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Please send any comments or suggestions regarding this publication to Michael Mortimore (email: michael.mortimore@cepal.org).

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ABSTRACT

Latin America and the Caribbean received record levels of foreign direct investment (FDI) in 2007, with inflows surpassing the US$ 100 billion mark for the first time ever. This development is all the more significant because the previous record was set in 1999 in the context of one-off privatizations. The upsurge in investment was fuelled mainly by market-seeking transnational corporations (TNCs) intent on taking advantage of growth in local demand for goods and services and by natural-resource-seeking companies against a backdrop of buoyant global demand. Meanwhile, despite lower levels of outward FDI from the regions' transnationals (trans-Latins), new companies in different industries are investing outside their home countries, while some of the traditional trans-Latins are taking their foreign investments to new levels.

This report provides an overview of FDI flows to and from the region in 2007 and of the recent activities of transnationals in the region and of trans-Latins outside their home countries (chapter I). It further explores three topics: investment in hardware for information and communication technologies (ICTs) (chapter II); investment in telecommunications services (chapter III); and Canadian investment in Latin America and the Caribbean (chapter IV). Chapters II and III describe the evolution of ICT hardware and telecommunications services industries in the context of the technological changes that have generated convergence among ICT services and have had impacts both on the industrial organization of manufacturing and on the market structure and incentives for telecommunications operators. These chapters provide insight into the challenges involved in maximizing the benefits of FDI in industries subject to rapid technological change, where the regional strategies of transnational corporations are shaped by a combination of global strategies and trends in local policy and regulation. The Canadian experience is relevant both because of the country's increasing role as an investor in the region in a wide range of sectors —from mining to autoparts to finance— and because it represents a parallel to the Latin American and Caribbean region's own corporate evolution owing to the existence of a number of seldom-recognized similarities (notably, a strong natural-resource base and a heavy reliance on the United States economy). Within this context, the slowdown of the United States economy presents an opportunity for officials and investors from Canada and from Latin America and the Caribbean to reevaluate their relationship.

SUMMARY AND CONCLUSIONS

This report provides an overview of FDI flows to and from Latin America and the Caribbean in 2007. It also examines the recent activities of transnationals in the region and of trans-Latins outside their home countries (chapter I). It further explores three topics: investment in hardware for information and communications technologies (ICT) (chapter II); investment in telecommunications services (chapter III); and Canadian investment in Latin America and the Caribbean (chapter IV).

Chapters II and III provide insight into the challenges involved in maximizing the benefits of FDI in industries subject to rapid technological change, where the regional strategies of transnational corporations are shaped by a combination of global strategies and trends in local policy and regulation. The Canadian experience is relevant both because of the country's increasing role as an investor in the region in a wide range of sectors and because in many ways it parallels the Latin American and Caribbean region's own corporate development history. Although the different chapters are quite diverse in terms of their focus, they all convey a common message: if it is to maximize the benefits of foreign investment, the region must develop its capabilities, improve its competitiveness and strengthen the capacity of its regulatory and policymaking institutions.

A. OVERVIEW OF FDI IN LATIN AMERICA AND THE CARIBBEAN

1. FDI inflows and activities of transnational corporations

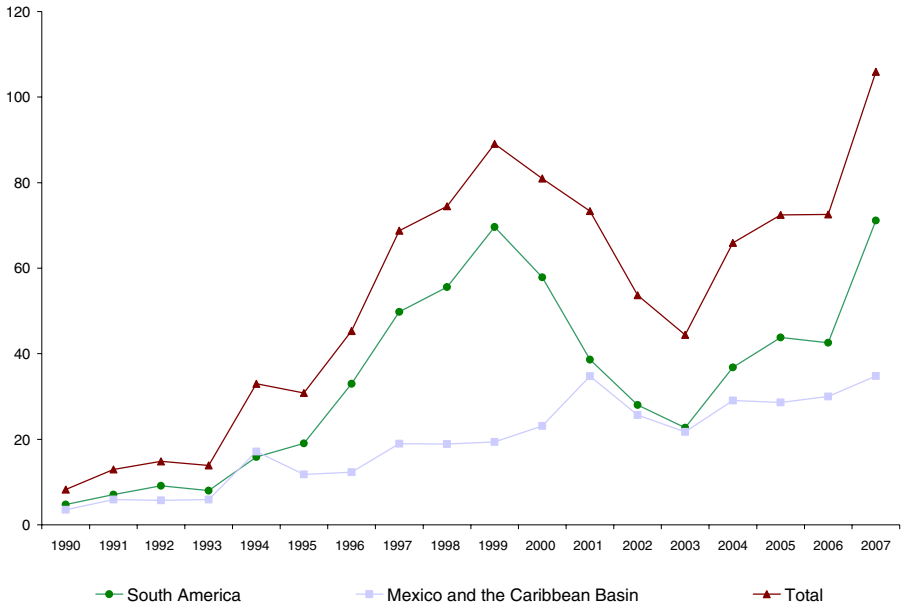
The record level of FDI received by Latin America and the Caribbean in 2007 —US$ 105.9 billion— is good news for a number of reasons, above and beyond the result itself. Unlike the previous record high (of US$ 89 billion in 1999), investment in 2007 was not linked to privatizations. Globally, Latin America and the Caribbean were the region where FDI flows increased the most in percentage terms (46%, against a global increase of 18%). The region has thus started to regain some ground in terms of its share of global investment flows, which had decreased in the past three years. In addition, the economic slowdown in the United States (the largest investor country in Latin America and the Caribbean and the region's largest export market) did not significantly hurt investment in the region in 2007, chiefly because it did not actually make itself felt until the fourth quarter of the year. The resilience of local economies (as demonstrated by the fact that regional demand remained buoyant), continuing global and especially Asian demand for natural resources, and the capacity of transnationals in the region to diversify their export markets also contributed to the rapid growth of FDI.

The main FDI recipient country in 2007 was Brazil, followed by Mexico, Chile and Colombia. In fact, a large share of the rise in inward investment can be attributed to increases in the FDI received by these four countries. Brazil alone received US$ 15 billion more investment in 2007 (an 84% increase) than in 2006. In contrast to the situation in recent years, when investment received a significant boost from one, or a small number, of acquisitions, in 2007 the upswing in investment in Brazil was spread out across several different sectors.

In terms of GDP, with the exception of the Bahamas, where a large share of investment is related to its role as a financial centre, Chile and four Central American countries were the largest recipients.

The fact that investment rose more in South America than it did in Mexico and the Caribbean Basin[1] (see figure 1) reflects the fact that the main sources of growth were natural resource- and market-seeking investments, as the former subregion has traditionally attracted more of these types of inflows than the latter.

Figure 1
LATIN AMERICA AND THE CARIBBEAN: NET FDI INFLOWS BY SUBREGION, 1990-2007 [a]
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as of 30 April 2008.

[a] Does not include the main financial centres. The figures presented here differ from those shown in the *Economic Survey of Latin America and the Caribbean* and the *Preliminary Overview of the Economies of Latin America and the Caribbean* released in July and September of 2007, respectively, because these latter publications report FDI inflows net of FDI outflows.

Although the trend in investment in natural resources has been far from even, hydrocarbons and especially mining have been among the major sources of investment —and of the rise of investment— in many of the regions' countries. Brazil and Chile have benefitted the most from investment in mining. However, even Mexico and certain Central American countries, which have not traditionally been major recipients of natural-resource-seeking investment, have more recently become important destinations for such flows. Colombia has been the rising star of investment in hydrocarbons, which accounted for approximately 40% of its total inflows in 2007.

[1] In this report the term "Caribbean Basin" refers to Central America (including Panama), Haiti, Jamaica, the Dominican Republic, Cuba, the members of the Eastern Caribbean Currency Union, Bahamas, Barbados, Belize, Guyana, Suriname and Trinidad and Tobago. The main financial centres in the Caribbean —Cayman Islands, British Virgin Islands, Netherlands Antilles— have not been included since, according to the best available information, most of the investment received by these jurisdictions is related to their roles as financial centres and not, as in the case of the Bahamas and Barbados, to other activities such as tourism and offshore services.

Steel was one of the main sectors of investment in Argentina, Brazil and Mexico. This development reflects a combination of natural-resource- and market-seeking strategies. Whereas the availability of iron ore, coupled with increasing global demand for steel, has prompted export-oriented ventures, growth in the region's automotive industry, construction (residential, commercial, infrastructure) sector, and oil and gas industry, among others, has spurred investment geared towards serving regional demand.

In turn, these industries (motor vehicles, oil and gas, construction), along with services (retail, banking, electricity) and food and beverages, have been the main focus of market-seeking investment. This category of investment was encouraged in 2007 by sustained growth in the region, higher real incomes and improved access to credit in some countries. Companies have also increasingly sought to take advantage of the incorporation of low-income consumers into the market by developing innovative product strategies to cater to the "bottom of the pyramid".

Efficiency-seeking investments in manufacturing, which have been concentrated in Mexico and the Caribbean Basin, are the most sensitive category of investment to the slowdown in the United States economy. Although these investments were not the motor behind increased investment flows, it is significant that they did not decline in Mexico (and actually grew in some sectors). Some of the reasons for the resilience of FDI flows in these sectors were a very dynamic first nine months, a possible lag between investment decisions and implementation coupled with uncertainty as to the actual dimensions of the crisis in the United States and its effect on demand for Mexican and Central American products, and the fact that the epicentre of the crisis was not import-intensive activities. Furthermore, companies have managed to diversify the markets for exports from Mexico and the Caribbean Basin, directing more products to Europe, Japan and other countries within Latin America and the Caribbean. The countries in this subregion have gradually been working to diversifying the investments they receive towards higher-value-added activities. On the other hand, a decline in investments in the apparel industry in Mexico reflects a longer-term loss of competitiveness in this industry rather than an effect of the short-term situation in the United States market.

The main investors in Latin America in 2007 were the United States, the Netherlands and Spain. Although this situation has been largely unchanged for over a decade, there have been substantial shifts in the composition of second-tier investors which have entailed a small rise in intraregional investment.

Data to 2006 on the operations of transnational corporations show that these companies' share of the sales and exports of the 500 largest companies in the region have continued to decline. Much of this result is attributable to natural-resource industries, where local companies are strong and prices are soaring. But the trend persists in manufacturing and services. Hence, there are two possible readings of this trend. On the one hand, the fact that local companies —both State and private— are playing increasingly important roles in the region's economies is a positive development; on the other, some transnational corporations seem to find other destinations more attractive. Although renewed growth in FDI in 2007 could signal a change in the composition of the region's largest companies, this may not necessarily be the case. In electricity and fuel distribution, there are a number of cases in which transnationals are withdrawing from the region.

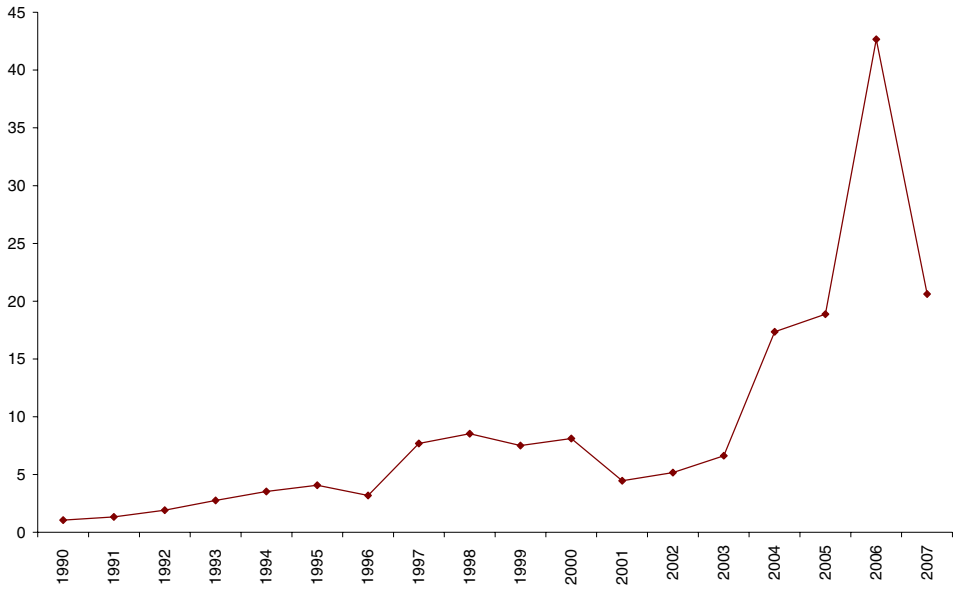
Improving the quality of investment inflows and harnessing the benefits of FDI for local development remain the main challenges for the region. Notwithstanding the greater volumes of FDI and the increasing level of investments in a variety of industries (often as a result of policy efforts to diversify), the region still faces challenges in terms of capacity-building and the development of the institutional conditions necessary to maximize spillovers from FDI activity. The hardware industry is a

case in point (chapter II, summarized in section B below). Institution-building, particularly in the area of regulation and competition policy, is also a necessary step towards ensuring that the benefits of investment in services are maximized in a rapidly changing technological setting, as illustrated by the telecommunications services industry (chapter III, summarized in section C below).

2. FDI outflows and the internationalization of trans-Latins

Outward foreign direct investment (OFDI) volumes slid to US$ 20.6 billion in 2007 after having soared to over US$ 40 billion in 2006 (see figure 2). Nonetheless, rather than signalling a slowdown in the internationalization of trans-Latins, this result reflects the strong impact on aggregate flows of a single transaction in 2006 —the acquisition of Inco (Canada) by the Brazilian company CVRD. In 2007, although a comparable acquisition (that of Rinker, based in Australia) was undertaken by Cemex (Mexico), part of this transaction was financed through foreign subsidiaries of the Mexican companies and therefore was not registered as Mexican OFDI.

Figure 2
LATIN AMERICA AND THE CARIBBEAN: NET FLOWS OF OFDI, 1990-2007
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), estimates based on official figures as of 30 April 2008.

Beyond these largest transactions, in sectors where trans-Latins are already established international players (steel, mining, cement, oil and gas, food and beverages, retail), many of these companies are taking their internationalization processes to new levels, both increasing the scale of investments abroad, entering markets for higher value added products and reaching new geographical destinations.

At the same time, new trans-Latins are appearing in sectors where OFDI by Latin American companies had not reached significant levels up to now, such as software, petrochemicals and meatpacking. Some of the largest acquisitions by Latin American companies outside their home countries in 2007 were undertaken in these three industries.

B. THE ICT HARDWARE INDUSTRY IN LATIN AMERICA AND THE CARIBBEAN

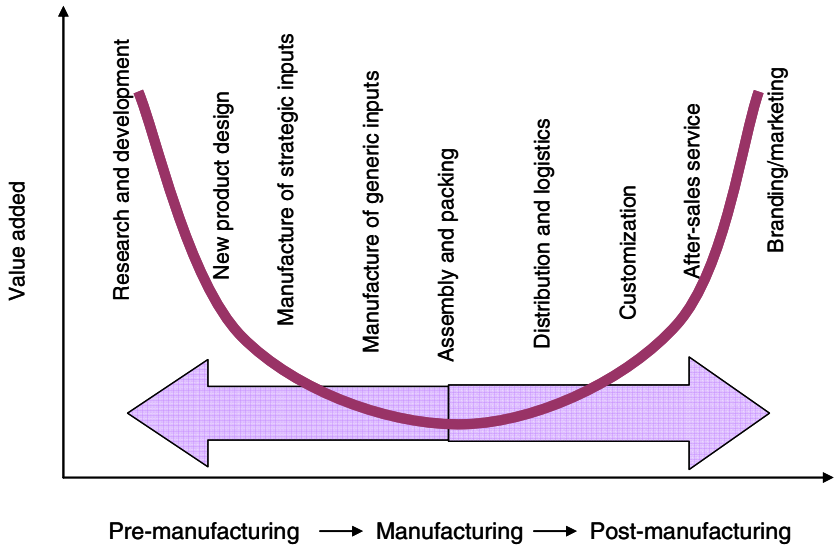
The ICT (information and communication technologies) hardware industry includes products that transmit, process and/or store information and data: telecommunications handsets and network equipment, personal computers, television sets and their key components (such as semiconductors and displays). This sector has played an important role in the development of many Asian economies and, by virtue of this fact, has drawn the attention and inspired the efforts of policymakers worldwide.

Mexico and Brazil have, historically, been the region's main destinations of FDI in this industry. in the 1960s and 1970s, both countries pursued import-substitution strategies (ISI) to develop local technological and industrial capacity in this industry. Economic reforms in the 1980s and 1990s opened up markets and, while many local companies suffered from new competition, increased levels of foreign investment started flowing in. Several leading companies set up or expanded their plants in the second half of the 1990s in response to the entry into force of the North American Free Trade Agreement (NAFTA) and the growth of local demand in Brazil, which was spurred by monetary stabilization and re-regulation of the telecommunications industry. While investments in Mexico are mostly export-oriented (efficiency-seeking), in Brazil they primarily target the domestic market (market-seeking) and are strongly influenced by a combination of high import tariffs and tax incentives. Nonetheless, in both countries, activity is concentrated in assembly and sub-assembly activities based on imported components. This attests to the fact that ISI policies failed to provide incentives for R&D and the development of a competitive components industry. Competition from Asian producers, with larger economies of scale and with lower costs, made catching up increasingly difficult, especially in the context of a rapidly advancing technological frontier. Therefore, neither Mexico nor Brazil became a strong player in the higher-value-added or technology-intensive segments of this industry (see the following figure), that is, those with the greatest potential to generate spillovers into local production capacity.

The industry has undergone major transformations at the global level in the last two decades: the development of international systems of integrated production (ISIPs); sharper competition, which has led to increased outsourcing by original equipment manufacturers (OEMs) for the contracting of manufacturers (CMs); and the offshoring of various activities, including research and development (R&D). These changes have generated opportunities for developing countries that have become destinations for offshore activities and have benefited from the transfer of advanced knowledge in manufacturing, process engineering, product design, markets for local providers and access to international markets, among others.

In Mexico, a large share of the surge in investments, exports and employment in this industry is related to the activities of CMs, which have gradually undertaken a broader range of activities in the country. This has been reflected in growing exports, although the ratio of exports to imports has been relatively stable. Production clusters have formed in several areas of the country, and surveys show that assembly operations based on low-cost labour coexist with capital-intensive and knowledge-intensive activities, R&D and design. Assembly operations still predominate, however.

Figure 3
VALUE ADDED IN AN ELECTRONICS INDUSTRY SUPPLY CHAIN



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of PRODUCEN (Centre for Strategic Intelligence), "Presentation on the electronic cluster", Baja California, November 2006.

In Brazil, these global transformations have also been reflected in the increasing presence of CMs, but this has not changed the fact that the industry is mostly focused on the local market and is highly dependent on imported components. Despite increasing exports in certain products, there is a significant and growing trade deficit in this industry. In fact, this industry's dependence on foreign components has been exacerbated as the value of components relative to the price of finished products rises and as new technologies displace ones in which a components base had been developed over time (as is the case of cathode-ray tube displays versus liquid crystal displays (LCD) and plasma screens for televisions).

Beyond manufacturing, as OEMs such as International Business Machines (IBM) and Hewlett-Packard (HP) outsource manufacturing and focus increasingly on markets for services or "solutions", new opportunities are arising in the region in areas such as the production of firmware, embedded software and business-process outsourcing.

In this context, the main policy challenge for countries hoping to tap into the potential of this industry is to increase their activities in the higher-value-added and technology-intensive segments of the value chain. However, high entry barriers (in the form of accumulated investment in technological and industrial capacity in other regions) in certain segments may make competitiveness in these segments an elusive goal that can only be achieved at a high cost in terms of incentives and public investment. Therefore, countries must realistically identify their competitive strengths, whether in manufacturing, in product-related services such as R&D and design, or in the services towards which the former OEMs are gearing their strategies (telecommunications solutions, information management solutions, business-process outsourcing and other corporate services), and strategically develop the necessary capabilities in terms of infrastructure, technological capacity, human resources and an environment conducive to linkages between companies and local institutions.

C. TELECOMMUNICATIONS OPERATORS: INVESTMENT AND CORPORATE STRATEGIES IN LATIN AMERICA AND THE CARIBBEAN

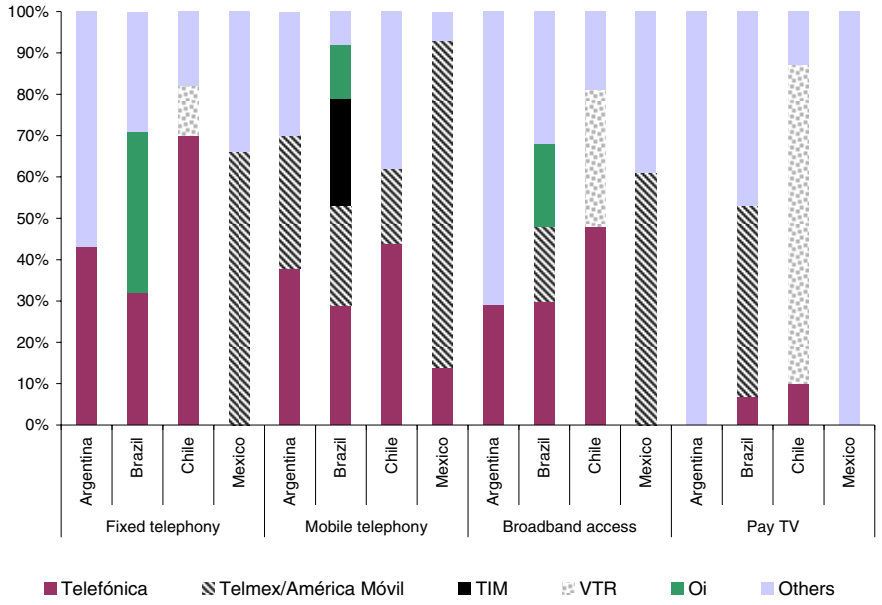
The 2000 issue of this report (ECLAC, 2001) described foreign direct investment in telecommunications services in Latin America and the Caribbean in the context of a market that was opening up to private (and transnational) investment and was starting to absorb wireless communications technologies on a massive scale. Since then, a number of important changes have come about. On the one hand, the bursting of the dotcom bubble weakened several of the major operators and resulted in the expansion of two main operators in the region which filled the gaps left by companies that downsized or decided to focus elsewhere. On the other, technological advances and new applications based on Voice over Internet Protocol (VoIP), Video on Demand (VoD), Internet Protocol Television (IPTV) and mobile broadband, among others, have blurred the limits between telecommunications and broadcasting segments, thereby exposing traditional telephony operators to competition from various sources. This has generated new sources of revenue and imposed non-trivial regulatory challenges on host countries.

The crisis in the information technology (IT) industry at the beginning of this decade hurt telecommunications operators in Latin America and the Caribbean, some of which —BellSouth, Verizon, AT&T— decided to leave the region. The relatively solid financial positions of others —especially Telefónica and Telmex/América Móvil— allowed them to take advantage of this situation to expand their Latin American operations.

Both Telefónica and Telmex/América Móvil had been backed by national champion policies and, upon privatization, had maintained vertically integrated structures and large market shares in their home countries (Spain and Mexico, respectively). Latin America was the focus of the internationalization strategies of both companies. While Telefónica focused initially on fixed telephony in the Southern Cone countries, moving progressively north as it found its way into new segments (mobile communications, Internet and, more recently, pay-TV), from the start Telmex/América Móvil set its sights on mobile communictions and on the largest market (Brazil) and later expanded into the rest of the region.

Brazil became the first major battleground for the two competing companies, which soon extended their rivalry to the rest of the region and even to Europe as they competed in the bid for Telecom Italia, whose Brazilian subsidiary was the third-largest operator in Brazil (the battle for Telecom Italia was ultimately won by Telefónica). Competition in the Latin American market has taken on new dimensions, however, as recent technological advances have emerged.

Figure 4
LATIN AMERICA: MARKET SHARES OF THE MAIN OPERATORS, BY COUNTRY AND SEGMENT, 2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from corporate documents.

New applications —on fixed and mobile broadband— have allowed for the convergence of telecommunications, television and then broadcasting services offered through networks and hardware configurations.[2] For telecommunications companies worldwide, two of the major outcomes of this process have been the emergence of new sources of competition, as companies that had traditionally offered one of the convergent services acquired the technological capacity to offer others (in particular, companies coming from different backgrounds have started offering telephony services) and new sources of revenues for what had traditionally been telephony companies.

In fact, in addition to telecommunications operators, cable TV companies, content providers and Internet providers have all started to offer service packages that include telephony, Internet access and cable television (known as "triple packs"), thereby adding to the competition. Fixed telephony had already begun to stagnate in the late 1990s, with the rapid spread of mobile telephony. These new technological changes dealt another blow to fixed telephony in the long-distance segment, as VoIP enabled consumers to use voice services at lower prices.

Competition was further enhanced in some countries by regulatory options for open access to the "last mile" (*local loop unbundling*), enabling multiple providers to offer services over the same network.

Major transnational telecommunications operators were further affected by the saturation of telephony markets in developed countries and by uncertainties regarding future developments in new

[2] In this process, the fact that European, rather than North American, operators have been dominant in the region made the GSM technology predominant, facilitating a gradual migration to new generations of mobile telephony.

markets, which held back new investments in technology and infrastructure. These challenges led to a new wave of mergers and acquisitions between 2004 and 2007. Companies from the United States, Japan and Europe focused on strengthening their positions on local (and in the case of Europe, regional) markets, while building their capacity to offer multi-pack services.

Among the European companies, Telefónica can be considered an exception as it expanded further into Latin America. The company quickly expanded its supply of ADSL broadband access and offered television services through satellite-based DTH (direct-to-home) technology, which enabled it to market different packages of integrated services. Telmex/América Móvil, on the other hand, was successful in gaining market share in some of the most dynamic segments (mobile telephony, broadband access, corporate communications services), but had trouble integrating services. It has made advances, however, especially in Brazil, where it has acquired a stake in cable TV operator Net. In parallel, the new fringe competitors have started to offer their first multi-pack products as a means of continuing to exert competitive pressure on the dominant players.

Different options have been adopted worldwide in order to maximize competition while at the same time creating the necessary conditions for investment in infrastructure, where, as in other public services, there seems to be at least some degree of a trade-off between investment incentives and competition in a context where uncertainty exists as to the actual size of the market for such services as high-speed broadband. In Europe, authorities have stimulated competition for the last mile in parallel with investments in infrastructure by local authorities and utility companies. In the United States, the focus was initially on spurring competition in networks; subsequently, the requirement of open access to fibre-optic networks was relaxed to encourage further investment. The Republic of Korea and Japan have adopted measures to encourage private-public alliances as part of their science and technology development strategies. These strategies are important reference points for the regulatory debate in Latin America, where there are, nonetheless, specificities that will require original solutions, such as sharp income inequalities and geographically dispersed populations in tandem with pockets of heavily concentrated urban populations.

D. CANADIAN FOREIGN DIRECT INVESTMENT IN LATIN AMERICA AND THE CARIBBEAN

The share of Canadian investment in the FDI received by Latin America and the Caribbean has grown considerably over the past few years, not only in natural resources and services, but also in some manufacturing operations. The experience of Canadian investors is relevant both because of their increasing role in the region in a wide range of sectors —from mining to autoparts to finance— and because in many ways they represent a parallel to the Latin American and Caribbean region's own corporate evolution, given a number of seldom-recognized similarities (for example, a strong natural-resource base and a heavy reliance on the United States economy).

Canada is a large country with a small population whose development trajectory proved successful enough to place it among the Group of Seven (G-7) industrial or developed countries. Over time, Canada has transitioned from a more inward-looking development path based on policy-led industrial and trade initiatives to an outward-looking market-based orientation. Canada is currently benefiting from the strong international prices for the natural-resource commodites that it exports. Nevertheless, there are clouds on the horizon in the form of the continuing "prosperity gap" with the

United States and, in the context of the appreciating Canadian dollar, the weakening international competitiveness of the Canadian manufacturing sector.

Canada has been one of the principal national recipients of inward foreign direct investment (IFDI) and, as a result, foreign capital inflows and the presence of transnational corporations (TNCs) have played a significant role in Canada's development process. Seventy-seven of Canada's 300 largest corporations are transnational firms. These TNCs are concentrated in commercial activities (especially wholesalers), natural resources (most particularly integrated oil companies) and some other manufactures (such as motor vehicles, steel, electrical equipment and electronics). Canada has also been a destination for investments by Latin American companies, especially in the mining and steel industries.

Canada's outward foreign direct investment (OFDI) has had three main sources. One of these sources has been service companies such as banks (Scotiabank, Royal Bank), providers of other financial services (such as Brookfield Asset Management, Ontario Teachers' Pension Fund) and others (such as Finning International, SNC Lavalin, Thomson) that generally seek markets in which to offer their services. Another source has been mining companies (global leaders such as Teck Cominco, Barrick Gold, Potash Corp., Cameco) that are seeking out new supplies of natural resources (however, Canada's leading oil and gas companies (PetroCanada, EnCana, Suncor Energy) have been more interested in opportunities available in Canada, especially the Alberta oil sands, than in those outside of the country). The third source has been the manufacturing sector, in which three different categories can be highlighted: companies that are market-seekers (such as Quebecor World, McCain Foods); those that are looking for natural-resource inputs to support competitive manufacturing sites (such as Methanex, Agrium); and those that are looking for sites that will provide them with efficient export platforms (such as Magna International, Linamar, Bombardier, Celestica, Nortel). Thus, Canada's OFDI is driven primarily by service companies seeking market access, natural-resource-based producers seeking new supplies, and manufacturers seeking access to markets, sites close to natural-resource inputs or sites from which they can export efficiently.

