Session 2: Globalization and WTO: ICT, Trade and Competitiveness

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Abstract

While the spread of ICTs across the globe has been one of the most eminent features of globalization, discussions in the WTO have been limited to electronic commerce and whether to impose customs duties on electronic transmissions sent over the Internet. At the same time, the use of ICT and the Internet by enterprises has impacted the way global business is carried out, and has created new dynamics in international trade and export competitiveness, in particular in the Asian region. With respect to the debates in WTO, the paper argues that fiscal implications of e-commerce could be significant for some Asian countries, but the overall share in government revenue is minor. On the other hand, the ICT sector has played an important role for expanding trade in Asia, both in ICT producing and using sectors. Business process outsourcing, based on the use of Internet and ICT, is growing rapidly in many Asian countries, creating new export and employment opportunities. In order to fully grasp the potential of ICTs for trade and export competitiveness, governments need to put in place an environment favourable to the development of IT-enabled services, such as encouraging the inflow of FDI, reducing import duties on ICT products, ensuring a high-quality, cost-effective telecommunications infrastructure or stepping up efforts to increase domestic IT skills.

1. Introduction

It is widely recognized that the spread of ICTs and the Internet considerably contribute towards an increasingly globalized world, creating new economic and social landscapes and fundamentally changing the way enterprises and economies as a whole function. While there is general agreement that ICTs affect all sectors of society and the economy, their role as an enabler for economic development, affecting international trade and investment, and creating new market opportunities for companies in developing countries deserves special attention. For example, empirical evidence has shown that growth in ICT goods and services trade has been higher than growth in total trade and remains high despite an overall global slow down.[1] Furthermore, ICTs enable trade in other sectors by enhancing market access and broadening the customer base, facilitating customs, transport and logistics. Also, ICTs create new services and goods that can be traded online, such as those in the entertainment sector and the cultural industry.

Therefore, policies aimed at creating an enabling environment for the development and deployment of ICT at the domestic level need to address issues of trade, investment, industry development and e-business in general. Within the national ICT strategy framework, these policies specifically target the development of the information economy, and are complemented by cross-cutting policies such as those related to the development of the telecommunication infrastructure, the creation of a legal and regulatory framework or the building of skills for an information society.

This paper explores recent developments on the international trade-and-ICT agenda and discusses the policy environment that fosters ICT growth and exports in developing countries, in particular in the Asian region. The discussion will be placed within the context of the existing multilateral trade negotiations in WTO. The paper first looks at the WTO discussion on electronic commerce and analyses the potential impact of e-commerce on customs revenues. It then addresses other relevant trade issues, such as trade in ICT goods and services as well as the electronic delivery of services. It provides an overview of international trade in the ICT producing and using sectors, identifies export sectors that have been particularly dynamic, such as those related to business process outsourcing, and discusses policy measures to enhance the export competitiveness of countries in ICT related sectors. The paper

[1] OECD (2002): *Measuring the Information Economy*. Paris.

concludes by identifying necessary policy actions and linking them to the overall national ICT strategy framework.

2. The debate in WTO: e-commerce and beyond[2]

A number of multilateral trade agreements are of relevance to the deployment and growth of ICT. They include the WTO Agreement on Basic Telecommunication Services (for the telecommunication sector), the moratorium on electronic commerce, the Information Technology Agreement (ITA) (for ICT goods), the GATS (for ICT services and the electronic delivery of services) as well as the GATT (for digitised products). This section will present the debate on e-commerce, which has captured most of the attention of WTO member States. Issues related to other WTO agreements will be taken up in the subsequent sections.[3]

The topic of e-commerce was taken up formally in the WTO after the 2nd Ministerial Conference held in Geneva in May 1998. Two major decisions were taken: (i) to impose a moratorium on customs duties on electronic transmissions, and (ii) to establish a work programme to examine trade-related issues of e-commerce.

The WTO work programme on e-commerce has been mandated to four subsidiary bodies[4], which have examined aspects of e-commerce as they relate to the agreements and work programme of the individual bodies. However, the debates came to a halt when they identified a number of cross-cutting issues that needed to be addressed further at a horizontal level. These include (i) the classification of the content of certain electronic transmissions; (ii) development-related issues; (iii) fiscal implications of e-commerce; (iv) the relationship between e-commerce and traditional forms of commerce; and (v) the imposition of customs duties on electronic transmissions.

In order to continue the work programme, a number of "dedicated discussions" on electronic commerce were held under the auspices of the General Council.[5] In addition, the Committee on Trade and Development organized two seminars on e-commerce,[6] which allowed a discussion of the topics in a more thorough and analytical way.

Classification issue

The classification of "the content of certain electronic transmissions" has been the most controversial, and hence most debated issue in the WTO discussions on e-commerce. It has also held up progress in the discussions of the subsidiary bodies, especially in the Council for Trade in Goods.

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[2] Much of the discussion presented in this section is based on Teltscher, S. (2002): "Electronic Commerce and Development: Fiscal Implications of Digitized Goods Trading", *World Development*, Vol. 30, No.7, pp.1137-1158.
[3] The Agreement on Basic Telecommunication Services will not be discussed here. The subject of telecommunication infrastructure and access will be addressed in other sessions of the meeting.
[4] Council for Trade in Services, Council for Trade in Goods, TRIPS Council, and Committee on Trade and Development.
[5] On 15 June 2001, 6 May 2002, 25 October 2002, 27 February 2003, 17 May 2003, and 11 July 2003.
[6] One on "Government Facilitation of E-commerce for Development" (14 June 2001) and one on "Revenue Implications of E-commerce" (22 April 2002).

