markets and exploitation of comparative advantages, key welfare gains are expected to originate from:

- increased domestic competition resulting from liberalising the own economy
- lower domestic costs and reduced scope for rents accruing to the incumbent producers due to policy reforms enhancing competition and from removing regulatory-induced X inefficiencies.

242. Because of the underlying changes to the market structure, growth stemming from trade in services is likely to be enhanced also if the country liberalizing has a comparative disadvantage in the sector. This is argued in Mattoo *et al.* (2001) and implied in Francois and Wooton (2000) which focuses on the linkages between the degree of competition, the mode and degree of market access, and the pro-competitive effects of liberalisation. This aspect of services is critical to any appraisal of the effects of liberalisation. Indeed, within the services trade community and in the policy literature in general, there is an understanding that the outcomes of services liberalization will depend heavily on the regulatory environment and recognition of the need for liberalization to be underpinned by sound regulatory frameworks.

The problem of services as intermediaries

243. As mentioned above, some services do not yield utility directly but only facilitate transactions, providing the economic function of intermediation either through time or space. Activities so characterised are termed “margins” by economists. As pointed out by Melvin (1989) services, if explicitly modelled as such, can produce different implications for trade liberalization. Ryan (1990, 1992), for instance, shows that when banking is explicitly modelled as intermediation services that themselves do not directly provide utility, but instead facilitate intermediation between borrowers and lenders, liberalization of trade in banking services can reduce GDP, and even welfare. Chia and Whalley (1997) have produced a numerical example of welfare worsening trade liberalization in banking services based on this approach. The results from such examples reflect the use of specific formulations, parameter values and functional forms and are hence not general results. They do, however, seem to suggest a weakening in the general presumption that gains will be automatically shared between developed and poorer developing countries if global liberalization of services trade occurs. Bhattarai and Whalley (1999) provide a related analysis of the implications of liberalization in network services (effectively telecoms) where the same theme emerges

that recognition of the special features of individual services changes the analysis of the impacts of services liberalization.

244. The Australian experience with modelling “margins” activities is that there is, in practice, not much difference between treating services as “margins” or as conventional intermediate inputs (which similarly, do not yield utility directly). It certainly matters whether these activities are treated as intermediates or as final goods but CGE studies routinely treat services as intermediates. It is a theoretical possibility that when intermediation services are represented in their true economic form, rather than in *ad valorem* terms, the two fundamental theorems of welfare economics need not hold. However, there is considerable evidence to suggest that this does not represent a problem in practice. This evidence comes from several decades of CGE modelling of the Australian economy, starting with the ORANI model (Dixon, Parmenter, Sutton and Vincent). In those frameworks, up to eight key “margins services” (wholesale trade, retail trade, air, road, rail and sea transport, insurance, hotels and restaurants) have been modelled explicitly as *non-ad valorem* margins activities, rather than as conventional intermediate inputs, supported by data on margins use from the Australian Bureau of Statistics. In all the numerous academic and government applications of these frameworks, the margins treatment has never lead to anything other than conventional results.

Identification and measurement of barriers and regulations applying to services

245. The way regulations and barriers apply to trade in services raises a number of conceptual problems. Thus, for an accurate assessment of the effectiveness of restrictions and barriers to services, a number of qualifications and caveats are required.

- Services are characterised by a larger spectrum of barriers than in the case of goods: barriers in services are not limited to discrimination against foreigners; they can also prevent entry by new domestic firms. Consequently, the effects of regulations applying to services extend beyond the border into issues of contestability of the domestic markets spanning both market access measures (which restrict the contestability of markets) and national treatment policies (which discriminate between domestic and foreign suppliers to the advantage of domestic providers). It is possible that such market access barriers reduce domestic supply as well as cross-border supply. Approaches that focus on quantifying the latter may miss the former effects.
- Given that regulations on services are generally designed to serve a range of policy objectives and not necessarily constitute barriers, one cannot simply equate regulations with barriers. Hence, it becomes relevant to the debate on services liberalisation, to assess the overall burden of a regulation and identify, if available, equally effective but less trade restrictive measures. Quantitative comparisons of such policy measures are not an easy task and require the development of sophisticated measurement methods [see APPENDIX 1]

Identification and measurement of barriers

246. Barriers to free international flows of services are considerably more multifaceted than in goods trade, and so alternative formalizations and conceptualizations of barriers are required. The special characteristics of services, such as their intangible nature, the high prevalence of regulatory intervention to avoid market failure and achieve non-economic social benefits, the requirement for proximity between producers and consumers and the factor-mobility associated with their trade, determine the nature of restrictions in services trade. Many are regulatory in nature, and perhaps fit more comfortably within the large literature on industrial organization than within conventional trade literature. Thus, by way of example, there may be barriers to entry to domestic markets for foreign service providers. These barriers may be classified under mode 3 of GATS but may include not only rights to establish, but also sector

specific rules on entry and conduct. Each of these rule regimes is typically sector specific and operates in different ways.

247. Broadly speaking, two different approaches have been used in the literature to classify barriers to trade in services for the purposes of both measurement of their size and discussion of wider liberalization. One, typical of early literature and likely to yield misleading results, was to treat all services as a homogeneous entity. The other approach, used by more recent literature, separately examines the structure of regulation, entry barriers, and mobility restrictions in each service market. Different restrictions/regulations apply, say, in banking from, say, road transport because of the differences in the characteristics of the service. Under this approach, a restriction on the value of reserves of a foreign bank to be retained within a country is a different restriction to one which requires that trucks at the border must enter with a full tank. One way to convert them into a comparable form in terms of economic impact is by examining their cost implications. However, some restrictions imply a fixed cost for entering a market, others change marginal costs, and others effectively set upper bounds on the quantity of service provided, or establish minimum quality standards. Comparing barriers and evaluating their impacts is thus inherently difficult, and the heterogeneity among broad service sectors (banking or transportation, for instance) is a further complication, as is the heterogeneity within categories (e.g. types of services offered by financial institutions).

248. Nevertheless assessments can be attempted on the basis of the four-part typology of international services transactions adopted by GATS. This latter acknowledges the fact that restrictions to international services transactions typically take the form of non-tariff barriers and are designed to limit not only the access of foreign services, but the overall access of both domestic and foreign suppliers and/or consumers to the domestic market.

Modelling and estimation of binding regulations and restrictions

249. With multiple restraints on trade it is not clear which constraints are binding and which are not. First, while frequency data only evaluate whether restrictions apply for each of 620 GATS cells for a given service type and across all four modes of supply, it is not clear that all aggregated restrictions are, in fact, binding restraints on trade. Some may restrict trade, some may not. Some may compound one with another, others may offset each other. Second, just because restrictions are present their quantitative significance need not be the same in all cases. Their marginal effects on trade will typically differ. Finally, measures of restrictions may mask country discrimination in the application of barriers, even though both *de jure* and *de facto* discrimination are considered breaches of national treatment under the GATS. Offsetting subsidy type and restrictive measures may apply and these offsets will need to be taken into account. *De facto* application of regulation and *de jure* form can differ, just as applied and bound tariff rates differ for trade in goods.

250. In order to single out the binding restrictions, econometric studies are increasingly entering different components of the regulatory environment separately into the regressions. In recent literature there are attempts to differentiate among the various ways that services can be supplied. One typical treatment is to model FDI flows as linked to services provision, along the lines of GATS Mode 3 (commercial presence). Labour mobility arrangements under GATS Mode 4 (temporary movement of service providers) have also been separately modelled. Disaggregating the treatment of services barriers remains a central priority for future research.

251. A comprehensive assessment of barriers and regulations at issue should be able to determine:

- whether regulations actually constitute barriers;

- whether a given regulation aimed at whatever policy objective but affecting trade in services, is more burdensome than necessary;
- whether other, equally effective but less trade restrictive, measures might be available.

252. In summary, the progress made in understanding services and trade in services, is reflected also in the estimation of relevant barriers and restrictions. Methods of increasing sophistication acknowledge that barriers to service provision are complex, their effects numerous and that they may operate through entry barriers to local markets (rights to establish, or to provide services), rules on conduct (regulation), on the number and size of competitors in a market (competition rules), and in other ways. Again, market structure, conduct, and performance are all key and all need to be evaluated when discussing quantitative impacts of global liberalization of services trade on developing countries.

II. Economy-wide impact of liberalisation

253. There are two main quantitative approaches for assessing the economic impact of services liberalisation. The first uses calibrated (or computable) models of international trade, mainly of general equilibrium. It aims at quantifying the effects of services liberalisation on the global welfare and on individual economies by means of a structural approach to spelling out how barriers in one sector flow to other sectors and to the economy as a whole. The second uses econometric techniques to investigate the impact of sector specific liberalisation on economy-wide growth or on sector-specific measures of performance (*i.e.* productivity, efficiency, production costs, etc.). These two approaches are examined in Appendix 2 and Appendix 3.