Canada's FDI in Latin America and the Caribbean has surged in the last 15 or 20 years and has been thoroughly overhauled in the process. The two principal corporate strategies driving it are the natural-resource-seeking strategies employed by Canadian mining companies and market-seeking strategies used by Canadian banks or financial service providers. Market-seeking FDI by other Canadian companies seems to have slowed. Efficiency-seeking FDI by Canadian manufacturers and natural-resource-seeking FDI by Canadian oil and gas companies also appear to be on the decline.

The Latin American and Caribbean region is clearly very important for natural-resource-seeking Canadian mining companies, especially those in the precious metals sector. All the various classes of such companies —global leaders (Barrick Gold), senior firms (Goldcorp), intermediate companies (such as Yamana Gold, Kinross Gold and IAM Gold) and junior enterprises (such as Silver Standard Resources)— have concentrated their mining assets in the region. This is less the case with other Canadian global leaders in mining, such as Teck Cominco in base metals, Potash Corp. in industrial minerals or Cameco in energy minerals, although all have some assets in the region and Teck Cominco's presence could increase substantially depending on the progress made by its project pipeline. Canadian exploration companies continue to invest heavily in the area. Mining is the single activity in which Canadian OFDI is most evident in Latin America and the Caribbean.

Canadian retail banks and providers of other financial services have been the other major group of firms investing in the region in recent years. Banks have done so in order to offer their financial services in local markets, as in the case of Scotiabank, which has been active mainly in Mexico, Central

America and South America, and Royal Bank, which has focused primarily on the Caribbean. Asset managers such as Brookfield Asset Management have acquired real estate or infrastructure assets in Brazil and Chile. Pension administrators such as Ontario Teachers' Pension Plan have invested in sanitation companies in Chile. Other market-seeking service providers, (such as Finning International in the Southern Cone, SNC Lavalin in Chile and Brazil, and Thomson in Argentina), have established a notable presence in the region; however, these investments have been on a far smaller scale than those undertaken by the above-mentioned retail banks and other financial service providers.

Canadian manufacturers in Latin America and the Caribbean have used three principal corporate strategies: efficiency-seeking, market-seeking and natural-resource-input-seeking approaches. Efficiency-seeking FDI in Latin America and the Caribbean by Canadian companies gained momentum as a result of NAFTA and other trade liberalization measures affecting the apparel industry. Several leading Canadian firms set up efficiency-seeking plants in Mexico. The experience of some of the major Canadian electronics companies, such as Nortel Networks and Celestica, suggests that the benefits of NAFTA have not made up for the increased competitiveness of Asian firms in the North American market. Something similar seems to be taking place with regard to the automotive industry, in which Canadian autoparts suppliers (Magna International, Linamar) are still heavily dependent on United States automotive TNCs such as General Motors (GM), Ford and Chrysler, which are losing market share to Asian automotive TNCs such as Toyota, Honda and Hyundai. Bombardier and Bombardier Recreation products have set up efficiency-seeking plants in Mexico for aircraft components and recreational craft, respectively. While the apparel industry is usually considered to have suffered even more severe dislocations as a result of Asian competition, one Canadian company —Gildan Activewear— has proved to be the exception, as it has successfully established efficiency-seeking activities in the Caribbean Basin in order to compete more effectively in the North American market. With the exception of Gildan, efficiency-seeking investments in Mexico and the Caribbean Basin by Canadian manufacturers do not seem to have lived up to expectations.

Examples of market-seeking manufacturers include QuebecorWorld in Mexico, Argentina, Brazil, Chile, Peru and Colombia and McCain Foods in Argentina. The operations of both these companies have been quite successful, although QuebecWorld's subsidiaries in the region have had to deal with the dislocation caused by the parent firm's financial weakness. McCain Foods was hurt by the 2000-2001 crisis in Argentina but has overcome that bump in the road and is considering expanding into Brazil. Examples of natural-resource-input-seeking manufacturers are Methanex, which has facilities in Chile and Trindad and Tobago, and Agrium, which has set up a joint venture with Repsol in Argentina. Methanex exports around the world from its base in the region, while Agrium focuses mainly on the Argentine market but also sends some exports to Brazil.

In general, Canadian FDI in Latin America and the Caribbean has not had an integrative effect in bringing Canada and the region closer together. Little of the market-seeking FDI has been aimed at integrating operations in the region (Scotiabank and QuebecorWorld might be exceptions); few of the assets of Canadian firms in the region represent an important part of their overall assets (mining companies are the exception here, as in the case of Gildan); and the efficiency-seeking investments mostly involve Mexico and a few Caribbean Basin countries and are focused solely on the North American market. The slowdown of the United States economy opens up an opportunity for officials and investors from Canada and Latin America and the Caribbean to reevaluate their relationship and explore opportunities arising from their complementarities.

E. CONCLUSIONS AND MAIN MESSAGES

In 2007 the Latin American and Caribbean region received a record level of FDI as investment surged thanks to local growth and the continuation of a favourable international environment for natural-resource producers. Canadian companies have been one of the driving forces behind this type of investment, especially in financial services and mining. As inward investment rises, the trend towards the internationalization of Latin American companies continues, despite smaller flows in 2007 than in 2006. More than ever, the challenge for the region is to find ways of deriving greater benefits from FDI for the promotion of local development. In a scenario of ever-increasing competition for investment and for global opportunities, the development of a competitive business climate, suitable infrastructure and a strong stock of human resources is essential both in order to attract investments in higher-value-added activities and to support the performance of local companies in the global market.

Case studies on investment in hardware and telecommunications services demonstrate how important a role policy and regulation play in ensuring that local markets actually benefit from investment, especially in industries experiencing rapid technological change. Understanding the region's, and each country's, competitive advantages and potential together with the specificities of the relevant markets is crucial, as is the existence of an institutional structure capable of responding dynamically and efficiently to these challenges. The Canadian experience reveals the importance for dynamic growth of both IFDI and OFDI, as well as underscoring the significance of interaction between TNCs and local companies that are undertaking their own internationalization processes —an important parallel for Latin America and the Caribbean. Viewed from a forward-looking perspective, then, the slowdown in the United States economy may open up an opportunity for officials and investors from Canada and from Latin America and the Caribbean to reevaluate their relationship.

Chapter I

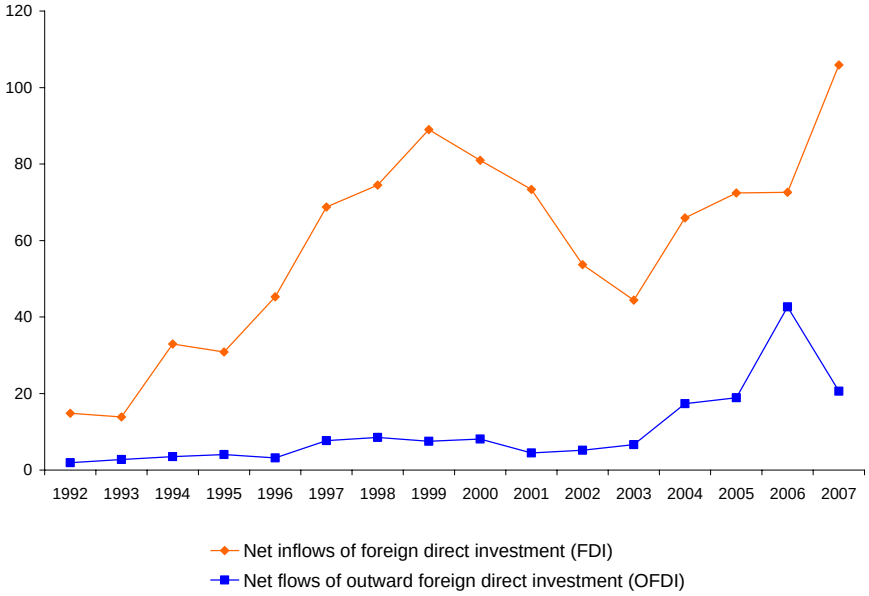
FOREIGN DIRECT INVESTMENT AND TRANSNATIONAL CORPORATIONS (TNCs) IN LATIN AMERICA AND THE CARIBBEAN

A. INTRODUCTION

In 2007 foreign direct investment (FDI) in Latin America and the Caribbean amounted to US$ 105.925 billion, which was an unprecedented sum for the region and represented a growth rate of 46% over 2006 (see figure I.1). South America accounted for much of the increase, although investments in Mexico and the Caribbean Basin also rose considerably.

Although flows of Latin American investment abroad fell short of the surge seen in 2006, at US$ 20.619 billion they exceeded the figures for 2004 and 2005. Brazil was the largest outward investor in 2007.

Figure I.1
LATIN AMERICA AND THE CARIBBEAN: FLOWS OF FOREIGN DIRECT INVESTMENT AND OUTWARD FOREIGN DIRECT INVESTMENT, 1993-2007 [a b]
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), estimates on the basis of official figures as at 30 April 2008.

[a] The FDI figures indicate inflows of foreign direct investment, minus capital outflows generated by foreign investors. The OFDI figures indicate outflows of investment by residents, minus capital transfers made by those investors. The FDI figures do not include the flows received by the main financial centres of the Caribbean. The OFDI figures do not include the flows originating in these financial centres.

[b] These figures are different from those contained in the editions of *Economic Survey of Latin America and the Caribbean* and the *Preliminary Overview of the Economies of Latin America and the Caribbean* published in July and December 2007, respectively, as the latter show the net balance of foreign investment, that is, direct investment in the reporting economy less outward foreign direct investment.

This chapter looks at how the Latin American and Caribbean countries performed as investment destinations (section C) and as international investors (section D) in 2007. The analysis is based on balance-of-payments data and information concerning the activities and strategies of the main transnational and regional corporations. Section B gives a brief overview of world FDI flows in 2007, as a background for the situation in Latin America.

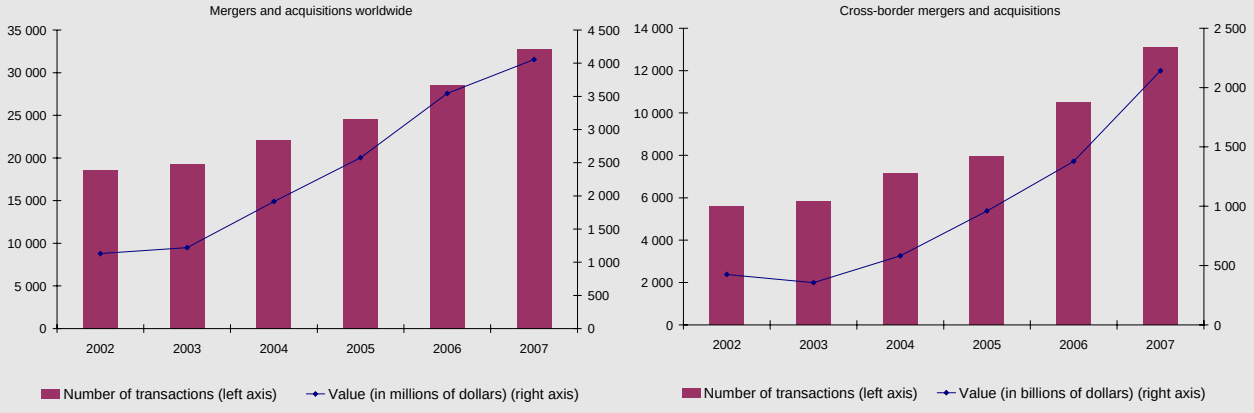
B. GLOBAL CONTEXT

According to preliminary estimates, in 2007 global flows of FDI reached US$ 1.8 trillion.[1] This represents a growth rate of 36% with respect to 2006 and the largest volume of FDI ever, since it exceeded the previous high recorded in 2000.

Despite the crisis in the United States high-risk mortgage market, which shook the credit markets and placed a squeeze on low-cost capital, cross-border mergers and acquisitions continued to increase and reach a fresh high in 2007, both in terms of number and the amounts involved (see box I.1). In fact, as well as a very dynamic first semester, other factors —the global economy's elasticity vis-à-vis the crisis in the United States mortgage sector, robust growth in other regions, the continuing high demand for natural resources and a diversity of capital sources— helped to fuel FDI growth during the year.

Box I.1
X-RAY OF THE MAIN MERGERS AND ACQUISITIONS IN 2007

World mergers and acquisitions reached yet another unprecedented level in 2007, in terms of both the number of transactions and the total amount involved. Although the upward trend in mergers and acquisitions eased slightly in 2007, the rate of growth in cross-border mergers held steady. Cross-border operations have, in fact, come to account for a higher proportion of global mergers and acquisitions, in terms of both the number of transactions and the overall amounts involved.



[1] Estimate conducted by extrapolating quarterly data available at 30 April 2008.

Box I.1 (continued)

Transactions conducted by private equity funds continued to increase, but more slowly than in previous years. The fall-off in the rate of acquisitions by private equity funds was sharpest in the second semester, owing to the reversal of factors that had fuelled these operations in earlier years. One indirect result of the crisis in the United States high-risk loans market was that buyers tended to become more conservative and low-cost loans more difficult to obtain (Fortune, 2007b).

The number of cross-border acquisitions for amounts in excess of US$ 10 billion announced in 2007 was up with respect to 2006. With few exceptions, the buyer and bought firms in the 27 operations of this type reported in 2007 (see table) were from developed countries. Latin American and Caribbean firms were not involved in these mega-transactions as either buyers or targets. Nevertheless, some of the largest operations at the world level —especially the purchase of ABN Amro (Netherlands), Endesa (Spain) and Alcan (Canada)— resulted in major ownership changes in the region, with some of the largest cross-border firms being bought over.

Transactions announced prior to 2007 and completed during the year include two major purchases by corporations from developing countries: the acquisition of Rinker (Australia) by Cemex (Mexico) and of Corus Steel (United Kingdom) by Tata Steel (India).

CROSS-BORDER ACQUISITIONS FOR AMOUNTS IN EXCESS OF US$ 10 BILLION, ANNOUNCED OR CONCLUDED IN 2007 [a]

(Millions of dollars)

Firm or asset acquired	Country of the firm acquired	Buyer	Country of buyer	Stated value	Sector
Operations announced in 2007					
ABN AMRO Holding NV	Netherlands	Fortis, Banco Santander, Royal Bank of Scotland	Belgium, Spain, United Kingdom	100 028	Banking
Endesa S.A.	Spain	Acciona, Enel	Spain, Italy	53 303	Electricity/integrated
Alcan Inc.	Canada	Rio Tinto Plc	United Kingdom	42 934	Metals/aluminium
BCE Inc.	Canada	Providence Equity Part., Ontario Teachers' Pension Plan, Madison Dearborn, Merrill Lynch	Canada y United States	42 435	Telecommunications
Eiffage	France	Sacyr Vallehermoso SA	Spain	23 746	Construction materials
Alliance Boots Limited	United Kingdom	KKR & Co.	United States	23 351	Pharmacies
Altadis SA	Spain	CVC Capital Partners Ltd.	United Kingdom	21 040	Tobacco
ABN AMRO North America	United States	Bank of America Corp.	United States	21 000	Banking
Altadis SA	Spain	Imperial Tobacco Group Plc	United Kingdom	20 476	Tobacco
Hanson Plc	United Kingdom	Heidelbergcement AG	Germany	18 289	Construction materials/cement
Reuters Group Plc.	United Kingdom	Thomson Corp.	Canada	18 199	Media
Rodamco Europe NV	Netherlands	Unibail-Rodamco	France	17 664	Diversified
Koninklijke Numico NV	Netherlands	Groupe Danone	France	16 473	Foods
Intelsat	Bermuda	BC Partners Ltd.	United Kingdom	16 430	Telecommunications/satellite
Imperial Chemical Inds.	United Kingdom	Akzo Nobel	Netherlands	16 059	Chemicals
Mol Hungarian Oil and Gas	Hungary	OMV Ag.	Austria	15 938	Hydrocarbons
OCI Cement Group	Egypt	Lafarge SA	France	14 998	Construction materials/cement

Box I.1 (concluded)

Firm or asset acquired	Country of the firm acquired	Buyer	Country of buyer	Stated value	Sector
Medimmune Inc.	United States	Astrazeneca Plc.	United Kingdom	14 668	Pharmaceuticals
Organon Biosciences	Netherlands	Schering-Plough Corp.	United States	14 504	Pharmaceuticals
Banca Antonveneta Spa	Italy	Banca Monte dei Paschi Siena	Italy	13 214	Banking
Hutchison Essar Ltd.	India	Vodafone Group Plc.	United Kingdom	13 100	Telecommunications/ mobiles
Provimi S.A.	France	Permira Advisers LLP	United Kingdom	12 963	Veterinary products
AGF Assur. Gen. de France	France	Allianz SE-Reg	Germany	11 788	Insurance
GE Plastics	United States	Saudi Basic Industries Corp.	Saudi Arabia	11 600	Chemicals/plastics
Trane Inc.	United States	Ingersoll-Rand Co. Ltd.	Bermuda	11 202	Construction products
Alinta Ltd.	Australia	BNB & SP Consortium (Singapore Power, Babcock & Brown)	Singapore, Australia	10 518	Gas distribution
Kelda Group	United Kingdom	Citigroup, GIC Special Investments, HSBC Holdings, Prudential	Singapore, United States, United Kingdom	10 333	Water
Operations announced prior to 2007 and concluded in 2007					
Scottish Power Plc.	United Kingdom	IBERDROLA SA	Spain	27 234	Electricity
Gallaher Group Plc	United Kingdom	Japan Tobacco Inc.	Japan	19 020	Tobacco
Rinker Group Ltc.	Australia	Cemex	Mexico	14 627	Cement/construction materials
Corus Group Plc	United Kingdom	Tata Steel Ltd.	India	12 780	Steel
Keyspan Corp	United States	National Grid Plc.	United Kingdom	11 283	Gas distribution
Euronext NV	Netherlands	NYSE Euronext	United States	10 434	Financial services

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Bloomberg at 14 January 2008; and *Fortune Magazine*, "Why the private equity bubble is bursting", 20 August 2007.

Note: The data on mergers and acquisitions refer to concluded or pending operations announced each year. The amounts do not necessarily refer to the number of transactions registered because the value of some operations is not made public.

Preliminary data show that the largest recipient of FDI was the United States, followed by the United Kingdom. The developed countries received 70% of this investment, developing countries 25% and the transition economies the remaining 6%. The largest recipient among the developing and transition economies was China, followed by the Special Administrative Region of Hong Kong, Russia and Brazil. The Latin American and Caribbean region (including the main financial centres) recorded the largest percentage increase in FDI with respect to the previous year: 39%, as against an average of 17% for the developing countries (46% if the financial centres are excluded). The region received 7% of global investment flows.[2]

[2] In order to ensure comparability with data on other regions, the data referring to Latin America and the Caribbean contained in this section include the main Caribbean financial centres. This accounts for the difference between the regional figures published in this section and those published in other sections of this chapter. The main trends identified, however, also apply to data that exclude those financial centres. Bermuda is not included in either of the two definitions, because UNCTAD includes it, starting in 2007, in the category of the developed countries.

Table I.1
GLOBAL DISTRIBUTION OF NET FDI INFLOWS IN THE WORLD, BY GROUPS OF RECIPIENT COUNTRIES, 1992-2007
(Billions of dollars)

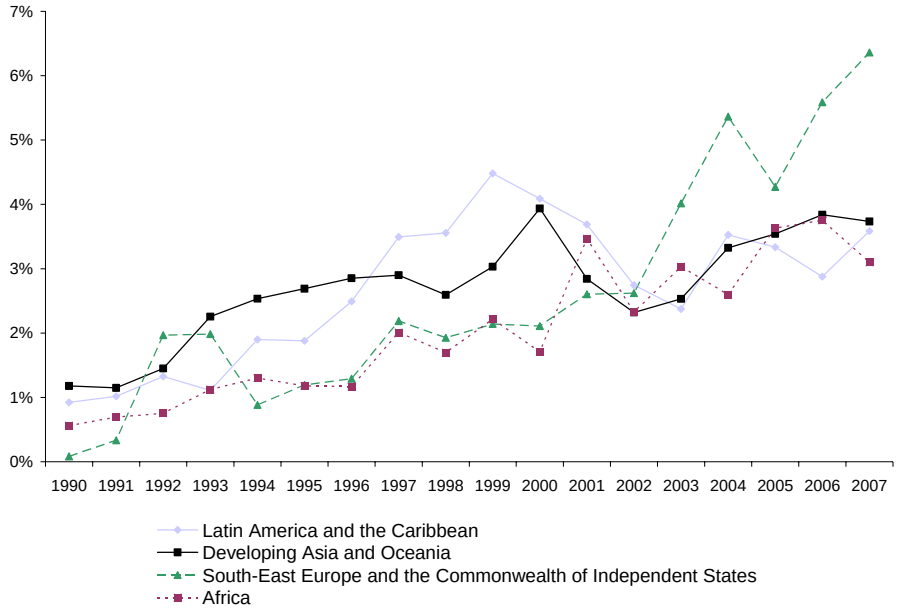
	1993-1997 [a]	1998-2002 [a]	2003-2007 [a b]	2006	2007 [b]	Percentage change 2006-2007 [b]
World total	340 593	934 825	1 067 010	1 305 852	1 777 183	36
Developed countries	207 908	713 359	692 663	857 499	1 235 459	44
Developing countries	126 943	210 505	319 533	379 070	442 548	17
Latin America and the Caribbean [c]	38 820	83 849	82 957	83 753	116 009	39
South-East Europe and the Commonwealth of Independent States	5 741	10 961	54 814	69 283	99 176	43

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures of United Nations Conference on Trade and Development (UNCTAD), *World Investment Report, 2007. Transnational Corporations, Extractive Industries and Development*, Geneva, 2007. United Nations publication, Sales No. E.07.II.D.9; and estimates for 2007 on the basis of data obtained from the International Monetary Fund (IMF) and the World Investment Service of the Economist Intelligence Unit (EIU), available as at 30 April 2008.

[a] Annual averages.
[b] Preliminary figures.
[c] Includes financial centres.

FDI has increased steadily as a proportion of gross domestic product (GDP) in the developing economies. With the exception of South-East Europe and the Commonwealth of Independent States, this ratio stood at about 3.6%. When measured in terms of GDP, the FDI received by Latin America and the Caribbean rose for the first in 2007 time since 2004 (see figure I.2).

Figure I.2
FDI INFLOWS AS A PROPORTION OF GDP, DEVELOPING REGIONS, 1990-2007
(Percentages)

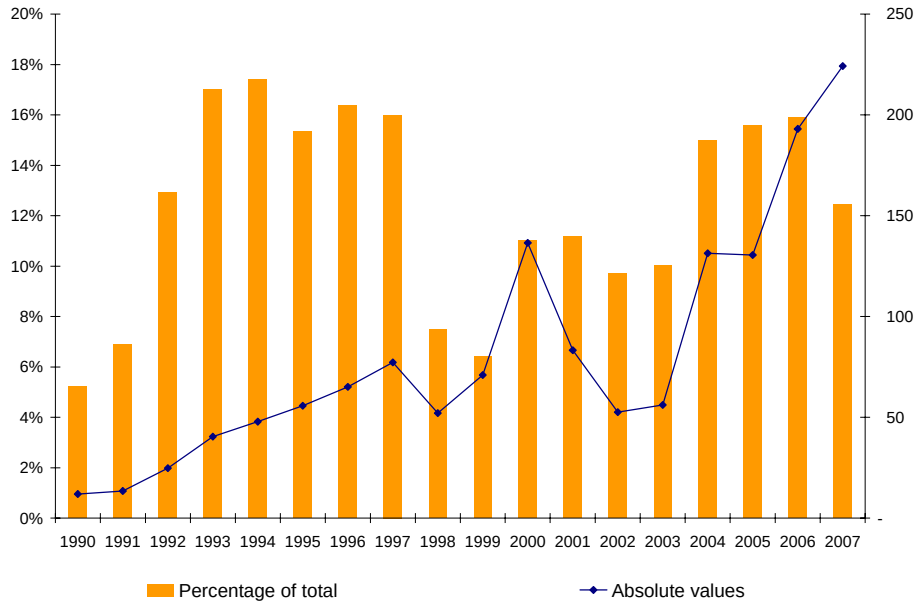


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures of United Nations Conference on Trade and Development (UNCTAD), *World Investment Report, 2007. Transnational Corporations, Extractive Industries and Development*, Geneva, 2007. United Nations publication, Sales No. E.07.II.D.9; and estimates for 2007 on the basis of data obtained from the International Monetary Fund (IMF) and the World Investment Service of the Economist Intelligence Unit (EIU), available as at 30 April 2008. The proportion is calculated on the basis of FDI for each year and the three-year moving average with respect to GDP.

In terms of the origin of inflows, the world's largest investor country in 2007 was the United States. The transactions conducted by North America, Europe and Japan represent 85% of all investment.

The volume of outward foreign direct investment (OFDI) by developing and transition economies continued to mark new records in 2007 although their participation as a proportion of global OFDI volumes fell (see figure I.3). Asian countries were the heavy investors in the 1990s, but in the last few years investors from other regions, including Russia, Brazil and Mexico, have become more prominent. Asian investors continue to be the largest among the developing countries in terms of volume, however.

Figure I.3
OFDI FROM DEVELOPING COUNTRIES AND TRANSITION ECONOMIES, 1990-2007
(Billions of dollars and percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures of United Nations Conference on Trade and Development (UNCTAD), *World Investment Report, 2007. Transnational Corporations, Extractive Industries and Development*, Geneva, 2007. United Nations publication, Sales No: E.07.II.D.9.; and estimates for 2007 on the basis of data obtained from the International Monetary Fund (IMF) and the World Investment Service of the Economist Intelligence Unit (EIU), available as at 30 April 2008.

In short, preliminary data show global FDI flows reaching a new high in 2007. Latin America and the Caribbean was the developing region where such investment, in relative terms, grew the fastest. The following sections look at the region's performance as a destination for investments and as an investor.

C. FDI INFLOWS AND TRANSNATIONAL CORPORATIONS IN LATIN AMERICA AND THE CARIBBEAN

1. Trends and features of FDI flows into Latin America and the Caribbean in 2007

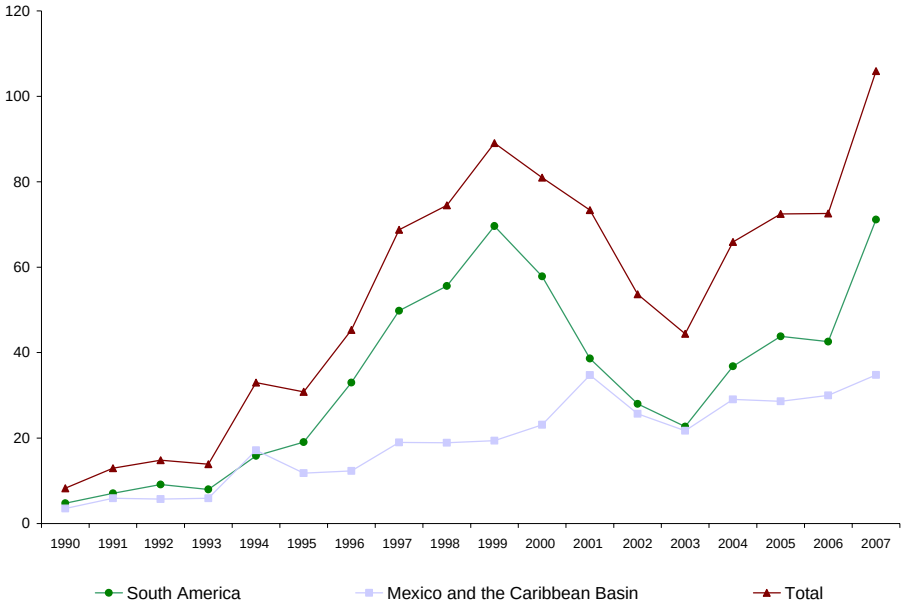
Latin America and the Caribbean (excluding financial centres) received US$ 105.925 billion in FDI inflows in 2007 (see figure I.4). This figure represents an increase of 46% with respect to 2006 and the highest volume of FDI since 1999, when the high level recorded had much to do with inflows generated by privatizations.[3]

The increase in global FDI flows internationally as noted above, the region's robust macroeconomic performance and the maintenance of high commodity prices were some of the main factors underpinning the marked increase in investments in Latin America and the Caribbean, and in South America in particular.

Much of the FDI received by Mexico and the Caribbean Basin has gone to the manufacturing sector, which caters to the United States market, making this subregion more vulnerable to a slowdown there. However, the fact that the United States economy recorded relatively high growth during the first three quarters of the year, in addition to other factors, meant that FDI flows did not decline substantially in this sector.