“Classification” broadly refers to the question of whether electronic transmissions, or products shipped electronically (instead of physically), should be characterized as goods, services, intellectual property or something else. In particular, it concerns the electronic transmission of data which have physical counterparts, e.g. books, music, film and video material, and software. In the past, these so-called digitized products have been shipped physically via carrier media such as CDs, diskettes, and tapes. They were physically moved across borders where they were subject to import duties. Today, and increasingly so in the future, they are being sent via datafiles through virtual networks, thereby crossing numerous (sometimes unknown) borders. The data are then downloaded onto a carrier medium, printed, or stored on a computer. They could be sent to individuals for direct consumption or to retailers for distribution.

Within the WTO context, there are important political and regulatory implications associated with the electronic delivery of goods and services. Depending on the classification, the trade is subject to different multilateral rules: goods are subject to the GATT, the Agreement on Technical Barriers to Trade, the Agreement on Customs Valuations, or rules of origin; while services would be subject to the GATS. Some digitized products, such as software, fall under the ITA and are thus tariff-exempted. The underlying differences between agreements and the resulting implications for domestic policies have been the main factors determining countries favouring specific proposals.

In general, the multilateral rules for services are still far less elaborate than the multilateral rules for trade in goods, providing countries with substantially more leeway for national policy discretion in the services trade. One important difference between the GATT and the GATS relates to general obligations. While the GATT’s general obligations include MFN, national treatment and a general prohibition of quantitative restrictions, the GATS includes the national treatment principle only in negotiated specific commitments and specific services. A second important difference between the GATS and the GATT is the possibility to impose quantitative restrictions or quotas. While the GATT (in general) prohibits the use of quotas, they are allowed under the GATS (depending on the market access commitment specified in a country’s schedule). So theoretically, this could mean that a country could put (in principle) a limit on say the number of books transmitted electronically via the Internet.

So far, the classification issue has not been resolved, although there seems to be an overall tendency towards a GATS classification. The most convincing argument for a GATS-approach is the legal certainty it provides for the treatment of digitized products, and given that the large majority of activities related to international e-commerce will be in the services sector. Should digitised products be classified as services, it could have a number of implications:

- All member states may have to include commitments on the concerned products in their national schedules;
- There may be additional similar products in the future, which will have to be taken into account;
- Importers need to compare their current import regulations under GATT with the commitment they will have to make under GATS;
- Exporters need to ensure that market access conditions will not be more restrictive under the GATS, for the same products;

- Since there are no customs duties on services, there could be a positive trade-creation effect and a negative trade-diversion effect; the same holds for the customs moratorium (see below).

A critical question that remains is, to what extent e-commerce-related services are covered by individual countries' national schedules? Countries therefore need to review their schedules with respect to the supply of electronically delivered services in the context of the new round of services negotiations. In particular, developing countries should identify those services sectors where they have a comparative advantage in the export of electronic services. Examples of those services that may be relevant for countries from the Asian region will be provided in section 4.

Customs moratorium and fiscal implications of e-commerce

The customs moratorium was agreed upon by WTO member States at the Geneva Ministerial Conference in May 1998, where Ministers "also declare that Members will continue their current practice of not imposing customs duties on electronic transmissions". The moratorium was renewed at the Doha Ministerial Conference (November 2001); it was not addressed in Cancun (September 2003).

So far, many countries have expressed support towards a (limited) extension of the moratorium. Others would like to make the ban permanent and binding. A number of developing countries are hesitant towards an extension (e.g. Malaysia, India, Pakistan) and some have expressed concern over the potential fiscal and trade implications of the moratorium. They argue that, if goods that were imported physically in the past and thus were subject to customs duties, are now imported digitally, and no customs duties collected, governments could loose revenue. They also question the overall significance of the moratorium given that no country currently collects import duties on e-deliveries.

Both the classification issue and the customs ban are closely linked to the debate on potential fiscal implications of e-commerce. Should electronic transmissions be defined as services and thus tariff exempted, fiscal losses will occur. But how big exactly are those potential revenue losses? As a contribution to the debate, UNCTAD calculated MFN tariff revenue currently collected from the import of digitized products (i.e. printed matter, software, music and other media products, film and video games).

The calculations show that the majority of countries that are mostly affected by tariff revenue losses come from the developing world (Table 1). Given their higher levels of MFN rates applied to these products, this should not come as a surprise. What is remarkable, however, is the magnitude: despite the developing countries' import share in digitized products of only 18.5 per cent, their absolute tariff revenue (loss) would be almost double that of the developed countries, amounting to 64.5 per cent of world tariff revenue losses for these products (Figure 1). This clearly shows that, as far as potential fiscal losses (in absolute terms) are concerned, developing countries would be much more impacted by the proposed ban. In Asia, the countries most affected include India, Malaysia, China, Thailand and Pakistan.

On the other hand, if we compare tariff revenue from digitized products to total revenue and revenue from import duties, the percentages are relatively low: for all countries, tariff revenues from these products amount to only 0.14 per cent of total government revenue and

1.7 per cent of revenue from import duties.[7] Nevertheless, some significant differences exist between countries, with shares ranging from 0 to 1.1 per cent of total revenue and from 0 to 20 per cent of revenue from import duties. Generally, customs duties as a source of government revenue play a more important role in developing countries compared to developed countries. Hence, a reduction in customs revenue as a result of e-commerce would be felt more strongly in the developing countries.