Interpretation of results from CGE modelling

254. A controversial issue is the interpretation of results from existing model based literature seeking to quantify the impacts of trade liberalization in services. This, despite the fact that one should not read too much into particular numbers generated for particular countries by CGE studies. Instead, the outcomes of calibration exercises should be viewed as an adjunct to theory assisting the understanding of which types of forces may be important and how different factors interact with each other.

255. Calibration involves numerical simulation exercises using (typically global) general equilibrium models. In these exercises, producer services are typically identified as an input into intermediate production and barriers to service trade are represented in the form of *ad-valorem* tariff like restrictions, taxes or productivity shocks affecting output, factors or fixed costs. The size of initial barriers, how they change under liberalization, their elasticity, and the size of service trade flows, along with relative country size and any differences in market structure then determines results.

Contradictory results

256. One problem encountered in interpreting the results from available studies is that at first sight results can appear to be confusingly contradictory, and especially so for individual developing countries. For example, Dee and Hanslow (2000) produce results showing extremely large gains from services liberalization in the Uruguay Round for certain developing countries (a 14.6% of GDP gain for China, and 5.1% gain for Indonesia). They also suggest globally, that over one half the total gains from goods and services liberalization accrue from services liberalization. In contrast, Robinson et al (1999) using similar GTAP data put the gains to China at 0.34% of GDP, ASEAN and 1.29%, and South Asia at 1.13%. Verikios and Zhang (2001) suggest losses to Malaysia from telecom liberalization, and losses to Indonesia from financial services liberalization. They show only small gains for China.

257. However, there are important differences in approach among these studies which reflect, on one side, the fact that at this early point of services trade modelling, there is no convergence yet on a preferred methodology and set of initial barriers and, on the other side, different stages of learning on how to model services and factor-in the critical elements. So, Dee and Hanslow explicitly incorporate GATS mode 3 restrictions while the earlier study by Robinson *et al.* uses a modelling approach which does not differentiate between cross country factor flows and provision of goods and services. Also, different estimates of barriers are incorporated in the two models. Brown, Deardorff and Stern suggest global gains from Doha Round liberalization of \$574 billion per year with the large majority (\$413 billion) arising from services, and the largest absolute gains going to developed countries. Verikios and Zhang, addressing many of the standard criticisms to calibrated models, disaggregate the treatment of financial and telecommunications services, thereby allowing for special features of each service. They apply separate estimates of barriers to each of these sectors. They do not assume (as in Dee and Hanslow) that those barriers are typical of barriers elsewhere in the services sector. Finally, they assume less capital mobility than in Dee and Hanslow.

258. Hence, differences in estimated gains from services trade liberalisation primarily come from differences in the size of the initial barriers and reflect the fact that there is no convergence yet on a preferred set of estimates. Accordingly, the results from different studies need to be discussed and compared in light of the sizes of the initial trade barriers that each study assumes. This simple fact explains many of the apparent contradictions.

Types of models: inclusion of modes 3 and 4

259. All CGE models predict that liberalization of services trade and/or investment will increase real global income. However, the distribution across countries of the gains from liberalization tends to be very sensitive to how the models are specified. In the models that only model mode 1 (cross-border) of supply, without endogenous treatment of foreign direct investment, the gains from services trade liberalization tend to be positive throughout the world. Some more recent models, however, allow for multinational firms, which endogenously choose whether to export or to set up a branch plant. As well, some models allow for foreign providers of producer services as an intermediate good along the lines of Markusen, Rutherford and Tarr (2000).

260. The studies that explicitly treat foreign direct investment as a mode of service supply report very different findings. Dee and Hanslow (2000) find that services trade liberalization raises overall world income, but some countries experience small welfare losses. Their model allows for liberalization of restrictions on foreign direct investment as well as on trade. Welfare losses can potentially come from three sources. First, removal of restrictions on foreign investment can divert capital to countries that previously had relatively high barriers to investment. Second, barriers to entry generate rents, some of which accrue to owners of foreign capital. With liberalization, these rents are eroded by competition, and thus countries that are important sources of foreign direct investment can lose. Finally, there are terms-of-trade effects as discussed above. Dee and Hanslow attribute for example the loss to the United States as primarily due to rent losses, while losses to Canada are primarily due to terms-of-trade effects. Brown and Stern (2001) seek to improve on their previous work (Brown *et al.*, 1996) by incorporating an explicit treatment of foreign direct investment, as well as some of the production structure from Markusen, Rutherford and Tarr (2000). They obtain relatively large predictions of welfare effects from services trade liberalization. They again find that the world gains as a whole, but that some countries lose. They report six different simulations, each with various different assumptions on capital mobility or demand. Brown and Stern note that welfare losses in their model tend to be associated with capital outflows due to increased opportunities for investment in other parts of the world. They speculate that, in scenarios where everybody liberalises but a country does not, the losses to this country would be higher than in any other scenario. This echoes a

point from economic theory according to which, if the rest of the world liberalizes, then world prices change, and a country may lose out of its choice to maintain the *status-quo* domestically.

261. Mode 4 (temporary movement of persons related to supplying services) is a crucial mode of delivery for many exports of services and especially critical to labour and/or human capital abundant developing countries. Explicitly modelling mode 4 supply services liberalization would seem to be a potential source of larger effects. However, work on mode 4 is not without its difficulties, in particular because most countries require foreign workers to be paid at the same rates as nationals (thereby undermining the cost advantage of suppliers from developing countries). Failure to acknowledge this fact is a limitation on the quantitative studies showing gains from greater labour mobility. Equally, studies do not always take adequate account of the existing regulatory frameworks for labour markets, including with regard to pay and conditions and recognition of qualifications. Indeed, it could be argued that, at present the advantage conferred by lower developing country labour costs is evident more in services trade via mode 1 than mode 4. That is, in some sectors, in particular professional and computer services, out-sourcing (mode 1 cross-border supply) has been driven by the lower wages and high quality of work by professionals in developing countries. Such out-sourcing of not only data entry, but increasingly research and other more skilled work, involves service supply via mode 1; however, these may not be adequately captured in existing studies.

262. In conclusion, literature explicitly modelling modes 3 and 4 of supply suggests that if services are liberalized with no accompanying liberalization of factor markets, as in goods, trade gains are small. If, however, services liberalization becomes a mechanism through which impediments to factor flows (FDI) are removed, then gains are large and uneven across countries. Importantly, it seems that the large effects in these model results need not come from liberalization of service trade, per se, but from the assumed accompanying liberalization of factor markets. This is parallel to work on goods trade, where accompanying liberalization of factor markets internationally produces sometimes large and uneven effects across countries.

263. Thus a major role for service trade liberalization may be to enable global factor market liberalization by allowing for freer factor flows under modes 3 and 4 of GATS schedules. While such liberalization may be hard to achieve directly, achieving it indirectly under the name of service trade liberalization may be the source of major gains, in particular for developing countries. Attracting more capital, and achieving a labour outflow so as to reappportion factor ratios across broad blocs of countries, might be the source of largest global gain and distributional impact across countries from services trade liberalization.

Interpretation of results from econometric studies

264. More limited in scope than CGEs, the econometric studies are an important complement to calibrated models. The reliability and accuracy of their predictions can be appraised by means of confirmed statistical tests and theory while their need for lower information content reduces the impact of bad quality data. While seemingly powerful in their policy thrust, econometric studies are problematic in terms of the interpretation of results as appropriate control variables (for all other factors affecting performance) are required, along with a means for dealing (where necessary) with simultaneity issues. [See Appendix 3 for a discussion]

265. At first sight evidence from econometric studies testing the effect of liberalisation on economy-wide growth seems striking, pointing to liberalization of service sectors as a route to faster growth and development, and suggesting that trade liberalization in service sectors can also be key for developing countries in achieving enhanced growth performance. Recent econometric literature linking growth performance to services trade liberalization includes Francois and Schuknecht (2000) and Mattoo,

Rathindran, and Subramanian (2001). Importantly, Mattoo *et al*, claim that growth rates of up to 1.5 percentage points higher occur for economies that liberalize their telecoms and financial services sectors: Francois and Schuknecht also claim that strong growth effects follow empirically from services liberalizations.