[3] It will be noted that the statistics for some countries differ from data published in the previous edition of this report. This is because of habitual updating of data, because of the way investments are recorded (some, for example, are recorded after the actual date of the investment), and changes in the methodologies used to quantify investments. In 2007 some alterations were made in Ecuador on the basis of recommendations made by the IMF statistical technical assistance mission. Thus, flows of external debt between related companies came to be registered net under the heading of "Other FDI capital", instead of gross, as before. In addition, the data are no longer provided by the National Hydrocarbons Department, but come from the Central Bank of Ecuador's administrative records on external borrowing. At the time of writing, estimates were pending for reinvested and distributed profits in the petroleum, commercial and financial sectors, as were treatment as FDI of certain equity investments in the mercantile and financial sector and the estimate of investment flows abroad (Central Bank of Ecuador, 2007). Honduras also made changes to the methodology used to calculate FDI, in the framework of the improvement of macroeconomic statistics. In particular, foreign investments in maquila activities began to be included in the category of FDI in the balance of payments (Central Bank of Honduras, 2007a). In Mexico, the distinction between maquila and other types of firms was eliminated from the foreign investment statistics under the Decree for the Promotion of the Manufacturing, Maquiladora and Export Services Industries (IMMEX), which was issued on 1 November 2006 and fused the programme for the promotion and operation of the maquila export industry with the temporary import programme to produce articles intended for export (PITEX). Thus, the FDI reported in the category "imports of fixed assets by maquila firms with foreign investment" is now included under the heading "inter-company accounts". Those changes have not, however, made any difference to the total amounts of foreign investment registered in the balance of payments.

Figure I.4
LATIN AMERICA AND THE CARIBBEAN: NET FDI INFLOWS BY SUBREGION, 1990-2007 [a]
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), estimates based on official figures as at 30 April 2008.

[a] Excludes investment received by the main financial centres. These FDI figures differ from those published by ECLAC in the *Economic Survey of Latin America and the Caribbean* and the *Preliminary Overview of the Economies of Latin America and the Caribbean* because those studies show the net balance of foreign investment, i.e., direct investment in the reporting economy (FDI) minus outward foreign direct investment (OFDI).

By individual country, the region's largest FDI recipients in 2007 were Brazil, which received US$ 34.585 billion, Mexico (US$ 23.230 billion) and Chile (US$ 14.457 billion). These were also the countries in which FDI increased most in absolute terms (by US$ 15.803 billion, US$ 4.019 billion and US$ 7.100 billion, respectively) and which thus account for much of the increase in FDI in the region (see table I.2). The countries to see the largest relative growth in FDI were El Salvador, Chile and Brazil.[4]

[4] In the case of Brazil, interestingly enough, in 2007 the increase was not, as in previous years of FDI surges, associated with a single transaction, but to rising investment in a large variety of sectors, including mining, metallurgy, financial services and a category known as "activities of parent firms and consulting in corporate management" (Central Bank of Brazil, 2008).

Table I.2
FDI INFLOWS TO LATIN AMERICA AND THE CARIBBEAN, BY RECIPIENT COUNTRY, 1993-2007
(Millions of dollars and percentages)

	1993-1997 [a]	1998-2002 [a]	2003-2007 [a]	2006	2007	Difference 2006-2007	Difference 2006-2007 (percentages)
Brazil	8 015	26 463	19 345	18 782	34 585	15 803	84
Mexico	10 681	18 946	20 594	19 211	23 230	4 019	21
Chile	3 332	5 000	8 056	7 358	14 457	7 100	96
Colombia	2 410	2 290	6 094	6 464	9 028	2 565	40
Argentina	5 629	9 202	4 360	5 037	5 720	683	14
Peru	2 443	1 539	2 864	3 467	5 343	1 876	54
Costa Rica	343	552	1 082	1 469	1 889	420	29
Panama	502	651	1 429	2 574	1 825	-749	-29
Dominican Republic	266	997	1 160	1 459	1 698	239	16
El Salvador	22	448	555	219	1 526	1 305	597
Uruguay	135	233	775	1 399	879	-520	-37
Trinidad and Tobago	510	736	892	883	830	-53	-6
Honduras	65	259	608	674	816	142	21
Venezuela (Bol. Rep. of)	2 111	3 408	1 234	-590	646	1 236	…
Bahamas	91	160	463	706	580 [b]	-126	-18
Guatemala	89	325	280	354	536	182	51
Nicaragua	100	235	262	282	335	53	19
Ecuador	545	870	530	271	179	-92	-34
Bolivia	370	814	86	278	164	-114	-41
Paraguay	140	127	74	110	142 [b]	32	29
Belize	26	36	84	100	92 [b]	-8	-8
Other Caribbean (estimate)	518	1 017	1 469	2 079	1 425	-654	-31
South America	25 131	49 946	43 417	42 574	71 143	28 568	67
Mexico and the Caribbean Basin	13 211	24 364	28 838	30 0101	34 782	4 772	16
Total	38 342	74 310	72 254	72 585	105 925	33 340	46

Source: Economic Commission for Latin America and the Caribbean (ECLAC), estimates on the basis of official figures as at 30 April 2008.

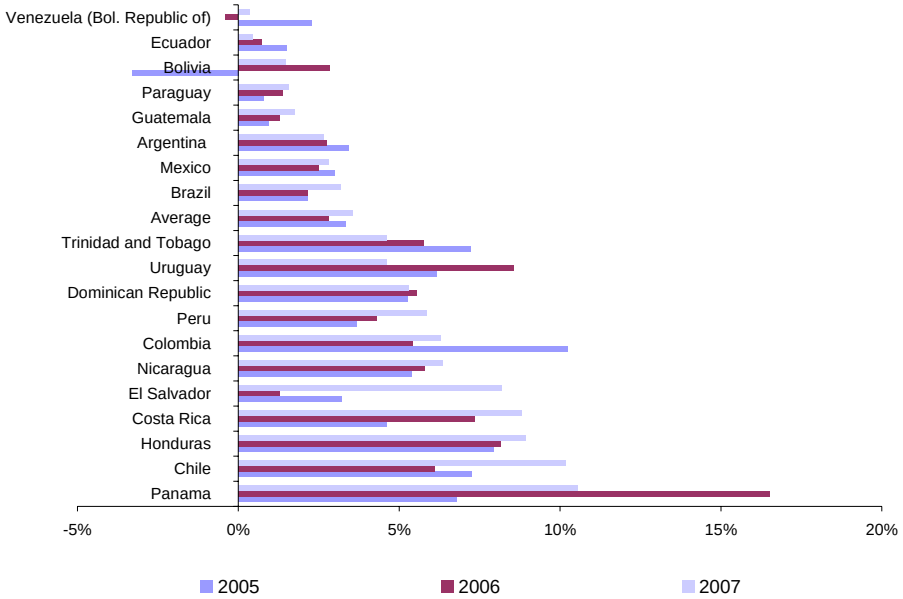
[a] Annual averages

[b] Extrapolation performed on the basis of data for the third quarter.

Excluding the Bahamas (whose inflows are associated mainly with its role as a financial centre), the largest recipients of FDI in 2007 as a proportion of GDP were Central America and Chile. Chile stands out because it is among the largest recipients of FDI both in terms of absolute values and with respect to GDP (see figure I.5).[5]

[5] The data presented in this section do not include the main financial centres of the Caribbean (Netherlands Antilles, Bermuda, Cayman Islands, British Virgin Islands), where most of the FDI received is associated with these countries' role as financial centres. Bahamas and Barbados, which receive substantial investments in

Figure I.5
LATIN AMERICA AND THE CARIBBEAN (SELECTED COUNTRIES): RATIO OF NET FDI INFLOWS TO GDP, 2005-2007 [a]
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official FDI figures available as at 30 April 2008, and GDP data and projections from the International Monetary Fund (IMF), World Economic Outlook Database, October 2007.

[a] The ratio shown in the figure is obtained on the basis of each year's FDI and the three-year moving average of GDP.

The region's average FDI-GDP ratio was 3.6%, which was higher than the preceding three years. Given the region's growth, this figure is lower than that for the 1990s, even though the total amounts of FDI exceed those received at that time. The current figure is significantly higher, however, than the levels of around 1% recorded at the start of the 1990s (see figure I.2).

The national statistics available are not sufficient to underpin conclusions about the performance of each type of investment —reinvestments, new investments, debt between parent companies and subsidiaries, and so forth— at the regional level. The three largest recipients of FDI were Brazil, Mexico and Chile. In Brazil, most of the FDI received was invested in shares in companies, in Mexico, in new investments, and in Chile, FDI was fairly evenly distributed among equity holdings, profit reinvestments and other capital investments (including loans).

The available data on foreign firms' acquisitions of companies and assets in Latin America and the Caribbean suggest that such transactions were up on the 2006 figure, but by less than overall FDI, despite a strong increase in large transactions (see box I.2). In combination with the strong pressure to expand natural-resource production to cater for global demand and the increase in local demand for goods and services (see subsection 3) in 2007, this would seem to indicate that much of the growth in FDI is accounted for by investments in new capacity.

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tourism, extra-territorial services, etc., are included in this data. When reference is made to Bahamas and Barbados as sources of investment received by the rest of the region, however, these territories are classified as financial centres.

Box I.2

LARGEST CROSS-BORDER TRANSACTIONS IN LATIN AMERICA AND THE CARIBBEAN IN 2007 [a]

The number of large cross-border acquisitions in Latin America and the Caribbean increased in 2007, reflecting the rise in this type of operation globally (see box I.1). The number of transactions in excess of US$ 500 million rose from 20 in 2006 to 30 in 2007 (see table).

The sectors that stood out among those 30 acquisitions were steel, infrastructure, public services and financial services. Brazil was the principal destination for large investments (11 of the 30), although Mexico received three of the five largest. The investors in these large transactions were highly diversified in terms of origin, with buyer firms from 14 countries including, prominently, the United States, Canada and Spain. Trans-Latin corporations conducted four of the 30 largest transactions, in steel, petroleum-industry services, retail trade and petrochemicals (see section D).

CROSS-BORDER ACQUISITIONS OF ASSETS AND FIRMS IN LATIN AMERICA AND THE CARIBBEAN FOR AMOUNTS IN EXCESS OF US$ 500 MILLION, ANNOUNCED OR CONCLUDED IN 2007 [a]

(Millions of dollars)

	Firm or assets acquired	Country of firm or assets acquired	Buyer	Country of buyer	Seller	Country of seller	Stated value	Sector
Operations involving entry of or change-of-hands among foreign firms								
Operations announced in 2007								
1	Various concessions	Mexico	Consorcio Goldman Sachs/ICA	United States/Mexico	Government of Mexico	Mexico	4 021	Infrastructure/ roads
2	Grupo Imsa	Mexico	Ternium	Luxembourg/ Argentina			3 187	Steel
3	RBTT Financial Holdings	Trinidad and Tobago	Royal Bank of Canada	Canada	Various	Trinidad and Tobago	2 187	Financial services
4	ArcelorMittal Inox Brasil (formerly Acesita)	Brazil	ArcelorMittal	Luxembourg/India			1 808	Steel
5	Electricity and gas assets	Mexico	Gas Natural SDG	Spain	Electricité de France, Mitsubishi	France, Japan	1 448	Electricity
6	Serasa SA	Brazil	Experian Group	Ireland	Bradesco, Itaú, ABN Amor, Santander, HSBC, Unibanco	Brazil, United Kingdom, Netherlands, Spain	1 191	Financial services
7	MMX Minas-Rio	Brazil	Anglo American	United Kingdom	MMX Mineração, Centennial	Brazil	1 150	Steel
8	Tobacco businesses in Mexico	Mexico	Altria Group	United States	Grupo Carso	Mexico	1 100	Tobacco
9	Atacadão	Brazil	Carrefour	France			1 100	Retail commerce
10	Caribbean businesses	Several Caribbean	Marubeni	Japan	Mirant	United States	1 082	Electricity
11	Drilling and E&P businesses	Argentina and others	GP Investments	Brazil	Pride International	United States	1 000	Petroleum-industry services
12	5 malls	Brazil	Brookfield Asset Management	Canada	Malzoni Investment Group	Brazil	963	Real estate
13	LQIF	Chile	Citigroup	United States	Quiñenco	Chile	900	Financial services
14	Cable business	Chile	Nexans	France	Madeco	Chile	853	Metals
15	Banco del Desarrollo	Chile	Bank of Nova Scotia	Canada	Sociedad de Inversiones, Crédit agricole, Intesa São Paulo	Chile, France, Italy	810	Financial services
16	Franchises for 1600 McDonalds restaurants	Various	Restco Iberoamericana	United States	McDonald's Corp.	United States	700	Restaurants
17	Chilquinta, Luz del Sur	Chile, Peru	Ashmore Energy International	United Kingdom/United States	Public Service Enterprise	United States	685	Electricity
18	Adriano Ometto Participações	Brazil	Abengoa SA	Spain			684	Chemicals
19	Essbío	Chile	Ontario Teachers' Pension Fund	Canada	Southern Cross Group	Argentina	677	Sanitary services
20	Afore Santander Mexicana, AFP y Cesantía Santander, Afinidad AFAP SA	Mexico, Colombia, Uruguay	ING Group	Netherlands	Banco Santander	Spain	655	Financial services
21	AFP Bansander	Chile	ING Group	Netherlands	Banco Santander	Spain	645	Financial services
22	Grupo de Supermercados Wong	Peru	Cencosud	Chile			623	Retail commerce

Box I.2 (concluded)

	Firm or assets acquired	Country of firm or assets acquired	Buyer	Country of buyer	Seller	Country of seller	Stated value	Sector
23	Generadoras de electricidad	Mexico	AES Corporation	United States			611	Electricity
24	Electricity generators	Brazil	Israel Corp., DS Construction	Israel, India	CDC Group	United Kingdom	568	Electricity
25	Tevecap	Brazil	Telefonica SA	Spain		Brazil	566	Cable TV
26	Acindar	Argentina	ArcelorMittal	Luxembourg/India			543	Steel
27	Bolsa de Mercadorias e Futuros	Brazil	General Atlantic	United States			534	Financial services
28	Food voucher services business	Brazil	Sodexho Alliance	France	VR Group	Brazil	523	Food voucher services
29	Assets in Venezuela (Rep. Bol. de)	Venezuela (Bol. Rep. of)	Rusoro Mining	Canada	Gold Fields	South Africa	507	Mining
30	Grupo Amanco	Brazil	Mexichem	Mexico	Nueva Holding	Chile	500	Chemicals/ petrochemcials
Operations announced prior to 2007 and concluded in 2007								
1	Arcelor Brasil SA	Brazil	ArcelorMittal	Luxembourg	Arcelor	Luxembourg	5 412	Steel
2	Grupo Cuscatlán	El Salvador	Citigroup	United States	Corp. UBC Internacional	Costa Rica	1 510	Financial services
3	Villacero plant	Mexico	ArcelorMittal	Luxembourg	Grupo Villacero	Mexico	1 439	
4	Grupo Industrial Herraduras	Mexico	Brown Forman	United States			776	Beverages-wines/ alcoholic drinks
Operations involving withdrawal of TNCs, with the sale of assets/firms to local companies								
1	Yacimientos Petrolíferos fiscales (14,9%)	Argentina and others	Petersen Group	Argentina	Repsol YPF	Spain	2 235	Hydrocarbons
2	Electricidad de Caracas	Venezuela (Bol. Rep. of)	PDVSA	Venezuela (Bol. Rep. of)	AES Corporation	United States	739	Electricity
3	Empresas Emel	Chile	Cía. General de Electricidad	Chile	PPL Corporation	United States	660	Electricity
4	CANTV	Venezuela (Bol. Rep. of)	Government of Venezuela (Bol. Rep. of)	Venezuela (Bol. Rep. of)	Verizon	United States	572	Telecommunications
5	Solpart	Brazil	Brazilian pension funds	Brazil	Telecom Italia	Italy	515	Telecommunications

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data provided by Bloomberg and press reports.

[a] Includes initial acquisitions of 5% or more of the equity in a firm or consortium, initial acquisitions of less than 5% but for amounts in excess of US$ 200 million, acquisitions of additional equity for any amount and joint operations creating new firms.

Despite the circumstances described in box I.1, which led to a slowdown in the expansion of private equity funds, such funds' acquisitions in Latin America and the Caribbean increased in 2007. Advent, General Atlantic and Brysam were prominent in the main cross-border acquisitions by private equity funds, but so were regional private equity funds, particularly GP Investments of Brazil. There was also an increase in operations by pension funds and asset management companies, among which the Ontario Teachers' Pension Fund (OTTP) and Brookfield Asset Management, both of Canada, stood out (see chapter 4).[b] Those investors' interest in Latin America has been stimulated, among other factors, by the control of macroeconomic variables, more competitive and better developed economies, capital market performance and a perceived need for asset diversification.

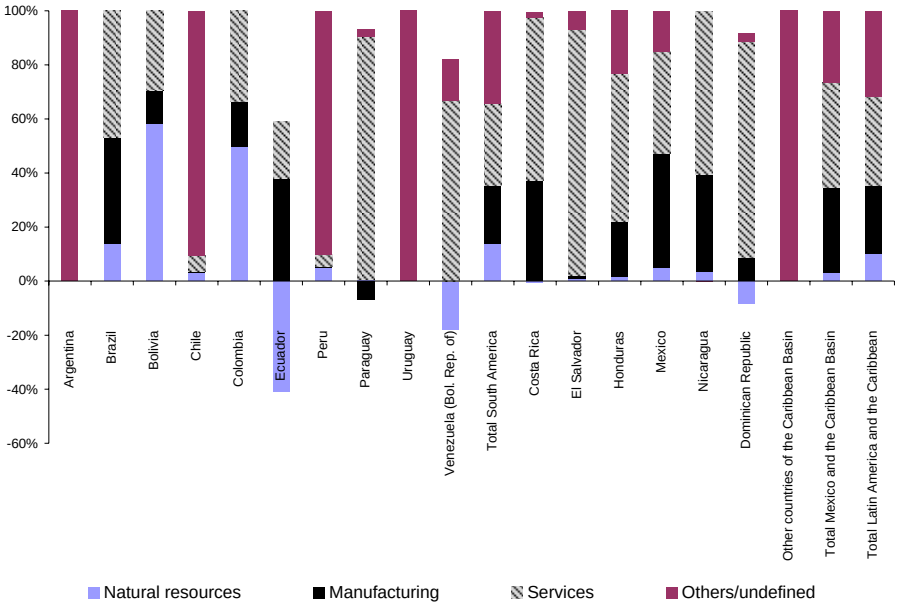
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data provided by Bloomberg as at 14 January 2008; *América economía*, "Ford invertirá US$ 160 millones en Argentina", 13 August 2007; *Latin Finance*, "Private equity takes root", September 2007.

[a] This section is based on data taken from the Bloomberg financial information system. The data on mergers and acquisitions refer to concluded or pending operations announced each year. They do not include global operations in which the bought firm holds assets in Latin America and the Caribbean, such as the purchase of Banco Real (a division of the Netherlands bank ABN Amro) by Banco Santander in the framework of the global purchase of ABN Amro by a consortium that included Santander (see box I.1).

[b] These investors are tending to buy larger shares in and, in many cases, take control of the target firms, so a larger proportion of these investments is registered as direct investment.

Figure I.6 shows the official statistics available on the sectoral distribution of foreign investment in the main recipient countries in Latin America and the Caribbean in 2007. There are important gaps in the data as a result of the different methodologies used by each country, which makes it difficult to compare, and impossible to aggregate, the data. Some countries exclude certain categories of investment from their statistics on the secoral distribution of FDI. In Chile, for example, reinvestments are not included, which leads to a significant underestimation of investments in natural resources, as most profit reinvestment in Chile is made in the mining sector (see subsection 3). In Peru, investments in the hydrocarbons sector are classified under segments associated with exploration activities, such as transport services, which leads to a similarly significant underestimation of investments in natural resources.

Figure I.6
LATIN AMERICA AND THE CARIBBEAN: SECTORAL DISTRIBUTION OF FDI INFLOWS, 2007
(Billions of dollars)



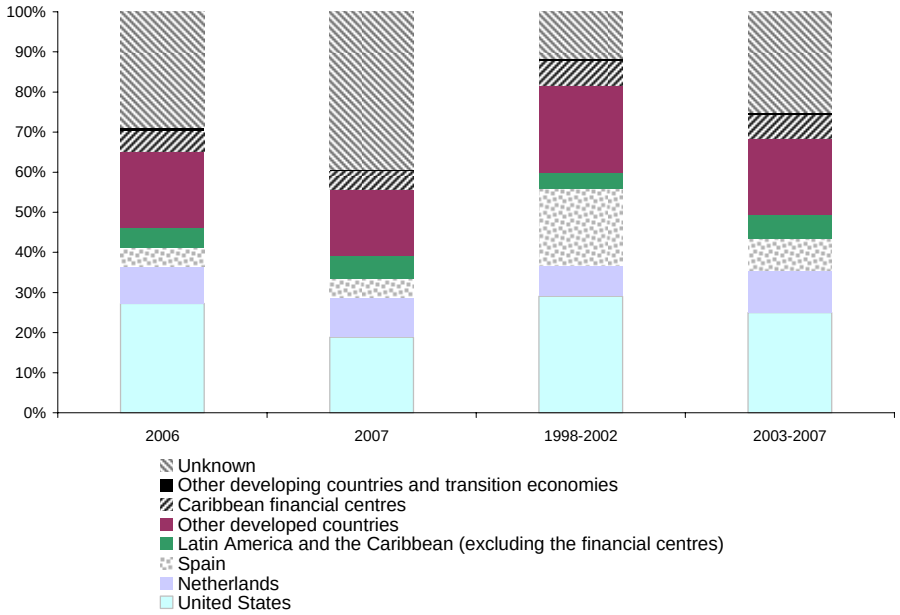
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures available as at 30 April 2008.

The data does make it possible to infer the following: (i) the distribution of FDI among the countries of the region is extremely heterogeneous; (ii) despite the aforementioned statistical limitations, FDI in natural resources in general is more important in South America than in Mexico and the Caribbean basin, and FDI in manufacturing is relatively more important in Mexico and the Caribbean Basina than in South America, and (iii) as in previous years (CEPAL, 2006, 2007), in the aggregate and according to the available data, the majority of the FDI was made in the services sector.[6]

[6] For further details on the sectoral distribution of the FDI received by the countries of Latin America and the Caribbean, see table I-A-2 of the annex.

For the countries for which data is available, the largest investors in Latin America and the Caribbean were the United States and the Netherlands (see figure I.7). Notably, the investments of the Netherlands, however, include investments made by companies from other countries through their Netherlands-based subsidiaries.[7]

Figure I.7
LATIN AMERICA AND THE CARIBBEAN: ORIGIN OF FDI, 1998-2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures available as at 30 April 2008.

A comparison of the period 2003-2007 with 1998-2002, shows a change in the configuration of the main investor countries. Spain and the United States' involvement as an investor in the region has declined, while the Netherlands is taking a larger share. This shift may have much to do with the end of the cycle of privatizations, in which Spanish firms were heavily involved, and with the departure of United States transnational corporations.[8]

The outward investment flows generated by Latin American firms have increased as a result of their intensified international expansion efforts. The proportion of intraregional investments represented 10% of total investment received in the region in 2007 (see section D).

China's emergence on the world stage has affected investment in Latin America both directly and indirectly. Indirectly, because of the eminently visible effects of Chinese demand on commodity prices which have, in turn, fuelled investments in mining and hydrocarbons. China has also competed strongly

[7] For further details on the origins of the FDI received by the countries of Latin America and the Caribbean, see table I-A-3 of the annex.

[8] Spanish investments shifted towards other regions and, in the case of Latin America and the Caribbean, towards new sectors such as construction and tourism (ECLAC/SEGIB, 2007).

for low-cost manufacturing investments, which has posed challenges as regards efficiency-seeking investment, especially in Mexico and the Caribbean Basin. And directly, because of Latin America's primordial role as a supplier of raw materials, which have become increasingly important as China is driven to diversify its resource options. The region has also gained significance as a market for Chinese products. According to official figures, China, like other developing countries, continues to be a minor investor in the region. Companies from developing countries have invested in several countries of the region, however, as described in section 3.

Lastly, the attraction of foreign investment is high on the policy agendas of the region's countries. Box I.3 sets out some of the most salient foreign-investment-policy measures that the Latin American and Caribbean countries have adopted recently.

Box I.3

FOREIGN INVESTMENT PROMOTION POLICIES IN LATIN AMERICA AND THE CARIBBEAN – NEW DEVELOPMENTS IN 2007

A brief survey of investment promotion agencies in the region was used as the basis to identify, on the one hand, initiatives aimed at developing new attractions for foreign investment (or that achieve this as a secondary effect) and, on the other, measures that restrict previously existing benefits or guarantees, in the framework of a revision of the role of TNCs in the development of the respective countries.

Argentina: in 2007 ProsperAr, Argentina's national investment development agency, started up operations. ProsperAr's activities include missions abroad and the provision of an information and advisory centre for potential investors. As regards the business environment, one important measure was the elimination of the regulation requiring a double indemnity payment for the dismissal of workers, which had been in place since 2002.

Brazil: one of the main advances was the adoption of the growth acceleration programme (PAC) which is directed towards providing the conditions for sustainable development in the medium and long terms by broadening access to credit, improving the business environment, promoting investment in infrastructure, improving the taxation system and developing long-term tax measures. Among other steps, a special tax regime was made applicable to purchases of machinery and equipment used in infrastructure works, investment funds were set up for infrastructure projects and a number of projects were put out to tender.

Colombia: a series of measures were adopted to improve the protection of investors and access to third markets: transparency requirements in transactions between associated companies; more prompt payment of taxes with the implementation of electronic tax declarations; gradual reduction of income tax and simplification of the rules of accounting; extension of port hours; a selective policy on customs inspection; reduction of cargo handling time in ports and terminals; creation of special or single-firm free zones; progress in the negotiation and signature of free trade agreements with chapters on reciprocal promotion and protection of investments and agreements on reciprocal promotion and protection of investments (ARPPIs); progress in negotiating double taxation agreements; efforts to promote benefits for investors, especially legal stability contracts; and the presentation before congress of a bill to create free zones for second homes.

Guatemala: the main efforts have been aimed at developing skilled labour, with training funds for specialization and promotion of grants for the specialization of skilled labour in the different industries that attract investment. These initiatives have been developed in the framework of the National Competitiveness Agenda, which was launched in 2005 to improve levels of education and training, strengthen institutions, improve infrastructure and develop the country's potential as a tourist destination, export platform, logistical centre and energy centre.

Costa Rica: Costa Rica has sought to upgrade its position vertically, by pursuing greater participation in global value chains in a given sector, and horizontally, by increasing the country's attractiveness to FDI in new strategic sectors. The targeted sectors include: medical devices, the automotive sector, aeronautics, aerospace and services (post-production, engineering, design, 3D animation). The country launched a programme called the Costa Rican Multilingual Plan to address the shortage of skilled labour and is analysing the possibility of changing the tax incentive scheme for FDI, and for research and development activities in particular. The country has also taken

Box I.3 (concluded)

measures to broaden market access. The Dominican Republic - Central America - United States Free Trade Agreement CAFTA-DR) was approved by referendum although approval of complementary legislation to ensure its entry into effect is still pending. Costa Rica also obtained an extension of the deadline to adapt its legislation to the rules on free zones until 2015 from the World Trade Organization. This extension also benefits other countries of the region, such as the Dominican Republic, El Salvador, Guatemala, Panama and Uruguay.

El Salvador: in the context of broader policies to improve the business environment and infrastructure, the Government passed the International Services Act in order to promote investment in strategic sectors, including distribution and logistics, BPO'S, contact centres, software development, R&D, and the repair and maintenance of cruise ships, cargo vessels and aircraft carriers. The Act also provides full exemption from import taxes on capital goods required to carry out the respective activity, exemption from income tax and municipal taxes on the company's goods and capital, and exemption from VAT on purchases of inputs and services required to carry out operations.

Ecuador: in the context of a review of national legislation, the main change relating to investment promotion at the end of 2007 was the issue of a new tax law setting new rates for taxes on income and capital withdrawals and repealing the Tax Benefits Act that had been in place since November 2005. As Bolivia had done in May 2007, in February 2008 Ecuador announced its intention to withdraw from nine bilateral investment accords which allowed investors recourse to the International Centre for Settlement of Investment Disputes (ICSID) as an investment protection mechanism.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of questionnaires answered by the investment promotion institutions in Argentina, Brazil, Colombia, Costa Rica, Ecuador, El Salvador and Guatemala; "Ecuador will denounce at least nine bilateral investment treaties", International Institute for Sustainable Development, 5 February 2008. Jorge Woodbridge, "Perspectivas de la inversion extranjera directa en Costa Rica" and Gabriel Llobet, "El futuro de la IED en Costa Rica", documents presented at the seminar on the Costa Rican economy and the role of foreign investment, held in San José, 15 April 2008.