In addition to the MFN tariff, most imported goods are subject to domestic taxation, which in the case of services is usually lower or non-existing. Should these goods now be imported electronically and be tax exempted because classified as services, further revenue losses would be felt. UNCTAD calculations show that, compared with the tariff rates, the rates for additional duties are significantly higher. Combined revenue from both tariff and additional duties would be more than 8 billion US$. A large proportion of this is explained by consumption taxes levied on developed countries' imports (6.2 billion US$). If we look at the shares of these duties in government revenue, they now account on average for 0.5 of total government revenue, up from 0.1 per cent (tariff only). Shares in import revenue have also changed considerably. The combined tariff and customs surcharges (excluding consumption taxes) amount now to 3.6 per cent of total import revenue, up from 1.7 per cent (tariff only).

While domestic taxation is not an issue subject to WTO rules, it has been addressed in WTO in the context of fiscal implications of e-commerce. However, a clear distinction must be made between revenues resulting from customs duties and those resulting from the collection of sales tax or value added tax. Not only do they differ in terms of international rules (customs duties are discriminatory, internal taxes are non-discriminatory), but they also take different shares in total government revenue. While customs duties revenues still take a significant share in developing countries budgets, internal taxes are becoming increasingly more important for a country's total revenue collection, and the general trend is to move away from customs duties towards internal taxes. In other words, customs duties are seen as being regressive, whereas VAT collection is seen as progressive. In this context, it should be noted that the EU enacted a new directive on collecting VAT on services provided by suppliers outside the EU. The directive, which is in operation since 1 July 2003, is applied to B2C e-commerce only as no VAT is collected on B2B transactions.[8]

To conclude the discussion on WTO and e-commerce, it seems that a decision on the moratorium should wait until the classification issue is solved. Should digitized products be classified as services (which seems to be the tendency), the moratorium becomes obsolete, given that no customs duties are currently imposed on services (unless this is changed and services become subject to customs duties). At this stage, the extension or suspension of the moratorium has no major economic impact, since no countries impose customs duties on e-commerce (yet). In addition, the technical feasibility of collecting tariffs and taxes on e-commerce remains to be seen.

Services negotiations, on the other hand, are part of the built-in agenda and the Doha agenda, and already under way in Geneva. With an increasing share of services being traded via the Internet, market access negotiations in services are strongly linked to the debate on e-commerce. A number of developing countries have shown a considerable export potential in the services sectors, including online services. They should hence identify those sectors of export potential and take them into consideration in their negotiation proposals on services.

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[7] UNCTAD (2001): *E-Commerce and Development Report 2001.* Geneva.

[8] For further information, see http://europa.eu.int/comm/taxation_customs/taxation/ecommerce/vat_en.htm.

Apart from the services trade, ICT goods trade needs to be considered within the context of the emerging information economy and national ICT policies. In addition to ICT-related services (which fall under the GATS), ICT goods fall under the ITA and the GATT. How the ICT sector impacts on countries' trade and competitiveness will be further discussed in the following sections.

3. Trade and investment in the ICT producing sector

The ICT sector plays an important role in advancing the information economy and e-business. It provides essential instruments for e-business, including not only computer hardware and software but also fixed telephones, mobile telephones, telecommunication equipment and wireless transmission equipment. When the business sector starts adopting new ICTs in its operations, it relies heavily on local IT expertise in order to fully realize all the efficiency gains that the Internet makes possible at the level of the firm, the industry and the economy as a whole. Therefore, the existence of a local ICT sector contributes significantly to the take-off of e-business in developing countries.

The ICT sector was the subject of intense negotiations during the Uruguay Round. In December 1996, at the first WTO Ministerial Conference held in Singapore 29 WTO Member States (including 15 European countries) signed the Information Technology Agreement (ITA). Its two most important characteristics are:

- It was signed as a separate document, and is therefore not a part of the "Single Undertaking": for this reason, participation in the ITA is not compulsory for WTO member countries and for countries that are in the process of accession to the WTO;
- It is a tariff-cutting mechanism that obliges its members to cut tariffs of all products covered to zero.

Today, 60 WTO members participate in the ITA. Since the ITA does not cover all products (e.g. consumer electronic products), proposals have been made to extend its products coverage (referred to as ITA II). However, no agreement has been reached so far and no products have been added to the original list.

Trade in ICT products grew tremendously over the last decade and was worth over US$ 900 billion in 2000 (Figure 2).[9] In particular, exports of ICT products from developing countries grew at a compound annual growth rate (CAGR) of 23.5 per cent over the last decade, while exports from developed countries grew at a CAGR of 10.8 per cent. By comparison, total world exports grew by 6 per cent over the same period. As a consequence, the share of developing countries and economies in transition in ICT exports grew from 15.6 per cent of exports in 1990 to 35.5 per cent in 2000.

ICT exports represent a higher share in the exports of developing countries than in those of developed countries. In fact, ICT exports grew from 12 per cent of total developing countries' exports in 1990 to 22 per cent of their total exports in 2000, while for developed countries the share was respectively 10 per cent in 1990 and 14 per cent in 2000. This phenomenon largely was a result of transnational corporations (TNCs) strategies for locating hardware production

[9] UNCTAD (2002): *E-Commerce and Development Report 2002*. Geneva.

in emerging markets, as well as of developing countries' efforts to develop local ICT production capacities, which resulted in important outsourcing of ICT production to those countries.