- However, a number of problems are encountered in interpreting results: Available studies are subject to the *Rodriguez and Rodrik* (1999) critique according to which excluded variables can be the larger source of higher growth. For example, higher growth rates may largely reflect higher savings and investment rates, which generate more intermediation and hence more service use. Hence, it could be that higher growth rates are the resultant of higher investment rates rather than of a larger use of services following upon liberalization.
- The theoretical basis of the econometric work is weak and does not provide solid analytical underpinnings for service trade liberalization and its links to growth performance. Although Francois and Schuknecht emphasize the role of scale economies and cost structures in financial services and the link to market structure, their theory points (as in most theoretical work on trade liberalization) to once and for all level effects rather than permanent growth effects. Thus whether elevated growth from liberalization is only a transitional effect, or a more permanent effect of longer standing is a issue still in need of clarification.

III. Conclusion and areas for future work

266. There are two conclusions from recent work seeking to measure the gains from services trade liberalisation. First, the predictions for individual countries are very sensitive to the modelling structure. This suggests that we need to develop a much better understanding of the forces that are driving trade and investment and of how regulations in the services sector translate into trade barriers. Concerning CGE modelling work, the application of such models to the services sector is a relatively new undertaking; the models are useful for research purposes, but must be treated with caution as a guide for policy. Second, the models do demonstrate that some of the complexities and ambiguities that arise in a theoretical treatment of services trade liberalization cannot be easily dismissed as being of second order importance. The sequencing of liberalization and its interaction with pre-existing goods trade may well be important in influencing welfare outcomes.

267. Nevertheless, progress is continuously being made in refining the theory and the empirical techniques while efforts to improve the statistical base of data are underway. On the modelling side the new studies aim at a more accurate representation of the economics of services sectors and trade, including the various forms of delivery, their distinctive functions and features and a more disaggregated treatment of services sectors. On the empirical side, consistent estimates of FDI and FATS data on the activities of foreign affiliates at the bilateral and sectoral levels are being progressively introduced to represent commercial presence, which constitutes an important share of overall trade in services. Furthermore, in the last few years both academics and international institutions such as the IMF, Eurostat, OECD and WTO, are working to increase the overall reliability of data on services trade and address the well known problems of data shortage, lack of concordance and comparability among the existing data series, limited sectoral disaggregation and absence of a classification by mode of supply.

268. Nonetheless, a number of areas could benefit from further analysis, including:

- Theoretical basis — Both for econometric studies and calibrated models, theoretical underpinnings for services trade liberalisation and its links to growth performance have to be strengthened.

- Sectoral disaggregation — to highlight any differences between sectors in terms of the type of liberalisation undertaken and to assist in identifying priority sectors for liberalisation.
- Distortion of modal choice — the extent to which existing restrictions create incentives for supply of services via certain modes rather than others (*e.g.*, the choice of consumption abroad — mode 2 — rather than commercial presence — mode 3 — in education services) and the impact of such choices on the economy and society.
- South-South trade — The potential gains for developing countries from liberalization of markets in other developing countries are an important and neglected dimension of services liberalisation discussions.²⁴
- Removal of rent-creating and cost-escalating barriers — The extent to which the gains vary, depending on whether the barriers are rent-creating or cost-escalating.
- Market access measures vs. national treatment measures. It would be of great practical value to know whether the biggest gains from liberalisation accrue from the removal of market access measures, or those that affect national treatment. That is, how important the entry of additional domestic suppliers is to the impact of liberalisation.
- International and intra-national redistribution and income effects — *i.e.* the degree to which the economy's enhanced efficiency affects national income via the decrease in the supply price of services produced within its borders by national or international providers.
- Possible (negative) second round effects — These include possible immiserising effects (which have, however, proved rare in goods trade), possible interactions with national savings and investment, possible adverse terms of trade effects.

24. At an empirical level, the results of South-South trade liberalisation should be a topic for future analysis. At a theoretical level, the literature on regional trading arrangements identifies a number of important allocation, accumulation and location effects [see Baldwin and Venables (1995) in Handbook of International Trade for a review]. Gains to domestic consumers from lower prices can be expected as well as joint benefits accruing to both exporting and importing countries from exploiting comparative advantage and improved reciprocal market access opportunities.

APPENDIX 1. HOW TO MEASURE BARRIERS TO SERVICES

The measurement of services barriers is based upon research on the measurement of non-tariff barriers affecting goods trade. General methods for measuring the presence and size of non-tariff barriers based on Deardoff and Stern (1998) which classify barriers in frequency-type measures, price- and quantity-impact measures. However, these methods need to be adapted to capture the special characteristics of services trade. In this context, the methods will be divided into following categories:

I. Methods used to measure the level of restrictions on services.

These methods convert qualitative information about restrictions into comparable quantitative information. The main steps involved in applying these methods can be summarised as follows:

- i. Collection and classification of the information on restrictions from various sources
- ii. Development and calculation of a trade restrictiveness index.

i. Collection of the information on restrictions

An essential preliminary step to measuring the impact of impediments to trade in services is to identify and establish an inventory of such impediments. The GATS provided a starting listing of barriers to trade in services. For example, in his pioneering work concerning the calculation of restrictiveness indexes for services barriers, Hoekman derived information from the GATS schedules of commitments to determine the frequency of restrictions in all services sectors in WTO members. Similarly, various sectoral restrictiveness measures in financial services [Mattoo (1998), Classens and Glassner (1998)] were determined on the basis of the scheduled commitments under GATS. However, GATS schedules do not include all barriers which are in place. Therefore, in subsequent studies (mainly those undertaken under the auspices of the Productivity Commission), GATS schedules were supplemented with other sources of information on the relevant legislation covering services barriers. Reports by governments and industry associations as well as material produced by the APEC, the OECD, the WTO and the United States Trade Representatives have been proven helpful in identifying the additional impediments.

ii. Development and calculation of a trade restrictiveness index

On the basis of this qualitative information, an index is developed for these restrictions classified preferably according to the GATS modes of supply. An index score uses a methodology of scores and weights to convert qualitative information on restrictions into quantitative information. Scores are assigned to restrictions on the basis of a judgement as to their stringency.

As already indicated, Hoekman (1995) pioneered the use of an index to measure restrictions on trade in services. The author developed a three category weighting method as a means of assessing the nature and extent of GATS commitments. For quantification purposes, values of 1 (most restrictive, no access), 0.5 (specific bound restrictions) and 0 (free access) were allocated to the market access restrictions listed under GATS, and coverage ratios were estimated. However, this does not take into account the actual impact of different barriers on the economy, with relatively minor impediments receiving the same weight as almost complete denial of access.

More recent studies try to overcome some of these limitations by computing estimates that draw on more comprehensive qualitative databases of measures affecting trade in services and are determined on the basis of sophisticated weighting methods for assessing the restrictiveness of different measures (see joint work by Australian Productivity Commission and Australian National University). The classification and assessment of weights take into account information on types of barriers and their likely relative economic impact. Finally, in terms of addressed restrictions, the authors distinguish between restrictions referring to national treatment and market access, as well as between restrictions related to establishment and to ongoing operations (*i.e.* post-establishment operations).

However these methods only approximate the relative degree of restrictiveness of trade barriers. They do not provide any information on the economic impact that barriers have on prices, production, consumption and international trade, and the consequences of maintaining or eliminating these barriers. Therefore, ideally, these methods need to be supplemented with the following:

II. Methods used to measure the effect of restrictions on services:

There are generally three methodologies for measuring the effect of restrictions on the prices and/or costs of services. These are:

- i) Conversion of a trade restrictiveness index into a tariff equivalent
- ii) Indirect methodologies which determine a benchmark price or quantity and attribute part or all of a divergence from the benchmark to restrictions.
- iii) Direct methodologies which estimate the effect of restrictions — as given by the trade restrictiveness index — on output, the price and/or cost of service suppliers

i. Conversion of a trade restrictiveness index into a tariff equivalent

As previously indicated, Hoekman (1995) uses an index as a starting point for estimating tariff equivalents of the relative degree of restrictions on trade in services. The indexes were transformed into tariff equivalents, by using a set of benchmark tariff equivalents for individual sectors, which ranged from a value of 200% for sectors considered highly restricted (maritime cabotage, air transport, postal services, voice telecommunication, life insurance) to values between 20-50% for sectors in which market access was less constrained. By multiplying the coverage ratios with the benchmark set of tariffs, Hoekman calculated tariff equivalents by sector and country.

ii. Indirect methodologies

Indirect methodologies determine a benchmark price or quantity and attribute part or all of a divergence from the benchmark to restrictions.

In quantifying the economic impact of services barriers alternative approaches involving price-impact (which examine the impact of non-tariff barriers on domestic prices by comparing them with world prices) and quantity-impact measures (which compare an estimate of trade volumes in the absence of non-tariff barriers with actual trade volumes) have been applied.