2. Importance and distribution of non-financial TNCs in Latin America and the Caribbean [9]

Foreign firms accounted for 26% of the sales of the 500 largest non-financial enterprises in Latin America and the Caribbean in 2006 (the most recent year for which data are available). These firms vary in importance from one sector to another, however. TNCs account for just 6% of sales in the primary sector, but 29% and 37% of sales in the services and manufacturing sectors, respectively (see figure 1.8).[10]

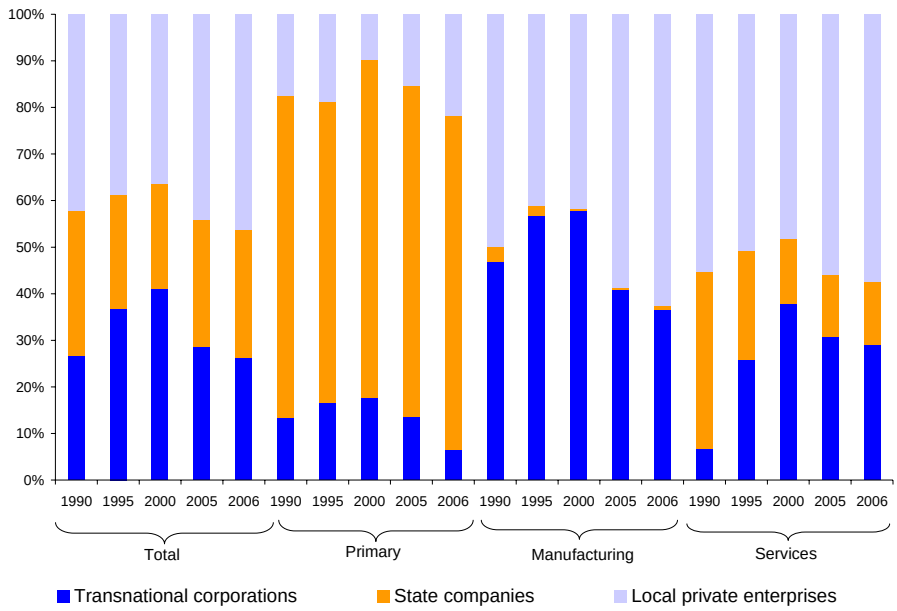
When the data are broken down still further (see figure I.9), it becomes apparent that TNCs account for a much higher proportion of the primary sector (30%) than of hydrocarbons (10%). State enterprises predominate in both these sectors, however.

With respect to manufactures, TNCs predominate in the sectors with a higher technology content, including the automotive and electronics sectors (93% and 77%, respectively), which are concentrated almost exclusively in Mexico and Brazil. Conversely, local private firms prevail in the foods and agroindustry businesses, representing 63% of sales, while foreign firms account for 37%.

[9] ECLAC is grateful to the review *América economía* for allowing the Commission access to its database on the 500 largest firms in Latin America.

[10] This section treats as foreign firms or TNCs both the subsidiaries of firms from other regions and those of Latin American firms outside their countries of origin and within the region. Latin American firms with investments outside their countries of origin (trans-Latins) are examined specifically in section D.

Figure I.8
LATIN AMERICA AND THE CARIBBEAN: SALES OF THE 500 LARGEST FIRMS, 1990-2006
(*Percentages*)

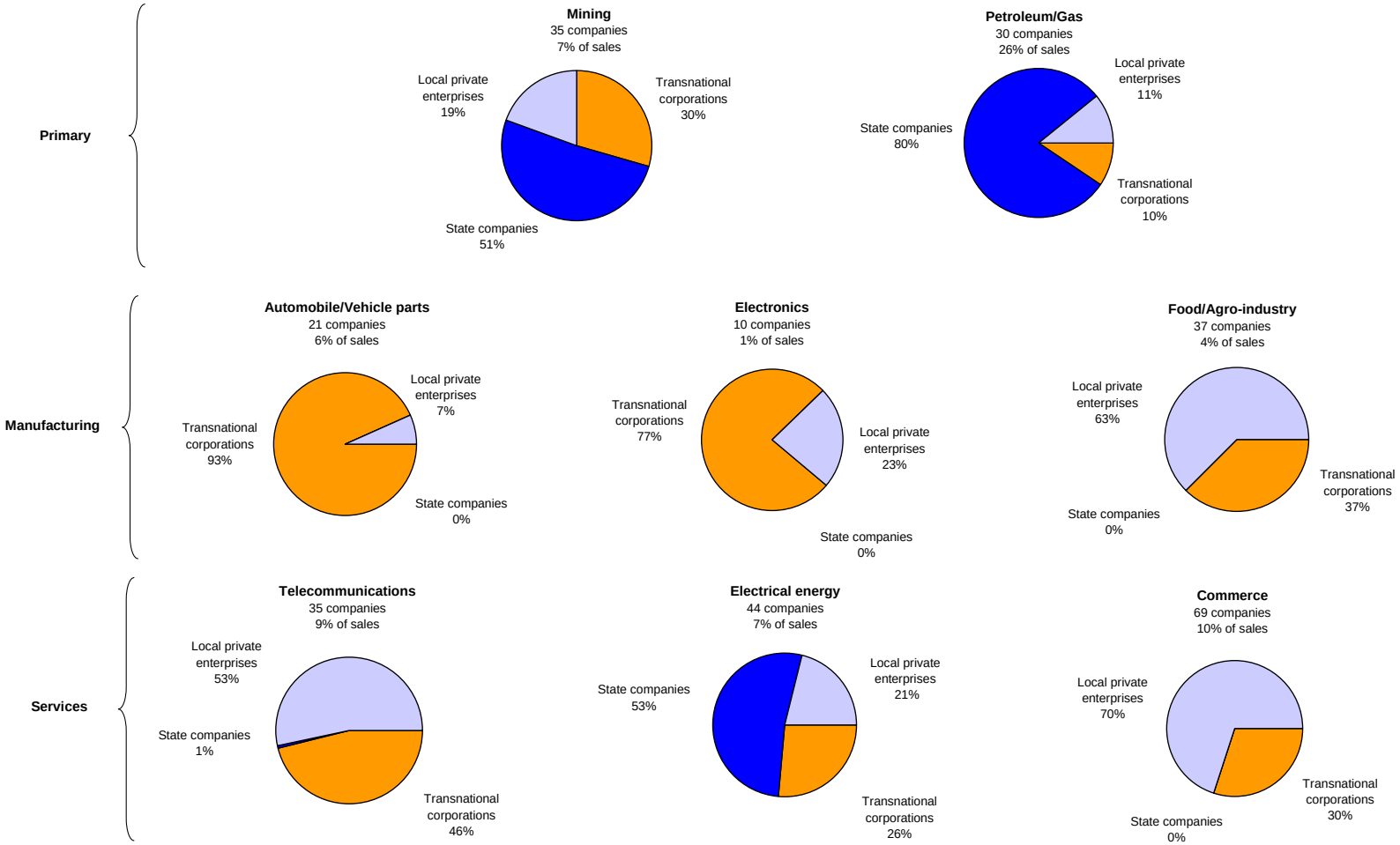


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of the *América economía* magazine, Santiago, Chile, 2007.
Note: Excludes financial services.

Despite the preponderance of foreign firms in telecommunications —including the subsidiaries abroad of Telmex and América Móvil of Mexico— and the existence of large TNCs in other segments, transnational corporations represent a minority in the services sector.

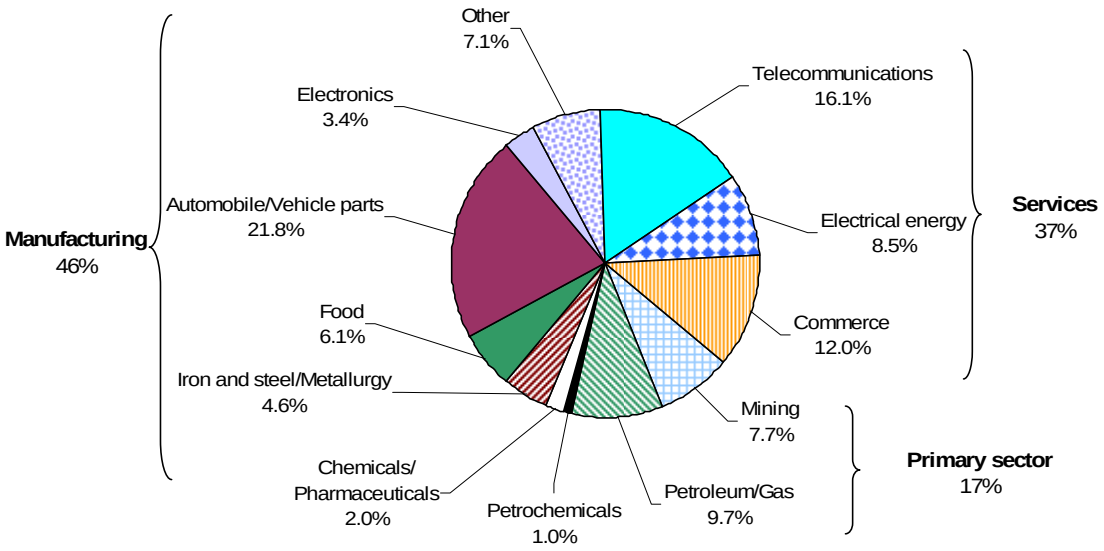
Figure I.10 shows the sectoral distribution of the sales of the TNCs in the region in 2006. It shows that 46% correspond to manufactures, 37% to services and 17% to the primary sector. Within manufactures, the automotive and vehicle parts sector stands out with 22% of sales. The main transnational groups in Latin America and the Caribbean, as listed in table I-A-4, reflect this distribution, which is dominated by firms in the automotive, telecommunications and vehicle parts industries.

Figure I.9
LATIN AMERICA AND THE CARIBBEAN: SHARES OF TNCs AND LOCAL FIRMS IN THE SALES OF THE 500 LARGEST FIRMS, 2006
(Percentages)



Source*:* Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of *América economía* magazine, Santiago, Chile, 2007.
Note: Excludes financial services.

Figure I.10
LATIN AMERICA: SECTORAL DISTRIBUTION OF THE SALES OF TNCs, 2006
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of *América economía* magazine, Santiago, Chile, 2007.
Note: Excludes financial services.

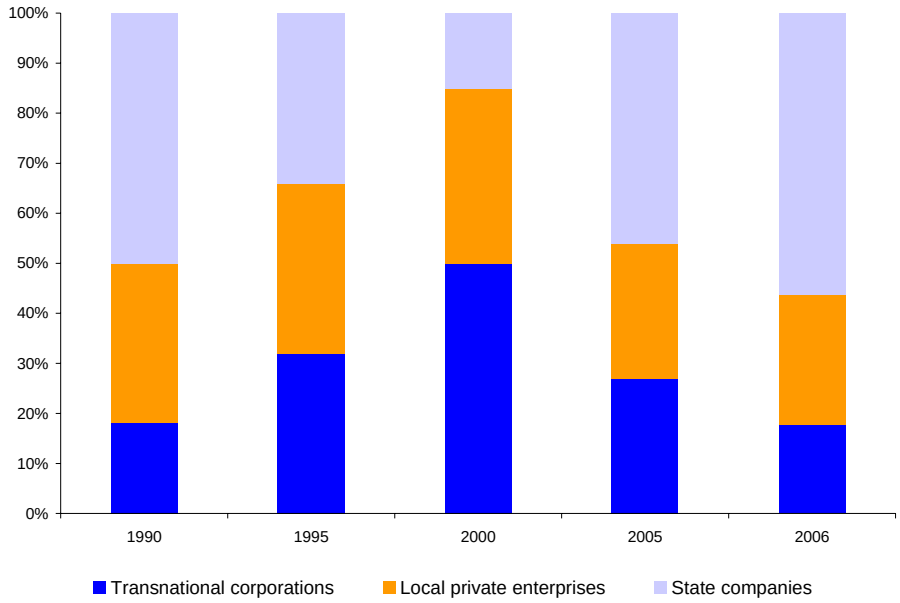
Geographically speaking, 70% of the sales of these subsidiaries take place in Brazil and Mexico. Brazil is the country with the largest number of TNC subsidiaries (45%), followed by Argentina (14%).

The trend seen in the last few years whereby TNCs have a smaller market share than local private and State-owned firms has continued (ECLAC, 2007a).[11] Indeed, the share of these firms in the sales of the region's 500 largest firms fell from 41% in 2000 to 29% in 2005 and 26% in 2006; this phenomenon was common to all three sectors (see figure I.8). Between 2005 and 2006, the share of TNCs decreased from 14% to 6% in the primary sector, from 41% to 37% in manufacturing and from 31% to 29% in services. This is partly because local firms have seized the opportunities generated by growth in the region, which is also reflected in the increasing internationalization of trans-Latin firms' activities into other countries of the region (see subsection 1 and section D). In addition, the —mainly local— firms associated with these sectors have found their footing strengthened by the rise in commodity prices.

The relative decline in the importance of TNCs is also reflected in export data (see figure I.11). Thus, while foreign enterprises were responsible for 50% of the exports of the 200 largest export firms in 2000, this share dropped to just 27% in 2005 and 18% in 2006.

[11] This despite the fact that the sales of TNCs increased in absolute terms. The sales of the 50 largest TNCs rose by 12% in 2006.

Figure I.11
EXPORTS OF THE 200 LARGEST EXPORT FIRMS, BY TYPE OF OWNERSHIP, 2006
(*Percentages*)

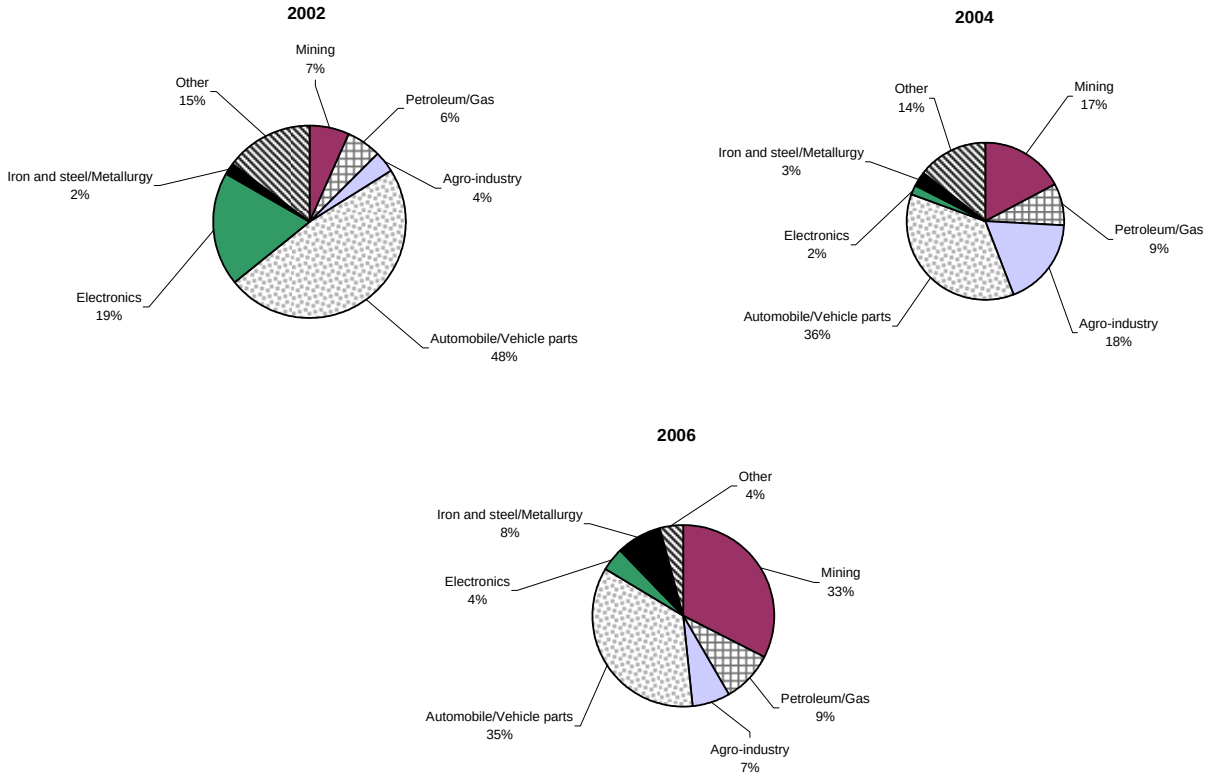


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of *América economía* magazine, Santiago, Chile, 2007.
Note: Excludes financial services.

Figure I.12 shows the sectoral distribution of the largest TNC exporters between 2002 and 2006. The mining sector has come to account for a gradually larger share of the exports of the 200 largest export firms, rising from 7% in 2002 to 17% in 2004 and 33% in 2006. At the same time, the exports of the automotive sector have lost ground within TNC exports: from 48% in 2002, these dropped to 36% in 2004 and 35% in 2006. The share of TNCs in electronics exports also decreased, from 19% in 2002 to 2% in 2004, with a slight upturn in 2006 (4%).

Briefly then, TNCs have a considerable presence across a variety of Latin America's economic activities, but their relative position among the large corporations in terms of sales and exports is declining. The strong rise in FDI flows in 2007 may indicate a reversal or a standstill in this trend. The major role of local firms in strongly growing sectors does not bear this out, however.

Figure I.12
SECTORAL DISTRIBUTION OF THE EXPORTS OF THE TNCs AMONG THE 200 LARGEST EXPORT FIRMS, 2002, 2004 AND 2006 [a]
(*Percentages*)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the Special Studies and Projects Department of the *América economía* magazine, Santiago, Chile, 2007.

Note: Excludes financial services.

[a] The data for 2002 are calculated on the basis of 93 firms, while a universe of 88 and 65 firms was used for 2004 and 2006, respectively. The number of firms corresponds to the TNCs belonging to the group of the 200 largest exporters in the region each year.

3. FDI from the point of view of corporate strategies

FDI may be classified by the strategy or main motivation of the investor. In general, what firms seek in third countries is the opportunity to exploit natural resources, access to local or regional markets, low production costs for exporting to third markets (efficiency-seeking) or access to strategic assets, such as knowledge, state-of-the-art technology and skilled labour (Dunning, 1993). This classification is useful because, by translating the determinants and effects of different types of investment into simplified facts, it helps us to understand and identify the main trends in FDI and the principal challenges involved in getting investment to contribute as much as possible to the development of the respective destination country (ECLAC, 2007a).

Traditionally, Latin America and the Caribbean has received market-seeking investment, natural-resource-seeking investment and investment that is efficiency-seeking, i.e., pursuing low-cost production in order to export to third markets. Whereas market-seeking investment has gone to the whole region (and, in the case of manufactures, particularly to the large markets), natural-resource-seeking investment has gone mainly to South America and efficiency-seeking investment to Mexico and the Caribbean Basin. Although a number of firms have set up world centres of excellence in services or technology in the region, Latin America and the Caribbean has not been a major destination for strategic-asset-seeking investments.[12]

Of course, the association between investment strategy and subregion is not set in stone. Indeed, investment in natural resource segments —mining, agroindustry and tourism— has risen in Mexico and the Caribbean Basin and there are TNC subsidiaries producing certain product lines for the global market in South America.[13] But the investment-type distribution described in the preceding paragraph is still the general rule.

There follows an overview of FDI flows into Latin America and the Caribbean in the framework of each of those strategies.

(a) Market-seeking FDI

Market-seeking FDI was fuelled in 2007 by the sound performance of the region's economy, which grew steadily despite the poor international conditions and exhibited lower rates of unemployment, higher real average wages and a drop in poverty and indigence levels with respect to the start of the decade (ECLAC, 2007b, 2007c). Corporate managers have sought to lock into the higher demand resulting from this performance which —in combination with easier access to credit in some countries— has encouraged new segments of the population into the consumer market. This has had very evident effects on the activity levels of TNCs, especially in the segments of motor vehicles, mass consumer goods, retail trade, financial services, telecommunications and construction. The main investments in those sectors are described below, with the exception of telecommunications, which are examined in chapter II. The investments of iron and steel TNCs in Latin America and the Caribbean, which combine market-seeking and natural-resource-seeking strategies, are analysed in box I.4.

[12] UNCTAD (2005), for example, shows that Latin America and the Caribbean is relatively unimportant as a destination for R&D investments.

[13] Argentina, in particular, has received increasing amounts of investments in excellence centres integrated into TNC production networks in segments such as television contents; R&D centres; accounting, administrative and informatics services; and software development (ProsperAr, 2008).

Box I.4

STEEL: THE DOUBLE DRAW OF RESOURCES AND MARKETS

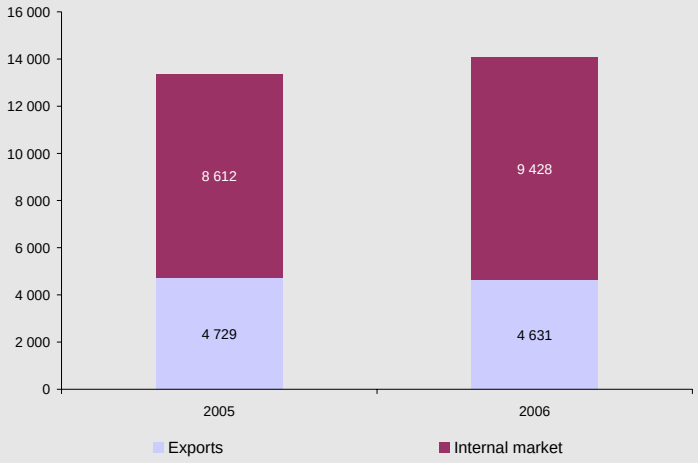
The investment strategies pursued by steel companies in Latin America and the Caribbean have combined the search for resources with the search for markets. In this respect, the sector has been favoured by both the global situation and the growing demand in local markets. Steelworks were the targets of some of the major acquisitions and investment projects that were announced in 2007. The region has been considered a key part of corporate strategy by ArcelorMittal because of the potential of its main markets. Other companies have invested in a partnership with the Brazilian company CVRD to build new steel production facilities for the export market. The investments made by Ternium, the Argentine group Techint, and the Brazilian corporation Gerdau are described in section D.

Arcelor Mittal

Latin America and Brazil and Mexico in particular have been key components of the growth strategy of ArcelorMittal which focuses on markets that enjoy high growth and offer low costs and tries to integrate its operations vertically from iron ore production at one end and the manufacturing of higher value added products, such as steel pipes, at the other. The purchase of the shares of the minority shareholders in Arcelor Brasil for approximately US$ 4.2 billion increased ArcelorMittal's holding to 97.85% and enabled it to streamline the structure of the company, optimize its debt and cash flows, rationalize its tax payments and increase its presence in the South American market. The company inaugurated a third furnace at its Tubarão mill and announced investments in the expansion of its production capacity in Brazil of US$ 5 billion over the next five years. In Mexico, Arcelor Mittal bought out Sicartsa which, together with Lázaro Cárdenas (another steel mill in which it is a stakeholder), make up its main operations in the country. The company also negotiated a distribution agreement with the Villacero group. ArcelorMittal invested in iron ore mining in both countries with a view to vertically integrating its operations and facilitating access to its main raw material. The investments in the Tubarão plant in Brazil and in the Lázaro Cárdenas plant in Mexico are key elements of the company's growth plan for its flat steel interests up to 2012. In long steel products, the company increased its in holdings in Acindar (Argentina) (as a mechanisms for boosting capacity), Point Lisas (Trinidad) and Sicartsa (Mexico) and upgraded its operations at Juiz de Fora (Brasil) and other plants in South America. Finally, ArcelorMittal bought the stainless steel pipe manufacturer Cister in Uruguay. These investments in the Latin American market were largely motivated by the revitalization of motor vehicle production and construction in the region and the continued growth of the hydrocarbon industry, which is discussed in the next section.

ARCELOR BRASIL: DISTRIBUTION OF NET CONSOLIDATED INCOME

(In millions of reais)



Source: Economic Commission for Latin America and the Caribbean (ECLAC) on the basis of data provided by Arcelor Brasil, *Relatório anual 2006.*

Box I.4 (concluded)

The partnerships of CVRD

If the market was what motivated ArcelorMittal to invest in the region, natural resources are what inspired joint ventures undertaken with Companhia Vale do Rio Doce (CVRD) to invest in new steel production capacity in Brazil. After selling its shares in steel mills as part of a strategic reorientation after privatization, CVRD returned to invest in the Brazilian steel sector through four projects carried out in partnership with some of its main customers: ThyssenKrupp (Germany), Dongkuk (Republic of Korea), Baoshan Iron & Steel (China) and a fourth, which has yet to be disclosed. These four ventures are all located along the Brazilian coast near to major ports and have logistical connections with the mines of either the southern or northern systems of CVRD. These are the first investments to be made in new steel mills in Brazil in several decades. The partnership arrangements are similar to those used by CVRD in its main iron ball production operations (Nibrasco, Kobrasco, Itabrasco, Hispanobras) but one step further along the production chain. CVRD could enter into a similar partnership with Nippon Steel. The companies have a long history of interaction and cooperation (through Nibrasco and others, and their joint participation in Usiminas). The Japanese company has shown an interest in Brazil and recently upped its share in Usiminas and announced investments of over US$ 8 billion until 2010.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of "Fuertes inversiones de Nippon Steel en su filial brasileña Usiminas", americaeconomica.com, 13 August 2007; "Transforming Tomorrow", presentation by Aditya Mittal, CFO, Arcelor Mittal, in Sandford Bernstein – Pan European Strategic Decisions, 25September 2007; Arcelor Mittal, "Growth Plan 2012" presented at ArcelorMittal Investor Day, 11-13 September 2007; Arcelor Brasil, *Relatório anual 2006*; "Vale do Rio Doce anuncia aliança com Nippon Steel", Folha Online, 18 December 2006; *Latin Finance*, "M&A" November 2007; AméricaEconomía.com, "ArcelorMIttal compra uruguaya Cinter y austriaca Eisen Wagner", 26 December.

(i) Automotive sector: expansion in MERCOSUR

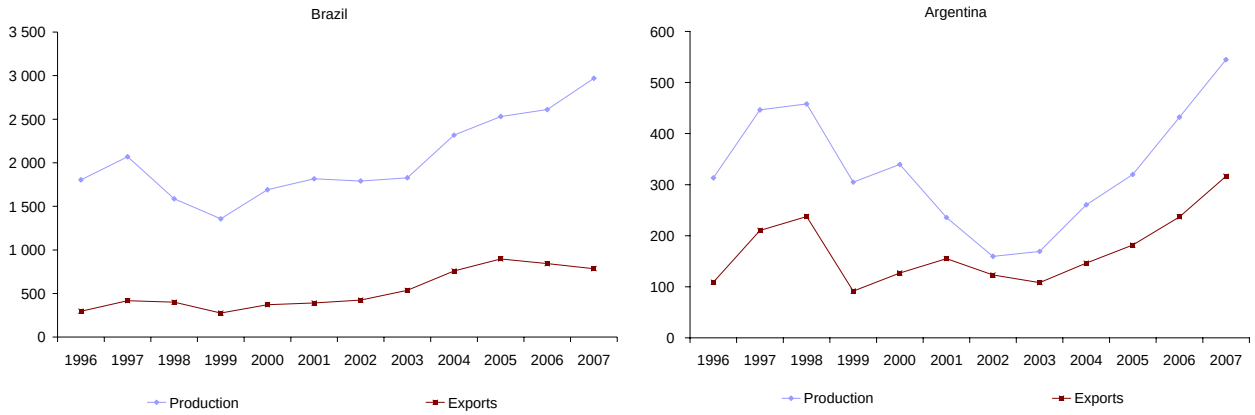
The bulk of the operations of automotive TNCs in Latin America and the Caribbean that are aimed at selling to local and regional markets are located in MERCOSUR.[14] This sector expanded in 2007 owing to the steady upturn in the South American economies (especially Argentina and Brazil), in addition to increased access to credit for Brazilian consumers.

Vehicle production continued to climb, reaching its highest ever levels in both countries. Exports from Argentina also rose, going mainly to Brazil. Although Brazilian exports —which went mainly to Argentina and Mexico— remain high in historical terms, they declined for the second year running (see figure I.13).

Brazil registered an increase in FDI in the automotive sector in 2007 and, although no official data are available for Argentina, the investment announcements of the industry's main firms indicate an increase in FDI in the segment there too. The main firms established in MERCOSUR (GM, Ford, Fiat, Volkswagen, Renault and PSA Peugeot-Citroën) announced major investment plans to increase production capacity, reactivate plants, develop new models and heighten productivity.

[14] In view of the fact that 80% of Mexican vehicle output is exported (AMIA, 2008), the operations of automotive TNCs in Mexico are examined in the subsection on efficiency-seeking investments.

Figure I.13
ARGENTINA AND BRAZIL: PRODUCTION AND EXPORT OF THE AUTOMOTIVE INDUSTRY, 1996-2007
(Thousands of units)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from the Motor Vehicle Manufacturers Association (ADEFA) of Argentina and the National Association of Motor Vehicle Manufacturers (ANFAVEA) of Brazil.

For United States firms, rising demand in South America —and in other emerging markets— represents an opportunity to soften the effects of the contraction in their home market, which are adding to the challenges posed by competition from Asia. Even independently of the current circumstances, the main automotive firms view emerging markets —including Latin America— as a priority for long-term expansion (General Motors, 2007; Ford 2007; *América economía*, 2007b; AméricaEconomía.com, 2007a; KPMG, 2007; *Business Latin America*, 2007a; PSA Peugeot-Citroen, 2007a).[15]

The Asian firms Hyundai, Toyota, Honda and Nissan, which have a smaller presence in Brazil and Argentina, also announced new investments, both in new plants and in the development of new models, in Brazil and Argentina in 2007. In addition to Japanese and Korean firms, motor vehicle companies from India and China invested in production in South America in 2007. As in the case of Hyundai's recent investments in Brazil, the management of those firms opted to set up assembly operations with local partners. The Indian company Tata signed a joint production agreement with Fiat to reactivate Fiat's plant in Córdoba, Argentina. The Chinese firm Chery associated with the Argentine group Socma and invested US$ 100 million in a sports utility vehicle assembly operation in Uruguay, for the MERCOSUR markets. The plant is owned by a local assembler. Chery also negotiated with another Uruguayan firm, Bognor, to produce armoured vehicles locally. This operation will benefit from the agreement between Brazil and Uruguay that provides for the annual export of 2,000 armoured vehicles to the Brazilian market (AméricaEconomía.com, 2007b, 2007c).