The level of tariff protection applied to ICT goods is low in developed countries (the main markets for these products), one of the factors that enabled the rapid growth of developing countries' exports of ICT goods. However, tariffs remain relatively high in the developing world and especially in least developed countries.[10] This is an obstacle for companies located in those countries in accessing technology at reasonable cost. In order to enable developing countries' manufacturers and service providers to engage in e-business and to take full advantage of the opportunities offered by the new technologies, the tariffs levied on these products need to be reassessed.

Computer-related services exports from developing countries

Apart from the ICT goods sector, ICT services are increasingly becoming important for developing countries' trade and information economy development. For example, computer-related services were the most dynamic services export sector during the past decade, in particular for the developing countries and countries in transition (see section 4). Although developing countries still account for a small share in total exports of these services, their shares are growing, and will even become more visible once they start to further disaggregate their services statistics, as in some countries computer-related services are hidden in other categories.

Computer-related services play a key role in the development of knowledge-based services, as they produce high value added services. Although the developed countries dominate the computer industry, some developing countries have been successful in tapping into the computer-related service market, providing software and ICT-enabled services, and showing high export growth rates in these sectors. Besides the role the sector can play for export-led growth, computer software and services also play an important economic role for facilitating growth and development in other, domestic industries, which increasingly depend on software as a core component in their design, production and distribution processes.

The role of foreign investment

Much of the growth of the ICT sector in developing countries was based on a heavy inflow of FDI during the 1990s. In order to better understand the role of TNCs in developing countries' ICT sector, the UNCTAD secretariat undertook a survey of the determinants of ICT companies' investment and use of e-commerce in developing and transition economies.[11] The survey also highlights the relationship between ICT TNCs, the local workforce and the local business sector. The following summarizes the results.

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[10] The level of protection is highest in the office equipment and components sub-sectors. The reason for this is in part that some products included in that sub-sector are difficult to separate from components of an electrical and even mechanical nature. Thus, these products were not subject to the sweeping tariff-cutting exercise that focused on the ICT sector.
[11] UNCTAD (2002): *E-Commerce and Development Report 2002*. Geneva.

First, the TNCs that are investing in the ICT sector in developing countries are doing so with a long-term objective. The very reasons why they choose the locations in which they invest have to do with complex, economic and geopolitical factors rather than short-term advantages. Moreover, an important part of the respondent companies reportedly chose "greenfield" investment as a preferred expansion method, which is a strategy that reflects an intention to create production capacity and establish a presence in the local markets of developing countries in the long term. Finally, the fact that the majority of the workforce employed in the production facilities of the MNCs is local labour, and especially skilled local labour, also shows a long-term commitment, in the light of the difficulty of hiring, training and retaining ICT-savvy labour, especially in developing countries.

Second, ICT investment in developing countries has a positive spillover effect on the local productive sector, which is significantly involved in the production process of the multinationals. The companies also appear to focus on increasing the competences of their local workforce.

Third, ICT companies engage intensively in e-commerce and equip many of their subsidiaries in developing countries with e-business functionalities. ICT investment might therefore make an important contribution to increasing e-commerce in those countries, at the same time boosting data traffic on the Internet, fuelling competition and hence potentially bringing about cost reductions in telecommunication services.

As far as geographic preferences are concerned, ICT investment is still very concentrated in Asia and South-East Asia. It is also important to emphasize that investment for production and research purposes – which offers the best opportunities for transfer of technology - is even more heavily concentrated in Asia. This finding is reinforced by the analysis of the factors that directed ICT investment to specific markets, which reveals that policy incentives can alter multinationals' investment location decisions only in the medium to long term. However, this picture could change in the coming years, as the new technologies become more widespread, fuelling demand for ICT sales and investment in the developing countries. A potential role for the policy maker – in cooperation with the private sector and all the relevant stakeholders – will then be to foster an enabling environment for e-business through the adoption of national e-strategies. The specificities of the e-strategies will differ across countries and regions, but involving the local ICT industry and the local branches of the ICT multinationals in their e-strategy design and implementation is crucial.

4. Dynamic services and business process outsourcing

While the ICT sector takes on a crucial role in a country's move toward the information economy, the use of ICTs in other sectors of the economy is equally important and slowly changing the way business is carried out.

ICTs have been particularly influential in the services industries. For example, selling airline tickets, international financial or insurance products, providing customer support, data processing services or consultancy in legal, health, education or software services – through the Internet, all of these services can be supplied rapidly, around the clock, and from anywhere in the world, thus profoundly reshaping many of the existing services industries, and creating new services as the technologies develop. The increasing demand for ICT has also generated major growth in the supply of communication services, which are experiencing an expansion in all countries. Through e-commerce, the services industries have enjoyed an increase particularly in cross-border trade. The digitisation of business processes, coupled with the universality of the Internet, has allowed companies to outsource activities and services to more cost-effective locations as well as to access new clients in foreign markets.

E-commerce, particularly in the services sector, makes international trade "borderless". As a result, certain services that previously involved the movement of people across borders, with all its limits and restrictions, can now - and increasingly so in the future - be made available electronically. Examples include health, consultancy and other business services. This allows countries to circumvent market access restrictions related to the entry of persons (visa restrictions) thus replacing certain modes of supply and increasing the relative importance of cross-border trade. With falling telecommunication costs, cross-border trade in these services will continue to grow. This, coupled with falling transmission costs, will also encourage the development of new services exports and some that were previously traded physically, will move to digital delivery, such as trade in digitised products (see above).