In the case of price-impact measures, the identification of benchmarks is based on the assumption that a market free from impediments to entry will result in prices which equate with marginal costs. By contrast, with restrictions, there will be a wedge between price and marginal cost. Consequently, empirical studies undertaken on the basis of financial/price impact measures in services sectors considered the price-cost margin as indicative for the magnitude of barriers (See Francois and Hoekman, 1999).

More accurate methods are now being developed. Starting from the observation that services are differentiated, not only across different producers but also differentiated by each producer for different consumers, researchers observed that there can be no presumption that the foreign price is the relevant benchmark. Instead, the counterfactual, *i.e.* the price that would prevail in the absence of trade barriers, needs to be constructed from an econometric model of what determines the domestic price within each economy. Such models are customarily estimated using cross-country data but the dependent variable is the domestic price (or price-cost wedge) in each country, not a domestic-foreign price wedge. Furthermore, services sectors are characterised by imperfect competition, differentiated products and increasing costs. Price-cost margins will be positive, even in the absence of trade barriers. But they will typically be smaller without trade barriers than with them. And the econometric models use cross-country variation to estimate the extent of this difference.

In the case of quantity impact measures, while the quantity that is imported under barriers might be observable — often in a highly aggregated form — there is no other quantity against which to compare it. This requires a satisfactory model of the determinants of trade, as well as data covering a sufficient variety of trading situations, in order to identify a situation in which trade is at least approximately free. The general approach to measure the quantity effects of non-tariff barriers involves cross-commodity or cross-country regression models which estimate what trade would have been in the absence of barriers and compare this to trade that actually does occur. Such econometric methods (gravity models of international trade) have been applied also for services trade. The difference between actual and predicted imports was taken to be indicative for barriers and was converted into a price or cost effect.

The most recent studies (Warren, 2001) however opt for quantities consumed or produced. There are two reasons why quantities consumed or produced may be more appropriate performance measure than quantities traded. First, services trade barriers do not just discriminate against foreigners — they can also prevent entry by new domestic firms. It is possible that such market access barriers may reduce domestic supply as well as cross-border supply. Approaches that focus on quantifying the latter may miss the former effects. Second, in certain service sectors, including telecommunications, cross-border trade is minor. The important form of trade is via commercial presence, which is simply not captured in conventional trade statistics. Where commercial presence matters, total production or total consumption are much closer to the relevant quantity concept than is total trade

i. Direct methodologies

The most sophisticated methodologies that have been developed are those that directly estimate the effect of restrictions on the price and/or cost of service suppliers. An econometric model which includes relevant determinants of the economic performance of firms such as

- industry and economy-wide influences and
- measures of the trade restrictiveness (represented by the frequency index which was calculated previously)

is developed from economic theory. The econometric method is then used to determine the separate impact/effect of all determinants on prices and costs. Wherever possible, the components of the trade restrictiveness index (the foreign index and domestic index) are “entered” separately, so that the econometrics can reveal the separate effect of different restrictions, substantially improving the practical value of the estimates.

The method, based on the industrial organisation literature, can also provide an indication of the extent to which restrictions raise price-cost margins, and therefore create economic rents, or raise costs above what they would be in the absence of the restrictions:

- If restrictions are treated as rent-creating, their effects are modelled as equivalent to output taxes, factor taxes, or taxes on fixed costs
- If the restrictions are treated as cost-escalating, their effects are modelled like productivity shocks affecting output, factors, fixed costs

As trade restrictions may have a simultaneous rent-creating and cost-increasing effect, further research is required to quantify these dual effects more fully

Notes

(* *For example, McGuire (1998) found that only 38 measures from the total of 165 existing measures affecting financial services in Australia were listed in its GATS schedule. A number of barriers referring to government monopolies over the provision of certain types of financial services, prudential regulation, restrictions on direct foreign investment in banking and insurance, discriminatory government licensing requirements and government guarantees to select financial service providers were not included in the GATS schedule as a result of the positive listing approach.*

APPENDIX 2. CALIBRATED MODELS OF INTERNATIONAL TRADE

Calibrated models are constructed to address a wide range of issues with quantitative indications. Theoretically, a comprehensive CGE model measuring the impact of services trade liberalisation should account for mode 1 (cross-border trade), mode 3 (commercial presence) and mode 4 (temporary movement of persons related to supplying services). CGE modelling of services liberalisation is still at an early stage and studies so far have focused on giving account of the main first round effects of liberalisation. Nevertheless, potential policy insights from this methodology include a quantitative assessment of issues critical to the decision making process of the policy-maker:

- The sources of projected gains: if they come from improved access to foreign markets (*i.e.* through other countries liberalising) or whether they would come from enhanced home market contestability and efficiency with services provided to users (industry and consumers) more cheaply via reductions in costs of inputs or in rents.
- The specific contribution to the overall economy-wide outcome from liberalisation of different sectors, modes of supply and factors.
- Extent to which the gains vary, depending on whether the barriers are rent-creating or cost-escalating.
- Extent and nature of likely adjustment costs, in terms of output and employment, associated with services trade liberalisation.

Theory does not unambiguously predict that countries will uniformly gain from services trade liberalization. First, liberalization of trade in services will affect world prices of goods. This raises the possibility that some countries may experience terms-of-trade losses from services trade liberalization. Second, because services trade liberalization will be piecemeal, the types of trade barriers and the sequencing of liberalization could affect whether or not all countries gain. In particular, the distribution of the rents accruing to producers that benefit from protection could influence welfare outcomes. Many economists tend to dismiss these types of concerns as being interesting in theory, but of little practical importance. CGE models can potentially help to assess their relevance by looking at:

- Extent and nature of changes in the allocation of production and incomes across countries, towards countries that become more efficient.
- Income effects of the increased efficiency on a country (*i.e.* the degree to which the economy's enhanced efficiency affects the national income via the decrease in supply price of services produced within its borders by national or international providers).
- Possible (negative) second round effects including:
 - possible immiserising effects (which have, however, proved rare in goods trade)
 - possible interactions with national savings and investment

- possible adverse terms of trade effects

The potential indications offered by CGE simulations are wide in scope and very informative. However, they have three main limitations: (a) they do not provide a sector specific analysis; (b) to date, most of them only identify one-time static gains of eliminating or reducing barriers to trade in services (*); (c) given the high information content required and their reliance on extensive assumed theoretical frameworks, results are not always robust.

Notes

The description above refers to available CGE studies. It should be noted, however, that there is nothing inherent in calibration models that restricts them to level effects or single aggregate services sectors. The output of CGE models will be in levels if the inputs are in level terms. Should a model be estimated using inputs in growth terms, then the model would provide output in growth terms. As for the issue of disaggregation by sector, one of the highest priority areas for further research is to build models with disaggregated service sectors and to examine sectoral priorities for liberalisation

APPENDIX 3. ECONOMETRIC STUDIES

There are two types of econometric studies:

- Economy-wide studies, which quantify the overall effects of services trade barriers on some economy-wide measure of performance. These effects can be levels effects (if the performance measures are in levels) or growth effects (if the performance measures are in growth rates). These studies aim to do the same job as CGE studies. But whereas CGE studies take a structural approach to spelling out how barriers in one sector flow through to other sectors and the economy as a whole, the econometric studies typically take a reduced form approach. And so the comparison of these econometric approaches with CGE models hinges on the differences between structural and reduced form approaches. Testability and information content are some of the issues, along with the need for the econometric studies to control for all other factors affecting performance, and to deal (where necessary) with simultaneity issues.
- Sectoral studies, which quantify the first-round impact of services trade barriers on sector-specific measures of performance. These effects on performance can be levels effects (if the performance measures are in levels) or growth effects (if the performance measures are in growth rates). The key to these studies is that they are sectoral, and do not purport to add up the effects of services trade barriers for the economy as a whole, as CGE studies do. On the contrary, the first round impacts from sectoral econometric studies provide the key inputs into CGE studies, which then trace through the effects of services trade barriers on other sectors of the economy and, where a disaggregated approach is taken, can also add up the effects of services trade barriers across different services sectors.