Notwithstanding the good performance of the South American markets, the managers of the main automotive firms have also sought to increase sales from Argentina and Brazil to the rest of the region, particularly to Mexico, to whose market they have enjoyed greater access thanks to the gradual liberalization provided in the Economic Complementarity Agreement between Mexico and the MERCOSUR countries.

[15] In addition to the investment plans mentioned, Ford bought the Brazilian firm Troller, which makes all-terrain vehicles.

There are a number of factors today that could give the South American automotive industry a larger role on the world stage. The high prices of petroleum, mounting consumer concern over the environment and the growth of emerging economies with large numbers of potential consumers have generated an increasing demand for small cars and alternative fuels. South American production units offer certain advantages when it comes to these types of vehicles, because of the nature of the regional market (in which most consumers are price-sensitive) and the decades of experience with biofuels in Brazil, which led to the development "flexfuel" engines. This could generate opportunities for export from South America. In fact, some firms have taken steps to make maximum use of their production capacity in South America, increasing their exports and locking into the technological advantages the region has in these niches.[16] In order to fully seize these opportunities, however, they must address the challenge of reducing production costs and maximizing economies of scale and regional complementarities.

In addition, although the Mexican automotive industry manufactures mainly for export, some firms, such as Nissan, GM and Ford, have announced investments in vehicles for local sale (*Expansión*, 2007a, 2007b). Chinese entrepreneurs are also seeking to take advantage of the opportunities of the Mexican market and are beginning to occupy niches with low-cost products. In 2006, First Automotive Works (FAW) set up a strategic alliance with the local group Bler (which sells domestic appliances) to create Giant Motors, an assembler of light trucks for goods delivery. For the moment, sales are mainly in the Mexican market, with 15% intended for export (*Expansión*, 2006). In 2007, FAW formed an alliance with the retail and financial services group Elektra, in which Elektra will sell vehicles initially imported from China, with the idea of beginning to assemble them in 2010. One of the cornerstones of this alliance is Elektra's intention of financing vehicle sales through its Banco Azteca (AméricaEconomía.com, 2007d).

(ii) Mass consumer goods: bringing in lower-income segments and building on synergies between local firms and TNCs

The upturn in domestic demand in the largest Latin American economies has also encouraged investments in mass consumer goods: hygiene and cleaning products, processed foods and beverages.[17] Economic growth has brought new consumers into the market, but opportunities have also arisen because of changes in habits: the rising proportion of women joining the labour market has led to a higher demand for processed foods and greater concern over health has generated markets for niche products (*Business Latin America*, 2007b).

Investors in this sector seek to take advantage of the opportunities arising from the incorporation into the market of lower-income consumers —the base of the pyramid. To this end they have combined price strategies with innovative marketing. As well as lowering prices, Procter and Gamble have developed new products and formats adapted to the habits of the lower-income population —such as handwashing clothes— while also cultivating brand and quality (*Expansión* 2007c; *Valor online*, 2008). Nestlé has also set out to conquer the "emerging consumer" segment with different formats (small

[16] Fiat, Ford, General Motors, Peugeot, Renault and Volkswagen have flexfuel vehicle development and manufacturing centres in Brazil. KPMG forecasts that such vehicles will represent three quarters of the Brazilian market by 2010 (KPMG, 2007). PSA is to export Citroën C3 and Peugeot 307 models from Brazil to Europe. GM appears to be developing capacity to make a new generation of small vehicles to be sold in Latin America and other developing countries. Ford has broadened its engineering base in South America (*América economía*, 2007b, 2007c; PSA Peugeot-Citroën, 2007b).

[17] Also worthy of note owing to the sheer volume of the transaction (US$ 1.1 billion) was Philip Morris's purchase of additional equity in its partnership with the Carso group in Mexico. Philip Morris of Mexico also announced investments in upgrading facilities, clean industry and optimization of operations (*Expansión*, 2007d).

packages for occasional consumption products such as chocolate and larger, more economical packs for regular use goods such as coffee), access to high-draw distribution points and building on popular brands (Nestlé, 2008). Price competition continues to be a key factor, however, as shown by the experience of Unilever, which lowered the price of its detergents to tackle local competition, or Pepsico, which bought the potato chips manufacturer Lucky in Brazil, thereby adding a cheaper product line to its range of appetizers (Elsevier Food International, 2007; *Valor online*, 2007a).

At the same time, businesses in the foods and beverages sector have sought opportunities for growth in the higher-income consumer segment —in Latin America and in the rest of the world— in order to position themselves as firms making not only foods but also products for health and well-being. Thus, firms are expanding their lines of functional foods, teas, juices and water. Notable in the beverages market was the purchase of the Mexican firm Jugos del Valle by Coca-Cola Femsa, one of the Mexican partners of The Coca-Cola Company, which also participated in the operation, the purchase of Tés Leão en Brazil, also by The Coca-Cola Company, and Nestlé's agreement with the Modelo group to distribute mineral waters in Mexico.

Traditionally, beverages TNCs have operated in the region through partnerships with local firms, such as Coca-Cola Femsa, as mentioned above. This enables them to build on complementarities between the advantages of the former —brand and marketing know-how, financial capital, product range— and those of the latter —local market knowledge, production capacity, distribution infrastructure (ECLAC, 2006). Some local partners are now taking on a more important role in such partnerships. As well as its joint acquisition of Jugos del Valle, in 2007 Coca-Cola Femsa bought the bottler Refrigerantes Minas Gerais (Remil) in Brazil, one of the few bottlers owned by The Coca-Cola Company (Coca-Cola Femsa, 2007a) (see section D). The shareholders in Vonpar Refrescos, another Brazilian bottler, bought Coca-Cola's 49% stake in the firm (*Valor econômico*, 2008a).

Other local firms have been able to fill gaps left by TNCs. In Costa Rica, the local firm Florida Ice and Farm bought Pepsico bottling and distribution businesses from SABMiller, which had acquired them as part of its purchase of the Colombian brewer Bavaria in 2005. SabMiller bottles Coca-Cola products in other markets, including El Salvador and Honduras, which explains its interest in withdrawing from the distribution of Pepsico products. The Costa Rican firm had previously purchased the operations of another TNC, Ebro Puleva, in Central America (*Nación*, 2007; Fifco, 2007).

(iii) Retail trade: concentration, expansion and diversification

In the retail trade sector, the major players have been expanding through processes of concentration and investments in broadening networks and diversifying services. Not only TNCs have been expanding: Chilean and Mexican firms, too, have been internationalizing regionally (see section D).

The market structure in Brazil, the region's largest market, is fragmented in comparison with that of the other Latin American countries. This, combined with the good perspectives stemming from an increase in consumer credit, the incorporation of new population groups into the consumer market, an increase in real wages and the drop in the prices of imported products due to local-currency appreciation, has made the Brazilian market more attractive to foreign investors (*Business Latin America*, 2007c). In this context, Carrefour, the second-largest supermarket firm, bought the Atacadão network, the biggest bulk retailer, which strengthened its presence in the low-income segment and made it the largest retail chain in Brazil. The opportunities of the Brazilian market also encouraged the Chilean firm Cencosud to acquire GBarbosa supermarkets, in the north-east of Brazil (as well as the Peruvian firm Wong —see section D).

In Colombia, the process of concentration was driven by local firms. Almacenes Éxito acquired control of its competitor Carulla Vivero, which was a defensive step against the possible arrival of Wal-Mart and the Chilean retail chains (*América economía*, 2007d). In Chile, the attempt to merge D&S and Falabella —which was blocked by the competition regulator in February 2008— was presented as a step towards expanding the firms' international presence (*América economía*, 2007e).

Foreign firms have also invested in organic expansion in the region, which means opening up new branches and plants rather than buying existing spaces, networks and factories. In particular, Wal Mart, the largest retail chain in the region, announced that it would open new stores in Brazil, Mexico and Central America. Mexico, in particular, is seen as a key market for the firm, as part of its strategy of ensuring a good mix of mature and emerging markets (*Expansión*, 2007e).

In terms of diversification, those responsible for retail chains are taking advantage of the crowd-pulling power of their commercial structures and consumer confidence in their brands to offer financial services and move into specialized retail segments, such as pharmacies which, in turn, increases the attractiveness of their core business. TNCs are following a pattern that has, until now, been used in the region mainly by Chilean retailers. In Mexico, Wal-Mart opened its own bank and began to sell generic medicines at low prices. Local operators Soriana, Chedraui and Comercial Mexicana are following this trend too, either independently or in partnership with other firms. In Brazil, the three major actors, Carrefour, Wal-Mart and Grupo Pão de Açúcar (in which the French group, Casino, owns a share) are competing intensively in the medicines segment.

(iv) Banking: more players, more competition

As well as investments in financial services associated with retail consumption, in 2007 there were major investments in a broad range of financial services, mainly banking.[18] Strategic acquisitions and alliances took place in addition to the extension of new operating licences and organic expansion programmes. Businesses have sought to take advantage of economic growth and the opportunities of a growing region that has low bank penetration rates. Greater competition in this segment could have important knock-on effects in other sectors too, thanks to the incorporation of new segments of the population in the housing, motor vehicle and other markets.

Banco Santander was one of the main players in 2007. Latin America is an important part of the Spanish bank's growth strategy, as it has matured its approach to the region by focusing on retail banking and making purchases in large markets, while growing organically in others (*Latin Finance*, 2007b). The bank's directors wish to promote the "bankarization" of SMEs and individuals alike. As a result of its participation in the consortium of European banks that bought the Netherlands bank ABN Amro, Santander gained control of Banco Real in Brazil, and thus became the country's second-largest private bank in terms of assets. Its representatives announced investments in the organic expansion of its Latin American operations, with US$ 2 billion to be spent on opening some 1,000 new offices by 2010 in different Latin American countries. Four years after its decision to withdraw from the Peruvian market, where it operated in the retail banking and mutual funds segment, Santander obtained a licence to open a branch to lend financial and investment banking services to the corporate sector. The operation went

[18] There were three large operations in other financial services: the acquisition of 65% of Serasa, a credit information firm in Brazil, by Experian of the United States; the purchase of 10% of the Brazilian Mercantile and Futures Exchange by the private equity fund General Atlantic; and the purchase of ARX Capital Management by Bank of New Cork Mellon. Another large transaction was the acquisition of the Santander group's pension fund administrators by ING Groep.

through at a time when HSBC, Deutsche Bank and Scotiabank are also entering Peru, as are regional institutions linked to commercial retailers. Santander financed the expansion with the sale of its Latin American pension fund operations to ING Groep of the Netherlands (Valor económico, 2007a; *Business Latin America*, 2007d).[19]

Two of the sector's largest acquisitions in 2007 took place in Chile: the strategic alliance of Banco de Chile with Citigroup and the purchase of Banco del Desarrollo by Bank of Nova Scotia (Scotiabank) of Canada.

In 2007, prior to the losses generated by the crisis in the United States mortgage market, Citigroup entered into a strategic partnership with Banco de Chile. Similar to the strategy used for the purchase of Banamex in Mexico in 2001, Citigroup's strategy in Chile consisted in building on its own capacity and advantages in global products and Banco de Chile's advantages in terms of brand name, local-market experience and distribution platform.[20] (Citigroup Inc., 2007; *América economía*, 2007f). Citigroup's other significant operation in the region was the purchase of Banco Cuscatlán in El Salvador, which was announced in 2006 and carried out in 2007.

Scotiabank, meanwhile, took over Banco del Desarrollo to expand its lending operations in Chile to middle-income consumers and small and medium-sized enterprise. The bank also signed an option to purchase a controlling share in Banco de Trabajo in Peru (AméricaEconomía.com, 2007f). Latin America now represents 70% of Scotiabank's operations. The region's young population and the increasing numbers of people using the banking system is constantly opening up business opportunities, and Scotiabank is trying to penetrate niches, such as microfinancing (including consumer lending operations), in which the big banks —Santander, BBVA, Citibank— are not major players (*Latin Finance*, 2007c, Scotiabank, 2007a, interview with staff at headquarters in Toronto) (see chapter IV).[21]

Another Canadian enterprise, Royal Bank of Canada (RBC), conducted the largest transaction in the banking sector in 2007 when it bought RBTT Financial Holdings, which is headquartered in Trinidad and Tobago. RBC has been involved in the Caribbean for several decades, and this acquisition complements the other operations it has in the subregion. Despite pulling out, in the wake of the financial crisis of the 1980s, of retail banking in Latin America, where it had an extensive branch network, and despite selling its capital in RBTT towards the end of that decade, RBC always maintained its commercial and retail banking operations and its private banking operations in the Caribbean. The two banks complement one another geographically within the Caribbean and in terms of the services in which they hold a competitive edge (see table I.3). One of the advantages RBC can offer RBTT is the experience it has gained in providing financial services to the energy and farming sectors in its home market (see chapter IV) (*Latin Finance*, 2007d).

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[19] The assets include subsidiaries in Mexico (Afore Santander), Chile (AFP Santander), Colombia (AFP y Cesantía Santander), Uruguay (Afinidad AFAP) and Argentina (Orígenes AFJP pension fund and Orígenes Seguros de Retiro insurance company) (AméricaEconomía.com, 2007e).

[20] The same logic that led to the alliance between Citigroup and Banco de Chile was applied in the purchase by GE Money of 39% of Colpatria in Colombia. This transaction could represent the first step towards the acquisition of a controlling share and one of the first incursions of a foreign financial institution in the Colombian banking market (Semana, 2007).

[21] Scotiabank Group also signed an agreement to purchase a controlling share in BBVA Crecer AFP, which is the largest pension fund manager in the Dominican Republic, and its insurance affiliate, BBVA Seguros (Scotiabank, 2007b).

Table I.3
COMPLEMENTARITIES BETWEEN THE ROYAL BANK OF CANADA AND RBTT FINANCIAL GROUP

	RBTT	RBC
Advantages	Retail, commercial and investment banking, assets management	Consumer, retail, commercial banking, mortgages, capital management
Product range	Broad range of products in the individual and corporate banking market. Market leader in credit card services in Trinidad	Products for individual, corporate and institutional customers
Market leader in	Trinidad and Tobago, Netherlands Antilles, Suriname, Aruba	Bahamas, Cayman Islands, Barbados
Presence in	Barbados, Eastern Caribbean, Jamaica	Eastern Caribbean

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of RBC and RBTT report "A New Caribbean Leader", 2 October 2007.

In Mexico, the banking authorities have issued new operating licenses to boost competition in the banking sector. Increased competition is expected to accelerate bankarization and lower the costs of banking services. The recently opened Banca Wal-Mart, for example, is targeting first-time users of bank services and is one of several banks connected with local retail chains in Mexico, such as Azteca (Electra), Bancoppel (Coppel) and Banco Fácil (Chedraui). Prudential Financial and UBS are among the transnational corporations who entered the Mexican banking market in 2007. Compared with major-league players, such as BBVA Bancomer, Banamex, Santander, HSBC, Banorte and Scotiabank Inverlat, these new entrants represent only a tiny fraction of the banking market. They have, however, been responsible for a significant amount of the expansion of the banking network in the country (see table I.4).

Table I.4
EXPANSION OF THE NETWORK OF THE MAIN NEW PARTICIPANTS IN THE MEXICAN BANKING SYSTEM [a]
(Number of branches)

Institution	2006	2007			2007/2006
		I	II	III	
Ve por Más	2	2	2	2	--
Autofin	7	9	9	11	4
Ahorro Famsa	--	15	44	62	62
Banco Multivia	--	5	10	15	15
Banco Regional	--	1	1	1	1
Banco Fácil	--	1	1	1	1
Compartamos	1	1	1	1	--
Prudential	--	--	1	17	17
Bancoppel	--	--	34	124	124
Banco Amigo	--	--	3	3	3
Total (10 banks)	10	34	106	237	227
System total	8 411	8 509	8 717	8 996	585
Participation of new entrants (Percentages)	0,1	0,4	1,2	2,6	38,8

Source: Condumex, on the basis of information provided by the National Banking and Securities Commission.

[a] During the third quarter of 2007, Banca Wal-Mart, which is expected to be one of the larger players among the new banks in Mexico, had still not started up operations and was therefore not included in this table.

Volkswagen Bank has also been authorized to pioneer a new form of direct banking in Mexico and offer other services in addition to car loans for the purchase of Volkswagen vehicles. Volkswagen Bank already has branches in 27 countries, and Mexico will be the location of its first operations in Latin America (AméricaEconomía.com, 2007g; *Expansión*, 2007f).

In Central America, after the flood of acquisitions in 2006 (ECLAC, 2007a), the banks in the subregion have consolidated and expanded their operations in 2007 in an effort to ward off the competition. The most notable moves include the merger between Banco General (Panama) and Banco Continental (Costa Rica), the acquisition by Banco Industrial (Guatemala) of Banco de Occidente, Banco de Comercio, Banco del Quetzal and Banco del País (Banpaís) of Honduras and the expansion of groups such as BAC Internacional, Promérica and Lafise. The most active transnational banks in the subregion are HSBC, Citigroup and BNS, as well as Bancolombia. El Salvador is the Central American country with the largest foreign bank presence, followed by Panama (Fitch Ratings, 2007). In 2007, much of the FDI in El Salvador was related to transactions in this sector.

(v) Electricity: changing hands

Changes of ownership have characterized FDI operations in the electrical sector. Some TNCs, especially United States companies, shed some of their assets in Latin America and the Caribbean or pulled out of the region entirely, either because they had to strengthen their positions in their home markets, or their risk exposure was too high or they needed to improve their financial structure (*Latin Finance*, 2007e). Local or other transnational corporations snapped up the opportunity to fill their shoes, however, drawn by the long-term profits to be obtained from investments in markets that enjoyed good growth prospects and acceptable levels of risk. Many TNCs also increased their investments in renewable energies in the region as part of their global strategies.

The departure of United States companies played a considerable role in the change of hands in the sector. Corporations, such as PSEG, CMS Energy, PPL, Mirant, and NRG, sold their assets in the region to improve their risk profile, limit their non-strategic operations and lower their debt levels. (PSEG, 2007; *Business Latin America*, 2007e; CMS Energy, 2007; PPL, 2007).

One of the most notable departures was triggered by the decision of the Bolivarian Republic of Venezuela to nationalize Electricidad de Caracas, which resulted in AES Corporation selling its share in the electrical company for US$ 739 million. This was a one-off incident, however, and rather than withdrawing completely, AES redirected its attention towards other countries in the region. It expanded its operations in Mexico, buying two companies that supply thermoelectric energy to Cemex and the mining company Peñoles, and undertook projects in Chile and Panama (AES Corporation, 2007).

Assets sold by United States corporations were either acquired by local companies —CGE in Chile, CPFL in Brazil, PDVSA in the Bolivarian Republic of Venezuela— or other TNCs.

One of the most active TNCs in this respect was AEI (formerly Ashmore Energy International). The company was founded in 2005. In 2006, it bought Prisma Energy, the company that handled the former Enron's international assets. In 2007, it pursued a strategy of buying up the assets of departing transnational corporations at modest prices and accepting lower returns in anticipation of a forthcoming surge in the importance of electricity in the region. It made several acquisitions under this strategy (*América economía*, 2007g). Most notably, it bought shares in Chilquinta Energía SA (Chile) and Luz del Sur (Peru) from CMS and a controlling interest in Distribuidora de Electricidad del Sur (El Salvador) from PPL. It also increased its stake in Puerto Quetzal Power in Jamaica. AEI also sold its participation in

two companies: Vengas in the Bolivarian Republic of Venezuela, as a result of the nationalization policy there, and Bahía Las Minas Corp. in Panama (which was acquired as part of the purchase of Prisma) to comply with national regulations about the simultaneous ownership of electricity generation and distribution operations. AEI today has a huge assets portfolio in the region. It holds interests in electricity generation and distribution, the transportation of natural gas, natural gas services and fuel distribution. In addition to its large investment portfolio in Colombia, it has investments in Argentina, the Bolivarian Republic of Venezuela, Bolivia, Brazil, Chile, the Dominican Republic, Ecuador, Guatemala, El Salvador, Mexico, Nicaragua, Panama and Peru.

The Canadian transnational Brookfield Asset Management is also expanding its interests in the electrical sector in the region. In 2007, it bought the hydroelectrical company Itiquira in Brazil from NRG Energy. Brookfield (formerly Brascan) has a history of investing in the electricity sector in Latin America. In 2006, it bought a controlling share in Transelec in Chile. It invests mainly in renewable energies (especially hydroelectric power) and electrical power transmission. These operations generate attractive cash flows for the corporation. They require high initial investments, but have low maintenance costs. The long-term returns are good, and the profit margins are guaranteed (because they are regulated or fixed in long-term contracts) and increase over time (interview with the company).[22] With this latest acquisition, Brookfield now has 28 hydroelectric plants in Brazil and six other projects under construction (Brookfield, 2007, and interview with the company) (see chapter IV).

EDF is one of the few European companies among the TNCs in the electrical sector that has opted to pull out of Latin America and the Caribbean. This French corporation sold all its five plants in Mexico as part of a strategy started several years ago to redirect its attention towards Europe and invest more in renewable and nuclear energy (EDF, 2007). The British corporation Globeleq also sold its interests in the region as part of the reduction of its global investments in electrical operations (Reuters, 2007b).

The other large European TNCs continued to invest in the region through acquisitions and fresh foreign direct investment (*greenfield*) (*Latin Finance*, 2007e). Gas Natural bought the assets owned by EDF and Mitsubishi in Mexico (five natural gas power plants and a gas pipeline) to become the country's second largest private operator in the electricity generation segment (see figure 1.14).[23] This also makes the company the only gas and electricity operator in Mexico, in keeping with its global strategy to make gas and electricity production activities converge. The operation has been viewed as a stepping stone for further growth in Mexico —where new opportunities are opening up for private enterprise— and in the rest of North America (Gas Natural, 2007).

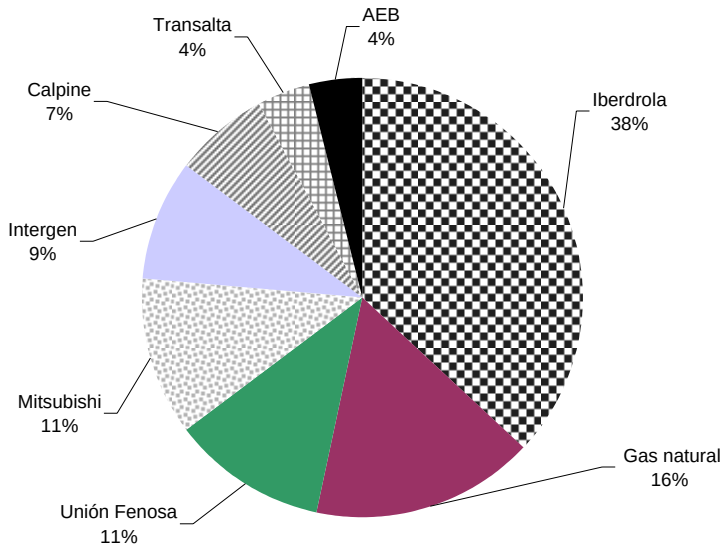
Endesa, which is the largest TNC in terms of installed capacity and number of distribution customers in the region, underwent a significant change in 2007 when it was bought out by Acciona and Enel. Endesa's extensive presence in Latin America and the Caribbean, where the regulatory framework is seen to be improving, was one of the features that made it a particularly attractive purchase according to its buyers (Enel, 2007). They are contemplating investments of about 6.5 billion euros in organic growth in Latin America between 2008 and 2012 (Enel, 2008). In 2007, Endesa was one of the companies to buy assets from CMS (shares in GasAtacama in Chile and the hydroelectric plant El Chocón in Argentina). The company's directors also announced renewed investment in Argentina after the rate increase for Edesur was authorized, and showed a growing interest in Brazil,

[22] Using the same logic (investing in infrastructure with dependable long-term returns), the Ontario Teachers' Pension Fund (OTTP) bought a controlling share in Empresa de Servicios Sanitarios del Bio-Bio S.A. (ESSBIO) and Aguas Nuevo Sur Maule, S.A. (ANSM) (see chapter IV).

[23] 27% of total electricity generation is privately owned in Mexico (Gas Natural 2007 and CFE, 2007).

where it joined a consortium to build a hydroelectric facility in the country (*Latin Finance*, 2007f; Reuters, 2007a; Endesa, 2007; *Business News Americas*, 2007a).

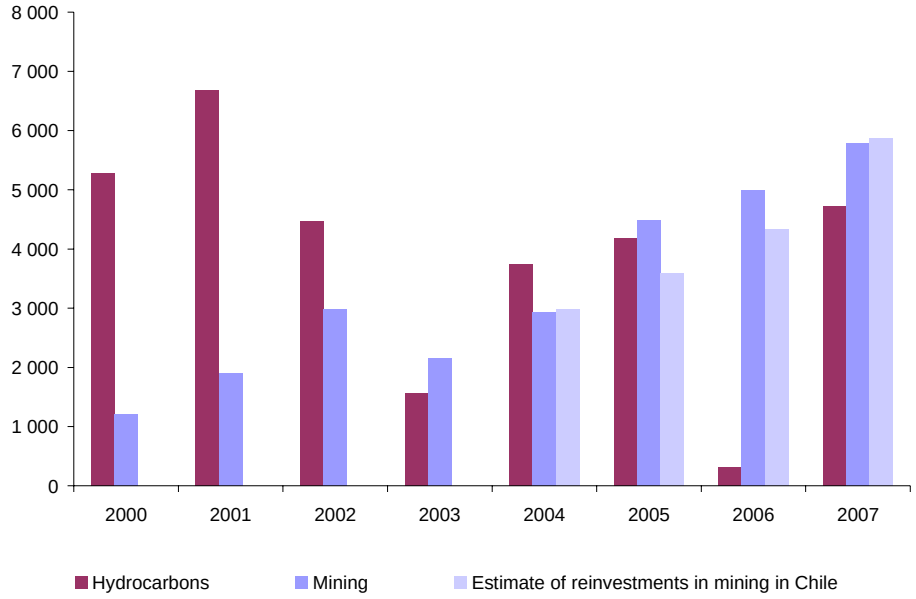
Figure I.14
GENERATING CAPACITY OF PRIVATE OPERATORS IN MEXICO
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Gas Natural, "Creación de una plataforma energética en México", presentation, 25 October 2007.

Two other Spanish companies, IBERDROLA and Unión Fenosa, continued to expand their operations in the region. Unión Fenosa announced a plan to invest approximately 1.65 billion euros between 2007 and 2011 in renewable (eolic and hydraulic) energies. One of its largest projects will be the construction of a wind park in Mexico, close to the United States border. As part of the process, the company acquired 50% of Zemer, its partner in the project. Unión Fenosa also started building a combined cycle plant in Mexico, which will represent an investment of approximately US$ 400 million, and announced other investments in Costa Rica, Panama and Colombia (Unión Fenosa, 2007, 2008). IBERDROLA, for its part, spent US$ 1.3 billion on organic growth and is contemplating further acquisitions in Latin America between 2008 and 2010. Most of its operations are currently located in Mexico (where it is the largest private energy supplier —see figure I.15) and Brazil (where, together with local partners, it has become the single most important electricity distributor in the country). IBERDROLA is also the largest electricity distributor in Guatemala and a major player in the Chilean distribution market, where it holds hydraulic and water distribution assets (IBERDROLA, 2007). In addition, IBERDROLA has expanded its engineering and construction activities and been awarded significant building contracts in Latin America, such as the generator replacement project at the Angra I nuclear power plant in Brazil (IBERDROLA, 2008).

Figure I.15
FDI FLOWS IN MINING AND THE EXPLORATION AND PRODUCTION OF HYDROCARBONS – COUNTRIES FOR WHICH DATA IS AVAILABLE [a]
(Millions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures available as at 31 March 2008.

[a] Excludes profit reinvestment in Chile. Data for Argentina excluded as of 2005.

Suez, for its part, has concentrated on electricity generation, LNG and the sale of gas to the industrial sector. In Latin America, it has focused on its operations in Brazil and Chile, and to a lesser extent in Peru, which are all considered to be markets with considerable growth potential (AméricaEconomía.com, 2007h; Suez Energy International, 2007). The sale of Caliddá in Peru to AEI was a swap for the share held by AEI in Bahía Las Minas in Panama. Following the merger with Gaz de France, which is due to take place at the beginning of 2008, the company is expected to award priority to its European operations and then pay attention to its growth markets, such as Brazil (Gaz de France, 2007).

Companies from other developing countries also invested in the region's electricity sector. Israel Corp, in a partnership with the Indian enterprise DS Construction, bought the Latin American operations of Globeleq (Reuters 2007b).

One of the challenges in this sector is to develop the transmission network and improve connections between countries and subregions. Greater institutional coordination could improve the efficiency of the electricity system. Progress has been made in this respect in Central America, where a 1,800 km transmission line was built from Panama to Guatemala by a consortium made up of the Colombian firm ISA, Endesa and other companies. The power line is intended to be eventually connected up with Colombia at one end and Mexico at the other (AméricaEconomía.com, 2007i; Ruiz Caro, 2007). ISA could play an important role in this process as it already has experience of carrying out projects in Colombia and Central America, as well as in Peru and Brazil. After buying Companhia de Transmissão Elétrica Paulista (CTEEP) in 2006, the company was one of the winners of the transmission contracts awarded in Brazil in 2007.