All of these factors have contributed to the growth of services exports, particularly in the developing countries. Traditionally, developing countries exports have been concentrated in travel and transport services. These services are closely linked to the physical movement of people and goods, and hence merchandise trade. Other, so-called producer services, such as financial, insurance, communication or computer-related services, are more linked to the movement of knowledge and information. Hence, the impact of new technologies and e-commerce are much more profound in these sectors. Therefore, a structural change in developing countries' exports towards these knowledge-based services will also allow them to benefit from technological innovations.

"Dynamic" export services and "rising stars"

Available statistics on international trade in services demonstrate that between 1990 and 2000 developing countries' services exports grew faster than those of developed countries, especially in services that experienced above-average growth rates on the global market. UNCAD calculations reveal the following services as having been "dynamic" (i.e. experiencing above-average growth rates) at the global level during the ten-year period (annual growth rates in parentheses):[12]

- Computer-related services (31%),
- Personal, cultural and recreational services (20%),
- Communication services (15%),
- Financial services (10.6%),
- Royalties and license fees (10.4%), and
- Construction services (8.8%).

A comparison between developing and developed countries' growth rates of different types of services exports reveals that the developing countries' growth rates were higher than world average in all of the dynamic services, and particularly high in three services: computer and

[12] UNCTAD (2002): *E-Commerce and Development Report 2002*. Geneva.

information services (58%), personal, cultural and recreational services (53%) and financial services (41%). It is important to keep in mind, though, that global market shares of developing countries in computer and financial services trade are still very low (less than 3% respectively).

These "dynamic" export services are to a large extent services that can easily be provided electronically (e-services). Computer-related services were the most dynamic export service during this time period, growing at an annual average rate of 31% (in the developing countries at 58%) and gaining 23.3% market share.

An analysis of export competitiveness (based on market share analysis and revealed comparative advantage) in e-services depicts the following:[13]

- Almost all services exports that can be defined as "dynamic" services can also be defined as e-services (i.e. can be delivered electronically).
- Developing countries have experienced the highest growth rates in the exports of e-services during the past decade.
- Computer-related services exports from the developing countries have been the most dynamic exports during this time period.
- While developed countries have a comparative advantage in the export of most e-services, an increasing number of developing countries are gaining comparative advantage in some e-services.
- A large number of developing countries are gaining world market share (in both relative and absolute terms) in the export of e-services, notably in the communications services, financial services and royalty services.
- "Rising stars" (i.e. the most dynamic and competitive exporters) are largely developed and transition economies, and a few developing countries. However, given the high growth rates in a number of developing countries, their share in this category is expected to increase in the near future.
- Among the Asian developing countries, the most competitive include China (all dynamic e-services) and the Republic of Korea (financial and royalty services).[14]

To conclude, developing countries' global shares in e-services exports are still minor and few of them have a comparative advantage in the export of e-services. But many developing countries are gaining world market share in the export of, for example, communication services, financial services and royalty services. This, coupled with the high growth rates of e-services exports, is likely to increase the number of developing countries among the "rising stars". Although the methods employed in the study do not provide for forecasting, one can safely conclude that developing countries which export dynamic services are less at risk to face saturation in their export markets in the short- to medium run, compared to those that export services facing less demand on the world market. One can further conclude that given the higher growth rate of services exports in the developing countries, the potential impact of e-commerce is much greater than their current share of world trade or size of their services trade indicates.

[13] UNCTAD (2002): *E-Commerce and Development Report 2002*. Geneva.
[14] India was not included in the analysis because it classifies computer-related services as "other business services" and hence could not be identified in the services sectors considered here.

The potential of outsourcing

Globalization, combined with the growing role of ICT in all business processes, has led to a sharp increase in the use of outsourcing of services. Those business tasks that do not necessarily have to be carried out in-house (for example, because they do not require a constant knowledge of the core activities), are increasingly being outsourced to companies that can provide the same quality service more cost-effectively. In particular, the increased global competition is forcing companies to produce more cost-effectively in order to maintain their profit margins.

In the late 1980s, outsourcing became common among large businesses located in the United States. Originally, they were driven to look for long-term ongoing support to manage their ever-changing information technology infrastructure. Large companies, whose core business was not related to IT, such as manufacturing companies, outsourced their IT functions in order to focus on their core business and increase process efficiencies.

With advances in network technology and high-speed data networks, as well as increases in bandwidth capacity, remote management services developed (IT services that can be performed away from the client's location and computing technology). Companies located in developed countries have rapidly increased the scope of the operations they outsource from single aspects of IT to the offloading of entire business functions.

What is now called business process outsourcing (BPO) refers to the outsourcing of business processes and functions in the areas of administration, finance, human resources, distribution logistics, manufacturing services, sales, marketing and customer care to locations that can provide these services at a lower cost through high-speed data communication links, which guarantee timely delivery of the data and services. BPO often involves large-scale data processing (such as that required by banks, insurance companies and airlines) – for example, in revenue accounting and payroll processing. As a result of the improved global telecommunications infrastructure, companies now have the choice to outsource their business processes to service providers located (almost) anywhere in the world. This allows management to focus on building core business activities and cut back spending on office facilities and computer systems. While BPO is clearly a cost-driven process, the potential to continuously improve processes as well as service levels is an additional reason for outsourcing.

Projections for the BPO market are extremely high: it is expected to grow from less than $300 billion (2001) to close to $1 trillion by 2007.[15] Gartner Inc. predicts that BPO will be a $300 billion market by 2004, with an annual growth rate since 1999 of 23 per cent and according to Goldman Sachs, by 2005 worldwide BPO will be a $585 billion market.[16] According to a survey by Forrester with 57 Global 3,500 firms, more than 50 per cent of the companies reported spending more than $1 million annually on BPO.[17] Forrester predicts that the BPO market in the United States will increase annually by 70 per cent (between 2001 and 2006). Distribution and logistics take the largest share of the market (29%), followed by human resources (24%) and payment services (16%). Estimates and forecasts by many Internet research firms concur that in the next few years, BPO will continue to grow internationally, becoming one of the fastest-growing e-commerce and e-business services.