APPENDIX 4. RESULTS FROM MEASURING RESTRICTIONS ON BANKING SERVICES^a

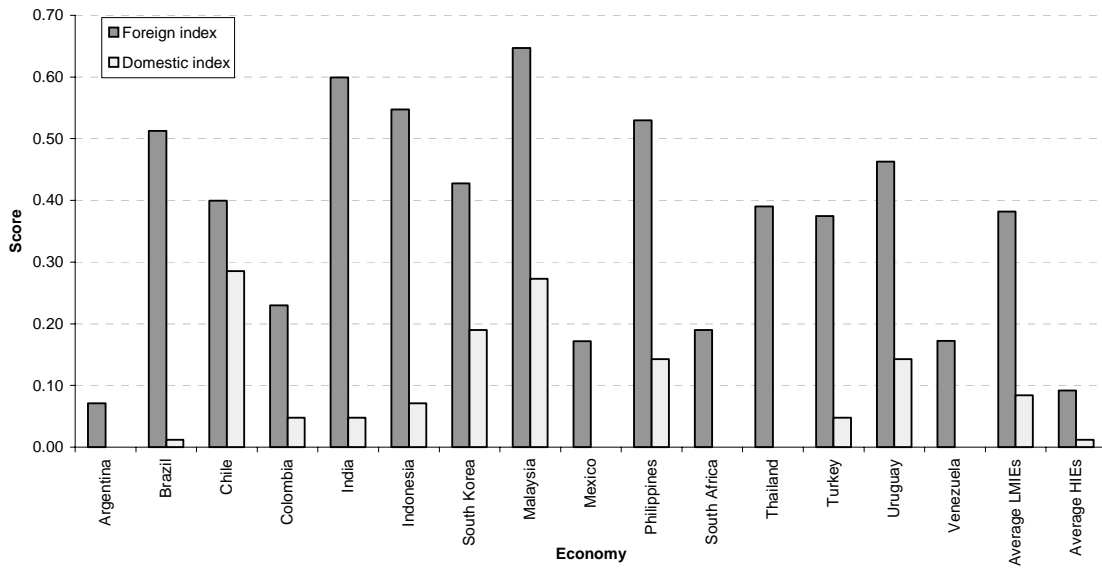
Economy	McGuire and Schuele (2000)		Mattoo et al (2001) ^b		Mattoo 1998		Claessens and Glaessner 1998, McGuire 1998 and McGuire and Schuele 1999 ^c	
	Score	Rank	Score	Rank	Score	Rank	Score	Rank
Malaysia	0.65	1	0.44	2	0.84	2	0.52	2
India	0.60	2	0.44	2	0.80	3	0.55	1
Indonesia	0.55	3	0.22	4	0.72	5	0.36	7
Philippines	0.53	4	0.44	2	0.76	4	0.33	10
Brazil	0.51	5	0.44	2	0.80	3	nc	na
Uruguay	0.46	6	0.56	1	0.80	3	nc	na
Rep. of Korea	0.43	7	0.44	2	0.80	3	0.41	5
Chile	0.40	8	0.22	4	0.80	3	0.44	4
Thailand	0.39	9	0.44	2	0.92	1	0.36	7
Turkey	0.37	10	0.11	5	0.40	8	nc	na
Singapore	0.37	10	0.11	5	0.64	6	0.50	3
Colombia	0.23	11	0.22	4	0.80	3	0.35	8
Japan	0.19	12	nc	na	0.16	13	0.34	9
South Africa	0.19	12	0.11	5	0.20	12	nc	na
Venezuela	0.17	13	0.56	1	0.80	3	nc	na
Mexico	0.17	13	0.33	3	0.60	7	0.38	6
Australia	0.12	14	0.11	5	0.27	11	0.16	12
Hong Kong (China)	0.09	15	0.11	5	0.37	9	0.05	15
Switzerland	0.08	16	0.11	5	0.16	13	nc	na
Canada	0.07	17	0.11	5	0.36	10	0.20	11
EU ^d	0.07	17	0.11	5	0.36	10	nc	na
Argentina	0.07	17	0.11	5	0.16	13	nc	na
United States	0.06	18	0.11	5	0.36	10	0.10	13
New Zealand	0.06	18	0.11	5	0.16	13	0.08	14

nc — not calculated. na — not applicable. ^a The restrictiveness index scores range from 0 to 1. The higher the score, the more restrictive the economy. Claessens and Glaessner (1998), Mattoo (1998), Mattoo et al (2001) and McGuire (1998) have been converted from openness indices to restrictiveness indices and normalised to a score of 1 for comparison. ^b Mattoo et al (2001) covers financial services and these results are used as a proxy for banking services. ^c McGuire (1998) and McGuire and Schuele (1999) extended the economy coverage of the Claessens and Glaessner (1998) results. ^d The score for the 15 EU Member States was the same in each study.

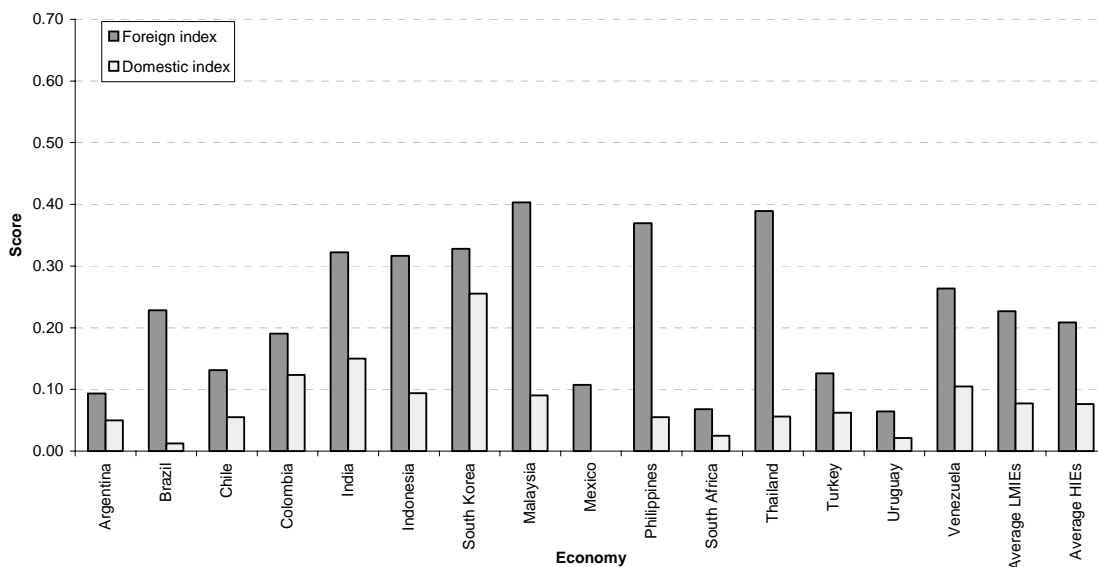
Source: McGuire (2002).

APPENDIX 5. TRADE RESTRICTIVENESS INDEX SCORES IN SELECTED SECTORS FOR INDIVIDUAL DEVELOPING ECONOMIES, AVERAGE LOW AND MEDIUM INCOME ECONOMIES (LMIES) AND AVERAGE HIGH INCOME COUNTRIES (HIES)

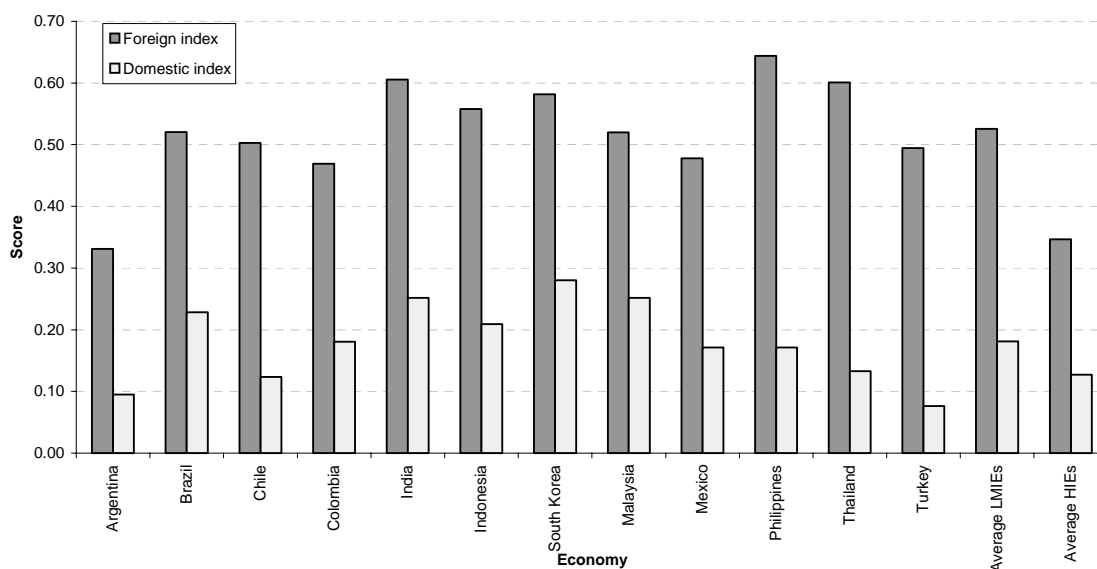
Banking services^a



^a Based on available information of restrictions in place as at 31 December 1997. ^b The restrictiveness index scores range from 0 to 1. The higher the score, the more restrictive the economy. *Data source:* McGuire and Schuele (2000) as reported in McGuire (2002).