(vi) Construction: the driving demand for real estate and infrastructure

Investments in real estate in the region have boomed in a number of sectors, including housing, tourism, commerce and infrastructure. More and more transnational and local companies have increased their capacity to take on projects that involve managing not only the engineering and financial aspects, but also the services associated with the physical infrastructure that is built (the sale of residential properties, commercial real estate, tourism projects, public services, etc.). The growing interest in these kinds of projects has been triggered by the opportunities that have been arising in the region as a result of economic growth and improved access to credit, the region's attractiveness as a tourist destination, and the plans underway in several countries to upgrade their logistics infrastructure and basic services.

Some of the largest construction firms in the region are Spanish companies which, flush with the liquidity generated by the burgeoning Spanish real-estate market, have turned their attention overseas and diversified into different sectors. (ECLAC/SEGIB, 2007). Some of these companies have ventured into the Latin American market directly. Others have bought into utility companies that have a solid presence in the region.[24] As far as financing is concerned, private equity funds, pension funds and assets management companies have shown growing interest in the region, while local construction companies (such as the Brazilian firm Odebrecht) have increased their capacity to obtain financing for their projects on the international market (*Latin Finance*, 2007g). The development of the Latin American and the Caribbean markets encouraged companies to invest in the services sector (tourism, real estate, commerce, infrastructure). In summary, increasing numbers of companies are able and willing to invest in construction projects in the region despite the complexity and high levels of financing involved and despite having to wait a long time for the returns.

A number of factors, in addition to economic growth, have created opportunities for construction companies: greater institutional stability; the gradual development of financial markets, which has improved access to credit and financing schemes for both individuals (mortgages) and enterprises; and the promotion of investment in infrastructure as part of strategies to enhance a country's competitiveness and universalize access to basic services (*Latin Finance*, 2007f).

Several countries have made particular efforts to attract capital investment in the electrical energy and logistics sectors. Logistics (transportation, ports, airports) is a key sector for improving competitiveness. Spanish firms have been particularly active bidding for road construction contracts.

In Brazil, one of the main goals of the Growth Acceleration Program (GAP) has been to increase investment in logistics, energy, and social and urban infrastructure. Taxes on machinery and equipment purchases for infrastructure work were lowered, and targeted investment funds were set up (MDIC, 2007; see also box I.3). In a major step to further the GAP, in 2007, the Brazilian Government auctioned contracts for the construction of 2,600 km of roads. The Spanish company OHL came out as the main winner with contracts for five of the seven sections put up for bid, representing investments of about 6.5 billion euros. Another Spanish company, Acciona (the company that bought Endesa with Enel), also won a bid for one section (representing an investment of about 700 million euros).[25] The fierce competition during the bidding process reflects the strong interest that both national and foreign

[24] The main examples of this are Acciona's purchase of a stake in Endesa and the purchase by ACS of shares in IBERDOLA and Unión FENOSA. IBERDOLA, for its part, has taken advantage of its experience in engineering and construction to expand its services to third parties, as mentioned earlier.

[25] One factor accounting for the Spanish companies' success are the Financial Trade Fund subsidies granted by the Spanish Government to Spanish companies for their activities abroad (*O Estado de São Paulo*, 2007).

investors have in these kinds of projects, which ultimately benefits the user (Portal Fator Brasil, 2007; Portal Exame, 2007a).[26] The boom in Brazil is opening up opportunities to companies that had traditionally focused their efforts on other countries in the region.

In Mexico, the consortium consisting of ICA and Goldman Sachs was awarded a contract to build 548 km of roads under the National Infrastructure Programme. Mexican and Iberian companies, one Brazilian and one Australian company also competed through partnerships or individually in the bidding process. Another partnership between ICA and the Spanish company FCC won a smaller concession to build a stretch of road between the states of Puebla and Veracruz. Apart from roads, the main investment opportunities in infrastructure in Mexico are (outside the hydrocarbons sector) in electricity, telecommunications, drinking water and water sanitation (National Infrastructure Programme, Mexico, 2007).

In real estate, the fastest growing segments have been residential areas, shopping centres and tourism. There has also been some investment in car parks, shops and institutional facilities, but on a far smaller scale.

The economic and demographic features of Latin America have attracted companies seeking to complement their business interests in their countries of origin to invest in the housing market in the region. Some Spanish companies, such as Grupo Lar and Fadesa, have invested heavily in Mexico, where there is a young population and a significant housing shortage, for example, as a way to diversify their portfolio now that the Spanish market, though solid, has only limited growth prospects. (*Expansión*, 2007g).

Shopping centres have cornered investment in the commercial segment. New establishments have been built, and existing shopping centre chains have been bought for expansion and development. For investors from developed countries, the region's economic growth and the expansion of the local market for demographic reasons represents a potential that contrasts sharply with the minimal growth prospects back home (Shopping Centers Today 2007). GE Real Estate has been particularly active in Mexico, where it plans to open 13 shopping centres. The Canadian-backed Brascan, meanwhile, has been investing heavily in this segment in Brazil (*Expansión*, 2007h).

Brascan, which is the Brazilian subsidiary of Brookfield Asset Management, has recently been investing in Brazil by buying up establishments that offer possibilities for physical expansion, rather than by undertaking new construction projects. In just slightly over one year, the company acquired 15 shopping centres, and, in 2007, it invested US$ 2 billion in this segment alone in Brazil. Brascan is banking on the continued expansion of a growing economy that has a young population and, so far, an inadequate supply base. The small number of shopping malls in the Brazil (considering the size of the population) is due to a shortage of capital in the country. In addition to Brascan, the Canadian companies Cadillac Fairview (a subsidiary of the Ontario Teachers' Pension Fund) and Ivanhoe Cambridge have also been investing in this sector (see chapter IV) (Shopping Centers Today, 2007; Brascan, 2007).[27]

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[26] Other Spanish companies are active in highway construction. Abertis bought the interests of another Spanish company, ACS, in January 2008, in the construction of the central highway and Pacific routes in Chile, for approximately US$ 1.03 billion. Abertis already had stakes in other highway projects, as well as airports, car parks and logistics parks (AméricaEconomía.com, 2008a).

[27] The investments made by Chilean construction companies, shopping centre operators and retailers are mentioned in section D.

The tourism segment has witnessed new investments in the expansion of urban networks and tourism complexes, as well as in dual-purpose establishments that combine hotel facilities with residential apartments. The companies dominating investment in this segment include the Spanish enterprises Sol Meliá, NH, Riu and Barceló, the Portuguese companies Pestana and Vila Galé, and hotel chains like Accor (France), Thunderbird, Holiday Inn (United States), Intercontinental and Starwood's W. Iberoamerican companies have a particularly strong presence in the tourism complexes segment, drawn as they are by the natural attractions of Latin America and the Caribbean, their shared linguistic and cultural roots and the rising cost of tourism in their home markets. Large regional investors in this segment include the Mexican group Posadas and the Jamaican enterprise Sandals. Tourism property development has, in relative terms, become highly important in Central America. In Costa Rica it has been the main recipient of FDI in the country for several years (CINDE, 2007).[28]

(b) Natural-resource-seeking FDI

The natural resources sector of Latin America and the Caribbean benefited once again from a year of rising demand in the international market, especially in China. This boom has not, however, shaped FDI trends in the mining sector in the same way as it has in the hydrocarbons sector.

The increases in foreign investment have been more notable in the mining sector than in the hydrocarbons sector, where local State oil companies have a strong presence and changes in the regulatory framework have made FDI more volatile (see figure I.15). This holds true for other parts of the world as well: the largest mining companies in the world are smaller than their counterparts in the oil business, but TNCs invest more in mining operations owing to the heavy involvement of the State in the hydrocarbons sector (UNCTAD, 2007).

The aggregated data also shows that the increase in FDI was heavily concentrated in just a few countries: Chile, Brazil and Mexico in mining, and Colombia in hydrocarbons.[29]

High oil prices and technological advances, especially in the automotive sector have also improved the prospects for alternative fuels, such as ethanol, to be adopted on a large scale and worldwide, which has encouraged foreign companies to invest in the alternative fuels sector in Latin America, as well as in the mining and hydrocarbons sectors.

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[28] In the tourism sector, investments have also been made in aviation: Banamex (Citigroup) bought controlling shares in Aeroméxico; a group of private Argentine and Uruguayan investors bought the Uruguayan company Pluna (which for years was controlled by Varig), through the company Leadgate Investment Corp.; and the Brazilian company Ocean Air plans to set up operations in Paraguay. In Brazil, after an important concentration of the market as a result of Varig's purchase of Gol and the bankruptcy of one of the smaller operators, BRA, the Government is once again considering eliminating the restriction on the participation of foreign capital in airline companies (currently limited to 20%). The Spanish group Marsans, meanwhile, has increased the operations along the cabotaje and regional routes of its companies Air Comet in Chile and Austral in Argentina, and there is talk of a possible sale of its shares in Aerolíneas Argentinas (Live from SCL, 2008).

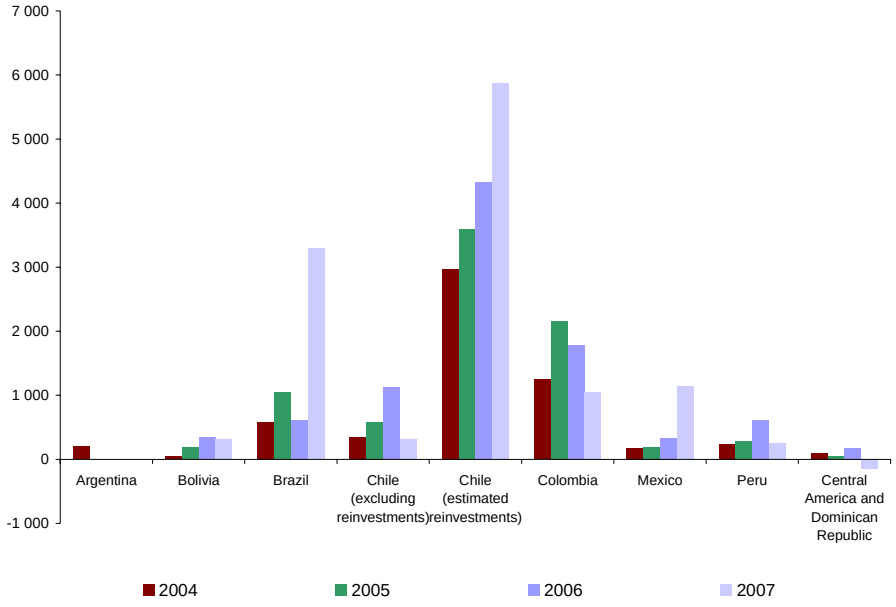
[29] There has been a certain amount of buying and selling of assets among TNCs, especially in the mining sector. These transactions do not necessarily generate FDI flows, which might therefore not reflect the true level of activity in the industry. Recent examples of these transactions include the purchase of Glamis (United States) by Goldcorp (Canada), in 2006, and of Meridian (United States) by Yamana (Canada) in 2007 (see chapter IV). Chile has been one of the main recipients of FDI in the mining sector. Most of these flows were profit reinvestments, however, that are not taken into account in the official figures for the sectoral distribution of FDI in Chile. According to the authorities' estimates of the size of these reinvestments, the increase in FDI in mining in the region was far more pronounced than reported.

(i) Mining

The mining sector flourished in Latin America as part of the turnaround in the industry worldwide. The emerging economies, especially China, accounted for much of the rising demand, and supply entered another phase of consolidation with the possible purchase of Rio Tinto by BHP and of Xstrata by CVRD. Latin America and the Caribbean was a favourite destination for FDI in the mining industry, both in the form of acquisitions, as part of the ongoing consolidation of the industry, and as investments in exploration and production activities. Some companies pursued diversification and economies of scale, others sought to improve their position in the metals that are used as stores of value. The main challenges facing mining companies that operate in the region stem from the legal uncertainty that prevails in certain countries and infrastructure, human resources, engineering, and construction problems.

Chile and Brazil benefited most from the mining boom in 2007. Increasingly large volumes of investment, however, have also been pouring into countries that have not been important destinations for mining investment in recent years, particularly Mexico (see figure I.16).

Figure I.16
FDI FLOWS IN MINING – COUNTRIES FOR WHICH DATA ARE AVAILABLE [a]
(Millions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

[a] No data available for Argentina from 2005 onwards.

Mining companies tend to pursue one of two strategies: produce basic products and try to diversify that production; or produce gold and silver and try to expand production of those metals.[30] In both cases, the large companies are seeking to increase the scale of their operations in order to tackle the growing consolidation of the industry and to have access to resources that will allow them to develop their reserves.

Those pursuing the first strategy —diversification— include BHP, Freeport McMoran, Anglo American and Xstrata (the international operations of the main Latin American mining companies are described in section D).

BHP, whose base-metal production activities are concentrated in Chile and Peru, is investing in exploration in Colombia and Guatemala and developing a bauxite project in Suriname. The goal of its forthcoming investments in Brazil is to add value to its production. The company is investing in the expansion of the Alumer aluminium refinery and in a third iron pellet plant at the Samarco mine. In addition to investments in mining activities per se, in Chile, BHP has invested in the energy —through LNG regasification plants— and water supply services for its mining operations in the country. In addition to being a major player in the mining sector, BHP is also active in the hydrocarbons sector and currently has gas projects in Trinidad and Tobago (BHP Billiton, 2007). Freeport-McMoran (which bought Phelps Dodge) has concentrated on its organic growth, and the company's main expansion projects in Latin America are at the El Abra mine in Chile and the Cerro Verde mine in Peru (*Business News Americas*, 2007b).

The goal of Anglo American, which produces base metals, coal and ferrous metals in Latin America, is to be the company with the highest value added in the base metals segment. The world demand for copper is expected to outstrip supply over the next decade, and the company is therefore looking to expand its copper, zinc and nickel operations. It has taken on new projects in Chile (Los Bronces), Brazil (where in addition to discovering an important nickel reserve, it bought the mining company MMX Minas Rio Mineração e Logística) and Peru (where it was awarded the contract to work the Michiquillay copper concession) (*Valor econômico*, 2008b; Anglo American, 2007; AméricaEconomía.com, 2007e).

Xstrata (which at the beginning of 2008 was negotiating a takeover by CVRD) increased its investments in the coal mining operation it had bought in Colombia in 2006 and poured more money into its copper and zinc operations in Chile and Peru and into its nickel mine in Brazil. The company's South American operations generated 27% of its income in 2006 and 43% of its pre-tax profits (Xstrata, 2007).

Of the gold and silver mining companies, the Canadian ones have been the most active in terms of acquisitions (see chapter IV).[31] One of the many smaller transactions that took place was the purchase at the end of 2006 by Goldcorp (Canada) of Glamis (United States). Though both companies are based outside the region, the main target of this transaction was the Peñasquito mine in Mexico, which produces gold, silver, zinc and lead. The merger of two medium-sized enterprises into a single larger one made it possible to finance new investments in the mine. In 2007, Goldcorp revised its investment plan for the Peñasquito upwards and sold 25% of its silver production to Silver Wheaton. Barrick Gold, in the meantime, bought a controlling stake in the Cerro Casale mine in Chile from Arizona Star, and Rusoro Mines bought assets held by the South African company Gold Fields in Venezuela. All these acquisitions have been accompanied by heavy investments in exploration and production. In the gold mining sector,

[30] In many cases, due to the nature of metal reserves, gold and silver production is linked to the production of other metals as well.

[31] The Toronto stock market is one of the main sources of financing for the mining industry.

new deposits were discovered by Anglo Gold Ashanti (South Africa, United Kingdom) in Colombia (Miningmx, 2007).

The incursion of Asian investors in the regional market has been particularly noticeable in the mining sector. Despite the prospects of a major overhaul of the taxation of the mining industry in Bolivia, Jindal Steel of India went ahead with the development of the El Mutún project, which had been suspended in 2006 on account of the failure to reach an agreement about the gas supply. The project contemplates investments of up to US$ 2.1 billion over eight years. On a smaller scale, the State-owned Korea Resource company announced the launch of a joint venture with Comibol (the Bolivian mining corporation) to exploit a copper mine in Bolivia (AméricaEconomía.com, 2007j). Chinese investors in the region, meanwhile, include Aluminium Corporation of China (Chinalco), which bought Peru Copper, which in turn holds the rights to the Toromocho copper mining concession. Chinalco also announced new investments in a joint venture with Empresa Minera del Centro de Perú (Centromin). Peru Copper was one of the last independent copper producers in Peru and represented a strategic option for Chinalco to gain a foothold in the country. The Chinese consortium Zijin Mining bought Monterrico Metals in Peru, which owned the Río Blanco project. This has the potential to become the second largest copper operation in Peru. Estimated investments in the project stand at US$ 1.44 billion. (*América economía*, 2007h; AméricaEconomía.com, 2007k). On a smaller scale, Bosai Minerals bought the Linden bauxite company in Guyana and announced plans to expand and build a refinery there, and MCC bought the Sierra Grande mine in Argentina.

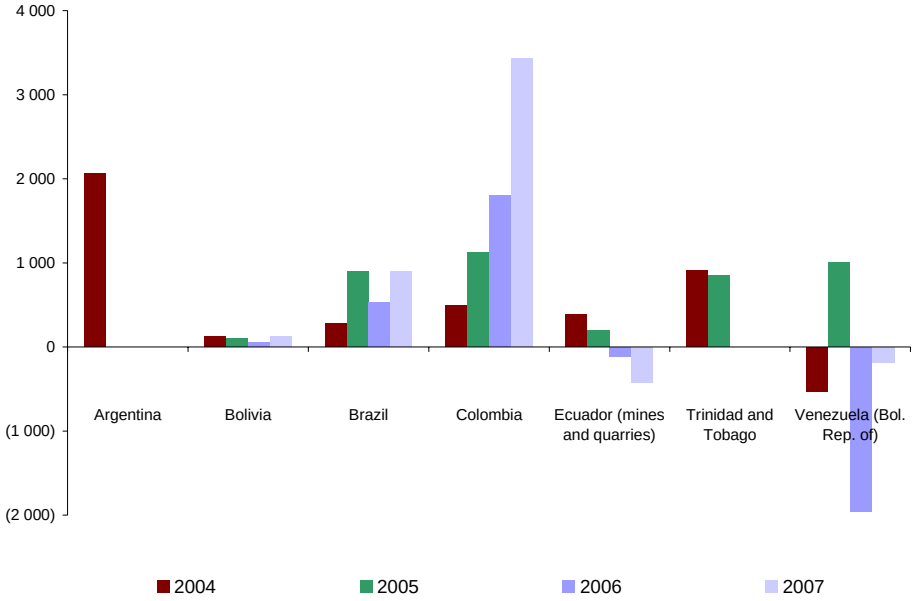
Some of the challenges facing mining companies in Latin America stem from legal uncertainty in the region (especially regarding taxation) and from the handling of the effects that mining activities have on local communities and the environment.[32] Though relevant worldwide, the impact of mining is a particularly sensitive issue in the region. In Ecuador, for example, the main known copper deposits, Mirador and Junín, are situated in highly vulnerable areas, both in environmental terms and from the viewpoint of local indigenous communities (*América economía*, 2007i). Opposition to the Pascua Lama project on the border between Chile and Argentina has also been loudly voiced. Central America has a large mining potential, and mining could contribute to the economic growth of the countries there. The challenge lies in developing a regulatory framework to guarantee sustainable and responsible mining practices that both benefit local communities and produce sufficient profit to justify investment in the sector. Mining companies in Latin America in general face a number of obstacles, mainly rising costs and difficulties accessing key inputs in the region, such as energy, human resources, and engineering and building capacity, which hampers the expansion of operations.

(ii) Hydrocarbons

FDI in the hydrocarbons sector was heavily concentrated in Colombia in 2007. Divestment in the Bolivarian Republic of Venezuela, meanwhile, was down compared with 2006 (see figure I.17). Figure I.17 shows FDI flows in countries for which data is available. It should be pointed out that in the cases of Bolivia and Brazil, only investments received, and therefore no divestments, are taken into account, while the figures for the other countries reflect net investment received. Hence the negative amounts recorded in Ecuador (2006) and in the Bolivarian Republic of Venezuela (2004, 2006 and 2007).

[32] These challenges are not exclusive to Latin America and the Caribbean are were extensively described in UNCTAD (2007).

Figure I.17
FDI FLOWS IN EXPLORATION AND PRODUCTION IN THE HYDROCARBONS SECTOR – COUNTRIES FOR WHICH DATA IS AVAILABLE [a]
(Millions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

[a] No data available for Argentina from 2005 onwards, nor for Trinidad and Tobago from 2006 onwards.

There has been a change in the composition of the transnational corporations investing in the hydrocarbons sector, both in the upstream and the downstream segments of the industry (see box I.5). Regional operators and those from other developing countries have been gaining ground as some traditional TNCs have opted to divest a portion of their assets in the region. These changes and the shifting distribution of investment in the region were the direct result of the strategic decisions adopted in certain countries. New findings and good prospects in terms of regional demand have made the gas segment much more attractive in recent years.

The nationalization of the hydrocarbons industry by the Government of the Bolivarian Republic of Venezuela and its takeover of four projects in the eastern Orinoco Belt, the nationalization process in Bolivia, announced in 2006, the renegotiation of contracts with private companies and changes in the extraordinary income tax legislation for the hydrocarbons sector in Ecuador, and the tax on hydrocarbon exports in Argentina were some of the measures which, in aiming to ensure that the exploitation of oil and gas reserves generated more benefits for the local economy, made those countries less attractive to foreign investment. Although many TNCs have opted to stay, to renegotiate contracts with the Governments and to carry out new investments in those countries, it is true that many of the largest companies have decided to boost their presence in other countries and regions or in their home countries instead.

Box I.5

FUEL DISTRIBUTION: TRANSNATIONAL CORPORATIONS HEAD FOR THE DOOR

Poor returns and regulatory problems have driven the large oil transnationals out of the fuel distribution and retail segment in Latin America. Regional enterprises are quickly stepping in to fill their shoes, however.

Royal Dutch Shell was the first large oil company to shed its distribution and commercialization assets when it sold its operations in Peru and Ecuador in 2004 and 2005 to the Chilean company ENAP, and in Uruguay, Paraguay and Colombia to the Brazilian giant PETROBRAS. The possible sale of its operations in Argentina and Chile, aroused the interest of PETROBRAS, ENAP, PDVSA and Enarsa, although the transaction never went through. Royal Dutch Shell has not mentioned pulling out of Argentina in a while, but recent events —especially the company's shrinking profits, the high international crude oil prices and low local fuel prices, and the temporary shutdown of the company's refinery for environmental reasons— have fuelled speculation in the press.

In 2005, Chevron announced that it would be selling its fuel commercialisation operations in Peru to the local company Pecsa, and 15 service stations in Colombia to Combustibles de Colombia. In 2006, it sold a network of 65 service stations in Ecuador to the Colombian company Terpel, and in 2007, it announced the sale of 90 stations in Uruguay to the State-owned DUCSA (which will operate under the name of Ancap).

Repsol YPF opted to dilute its assets and sales in South America and therefore decided to sell its Chilean subsidiary, which owns 210 service stations, to Terpel, the Colombian company that bought Chevron's assets in Ecuador.

In April 2008, ExxonMobil announced the sale of its fuel distribution and commercialization assets in Brazil to the Brazilian group Cosan.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CNNExpansion.com, "Esso saldrá del mercado de Argentina", 30 August 2007; Global Insight Same Day Analysis, "ExxonMobil Considering Selling Up in Argentina, According to Report", 31 August 2007 and "Shell Declares Force Majeure in Argentina", 7 September 2007; AméricaEconomía.com, "Petrobras y Shell hacen oferta por activos de Exxon en Brasil", 25 January 2008; Latin Counsel; AméricaEconomía.com, "Terpel comprará activos Repsol YPF en Chile", 25 October 2007; Diario Financiero, "Colombiana Terpel llegaría a Chile con compra de bencineras de YPF", 25 October 2007; "Cosan compra ativos da Esso por US$826 millões", Valor Económico, 24 April 2008.

Elsewhere in the region, the policy goal has been to attract new investments in exploration and production activities. New bidding processes have been organised and measures have been taken in Colombia, Peru, Chile and Trinidad and Tobago to improve the attractiveness of the sector to foreign investment. In Colombia, foreign companies will be allowed to participate in the second public offer of shares in Ecopetrol, which is to be held in 2008 (Business Latin America, 2007f). Colombia —which was the country to receive the highest levels of FDI in the hydrocarbons sector in 2007— has also been the focus of interest of a generation of smaller oil companies that are attracted by the country's favourable regulatory framework (América economía, 2007j). The waning of Trinidad and Tobago's gas reserves has led the country to change the regulations governing oil and gas production contracts and to offer tax incentives for exploration activities. Under the new scheme, profits and losses in deep-water exploration activities can be consolidated, which lowers the tax burden for companies (Business Latin America, 2007g).

In Brazil, despite the investment-conducive regulations, the predominance of PETROBRAS has always been seen as an obstacle to the entry of TNCs in the hydrocarbons sector. Transnational corporations in fact participated little in the sale of exploration acreage held in November, in which the Government removed 41 blocks from the original auction plan. Paradoxically, PETROBRAS, which in 2007 made new discoveries that significantly increased its reserves, did not play a large role in the auction either. The winners in the process were other private Brazilian enterprises (Business Latin America, 2007h). Foreign investments in the hydrocarbons sector in Brazil may be increasing, but they are relatively small considering the size of the country's energy potential.

Some large TNCs opted either to sell their assets in Latin America, to pursue growth in other regions or to change the focus of their regional investments in 2007.

Repsol YPF announced its decision to sell off assets in Latin America and declared Africa and the Middle East to be its new priority destinations.[33] In December, the company signed an agreement to sell 15% of its Argentine subsidiary to the Petersen group for US$ 2.235 billion. The proceeds from the sale will be used to finance the expansion of Repsol YPF's oil exploration activities, mainly in North Africa and the Middle East (América economía, 2007k, 2007l). Repsol YPF also sold its fuel distribution subsidiary in Chile to the Colombian company Terpel (see box I.5). New gas discoveries in Bolivia and Peru could encourage the company to invest further in those countries, however (AméricaEconomía.com, 2007l, 2008b).

Unlike other companies, ExxonMobil and ConocoPhilips did not reach an agreement with the Government of the Bolivarian Republic of Venezuela and turned down the contractual terms the Government proposed for continuing operations in the Orinoco Belt. The terms of the corresponding compensation are currently subject to arbitration in the International Centre for Settlement of Investment Disputes (ICSID). This has significantly altered the position of the region and its countries in the investment plans of these two companies. None of ExxonMobil's or ConocoPhilips' most important projects are in now Latin America. ConocoPhilips sold its stake in gas fields in Argentina to PETROBRAS, but increased its holdings in Peru through its subsidiary Burlington Resources Peru (ExxonMobil, 2007; ConocoPhilips, 2007).[34]

For its part, Royal Dutch Shell, after selling its secondary manufacturing operations in Latin America to pursue greater growth in the same segment in China, India, Malaysia, Singapore and Indonesia, acquired new concessions in Colombia and stated its intention to expand production at the BC-10 deep-water field in Brazil. In pursuit of the company's goal to become a world leader in LNG production, the company has also invested in LNG regasification plants in Mexico (Royal Dutch Shell, 2007).

Companies from other developing countries have shown a growing interest in the region's hydrocarbons sector. A joint venture undertaken by China National Petroleum Corp (CNPC) and Pluspetrol discovered oil in northern Peru and is currently assessing the find's commercial viability. The assets of the Canadian company Encana in Brazil were sold to a consortium of Indian enterprises, Bharat Petroleum and Videocon Industries. A company from Qatar is contemplating investing in the crude oil refinery construction project being undertaken by the United States oil company Occidental Petroleum in Panama (AméricaEconomía.com, 2007m). In Argentina, New Times Group Holdings (Hong Kong Special Administrative Region) bought two oil resevoirs for US$ 1.3 billion (Reuters, 2008b). In the Bolivarian Republic of Venezuela, Sinopec and CNPC, two Chinese firms, signed memorandums of understanding to establish mixed-capital companies with PDVSA. Petropars (Iran), Petrovietnam and Bielorusneft are also participating in joint ventures with PDVSA for exploration and production in the Bolivarian Republic of Venezuela (General Directorate of the Presidential Press, Bolivarian Republic of Venezuela, 2007; AméricaEconomía.com, 2007n).

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[33] In February, the company announced its largest oil find ever in Libya.

[34] Total and BP received compensation for relinquishing their operating rights in the Jusepín oil field, which the Bolivarian Republic of Venezuela had controlled since April 2006. The two companies would not agree to switch to a mixed-capital joint venture in which the Venezuelan State would have held a majority stake. The compensation was paid in barrels of oil.

The two largest Latin American oil companies that have an international presence, PETROBRAS and PDVSA, continue to expand their operations in the region. This expansion is discussed in section D.

(iii) Biofuels

The search for alternative energy sources to hydrocarbons has aroused great interest in biofuels among all kinds of enterprises (local and foreign, energy and agricultural enterprises, conglomerates, corporations, private equity funds) but not particularly among petroleum companies. Brazil has been the main destination for investment in biofuels, but other countries in the region are beginning to receive foreign investment in this segment too.