[15] UNCTAD (2002): *E-Commerce and Development Report 2002*. Geneva.
[16] UNCTAD (2003): *E-Commerce and Development Report 2003*. Geneva. (forthcoming November 2003)
[17] www.forrester.com

Moving functions such as call centres and customer support centres providing Internet and Web-enabled applications to countries with a lower cost base has emerged as a new business model for enterprises in developed countries. As a consequence, many companies in certain developing countries (mainly India) have flourished by providing, in particular, software application development and management services to clients worldwide. With an English-speaking skilled workforce and salaries up to 80 per cent lower than in developed countries, India has managed to capture a large part of the international outsourcing market. The savings linked to low-wage labour has always been a major incentive to outsource to developing countries.

The example of India demonstrates that ICT services can contribute significantly to enhancing export competitiveness. Indian exports of software and ICT services in 2002–2003 reached $9.5 billion, $26.3 million more than in 2001–2002.[18] This figure is expected to reach between $21 billion and $24 billion by 2008, employing 3.3 million people by 2008. India's ICT services exports have almost doubled in two years and currently account for more than 20 per cent of total exports and 10 per cent of all foreign exchange. Given the extraordinary growth rates of these e-services exports, the latter figure is expected to reach 30 per cent by 2008. Indian software export revenues increased by 30 per cent in 2002–2003, while the global market increased only 5 to 10 per cent during the same period.[19]

At the same time, business based on outsourcing is highly dependent on the volatility of foreign markets. As Indian BPO exporters are largely focused on the United States market, a downturn in their main export market could negatively affect their business. For example, in the software sector (which is equally dependent on the United States market), the Nasdaq crash led to cuts in IT investment, which directly affected Indian programmers and led to an oversupply of IT professionals in India. Fortunately, other services were less affected by the recession in the United States because they are the indispensable back-office processes of brick-and-mortar companies. By contrast, the slowdown of the United States economy has prompted an increasing number of companies to outsource to India to maintain their margins.

In addition to India, BPO service providers are emerging in countries such as Bangladesh, Brazil, Cambodia, China, the Philippines, Romania, Russia, Singapore, Thailand, Venezuela and Viet Nam. These countries are increasingly considered as outsourcing destinations by enterprises in the United States but also the United Kingdom and other European countries, as they offer competitive services on the outsourcing marketplace. Some of these countries may soon be able to compete with Indian BPO providers. Therefore, Indian companies have a great interest in working continuously to develop more sophisticated, specialized and higher-value-added BOP services to safeguard their current leadership position in the world market. This will require specialists not only in the IT and engineering professions but also in other areas such as medicine, law, accountancy, statistics and human resource management.

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[18] www.nasscom.org

[19] In fact, the competitiveness of Indian vendors has been so impressive that six states in the United States have proposed bills to limit offshore outsourcing for state contracts and decrease the number of visas issued to foreign workers. In four states the legislation has passed, and starting in 2004 the annual quota for such visas will be 65,000 instead of 195,000 (UNCTAD (2003): *E-Commerce and Development Report 2003*. Geneva. (forthcoming in November 2003)).

5. Conclusion and recommendations for ICT policy making

The paper has demonstrated that a debate on ICT, globalization, trade and competitiveness must consider a variety of aspects, ranging from changes in the ICT producing and using sectors, to policy issues involving market access and border tariffs, investment, domestic support, or taxation. Within the national ICT strategy, all of these policies must be closely linked to domestic policies aimed at creating a favourable environment for the development and deployment of ICT.

The paper showed that the high growth of some segments of the ICT industry, combined with the recent liberalization of the sector in the context of the WTO ITA, could provide companies from developing countries with important opportunities for exports. The localization of existing software programmes and the customization of ICT systems for the benefit of the local business sector as well as for the multinationals that are present in the country, could also constitute an initial entry strategy for software companies of developing countries, which could then build up export capacity targeted at the regional or global markets.

As the spread of ICT and e-commerce will grow, e-services will also grow. Business process outsourcing will play an increasingly important role for developing countries. In the near future, more and more traditional industries located in developed countries will outsource parts of their services, including in the retail, energy, transportation and manufacturing sectors. This will trigger an increase in international trade in services, as most of these business processes will be outsourced to foreign providers. These human-capital intensive services offer a great potential to developing countries with abundant cheap labour, providing them with increasing opportunities to develop their exports in certain e-services.

While ICT goods are subject to import liberalization, ICT services are not. In order for developing countries to increase their services exports taking advantage of the new technologies and e-commerce, requires open markets in the potential importing countries. This would require commitments under the GATS on market access (for example, the removal of quantitative restrictions) and national treatment (for example, the removal of discriminatory taxation).