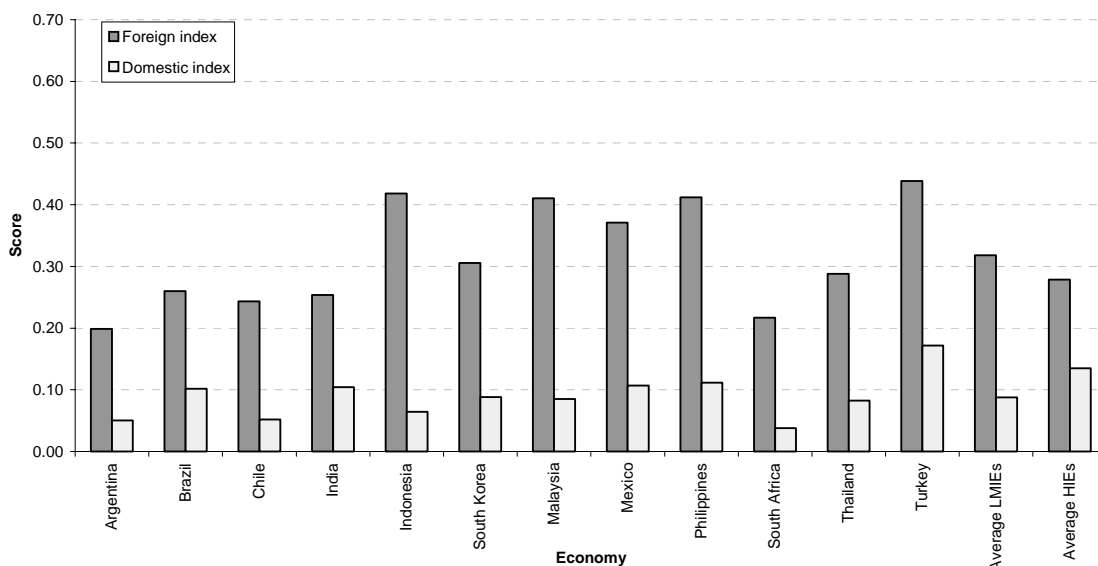
Distribution services^a

^a Based on the available information of restrictions in place as at 30 June 1999. ^b The restrictiveness index scores range from 0 to 1. The higher the score, the more restrictive the economy. *Data source:* Kalirajan (2000) as reported in McGuire (2002).

Maritime services^a

^a Based on the available information of restrictions in place as at 31 December 1998. ^b The restrictiveness index scores range from 0 to 1. The higher the score, the more restrictive the economy. *Data source:* McGuire et al (2000) as reported in McGuire (2002).

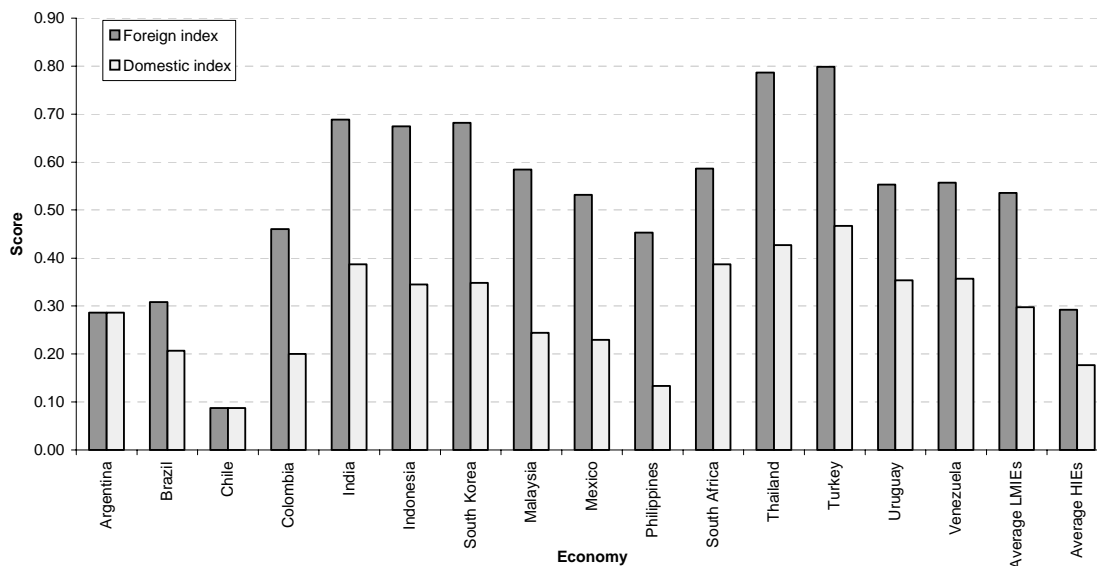
Professional services^{ab}



^a Based on the available information of restrictions in place as at 30 June 1999. ^b The results for professional services are the average results of the trade restrictiveness indices for accountancy, architectural, engineering and legal services. ^c The restrictiveness index scores range from 0 to 1. The higher the score, the more restrictive the economy.

Data source: Nguyen-Hong (2001) as reported in McGuire (2002).

Telecommunications services^{ab}



^a Based on a 1998 International Telecommunications Union survey (ITU 1999). ^b The results are calculated from Warren (2000a). This is a subset of trade restrictiveness indices. Warren also calculated a number of results for other developing economies. ^c The restrictiveness index scores range from 0 to 1. The higher the score, the more restrictive the economy.

Data source: Adapted from Warren (2000a) by McGuire (2002).

APPENDIX 6. RESULTS FROM CGE STUDIES MODELLING SERVICES AS CROSS-BORDER TRADE — MODE 1 OF SUPPLY

Studies		Brown <i>et al.</i> (1996)	Chadha <i>et al.</i> (2000)	Benjamin and Diao (2000)	Robinson <i>et al.</i> (1999) without technology transfer	Robinson <i>et al.</i> (1999) with technology transfer	McKibbin and Wilcoxon (1996)	World Bank (2002)
Regions	Countries	welfare gains: % change in GDP	welfare gains: % change in GDP	welfare gains: % deviation from base year	welfare gains: % change in GDP	welfare gains: % change in GDP	welfare gains: % change in GDP	welfare gains: % change in GDP
<i>Developing economies (tot.)</i>			2.5					9.4
<i>Asia</i>								
	India		1.6					
	India (unilateral liberalisation scenario)		1.3					
	Sri Lanka		2.8					
	China		1.3	7.42	0.34	1.55	0.9	
	Hong Kong (China)		8.3	4.92			0.5	
	Chinese Taipei			10.11			1.1	
	Korea		2.7	8.24			1	
	Singapore		3.8	15.24			0.7	
	Indonesia		2.4				3.5	
	Malaysia		1.9				1.1	
	Philippines		3.5				1.4	
	Thailand		4.2				2.3	
<i>South East Asia (excluding China, Chinese Taipei, Hong Kong and Singapore)</i>				6.85				
<i>ASEAN</i>					1.29	1.83		
<i>Asian NIEs</i>		1			1.85	3.97		
<i>Rest of South Asia</i>			1.9		1.13	2.26		
<i>Non Asian NIEs</i>		0.7						
<i>Central, South America</i>			2.3		0.98	2.48		
	Mexico	2.1	3	1.41				
	Chile			1.41				
	Rest of South America (CAIRNS)							
<i>Central European Associates</i>			2.5					
	Turkey		3.5					
	Russia							
<i>Africa</i>								
	Tunisia							
<i>Developed economies</i>			2					
	Australia/New Zealand	1.9	2.9	2.95			0.8	
	Canada	0.7	2.8	1.33				
	Europe (EU and EFTA)	0.4	1.9	0.19				
	EU-15				1.22	4.1		
	Japan	0.4	1.9	2.89	0.43	2.45	0.1	
	United States	0.5	2	0.91	0.84	2.22	0.3	
	OECD n.e.s.				1.39	2.81		
ROW					2.12	3.57		
Base year		1990	1995	1992	1995	1995	1990	