FDI in the biofuels segment has targeted various sections of the production chain, from the growing of sugarcane and other crops that are used as raw materials to the processing, production and commercialisation of biofuel. The major acquisitions in 2007 include the purchase of Dedini Agro by Abengoa (Spain). Brookfield Asset Management invested in the agricultural side of production. The French company Louis Dreyfus and Noble Group of the Hong Kong Special Administrative Region bought refineries and ethanol production plants. The Carlyle and Riverstone Holdings funds (Singapore) invested in Companhia Nacional do Açúcar e do Álcool (CNAA) to expand its sugar and ethanol plants. Mitsui and Eni invested in a partnership with PETROBRAS, which in turn is investing in countries such as Colombia and the Dominican Republic with a view to taking advantage of the preferential access these countries have to the United States market (AméricaEconomía.com, 2007o). The United States companies Maple, Peru Biofuels and Adeco and the Spanish company Bioterra are also investing in the sector.

Some countries have taken steps to promote the biofuel industry. In Mexico, the Senate is considering a law to facilitate biofuel production (AméricaEconomía.com, 2007p). The protectionism in large markets and the volatility of world sugar prices, which in turn affect the price of alcohol, together with the gains made by the national currency in Brazil are all preventing investments in biofuels from really taking off, however (Valor online, 2007b; Latin Finance, 2007e). There is also concern among public policymakers that encouraging farmers to produce biofuels could affect food prices (Razo et al., 2007).

(c) Efficiency-seeking FDI

The importance of the United States market to the countries of Mexico and the Caribbean Basin as a destination for their manufacturing exports makes those countries particularly vulnerable to any downturn in the United States economy. Investments in Mexico and the Caribbean Basin in fact rose in volume in 2007, but largely thanks to investments in non-manufacturing activities.35 In Mexico, investments in the automotive industry, however, were higher than in 2006, while investments in electronics remained stable, and investments in office, calculation and information processing machines were down, but higher than in 2004. Investments in textiles and clothing were also down compared to 2006, but this seems to be part of a long-term trend rather a reflection of the situation in the United States economy.

Several factors prevented the slowdown of the United States economy having more drastic effects on efficiency-seeking investments in 2007 and ensured that they remained relatively stable. Firstly, economic growth in the United States was relatively robust during the first three quarters of 2007. Secondly, the short-term effects of the slowdown in the United States market on the export operations of transnational corporations in Mexico and the Caribbean Basin are likely to affect activity levels (production, employment) rather than investment levels, which take longer to adjust to new market

[35] On the basis of data available for El Salvador, Honduras, Nicaragua and Mexico.

situations. The epicentre of the crisis, the housing loan market, has most immediately affected sectors that are not heavily dependent on imports. The impact of the slowdown on FDI will therefore be more indirect and will depend on the scale of the recession and its effect on demand in general. Finally, growing demand within Latin America and the Caribbean, the entry into effect of the free trade agreement between Mexico and Japan and the appreciation of the euro, together with other factors, enabled the subregion to diversify its exports more. If the recession in the United States takes hold and worsens, however, foreign investments will be affected as of 2008.

The circumstantial effects of the crisis in the United States notwithstanding, the operations of the transnational manufacturers in Mexico and the Caribbean Basin are undergoing a transformation process in an attempt to respond to the rising competition posed by Asia and the need to find new sources of comparative advantages and to attract investment in new sectors, products and services with higher value added.

The automotive and electronics sectors continue to be the main destinations of efficiency-seeking investment in Mexico (see table I.5). The main trends in FDI in the Mexican automotive industry are analysed in subsection (i). Chapter II discusses the situation in the electronics industry, and the information and communications technology (ICT) sector in particular. Subsection (ii) examines the diversification of FDI in Central America and the Caribbean.[36]

Table I.5
10 LARGEST TRANSNATIONAL EXPORTERS IN MEXICO, 2006

Ranking 2006	Company	Country	Sector	Exports (millions of dollars)	Exports/sales (percentages)
1	DaimlerChrysler de México	Germany	Motor vehicles and auto parts	6 344	64.5
2	Volkswagen de México	Germany	Motor vehicles and auto parts	5 397	67.9
3	Ford Motor Company	United States	Motor vehicles and auto parts	5 193	59.8
4	San mina-SCI [a]	United States	Electronics	5 046	162
5	General Motors de México	United States	Motor vehicles and auto parts	3 279	27.7
6	Hewlett-Packard Mexico	United States	Electronics	2 919	76.2
7	Schneider Electric	France	Electrical equipment	1 008	78.7
8	Siemens	Germany	Electrical equipment	667	39.4
9	Molymex	Chile	Metals	383	94.1
10	Boehringer Ingelheim	Germany	Pharmaceuticals	275	43.3

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of "Las 100 importadoras y exportadoras más importantes de México", *Expansión*, 6 to 20 August 2007; and the database of the magazine América economía.

[a] Exports and imports include machinery and equipment.

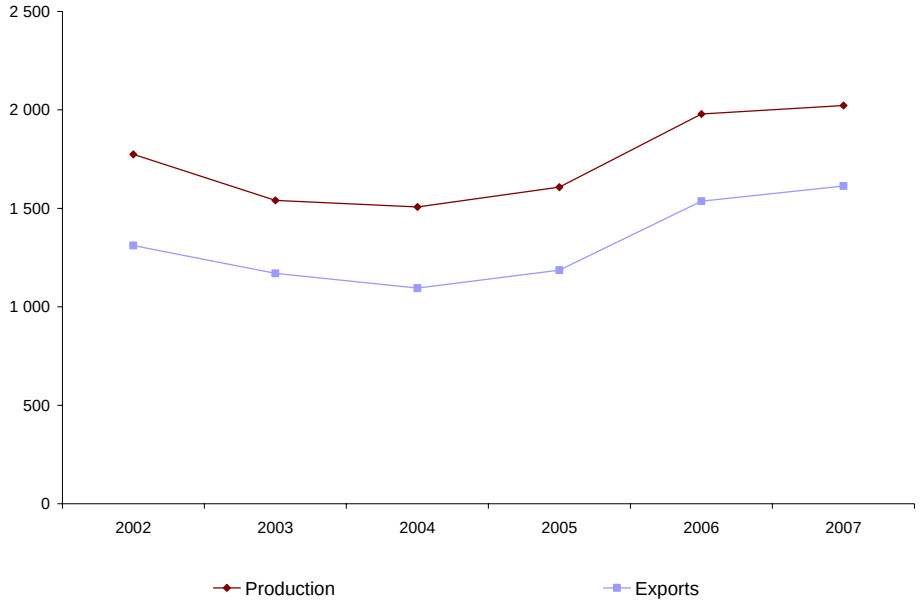
[36] The aerospace industry is an example of the new sectors that are attracting FDI in Mexico. The sector's attractiveness lies in its application of high technology and the use of intensive research and development activities, as well as its generation of products with high added value and, on average, larger returns. Mexico's attractiveness lies in its ability to offer lower operating costs than the United States and Canada and human resources and experience cultivated in the automotive and the electrical/electronics industry, as well as geographical proximity. The country's strategy for promoting investment in the sector contemplates the progressive increase of the Mexican content of the final products. These products currently include turbines and the components for panels and processes, such as plastic injection. Labinal, Hamilton Sundstrand, Honeywell, GE, Snecma and other companies have projects to develop suppliers in Mexico. GE ITP, Bombardier and Honeywell are engaged in design engineering in the country. The sector's exports have risen steadily since 2003 and reached US$ 1.6 billion in 2007 (ProMexico, 2007; *Expansión*, 2007i).

(i) The automotive industry in Mexico: undergoing transformation

In 2007, motor vehicle production in Mexico remained at practically the same level as in 2006, increasing 2% to record an output of just over two million units. Despite the slowdown in exports in the second semester, 1.6 million vehicles were exported from Mexico in 2007, which represented a 5% increase on the previous year (AMIA, 2008; see figure I.18). The economic downturn in the United States did not have a significant impact on Mexican exports as it only hit vehicle demand late on in the year. Two incipient transformations underway in the sector may also have contributed to the increase in exports: the diversification of its export markets and the expansion of investments in the low-cost and hybrid vehicle segments.[37]

The appreciation of the euro and South American currencies and a growing demand in South America boosted Mexico's exports to the subregion and Europe. The bilateral agreements between Mexico and Mercosur and between Mexico and European Union also helped increase and diversify the country's exports. In fact, within an overall 5% increase in exports, sales to Europe rose 58.5% and to South America 73%, to represent 12% and 6% of total motor vehicle exports, respectively.[38] Volkswagen and Nissan accounted for most of these sales and were the two companies that increased their participation in Mexico's vehicle production and export activities between 2006 and 2007 (see figure I.19) (*Expansión*, 2007j; AMIA, 2007, 2008).

Figure I.18
MEXICO: MOTOR VEHICLE PRODUCTION AND EXPORTS
(Thousands of units)

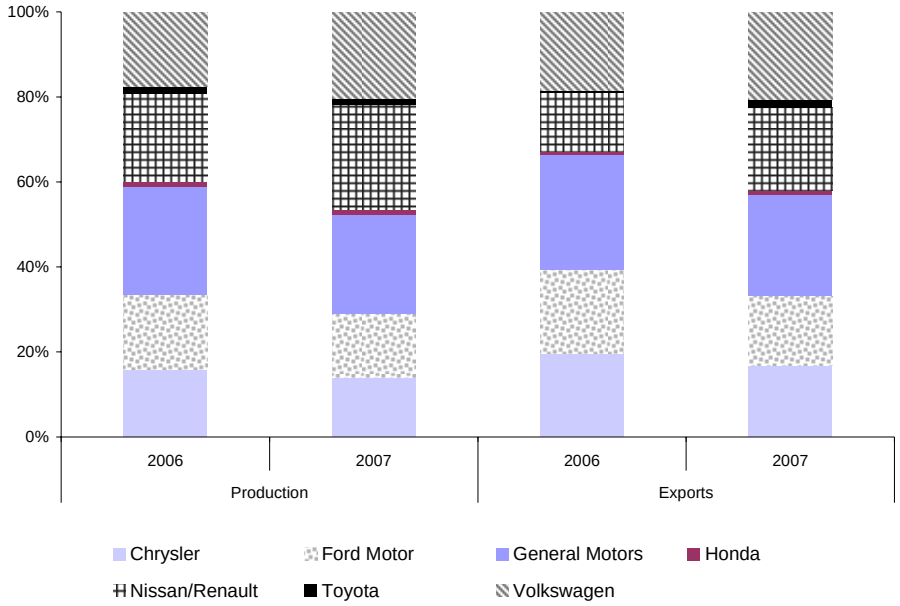


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data provided by the Mexican Association of the Automotive Industry (AMIA), "Resultados año 2007: récord en exportaciones y producción, 5% y 2,2%, respectivamente; Caída en ventas internas del 3,5%", 2008.

[37] The efforts to cut the costs of inputs, which led to the unilateral reduction of tariffs for more than 6,000 product categories in 2006 in 18 sectors, probably also contributed.

[38] Exports to Asia rose over 900%, but continue to be minimal in absolute terms (approximately 12,000 vehicles in 2007).

Figure I.19
MEXICO: MOTOR VEHICLE PRODUCTION AND EXPORTS BY COMPANY
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data provided by the Mexican Association of the Automotive Industry (AMIA) [online] www.amia.com.mx.

Secondly, companies announced investments in the production of new models to meet the growing demand worldwide for smaller, cheaper vehicles that are less dependent on oil and pollute less. GM, for example, announced a US$ 500 million investment in Mexico to produce hybrid (petrol/electric) vehicles under the Saturn View name. The cars will be destined for the United States market and possibly sold in Mexico in the future (AméricaEconomía.com, 2007q). As sales dry up in the developed markets, companies find themselves forced to try to conquer the emerging markets and to shift their focus to the production of low-cost vehicles. Hybrids are one answer to high oil prices. The review of the Corporate Average Fuel Efficiency (CAFE) standards currently underway in the United States and the initiatives taken by the European Commission to reduce carbon dioxide emission are two measures in the pipeline that will promote cars that pollute less (*The Economist*, 2007; PricewaterhouseCoopers Automotive Institute, 2007a).

One advantage of Mexico is that its internal market could be large enough to provide a back-up for, and justify, investments in projects to manufacture new low-cost vehicles for the United States and Canadian markets (PricewaterhouseCoopers Automotive Institute, 2007b). As mentioned in subsection (a), some companies are first investing in the local market with a view to later selling to the larger ones where low-cost vehicles are still only a niche market. In addition to the companies mentioned above, the Chinese company ZX announced the installation of it first Mexican plant in Tijuana, where SUVs will be assembled for export to the United States and other markets. Chamco-Auto plans to set up a plant in 2009, and Nissan is developing a car that will cost US$ 2,400 and that it will produce in Mexico (Global Insight, 2007; PricewaterhouseCoopers Automotive Institute, 2007c; *Expansión*, 2007k).

(ii) Central America and the Caribbean: diversification towards greater value added [39]

The clothing industry was traditionally the main magnet for efficiency-seeking investment in Central America and the Caribbean. The increased competition posed by Asia in the United States market, however, (in which the expiry of the Agreement on Textiles and Clothing played an instrumental role) has meant that clothing exports, and consequently industrial exports, from these countries (and from Mexico) have been declining. This trend continued into 2007: Hannesbrands (United States) closed down several of its factories in Latin America and the Caribbean, with most jobs being lost in the Dominican Republic (2,500) and Mexico (2,200), and Fruit of the Loom shut down its operations in Honduras where it was employing 800 people (Business Latin America, 2007i, 2007j; Global Insight, 2007). The subregion has therefore been pursuing the development of new advantages in the clothing sector and trying to diversify into other sectors.

The free trade agreement CAFTA-DR has given the clothing sector a new boost by improving the signatory countries' access to the United States market. The increasing tendency towards synchronizing production with demand and specialization poses the best opportunities for developing new competitive edges in the clothing industry, and efforts have therefore been made to present the countries of the subregion as vertically integrated suppliers of "complete packages" that cater to niche markets that require rapid responses to changes in fashion trends and seasons (Padilla et al, 2008). In El Salvador, the existence of companies that handle each stage of the clothing and apparel manufacturing process enables the country to produce items of higher value added for specific niches, such as high-performance sports apparel, and to offer the flexibility needed to respond to seasonal changes in the clothing market (see table I.6). Some companies that had moved their production operations to Asia are now returning to El Salvador (Lacoste, Benetton, Adidas, Reebok, Under-armour, Land's End, LL Bean and others; Proesa, 2007).

Table I.6
EL SALVADOR: VERTICAL INTEGRATION OF THE CLOTHING AND APPAREL SECTOR

Segments	**Companies**
Drycleaners	Swisstex
Textile manufacturers	Hanes, Duraflex, Petenatti
Regional distribution centres	Fruit of the Loom
Packing companies	Union Plastics
Decorative work (embroidery, printing, dye sublimation)	Decotex
Design and product development centres	Designer Simple Room
Labelling	

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of a survey answered by the National Investment Promotion Agency of El Salvador (PROESA).

The experience of the Canadian company Gildan in this sector is described in chapter IV.

Investors from other developing countries, especially Asia and South America, have been highly active in the transformation of the clothing industry. In Guatemala, the largest investments in manufacturing have been announced by textiles and apparel factories belonging to P&K Dye House (Republic of Korea), SML (China), Sandon Dyeing Textile (China, United States) (Invest in Guatemala,

[39] ECLAC expresses gratitude to Proesa, CINDE and Invest in Guatemala for their contribution to this section.

2007). The Brazilian company Santista Textil invested heavily in Honduras, taking advantage of a new industrial park opening in the country (Banco Central de Honduras, 2007b).

Outside the clothing sector, Central America and the Caribbean have managed to attract investment in increasingly diverse sectors and raise the value added of their production (see table I.7).

Table I.7
CENTRAL AMERICA AND THE CARIBBEAN: DIVERSIFICATION OF EFFICIENCY-SEEKING FDI

Country	Sectors	Promising or priority sectors
El Salvador	Clothing, vehicle harnesses, software development, call centres, business support centres (business process outsourcing), shared service centres (an affiliate of a business group that provides financial, logistics, human resources or technological services to all the different entities of the group), electronics and spare parts.	Strategic services (distribution and logistics, outsourcing of business processes; call centres, software development, research and development, and the repair and maintenance of cruise ships, cargo ships and aeroplanes); electronics and spare parts (electronic components, domestic appliances, computer accessories, and cables); medical apparatus, spare parts for vehicles (bumpers, brakes, gear boxes, radiators, shock absorbers, hydraulic steering wheels, harnesses, safety belts, airbags, plastic injection); medical devices.
Guatemala	Call centres and business process outsourcing, clothing and textiles, ginseng processing, motorbikes, electronics, (assembly of MP3 pieces and plasma screens), and distribution.	Call centres and business set-up services, parts assembly.
Costa Rica	Electronics, semiconductors, plastic components and injection, administrative support services, software development, interpreting centres, debt collection, electronic components for vehicle transmissions, product sterilization (medical services), customer services, plastics industry.	Export services, medical devices, electronics and spare parts.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of a survey answered by the National Investment Promotion Agency of El Salvador (PROESA), the Costa Rican Costa Rican Investment Promotion Agency (CINDE), and Invest in Guatemala.

Costa Rica has had the longest and most intense experience of diversification, ever since Intel set up operations in the country 10 years ago. Various support industries developed around Intel: supply companies, telecommunications and electrical components manufacturers, consumer and industrial electronics firms, electrical assembly, engineering and design companies, circuit board repair facilities, service and support companies (producing replacement parts, moulds, tools, etc.), and plastic parts manufacturers. The country is now seeking to make another leap forward as an export base by taking advantage of the forthcoming entry into effect of the Free Trade Agreement among the Dominican Republic, Central America and the United States (CAFTA-DR) (for which several complementary laws still need to be passed) and the transition period issued in by the recent ratification of the Free Trade Agreement with the United States. This period, which was established by the fourth WTO Ministerial Conference in Doha, is two years long. In that time, according to the WTO Agreement on Subsidies and Compensatory Measures, Costa Rica has to dismantle all its export subsidies. Costa Rica is also encouraging investment in other sectors, such as parts for motor vehicles, electronics and medical instruments (CINDE, 2007).

Exported services (call centres, business process outsourcing services, etc.) constitute an important nucleus of new investment in several of the countries in the subregion. Part of these countries' attractiveness lies in their large supply of skilled labour.[40] Attracting investors in the sector requires the development of certain minimum skills, usually proficiency in more than one language and varying levels of computer literacy. El Salvador has therefore been furthering initiatives to improve technical and technological training in schools and colleges, as well as English-language training. Given that FDI in these services can also benefit a country indirectly by promoting the accumulation of knowledge and experience, specific measures have been taken to promote such investment in the subregion. In El Salvador, the Law on International Services, which came into effect in November 2007, provides tax incentives, special parks, service centres and guarantees for investors in the sector. Together with the education initiatives, these efforts are improving the prospects of El Salvador, together with Costa Rica, recording the highest number of jobs per capita in business services (IBM Global Business Services, 2007).[41]

At the moment there is window of opportunity for capturing investment in international services. Investors are turning their attention to new destinations because the countries that make up the traditional service centres circuit are showing signs of saturation and rising labour costs in those countries are pushing up operating costs. Lower costs, the availability of human capital and the advantages of being the first to enter a new market are making other destinations more attractive (MIGA/ Commonwealth Secretariat, 2007). Upon finding the situation less favourable in their home country, some service providers have begun to seek out other destinations for their operations and to explore the advantages of diversity. In Guatemala, for example, of the 15 forthcoming investments in call centres and business process outsourcing services, two were announced by Indian enterprises and two by companies from the Philippines (Invest in Guatemala, 2007).

Nearshoring, which means moving operations closer to the target market with a view to taking advantage of cultural affinities, similarities of accent and other characteristics not attributable to cost, is also becoming increasingly popular. There are various opportunities for nearshoring in the region. The English-speaking Caribbean has advantages over India, for example, for serving North American customers (MIGA/ Commonwealth Secretariat, 2007). Similarly, the Spanish-speaking countries of Latin America offer advantages for companies wishing to target the Hispanic community in the United States. In both cases, there is the added advantage that, compared with Asia, there is little or no time difference with the United States.

Investments have also been made in international services elsewhere in the region. In Chile, specific policies have been implemented to develop the sector, which has doubled in the past two years to almost 50 companies that together export US$ 150 million and employ over 9,000 workers (AméricaEconomía.com, 2007m). Brazil, Argentina and Uruguay have also attracted FDI in these kinds of services.

One of the main obstacles to increasing investment in this sector and its higher value added activities (such as research and development) is a shortage of labour that is both skilled and proficient in another language, above all English. Chile and El Salvador have responded to this situation by promoting

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[40] Recent data show that although India receives relatively little FDI, it is the country in which the highest number of jobs have been generated by TNCs (IBM Global Business Services, 2007). India has been the largest recipient of investments in business process services (business process outsourcing) and information services, which are labour-intensive activities even if they do not involve particularly large volumes of investment compared with other sectors.

[41] India and the Philippines have the largest number of jobs in business services in absolute terms, while Costa Rica accounts for 2%, and El Salvador and Mexico for 4% each, of the jobs in this sector.

the English-language training of professionals working in technical fields. Countries also need to mitigate the danger of foreign companies absorbing the limited supply of human resources in the sector and thus driving local technology-intensive enterprises out of business.

4. Conclusions

Latin America and the Caribbean received an unprecedented volume of FDI in 2007. The boom was largely attributable to the persistent worldwide demand for the natural resources that are in abundant supply in the region and the good performance of its markets.

Market-seeking investments were encouraged by the region's solid economic performance and the increasing access of new segments of the population to more diverse goods and services, from consumer items to financial services and vehicles. TNCs have seized these opportunities to offer products and services specifically designed for the lower-income segments. They have consolidated their operations to boost their capacity to compete with one another and with an increasingly strong group of regional companies. In some cases, companies have decided to withdraw or reduce their presence in the region in the face of what seem to them to be prohibitive regulatory frameworks or levels of uncertainty.

In terms of natural-resource-seeking investment, the region has been blessed by rising demand worldwide. Once again, the mining and hydrocarbons sectors have been largely responsible for the increase, but the distribution of FDI between these two segments and among the countries of the region has changed noticeably. Countries are still having problems establishing relations between companies and the State that both protect the interests of local communities and guarantee mining and oil companies the profitability and regulatory stability they need. Regulation has moved in the opposite direction in some countries, which has shifted the distribution of foreign investment in the sector.

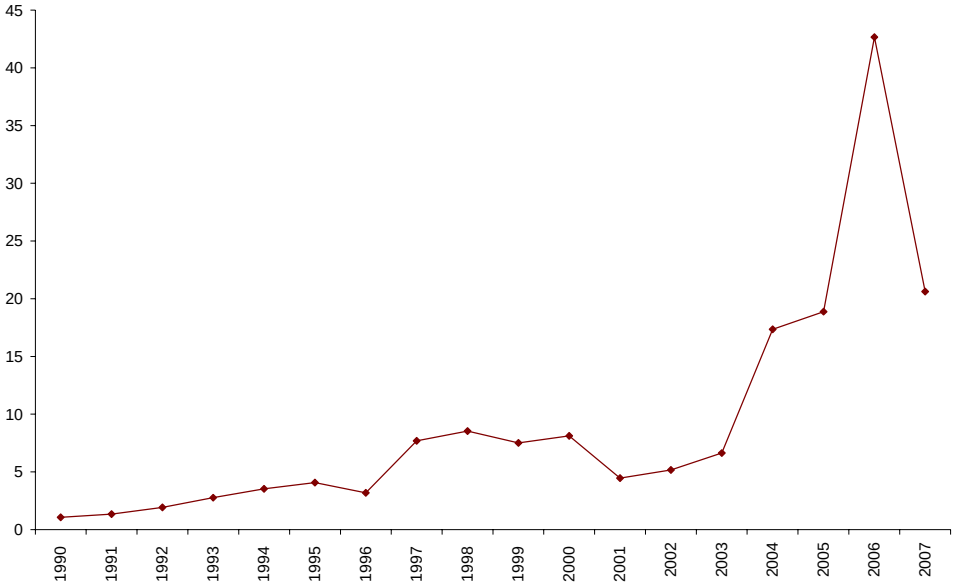
The effects of the slowdown of the United States economy on efficiency-seeking investments in services for export to third markets did not make themselves felt in 2007, and the full extent of the possible repercussions are still unclear. Regardless of this situation, the growing importance of Asian competitors is already forcing the region to try to diversify into higher value added manufacturing activities and services.

D. OUTWARD FOREIGN DIRECT INVESTMENT AND THE TRANS-LATINS

1. Outward foreign direct investment flows in 2007

In 2007, outward foreign direct investment (OFDI) flows from the countries of Latin America and the Caribbean were substantially lower than in 2006. Nevertheless, they still reached a historically high level of US$ 20.619 billion (see figure I.20).

Figure I.20
LATIN AMERICA AND THE CARIBBEAN: NET FLOWS OF OFDI, 1990-2007
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

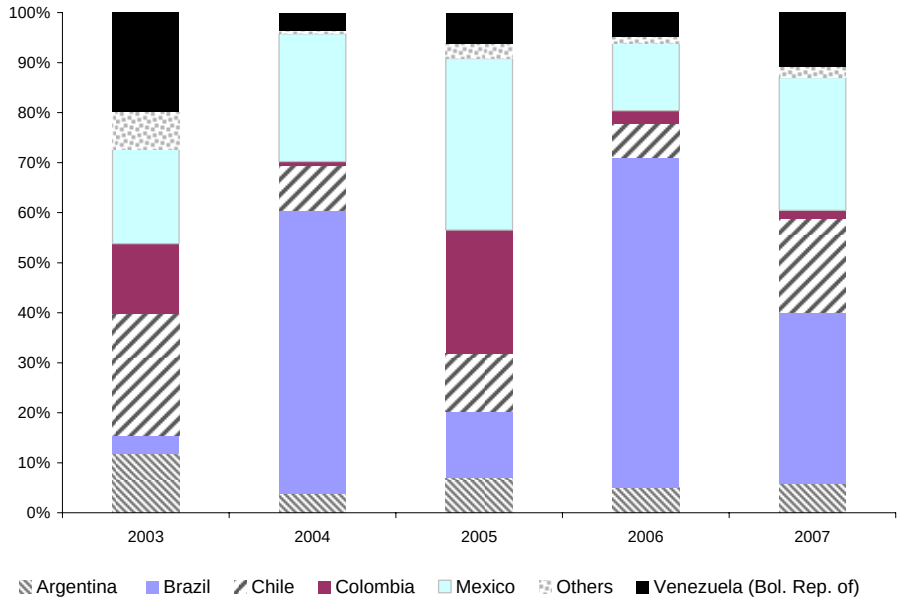
The drop in OFDI in 2007 was not caused by a slowdown in the internationalization efforts of Latin American companies: it reflected a return to a more normal pace of growth after the exceptional high recorded in 2006, which was largely generated by the purchase of Inco (Canada) by the Brazilian enterprise Companhia Vale do Rio Doce.[42] A transaction of comparable magnitude was undertaken in 2007 as well (the purchase of the Australian firm Rinker by Cemex, of Mexico), but this operation was partially financed by the Mexican company's subsidiaries outside Latin America.[43] The number of cross-border acquisitions performed by trans-Latins (see box I.5) reveals the ongoing dynamism of the international expansion efforts of the region's large enterprises. The flows of OFDI from Latin America and the Caribbean were in fact higher in 2007 than in 2004 and 2005.

[42] Although this transaction was not completed until 2007, it was announced in 2006, and most of the corresponding payments were made during that year as well.

[43] The scope and quality of the data available on OFDI of the countries of Latin America and the Caribbean restrict the explicative capacity of the ensuing statistics. Only 15 of the 24 countries that regularly publish data on FDI also publish data on their outward investments. Also, even in the most advanced countries in this respect, the statistics do not always accurately reflect the phenomenon. In 2004 and 2005, for example, some purchases of Latin American enterprises by companies from outside the region —financed with shares of the purchasing company or the merged entity equivalent to over 10% of capital— were recorded as OFDI when in essence they were operations whereby transnational corporations entered the Latin America market. This is due to the definition adopted in the fifth edition of the *Balance of Payments Manual* of the International Monetary Fund (IMF), according to which all investment corresponding to over 10% of a company's capital shall be considered direct investment. The possibility of companies financing their operations abroad through subsidiaries in third countries tends to lead to the undervaluation of outward investments. These problems, which are by no means exclusive to Latin America and the Caribbean, make it essential to include the analysis of the main transactions and activities of trans-Latins in the interpretation of OFDI figures. This is done in the following subsections of this chapter.