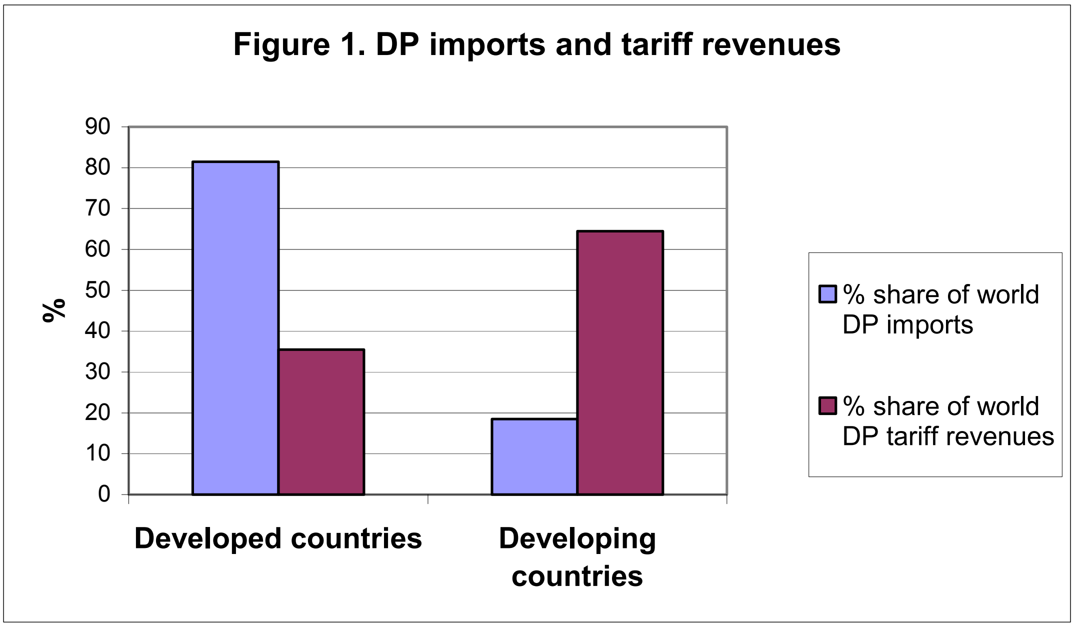
Moreover, in certain ICT services, a close interaction with the client is necessary, including on-site visits. While some of the client interaction can be carried out remotely, other services require personal interfacing with the client. This could imply employing foreign workers or temporarily sending local engineers abroad. However, for example in the case of computer-related services, only between 4 and 7 per cent of WTO members have made full commitments on market access for the presence of natural persons.[20] Further liberalization in ICT- related services is therefore urgently needed.

Apart from increasing market access in e-services for exporters from developing countries, policy measures to support exporters of e-services should also focus on a number of domestic obstacles related to technology, payments, infrastructure and standards. Within the national e-strategy framework, a number of policy areas are particularly important for enhancing countries' and companies' capability to compete in the global market, including access to high-quality telecommunications, availability of human resources, law, finance and payment

[20] World Trade Organization (WTO) (2002). Negotiating Proposal on Computer and Related Services. Council for Trade in Services. Communication from India. S/CSS/W/141, 22 March.

systems, and tax and investment incentives to help develop a technology services industry. Finally, tailoring the overall national development strategy to benefit fully from the new ICT-related trade and business opportunities is crucial to ensure the development of a competitive information economy.