**APPENDIX 7. RESULTS FROM CGE STUDIES THAT MODEL BARRIERS TO
COMMERCIAL PRESENCE — MODE 3 OF SUPPLY- DISTINCTIVELY FROM THOSE
AFFECTING OTHER MODES OF SUPPLY**

Studies		Dee and Hanslow (2000)	Verikios and Zhang (2000) communication services (complete liberalisation scenario)	Verikios and Zhang (2000) financial services (complete liberalisation scenario)	Konan and Maskus (2002)
Regions	Countries	GDP(%)	Real GDP(%)	Real GDP(%)	welfare gains: % change in GDP
<i>Developing economies (tot.)</i>					
<i>Asia</i>					
	India				
	India (unilateral liberalisation scenario)				
	Sri Lanka				
	China	14.6	0.81	0.06	
	Hong Kong (China)	1	0.16	0.27	
	Chinese Taipei	0.2	0.02	0.03	
	Korea	0.1	0.01	0.36	
	Singapore	-1.3	0.02	0.73	
	Indonesia	5.1	0.7	0.7	
	Malaysia	0.7	-0.03	0.27	
	Philippines	0.4	0.72	0.93	
	Thailand	0.2	-0.35	0.96	
<i>South East Asia (excluding China, Chinese Taipei, Hong Kong and Singapore)</i>					
<i>ASEAN</i>					
<i>Asian NIEs</i>					
<i>Rest of South Asia</i>					
<i>Non Asian NIEs</i>					
<i>Central, South America</i>					
	Mexico	0.1	-0.06	0.69	
	Chile	0.4	0.01	0.24	
	Rest of South America (CAIRNS)	0.1	0.02	0.7	
<i>Central European Associates</i>					
	Turkey				
	Russia				
<i>Africa</i>					
	Tunisia				5.3
<i>Developed economies</i>					
	Australia/New Zealand	0	0.09(AU) 0.06(NZ)	0.05(AU) 0.4(NZ)	
	Canada	-0.1	0.01	-0.01	
	Europe (EU and EFTA)				
	EU-15	0	0.05	0.05	
	Japan	0	0.04	0.01	
	United States	-0.1	0.01	-0.02	
	OECD n.e.s.				
ROW		0.8	0.39	0.17	
Base year		1999	1999	1999	1995

APPENDIX 8. SELECTED ECONOMETRIC STUDIES

Publication	Claessens S., Demirgüç-Kunt A. and Huizinga H. "How does foreign entry affect domestic banking markets?" <i>Journal of Banking and Finance</i> 25, pp. 891-911.								
Country coverage	7900 banks from 80 countries worldwide								
Data period	1988-1995								
Sectoral coverage	Commercial Banking								
Methodology to measure liberalisation	Weighted least squared panel estimation with time and country specific fixed effects to measure the impact of foreign bank participation on various indicators of domestic banking efficiency. Estimations are performed controlling for all the standard financial and macroeconomic factors entering into the tested relationships, <i>i.e.</i> <ul style="list-style-type: none"> • Lagged value of the equity-asset ratio • Ratio of non-interest earning assets to total assets • GDP per capita • Output growth • Inflation • Real interest rate 								
Model structure	$\Delta I_{ijt} = \alpha_0 + \alpha_1 \Delta FS_{it} + \alpha_2 \Delta B_{it} + \alpha_3 \Delta X_{jt} + \varepsilon_{ijt}$ where: <ul style="list-style-type: none"> • I_{ijt} is the dependent variable (<i>i.e.</i> Δ non-interest income/tot.assets, Δ before tax profits/tot.assets or Δ overheads) for domestic bank i in country j at time t. • FS_{it} is the share of foreign countries in the domestic banking systems • B_{it} are bank variables for domestic bank i at time t • X_{jt} are country variables for country j at time t 								
Base year/data source	DATASCOPE database with data covering approximately 90% of bank assets in each country								
Results	The number of foreign bank entries is correlated with reductions in <ul style="list-style-type: none"> • domestic bank profitability (proxy for competition) • non-interest income (proxy for management efficiency and organisational structure) • overhead expenses (proxy for management efficiency and organisational structure) <p>While no significant changes are registered in net interest margins or loan loss provisioning. <u>Interpretation: Entry of foreign banks is associated with greater efficiency in domestic banking systems.</u></p> <table border="1"> <thead> <tr> <th>Dependent variable</th> <th>Change (Δ) in foreign bank share (explanatory variable)</th> </tr> </thead> <tbody> <tr> <td>Δ non-interest income/tot.assets</td> <td>-0.023[*]</td> </tr> <tr> <td>Δ before tax profits/ tot.assets</td> <td>-0.028^{**}</td> </tr> <tr> <td>Δoverhead/ tot.assets</td> <td>-0.015[*]</td> </tr> </tbody> </table> <p>Note: *, **, *** indicate statistical significance at the 10%, 5% and 1% levels respectively.</p>	Dependent variable	Change (Δ) in foreign bank share (explanatory variable)	Δ non-interest income/tot.assets	-0.023 [*]	Δ before tax profits/ tot.assets	-0.028 ^{**}	Δ overhead/ tot.assets	-0.015 [*]
Dependent variable	Change (Δ) in foreign bank share (explanatory variable)								
Δ non-interest income/tot.assets	-0.023 [*]								
Δ before tax profits/ tot.assets	-0.028 ^{**}								
Δ overhead/ tot.assets	-0.015 [*]								
Caveats	While recognizing that these indicators are imperfect measures of efficiency and that there may be "noise" in these indicators, there does not seem to be a systematic bias in these measures.								

Appendix 8. (contd.)

Publication	Eschenbach, F. & Francois, J., 2002. "Financial Sector Competition, Services Trade, and Growth," CEPR Discussion Papers 3573.																						
Country coverage	130 countries worldwide																						
Data period	1990-1999																						
Sectoral coverage	Financial services																						
Methodology to measure barriers	Hoekman (1995) tariff equivalents.																						
Methodology to measure liberalisation	Analytical model is based on Ramsey accumulation and on oligopolistic market in order to highlight the channels through which financial services trade may lead to dynamic, pro-competitive effects. <i>Simultaneous Error Correction</i> or SEC-based estimators are used (approach similar to iterative three stages estimation) in the empirical model to estimate cross country growth regressions. Standard variables are used as controls.																						
Model structure	<p>Simultaneous system of three equations with dependent variables being respectively: (1) concentration (measured as the share of the three largest banks), (2) a measure of bank mark-ups (measured as net interest income NIM) or an index of bank profitability (PROFIT) and (3) per capita growth:</p> $\text{CONCENT}_i = \mathbf{A}\mathbf{X}_{1,i} + \varepsilon_{1,i}$ $\text{NIM}_i \text{ (or PROFIT)} = \mathbf{B}\mathbf{X}_{2,i} + \varepsilon_{2,i}$ $\text{PCGR}_i = \mathbf{C}\mathbf{X}_{3,i} + \varepsilon_{3,i}$ <p>The right-hand side variables include</p> <ul style="list-style-type: none"> • for equation 1: size, Hoekman (95) tariff equivalent, share of foreign banks in banking sector, a measure of openness of the banking system, a dummy for transition economies • for equation 2: a measure concentration of the sector, a financial crisis indicator and a dummy for transition economies • for equation 3: per capita GDP in 1990, population growth, trade as a share of GDP, average inflation rate, net interest income, profit, a political stability indicator and the dummy for transition economies 																						
Data source	BANKSCOPE, IMF, World Bank, Heritage Foundation index of Economic Freedom																						
Results	<p>Strong positive relationship between financial sector competition and financial sector openness, and between growth and financial sector competition.</p> <table border="1"> <thead> <tr> <th>Dependent variable</th> <th>Explanatory</th> <th>Coefficient</th> </tr> </thead> <tbody> <tr> <td>CONCENT</td> <td>Tariff equivalent</td> <td>0.693***</td> </tr> <tr> <td>CONCENT</td> <td>Share of foreign banks</td> <td>-1.202***</td> </tr> <tr> <td>CONCENT</td> <td>Bank restrictiveness</td> <td>14.515***</td> </tr> <tr> <td>MARKET POWER (as NIM)</td> <td>Concent</td> <td>0.063***</td> </tr> <tr> <td>PER CAPITA GDP GROWTH</td> <td>Net interest margin</td> <td>-0.469***</td> </tr> <tr> <td>PER CAPITA GDP GROWTH</td> <td>Profit</td> <td>-1.078***</td> </tr> </tbody> </table> <p>Note: ***, ** indicate statistical significance at the 10%, 5% and 1% levels respectively.</p>		Dependent variable	Explanatory	Coefficient	CONCENT	Tariff equivalent	0.693***	CONCENT	Share of foreign banks	-1.202***	CONCENT	Bank restrictiveness	14.515***	MARKET POWER (as NIM)	Concent	0.063***	PER CAPITA GDP GROWTH	Net interest margin	-0.469***	PER CAPITA GDP GROWTH	Profit	-1.078***
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Caveats	<ul style="list-style-type: none"> • Uneven coverage for some of the indicators • Rough measures of bank mark-ups likely to be prone to error 																						
Focus on DCs	Protection appears to be concentrated in lower income countries. Controlling for other relevant estimators and holding all else constant, if a "typical" lower income country were to move from the average openness characterising the lower income regime to the more liberal average openness level characterising the high income countries (<i>i.e.</i> roughly 50% liberalisation by the measures here employed) the result lead to an estimated difference in growth rates between roughly 0.4 and 0.6% per year on a per capita basis.																						