Figures and Tables



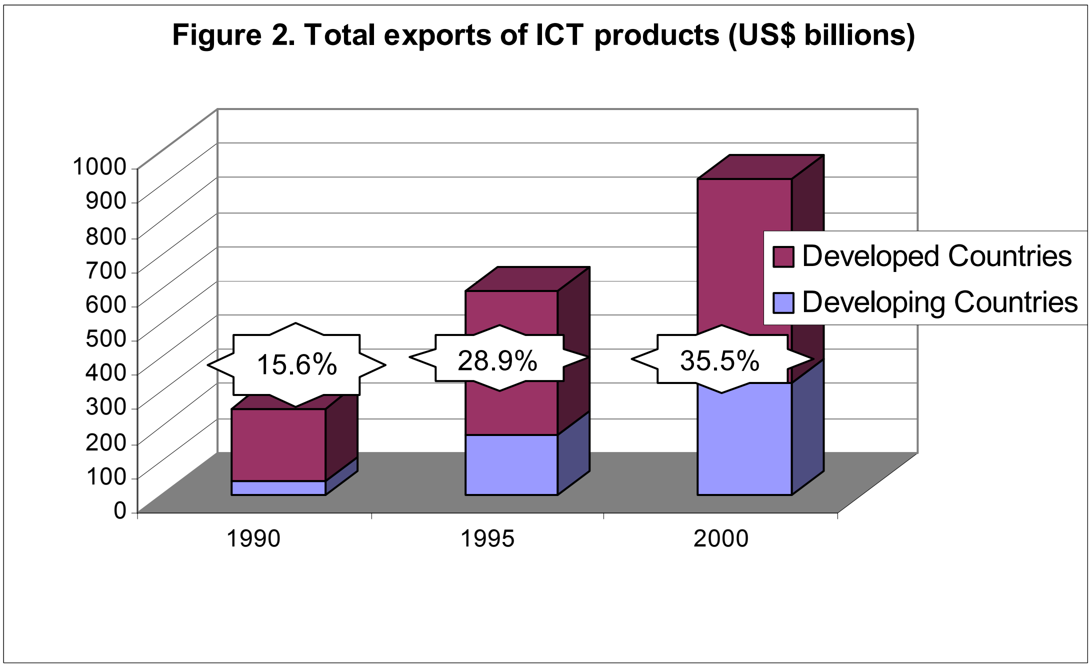


Table 1. Applied MFN rates and tariff revenue on DP imports, 1999

Country/Economy	Ave. MFN	W. MFN	Tariff revenue (US$ 000)	Country	Ave. MFN	W. MFN	Tariff revenue (US$ 000)
European Union	1.8	1.5	165'277	Gabon	16.2	10.1	1'268
India	23.1	27.1	110'503	Jordan	19.7	10.7	1'211
Mexico	15.6	12.2	104'037	Malta	5.3	3.8	1'192
Malaysia	7.3	10.5	53'331	Jamaica	9.7	5.1	1'173
Brazil	13.3	9.7	43'386	Honduras	7.9	4.7	935
Canada	1.9	0.9	42'776	Costa Rica	5.9	2.0	867
China	8.8	7.5	40'138	Belize	12.1	17.5	805
Morocco	30.7	30.7	24'159	Uganda	7.3	6.3	799
Argentina	13.6	6.8	22'677	Cuba	8.0	6.3	779
Israel	5.9	8.0	21'800	Oman	5.0	5.0	725
Thailand	11.3	11.8	21'311	Saint Vincent	11.2	18.4	675
Pakistan	38.7	30.2	20'533	Nepal	8.8	7.9	603
Australia	1.5	1.7	19'639	Mozambique	19.6	13.4	564
Czech Republic	4.2	4.7	19'534	Malawi	13.0	4.9	488
Korea, Republic of	4.0	3.7	18'529	Mali	14.2	17.0	476
Russian Fed.	12.0	6.9	18'472	Maldives	17.5	16.9	419
Venezuela	9.8	7.9	15'726	Belarus	12.0	5.9	406
Poland	5.9	3.1	14'412	Bahrain	5.2	2.7	361
Nigeria	11.5	20.6	14'123	Norway	0.1	0.0	352
Hungary	5.2	5.0	13'886	Seychelles	20.4	14.3	349
Asia (other)	2.7	1.9	12'627	Albania	14.7	12.5	326
United States	0.3	0.2	12'050	Georgia	9.9	11.6	318
Colombia	8.6	8.7	12'023	Ethiopia	21.2	8.2	312
Philippines	7.1	5.1	11'109	Madagascar	3.8	5.3	298
Chile	9.0	9.0	10'817	Chad	16.2	12.0	293
Paraguay	11.4	10.9	9'540	Antigua, Barbuda	11.1	8.5	290
Egypt	16.7	10.3	8'856	Nicaragua	3.6	2.2	276
Peru	12.0	12.0	8'811	Cent. Afr. Rep	16.2	9.8	266
Saudi Arabia	10.4	8.1	8'574	Saint Lucia	10.9	6.6	242
Algeria	15.3	15.9	8'085	Dominica	11.8	9.1	144
Tunisia	23.8	16.3	6'864	Suriname	11.6	8.5	142
Dominican Republic	14.7	15.3	6'695	Moldova	3.2	2.5	129
Romania	12.2	6.9	5'537	Saint Kitts and Nevis	11.1	10.6	112
South Africa	2.6	1.5	5'414	Eq. Guinea	16.2	9.1	105
Ukraine	8.0	8.7	5'229	Grenada	11.2	4.7	102
Uruguay	13.5	8.3	5'120	Brunei Darussalam	1.3	0.6	84
Latvia	7.4	8.1	5'077	Solomon Islands	27.0	5.4	57
Cote d'Ivoire	16.3	13.6	4'370	Guyana	12.1	1.5	32
Indonesia	9.4	8.2	4'305	Montserrat	12.2	17.4	28
Turkey	2.6	2.4	4'297	Bhutan	16.5	16.0	27
Lebanon	14.7	8.4	4'137	Sudan	1.5	0.3	12
New Zealand	1.4	1.5	3'981	Bahamas	0.0	0.0	4
Libya	23.7	14.3	3'173	Hong Kong (China)	0.0	0.0	0
Panama	6.8	5.1	3'152	Estonia	0.0	0.0	0
Slovenia	5.5	2.8	2'698	Japan	0.0	0.0	0
Rwanda	45.6	23.4	2'433	Kyrgyzstan	0.0	0.0	0
Viet Nam	16.7	17.0	2'371	Lithuania	0.0	0.0	0

Zimbabwe	22.5	18.3	2'349
Ecuador	10.8	4.5	2'209
Kazakhstan	6.9	9.4	2'124
Guatemala	6.7	5.1	2'120
Mauritius	9.7	10.2	2'014
Kenya	16.2	9.9	2'004
Ghana	12.8	7.8	1'995
Burkina Faso	29.6	31.5	1'990
Bolivia	8.9	7.1	1'798
Iceland	3.9	4.4	1'717
Lao, People's Dem.Rep.	9.3	11.8	1'715
Congo	16.0	15.7	1'512
El Salvador	5.4	4.1	1'480
Trinidad and Tobago	12.0	9.1	1'480
Cameroon	16.2	9.6	1'476
Sri Lanka	4.6	8.5	1'462
Tanzania, United Rep. of	14.9	12.6	1'358
Zambia	16.4	9.5	1'323
Iran, Islamic Rep. of	6.0	2.8	1'320
Papua New Guinea	13.4	15.4	1'311
Bangladesh	16.9	5.4	1'297
Barbados	12.1	12.8	1'284

Singapore	0.0	0.0	0
Switzerland	0.0	0.0	0
Turkmenistan	0.0	0.0	0
World	**10.7**	**8.5**	**1'036'973**
Developing countries	**15.3**	**13.1**	**689'767**
Developed countries	**3.6**	**2.9**	**347'206**

Sources: Comtrade, TRAINS.
Excludes intra-EU trade.
Excludes imports which are subject to specific tariffs.
Includes economies in transition.