Appendix 8. (contd.)

Publication	Mattoo A., Rathindran R. and Subramanian A. (2001) "Measuring services trade liberalisation and its impact on economic growth: an illustration", World Bank
Country coverage	60 countries worldwide including 37 developing countries
Data period	1990-1999
Sectoral coverage	<ul style="list-style-type: none"> • Telecommunications • Financial services
Methodology to measure barriers	<p>Indicators are policy rather than outcome based (to meet criticism by Rodriguez Rodrik (1999) and integrate into one index three key aspects of policy: (1) competition or market structure, (2) foreign ownership (3) regulation</p> <ul style="list-style-type: none"> • <u>Openness indicator for telecommunications sector</u>: index ranging from 1 to 9, where the value 9 describes a system with competition among providers, no restriction on FDIs and an independent regulator and value 1 describes a monopolistic market structure, no FDIs allowed and no regulation. A lexicographic system attributes highest weight to the component describing the degree of competition, intermediate to the foreign ownership indicator and lowest to the one on regulation. (<i>i.e.</i> a regime in which competition is allowed is ranked higher of one where competition is not allowed, irrelevant of the treatment of the other two indicators). When market structure and ownership regulation differs for international calls, domestic short distance calls and domestic long distance calls, the weighted average of the three is considered. • <u>Openness indicator for financial services</u>: index ranging from 1 to 8, with higher values signifying greater liberalisation and highest weight for market structure, intermediate for foreign ownership and lowest for regulation on cross-border trade.
Methodology to measure liberalisation and model structure	<p>Cross-country growth regressions à la Barro (1977) and Sachs-Warner (1995, 1997)</p> $G_j = \alpha + \beta X_j + \gamma R_j, \quad \text{for } j=1, \dots, N$ <ul style="list-style-type: none"> • Where the dependent variable G_j is the average annual growth of per capita GNP • α is the constant term • X_j is the vector of standard growth controls for country j • R_j is a vector of the openness to trade in services for country j • N is the number of countries in the sample
Base year/data source	<ul style="list-style-type: none"> • Telecommunication: Data from a recently created World Bank-ITU database • Financial services: <ul style="list-style-type: none"> – Information on banking competition policy and foreign ownership obtained from the countries' GATS commitments in financial services and adapted to capture the policy stance on mode 3 and corrected for observed market structure and foreign bank penetration. – No suitable information on regulation exists. Information on current and capital account openness, which gives an indication on regulation affecting mode 1 and mode 2 delivery, is obtained from Dailami (2000).
Conclusion of the paper and main findings	<ul style="list-style-type: none"> • Distinctive factor mobility and scale effects involved in services liberalisation make it different from liberalisation in trade in goods. • Differences are better captured by policy-based rather than outcome-based measures of openness • Econometric evidence of openness in services influence over growth (strong for financial services, less strong for telecommunications)

Appendix 8. (contd.)

Results	Telecom liberalisation index		
	Value	Countries with liberalisation in telecom services from highest to lowest	
	9	Australia, Canada, Colombia, Dominican Republic, E.U., El Salvador, Ghana, Hong Kong (China), Malaysia, Mexico, Norway, Philippines, Switzerland, U.S.	
	8	Chile, Republic of Korea, New Zealand	
	7	Honduras, Peru, Sri Lanka	
	6	India, Indonesia, Venezuela	
	5	Argentina, Bolivia, Brazil, Ecuador, Egypt, Guyana, Hungary, Iceland, Israel, Malta, Mauritius, Mozambique, Nicaragua, Pakistan, Panama, Singapore, South Africa	
	4	Jamaica, Lesotho, Malawi, Thailand, Uruguay	
	3	—	
	2	Angola, Morocco, Costa Rica	
	1	Benin, Cyprus, Gabon, Gambia, Kenya, Tunisia, Turkey	
	Financial openness index		
	Value	Countries with liberalisation in financial services from highest to lowest	
	8	Argentina, Australia, Bolivia, Canada, Cyprus, E.U., Egypt, El Salvador, Guyana, Hong Kong (China), Iceland, Israel, Jamaica, Lesotho, Mauritius, New Zealand, Nicaragua, Norway, Panama, Singapore, South Africa, Switzerland, Turkey, U.S.	
	7	Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Ghana, Honduras, Indonesia, Kenya, Malawi, Malta, Mozambique, Nigeria, Senegal, Zimbabwe	
	6	Bahrain, Mexico	
	5	Brazil, India, Republic of Korea, Malaysia, Morocco, Philippines, Thailand	
	4	Peru, Uruguay, Venezuela	
	3	Gabon, Hungary, Pakistan, Tunisia, United Arab Emirates	
	2	—	
	1	Angola, Benin, Gambia, Sri Lanka	
Regression results	Coefficient on growth of per-capita GNP	Whole sample	Only DCs
	Telecom services liberalisation index	0.0015*	0.0032*
	Financial services liberalisation index	0.0025**	0.0036**
	Composite (financial and telecom) services liber. index	-0.0040**	-0.0039**
	Full telecom services liberalisation index	0.010*	0.019**
	Full financial services liberalisation index	0.012**	0.023**
	Full composite services liberalisation index	0.015***	0.028**
	<i>Note: *, **, *** indicate statistical significance at the 10%, 5% and 1% levels respectively.</i>		
	<ul style="list-style-type: none"> • Coefficient for telecom liberalisation index is positive and significant at 10% level. <u>It predicts that countries with some degree of telecom liberalisation grow up to 0.15% faster than countries with a monopolistic market for telecoms, where inward FDIs are banned and no regulator exists. Countries with full telecom liberalisation tend to grow up to 1% faster than others.</u> • Coefficient for the financial sector liberalisation index is positive and significant at 5% level. <u>It predicts that countries with some degree of financial liberalisation tend to grow up to 0.25% faster than countries with a closed financial sector. Countries with full financial liberalisation tend to grow up to 1.2% faster than other countries.</u> • Coefficient for composite telecom and financial services liberalisation is significant but negative. <u>It shows that countries with some combination of telecom and financial liberalisation grow up to 0.04% slower than countries without. However, with full liberalisation in both telecom and financial services sectors grow up to 1.5% faster than others.</u> 		

Appendix 8. (contd.)

Focus on DCs	<p>The magnitude of the coefficients on the indices is much higher for regressions including in the sample only the 37 developing countries than for the ones on the whole sample of 60 countries.</p> <ul style="list-style-type: none"> • Coefficient for telecom liberalisation index is positive and significant at 10% level. <u>It predicts that developing countries with some degree of telecom liberalisation tend to grow up to 0.32% faster than developing countries with a telecom sector characterised by a monopolistic market structure, ban of inward FDIs and absence of a regulator. Developing countries with full telecom liberalisation tend to grow almost 2% faster than other developing countries. Both these figures are double than the ones for the entire sample of 60 countries.</u> • Coefficient for the financial sector liberalisation index is positive and significant at 5% level. <u>It predicts that developing countries with some degree of financial liberalisation tend to grow up to 0.36% faster than developing countries with a closed financial sector. Developing countries with full financial liberalisation tend to grow up to 2.3% faster than other developing countries. Both these figures were lower for the sample including developed countries.</u> • Coefficient for composite telecom and financial services liberalisation is significant but negative. <u>It shows that growth for developing countries with some combination of telecom and financial liberalisation is almost 0.04% slower than for developing countries without. However, with full liberalisation in both telecom and financial services sectors growth is higher of 2.8%.</u>
Caveats	<ul style="list-style-type: none"> • Quality of openness indices needs to be refined both by using better data and improving the understanding of how different elements of policy — measures affecting entry, foreign investment, and regulation- interact in different services sectors. • Liberalisation variables are constructed using information from the latter half of the 1990s. Therefore estimations might be capturing one-shot gains.

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