According to official figures, the Latin American country that invested the most abroad in 2007 was Brazil, followed by Mexico and Chile (see figure I.21). Brazil's OFDI was down in 2007 compared with the previous year because, in addition to the absence of transactions comparable with the Inco purchase, parent companies in Brazil were receiving significant debt repayments from their subsidiaries abroad in 2007. This meant that net outward investment flows were negative during the first semester.[44]

Figure I.21
LATIN AMERICA AND THE CARIBBEAN: NET OFDI FLOWS, MAIN INVESTOR COUNTRIES, 2003-2007
(Percentages)



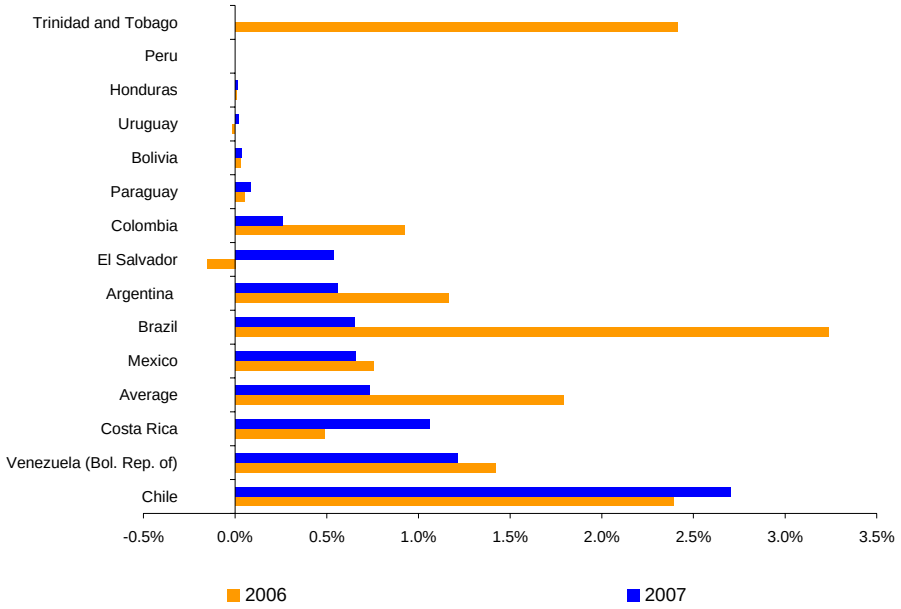
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

In terms of GDP and the countries for which data is available, the largest outward investor country in 2007 was Chile, followed by the Bolivarian Republic of Venezuela and Costa Rica (see figure I.22).

Only a few countries publish official figures on the destination of their OFDI. Table I.8 shows the distribution by destination country and sector of the OFDI of Brazil, Chile and Colombia. Box I.6 shows that 6 of the 10 largest acquisitions abroad by Latin American enterprises targeted assets located outside the region (United States and Australia).

[44] Table I-A-5 in the annex presents data on OFDI by country of origin.

Figure I.22
LATIN AMERICA AND THE CARIBBEAN (SELETED COUNTRIES): RATIO OF NET OFDI TO GDP, 2006-2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

Box I.6
MAIN ACQUISITIONS BY TRANS-LATINS OUTSIDE THEIR COUNTRIES OF ORIGIN [a]

The main acquisitions by trans-Latins outside their countries of origin were made in the natural resources and the natural-resource-based manufacturing sectors: cement, steel and steel products, hydrocarbons, mining and petrochemicals (see the table below). Transactions in petroleum industry services, systems and software engineering, and the meat/refrigerated products segment, however, reveal the shifting focus of Latin American and Caribbean OFDI.

Five of the nine transactions worth US$ 500 million or more, announced in 2007, corresponded to acquisitions in countries outside the region (Australia, the United States). Most of the investments between US$ 100 million and US$ 500 million were made in the region.

MAIN ACQUISITIONS BY TRANS-LATINS OUTSIDE THEIR COUNTRIES OF ORIGIN, ANNOUNCED OR CONCLUDED IN 2007

	Acquired by	Country of origin of acquiring company	Company or assets acquired	Country of company or assets acquired	Seller	Country of seller	Announced value	Sector
1	Gerdau	Brazil	Chaparral Steel	United States			3 974	Steel
2	Ternium	Luxembourg/ Argentina	Grupo Imsa	Mexico			3 187	Steel
3	Tenaris	Luxembourg/ Argentina	Hydril	United States			1 994	Oil pipe connections
4	Gerdau	Brazil	Quanex Corporation	United States			1 458	Metal manufacturing and processing
5	JBS SA/Friboi	Brazil	Swift & Co.	United States			1 400	Food - meat
6	GP Investments	Brazil	Drilling rights and E&P	Argentina and others	Pride International	United States	1 000	Petroleum industry services
7	Cia. Vale do Rio Doce	Brazil	AMCI Australia	Australia			786	Mining coal

Box I.6 (concluded)

	Acquired by	Country of origin of acquiring company	Company or assets acquired	Country of company or assets acquired	Seller	Country of seller	Announced value	Sector
8	Techint (in partnership with Stella, James Jones and investment funds)	Italy/Argentina, Canada, France	Sirti Spa	Italy			747	Systems engineering
9	Cencosud SA	Chile	Grupo de Supermercados Wong	Peru			623	Retailing
10	Mexichem	Mexico	Grupo Amanco	Brazil	Nueva Holding	Chile	500	Chemicals, petrochemicals
11	Votorantim Celulose e Papel	Brazil	Acerías Paz del Río	Colombia			494	Steel
12	Cencosud SA	Chile	GBarbosa Holding	Brazil	Acon Investments	United States	430	Retailing
13	Interconexión Eléctrica SA	Colombia	Additional participation of 16.47% in Companhia de Transmissão Elétrica Paulista (CTEEP)	Brazil			351	Electricity - transmission
14	Interconexión Eléctrica SA	Colombia	Additional participation of 39.28% in CTEEP	Brazil			351	Electricity - transmission
15	JBS SA	Brazil	Inalca	Italy	Cremonini	Italy	329	Food - various
16	Grupo Votorantim	Brazil	US Zinc Corp	United States	TPG Inc.	United States	295	Recycling
17	Techint Group	Italy/Argentina	Takraf Foedertechnik	Germany	VTC	Germany	272	Machinery for the mining industry
18	Gerdau	Brazil	Grupo Industrial Feld	Mexico			259	Steel
19	Mexichem	Mexico	Petroquímica Colombiana	Colombia			250	Petrochemicals
20	Celulosa Arauco y Constitución	Chile	Stora Enso Arapoti	Brazil	Stora Enso	Finland	208	Paper/pulp
21	Gerdau y Kalyani	Brazil and India	SJK	India			170	Steel
22	Marfrig	Brazil	Quickfood	Argentina			141	Food - meat
23	Sonda SA	Chile	Procwork	Brazil			118	Computer services
24	Petrobras (Petrobras Energía)	Brazil	Share in the El Tordillo and La Tapera deposits.	Argentina	Noble Energy	United States	118	Hydrocarbons
25	Gerdau	Brazil	Aceros Corsa	Mexico			101	Steel
1	Cemex	Mexico	Rinker Group	Australia			14 627	Building materials – cement
2	América Móvil	Mexico	Operaciones Caribe	Puerto Rico, Dominican Republic	Verizon Communications	United States	3 700	Telecommunications
3	Alfa	Mexico	Hydro Castings	Germany, Austria, Hungary, Sweden	Norsk Hydro	Norway	545	Metallurgy
4	Alfa	Mexico	6 aluminium foundries		TK Aluminum	Bermuda	414	Metallurgy
	Buyer	Country of buyer	Assets sold	Country of assets sold	Seller	Country of seller	Announced value	Sector
1	Bluescope Steel	United States	Participation of Imsa in Steelscape, ACS, Varco Pruden, MetlSpan	United States	Ternium SA	Luxembourg/ Argentina	730	Steel

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data provided by Bloomberg as at 14 January 2008.

The patterns in the cross-border acquisitions of trans-Latins reflect the driving forces behind their efforts to internationalize their operations. These are examined in the sections below.

Note: The data on mergers and acquisitions refers to published amounts of the concluded and pending transactions announced each year.

[a] This section is based on data taken from Bloomberg's financial information service. The data refers to the completed or pending operations announced each year in which the purchaser is a Latin American enterprise and the company or assets acquired are outside the country of origin of that enterprise.

Table I.8
BRAZIL, CHILE, COLOMBIA: OFDI DESTINATIONS, 2007
(Percentages)

	Destination		Sector		
Chile (investments made)					
	Millions of dollars	**Percentage**		**Millions of dollars**	**Percentage**
Brazil	875	35	Commerce	1 016	41
Argentina	471	19	Manufacturing industry	818	33
Peru	396	16	Energy	198	8
Colombia	341	14	Construction	198	8
Other countries of Latin America and the Caribbean	27	1	Other services	149	6
United States	258	10	Hotels and restaurants	99	4
Other	112	5			
Total	2 480	100		2 479	100
Brazil (investments above US$ 1 million, excluding goods and real estate)					
United States	3 548	30	Financial services	5 108	44
Financial centres of the Caribbean	5 420	47	Metallurgy	1 660	14
Chile	689	6	Food and beverages	1 744	15
Argentina	528	5	Chemicals	853	7
Mexico	258	2	Commerce	644	6
Uruguay	229	2	Petroleum-based products and biofuels	276	2
Other countries of Latin America and the Caribbean	131	1	Extraction of hydrocarbons and support activities	239	2
Portugal	155	1	Construction	156	1
Other countries of Europe	633	5	Others	965	8
Others	54	0			
Total	11 645	100	Total	11 645	100
Colombia (net flows – divestments taken into account) - 2006					
United States	231	63	Financial services, real estate, corporate services	337	91
Brazil	173	47	Commerce, restaurants, hotels	167	45
Panama	101	27	Electricity, gas, water	175	47
Chile	23	6	Communal, social and personal services	11	3
Peru	-387	-105	Construction	4	1
Other countries of Latin America and the Caribbean	45	12	Agriculture, hunting, forestry and fishing	2	1
Financial centres of the Caribbean	167	45	Mines and quarries	1	0
Others	18	5	Others	-2	-1
			Transportation, warehousing, communications	-8	-2
			Manufactured items	-317	-86
Total	**370**	**100**		**370**	**100**

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

2. The main trans-Latins

The lack of up-to-date and comparable public figures on the sales, assets and jobs held by a significant number of companies abroad makes it impossible to identify which are the largest trans-Latins in terms of the size of their foreign operations.

The largest Latin American and Caribbean companies and groups in terms of sales that invest outside their home countries are listed in table I.9. The degree to which they have internationalized their operations, however, varies considerably. A large portion of Cemex's sales, for example, are based on the production of its subsidiaries, while Codelco, which is similar in size, has limited its activities to exploration projects and serves the external market through its exports from Chile. In the meantime, Ternium has taken over control of several steel producers outside Argentina, while Usiminas, another steel company, has only bought minority stakes through partnerships with Ternium.

Table I.9
THE LARGEST NON-FINANCIAL COMPANIES AND GROUPS OF LATIN AMERICA AND THE CARIBBEAN, IN TERMS OF SALES, WITH INVESTMENTS OUTSIDE THEIR COUNTRIES OF ORIGIN

	Company	Country	Sector
1	PDVSA	Venezuela (Bol. Rep. of)	Petroleum/gas
2	PETROBRAS	Brazil	Petroleum/gas
3	AMÉRICA MÓVIL y TELMEX	Mexico	Telecommunications
4	CIA. VALE DO RIO DOCE	Brazil	Mining
5	CEMEX	Mexico	Cement
6	CODELCO	Chile	Mining
7	TECHINT, Tenaris, Ternium	Argentina	Various, steel, steel pipes, construction
8	GRUPO VOTORANTIM	Brazil	Various, cement, mining, steel
9	FEMSA y Coca-Cola Femsa	Mexico	Beverages
10	GERDAU	Brazil	Iron and steel/metallurgy
11	ODEBRECHT	Brazil	Various, construction
12	ENAP	Chile	Petroleum/gas
13	GRUPO ALFA	Mexico	Various
14	GRUPO MÉXICO, Southern Copper	Mexico	Mining
15	BRASKEM	Brazil	Petrochemicals
16	GRUPO BIMBO	Mexico	Food
17	CENCOSUD	Chile	Commerce
18	USIMINAS	Brazil	Iron and steel/metallurgy
19	GRUPO SALINAS, Grupo Electra	Mexico	Various, commerce
20	FALABELLA	Chile	Commerce
21	CSN	Brazil	Iron and steel/metallurgy
22	EMBRAER	Brazil	Aerospace industry
23	GRUPO CAMARGO CORRÊA	Brazil	Various
24	ANTOFAGASTA	Chile	Mining
25	SUDAMERICANA DE VAPORES	Chile	Transportation/logistics
26	TAM	Brazil	Transportation/logistics
27	GRUPO ELEKTRA	Mexico	Commerce
28	LAN	Chile	Transportation/logistics
29	GRUPO MASECA	Mexico	Food
30	CMPC PAPELES Y CARTONES	Chile	Pulp/paper
31	ORGANIZACIÓN TERPEL	Colombia	Petroleum/gas
32	MOLYMET	Chile	Steelworks/metallurgy
33	GRUPO JBS (FRIBOI)	Brazil	Food
34	EMPRESAS ICA	Mexico	Construction

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data provided by the magazine *América economía*.

Table I.10 shows how, among the companies listed in table I.9, the importance of outward investments varies considerably. It also shows the various geographical focus points of the OFDI of these companies (in and outside the region).

Table I.10
TRANS-LATINS: PROPORTION OF SALES MADE BY SUBSIDIARIES ABROAD, IN AND OUTSIDE LATIN AMERICA AND THE CARIBBEAN (2006 FIGURES)

	Company	Country of origin	Sector	Total sales (2006) (millions of dollars)	Percentage of sales made by subsidiaries abroad	Percentage of sales by subsidiaries abroad made in Latin America and the Caribbean
1	América Móvil	Mexico	Telecommunications	22 410	55	90
2	Companhia Vale do Rio Doce[a]	Brazil	Mining	19 651	51	n.a.
3	Cemex	Mexico	Cement	18 249	80	11
4	Telmex	Mexico	Telecommunications	16 167	27	99
5	Gerdau	Brazil	Steel	10 973	59	17
6	Grupo Bimbo	Mexico	Food	6 155	31	26
7	Cencosud	Chile	Commerce	5 880	35	100
8	Falabella	Chile	Commerce	4 375	20	100

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the companies' annual reports.

[a] Data for the period prior to the purchase of Inco.

In addition to the companies listed in the table above, several financial institutions with comparable sales volumes, including Banco Itaú and Bancolombia, have been expanding their international operations in varying degrees.

How relevant though are these companies on a worldwide scale? According to UNCTAD data for 2005, just one Latin American company (Cemex) ranks among the 100 largest transnational corporations in the world in terms of overseas holdings, and only 11 Latin American companies stand among the top 100 transnationals from emerging countries.[45] This is relatively few compared with other developing countries. In fact, 79 of the top 100 companies from emerging countries are Asian, and 8 are South African. The Latin American enterprises among the group operate in the natural resources or natural-resource-based manufacturing sectors (mining, hydrocarbons, cement, steel), telecommunications and food and beverages. The Asian enterprises, on the other hand, are involved in a broader range of sectors, including high-tech ones (UNCTAD, 2007).

How relevant are these companies at the regional level? Though few in number in comparison with the large number of TNCs, trans-Latins are increasingly being ranked among the most important operators in the large markets of the region. América Móvil, Telmex, PETROBRAS, Techint and Cencosud are among the 60 largest transnational corporations in the region in terms of sales (excluding sales in the country of origin) (see table I-A-4 of the annex). América Móvil and Femsa are market leaders in more than

[45] According to the Global 500 classification system used by *Fortune* magazine, which measures companies by sales, but not necessarily by sales outside the country of origin, eight Latin American companies (all in Mexico and Brazil) are among the 500 largest corporations in the world.

one country (in addition to their country of origin) (see table I.11). Some companies have a huge presence in a particular country although they do not figure among the region's largest companies as presented above. This is the case of the Synergy group, for example, which controls Avianca in Colombia.

Table I.11
TRANS-LATINS THAT FIGURE AMONG THE LARGEST COMPANIES IN INDIVIDUAL COUNTRIES

	Company	Country of origin	Sector
Argentina (1 000 companies)			
5	Grupo PETROBRAS	Brazil	Hydrocarbons
18	CTI/CTI Móvil (Grupo Carso)	Mexico	Telecommunications
59	Cencosud/Jumbo (Grupo Paulmann)	Chile	Retailing
70	Loma Negra (Grupo Camargo Correa)	Brazil	Cement
77	Alto Paraná (Grupo Arauco)	Chile	Pulp
94	Pride Internacional (acquired by GP Investments in 2007)	Brazil	Technical services for the petroleum industry
111	Coca-Cola Femsa	Mexico	Beverages
146	Friboi (Swift Armour)	Brazil	Refrigerated products
158	Lan Airlines	Chile	Airlines
164	Grupo CMPC	Chile	Paper
209	Falabella	Chile	Retailing
224	Easy (Grupo Paulmann)	Chile	Retailing
236	Masisa (Grupo Nueva)	Chile	Wooden boards
243	Telmex (Grupo Carso)	Mexico	Telecommunications
305	Constructora Norberto Odebrecht	Brazil	Construction
355	Coca-Cola Polar	Chile	Beverages
366	Faplac (Grupo Arauco)	Chile	Wooden boards
396	Ipiranga	Brazil	Sale of chemicals
393	Santista Têxtil (Grupo Camargo Corrêa)	Brazil	Textiles
453	Petrolera Cono Sur (bought by PDVSA in 2006)	Venezuela	Hydrocarbons
567	Lan Argentina	Chile	Airlines
636	Ferrosur Roca (Grupo Camargo Corrêa)	Brazil	Railway transport
816	Bimbo	Mexico	Food
956	Sadia	Brazil	Food
Colombia (200 companies)			
12	Avianca	Brazil	Airlines
13	PETROBRAS	Brazil	Hydrocarbons
20	Coca-Cola Femsa	Mexico	Beverages
27	Cemex Colombia	Mexico	Cement
31	Mabe	Mexico	Domestic appliances
153	Cemex Concretos de Colombia	Mexico	Concrete
Mexico (500 companies)			
61	Ternium[a]	Argentina	Iron and steel and metallurgy
169	Farmacias Benavides (FASA)	Chile	Sale of medicines
211	Grupo Techint	Argentina	Construction
224	Molymex	Chile	Mining

Table I.11 (concluded)

	Company	Country of origin	Sector
Brazil (500 companies)			
36	Claro (América Móvil)	Mexico	Telecommunications
174	Coca-Cola Femsa	Mexico	Beverages
191	Rio de Janeiro Refrescos (Andina)	Chile	Beverages
195	Kaiser (Femsa)	Mexico	Beverages
232	Transmissão Paulista (ISA)	Colombia	Electricity transmission
264	Americel (América Móvil)	Mexico	Telecommunications
393	Ficap (Madeco)	Chile	Fibre optic cables
427	Amanco (Mexichem)	Mexico	Construction
456	Officer	Brazil-Chile	Wholesale commerce
Chile (100 companies)			
83	Itaú (assets acquired from BankBoston)	Brazil	Banking

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data obtained from "Las 1000 empresas que más venden", Mercado, June 2006 (Argentina); "500 - Las empresas más importantes de México", Expansión, 25 June; "Las 100 empresas más grandes de Colombia" and "Las otras 900", Semana, 30 de abril de 2007; "Melhores e Maiores – as 500 maiores empresas do país", Exame, August 2007; "Top 100: Las mayores compañías en ventas", Revista capital No. 202.

[a] The ranking of this company in Mexico will be substantially higher in 2007 as result of its purchase of Imsa, which is ranked 45 on this scale.

In short, many of the largest Latin American companies invest abroad, but the relative weight of these investments in each company's operations varies considerably. Trans-Latins are relevant at the international level, but are far fewer in number and have a far smaller international presence than companies from the emerging Asian countries. At the regional level, they hold some notable positions in the some of the main markets, but are still lightweights compared with local companies and the transnational corporations from outside the region.

3. The main sectors in which trans-Latins invest

The major trans-Latins continue to invest mainly in basic products (hydrocarbons, mining and metallurgy, and cement) (see subsections (i) to (iii) and in telecommunications (see chapter III). They also invest less heavily in food and beverages (see subsection (iv) and retailing (see subsection (v)). A group of well-established trans-Latins already have a leading position, or at least a stronghold, in each of these sectors at the regional or international level. These companies continued to expand their interests in 2007. Some took their foreign investments to new levels by participating more actively in worldwide consolidation processes, others ventured into new markets and products, generally in the pursuit of increased value added. On the other hand, some of the main trans-Latins were bought out by other trans-Latins or by companies from other regions, as is the case of Jugos del Valle, which was bought by Coca-Cola Femsa and Coca-Cola, and Imsa, which was bought by Techint.

Companies operating in non-traditional sectors have also expanded their activities abroad. The Chilean enterprise Sonda, which is a software and information and communications technology (ICT) services company, made its largest investment abroad ever in 2007 when it bought the Brazilian company

Procwork. In the chemicals and petrochemicals sector, the purchase of Petco and Amanco by the Mexican company Mexichem was an equally noteworthy investment.[46]

Sonda's purchase of Procwork for US$ 118 million represents a decisive step towards conquering the region's largest ICT services market. The transaction is by no means the first investment the company has made outside Chile: it already has operations in several Latin American countries, including Brazil. Procwork is its largest acquisition to date, however, and the volume of the transaction places it among the largest carried out in the region (see box I.5) (Portal Exame, 2007b).

Mexichem first ventured outside Mexico in 2004 when it purchased Atofina in Colombia. It started producing in North America in 2006 when it bought up the Bayshore Group. The boldest leap beyond its borders, however, was recorded in 2007, when it made two major acquisitions: Petco (a PVC resins producer) in Colombia and the Amanco group in Brazil. This group has a wide network of operations in Latin America and the Caribbean. It also obtained authorization from the Government of Colombia to acquire the pipe manufacturer Pavco and announced more acquisitions for 2008 (Mexichem, 2007; Expansión, 2007l).

(i) Hydrocarbons

The main trans-Latins in the hydrocarbons sector are PETROBRAS and PDVSA. While PETROBRAS seems to be actively pursuing the expansion of operations outside the region, PDVSA is redirecting the focus of its foreign production towards Latin America.

Despite significant acquisitions in petrochemicals, the rising importance of biofuels and new oil and gas discoveries in Brazil (factors which could distract the company from its internationalization efforts), PETROBRAS has continued to expand its operations around the globe. Many of the company's new foreign investments were made in other regions. PETROBRAS has adopted a pragmatic approach in Latin America and the Caribbean, carefully weighing regulatory risks, on one hand, and making sure not to miss any opportunities, on the other.

PETROBRAS' entry into the refining sector in Asia marked a new direction in the company's expansion strategy. After buying 50% of the Pasadena refinery in Texas in 2006, PETROBRAS bought a controlling share in 2007 in an oil refinery in Japan. This refinery has a terminal that, in addition to serving as the refinery's entry point for crude, could be used for the sale of biofuels to the Asian market. This investment is in keeping with the company's strategic goal of increasing its refining capacity outside Brazil.

Most of PETROBRAS' investments in exploration and production were made in the Gulf of Mexico. The company will exploit its competitive edge in deepwater and ultra-deepwater drilling to develop the 26 new blocks it was awarded there. It is also involved in exploration activities in Tanzania, Iran, Libya, Turkey, Pakistan and Portugal (PETROBRAS, 2007a; América economía, 2007m; Business News Americas, 2007b).

In Latin America and the Caribbean, the company has proceeded with caution, but not without interest. In Colombia, it was awarded 13 of the blocks auctioned under the 2007 Caribbean Round by the National Hydrocarbons Agency. PETROBRAS announced new projects in Ecuador and Argentina (where it also bought ConocoPhilips's share in gas fields). In Peru, it discovered new gas reserves in a joint

[46] Mexichems' purchase of Dripsa, an Argentine irrigation company, and of 70% of Plastubos in Brazil confirm the dynamism of the company's expansion process.

venture with Repsol YPF and Burlington Resources. In Bolivia, despite the nationalization of the country's refineries at the beginning of the year and a temporary freeze on investments, the company announced new investments in a partnership with YPFB of between US$ 750 million and US$ 1 billion to step up gas production in the country (PETROBRAS 2007b). In Venezuela, PETROBRAS accepted new contractual arrangements and maintained its investments in its partnership with PDVSA, but in January 2008, it had yet to confirm the investments it had previously announced in the Carabobo field (PETROBRAS 2007c).

PETROBRAS has also expanded its international interests in the petrochemicals industry. Braskem, in whom PETROBRAS holds shares, and Pequiven entered into a partnership to set up a refinery in Venezuela. This operation poses an opportunity to diversify the company's sources of raw materials and obtain them at competitive prices.

PDVSA, on the other hand, has continued to forge closer ties within the region. As part of its strategy to lower its exposure to the United States market, the company has pursued an ambitious expansion plan to consolidate its refining capacity in the region (see table I.12).

Table I.12
PDVSA: REFINING CAPACITY EXPANSION PROJECTS

Year in which due to begin	Country	Project	Amount of investment (in millions of dollars)
2007	Cuba	Reactivation of the Cienfuegos refinery	44
2008	Jamaica	Expansion of the Kingston refinery	197 (50% PDVSA)
2010	Uruguay	Conversion of the La Teja refinery to process extra-heavy crude	600
2011	Brazil	Construction of a refinery to process 50% crude oil from the Orinoco Belt and 50% Brazilian crude	3 000 (50% PDVSA)
	Ecuador	Construction of a refinery in the province of Manabí, in partnership with Petroecuador	5 500
	Nicaragua	Refinery in Nagarote.	2 500

Source: PDVSA, "Planes estratégicos" and América Economía, "Negociado y firmado", 6 August 2007**,** "Chávez instala refinería en Nicaragua", AméricaEconomía.com, 23 July.

Several companies from the region have shown interest in the assets sold by transnationals in the fuel distribution sector. This sector is closely linked to the hydrocarbons industry but obeys its own logic. Distribution capacity and marketing are key factors. The Colombian company Terpel has been active in this respect (see box I.5).

Among the smaller trans-Latins operating in the hydrocarbons sector, the Chilean firm ENAP renewed its investments in southern Argentina, and the State-owned company Ecopetrol of Colombia ventured abroad for the first time with the signing of an agreement with PETROBRAS and Petroperú to explore the Peruvian Amazon. Meanwhile, the Argentine Pluspetrol continued to invest in Camisea and discovered new gas reserves in Bolivia. (*La Nación*, 2008)

The activities of trans-Latin supply companies in the hydrocarbons industry have added to the dynamism of the sector. GP Investments, a Brazilian private equity fund, competed with another private Latin American capital fund, Southern Cross, to buy the Latin American company Pride International. Pride controls about 60% of the Argentine oil services market. Some 50% of its billing corresponds to

activities outside Argentina, in the Bolivarian Republic of Venezuela, Bolivia, Brazil, Colombia, Ecuador, Mexico and Peru. The buyout included San Antonio, a company which Pride had purchased from Perez Companc (El Cronista, 2007).

(ii) Mining and metals

The mining and metals sectors, and the steel and steel products segment in particular, were the main targets of trans-Latin investments abroad. CVRD continued the strategy adopted in 2001 of diversifying its activities in the mining sector both geographically and product-wise (CEPAL, 2006, 2007). The largest initiative taken in this respect (and the largest international purchase made by a Brazilian company) took place in 2006 when CVRD bought Inco in Canada. In 2007, CVRD bought the Australian company AMCI, which participates in various joint ventures in coal production, especially in the production of metallurgical coal, which is used in the manufacture of steel. This is one of the few inputs for steel manufacturing that is not found in Brazil, and steel mills in Brazil have to import 100% of the metallurgical coal they consume. This acquisition, the takeover of Inco, and the healthy cash flow the company enjoyed as a result of the rising price of minerals enabled CVRD to enter (or return to) higher value added segments within the iron-steel production chain and to set up partnerships with transnational steel companies to increase its refining capacity in Brazil (see box I.4).

At the outset of 2008, CVRD attempted to purchase Xstrata, the sixth largest mining company in the world, but the transaction fell through. Had it come about, however, it would have taken CVRD to another level as a transnational in terms of size, geographical range and product diversity.

Whereas CVRD has focused its attention outside the region, two Mexican mining companies have been stepping up their investments in South America, and in Peru in particular. Faced with labour disputes with workers at the Southern Copper mine in Mexico, Grupo México transferred the resources it had earmarked for investment in Mexico to Peru, where they will be used to increase production capacity at its mines there. The company also bought mining concessions and has started exploration in Chile (Business News Americas, 2007d). The other Mexican company active in this respect was Peñoles, the world's largest silver producer, which obtained permits to start exploration in Peru and is currently developing copper, zinc and gold deposits in Peru, Chile and Mexico (AméricaEconomía.com, 2007r).

Despite being one of the largest mining companies in the region, Codelco has opted to concentrate on Chile and the production of copper and related products, although it does have a few exploration projects in other parts of Latin America. In 2007, it sold its only significant finding abroad, copper and cobalt deposits in Boa Esperança, Brazil, to a local company. As this was only a medium-size find, the company decided not to develop it and to use the resources to fund its ongoing exploration activities in Mexico and Brazil instead (*El Mercurio*, 2007a).

In the metallurgy sector, in 2007, the Brazilian firm Votorantim Metais bought the United States company US Zinc, one of the world's largest recyclers of zinc secondaries and one of the world's largest zinc metal and value added zinc product manufacturers (zinc dust and zinc oxide). US Zinc has five plants in the United State and one in China. It also engages in zinc marketing activities. With this purchase, Votorantim Metais has strengthened its position in the higher value added zinc products market and opened up commercialization channels for the output of the expansion of its zinc refinery in Peru (Votorantim Metais, 2007a). Votorantim Metais also bought a steel mill, Acerías Paz del Río, in Colombia, which represents an important step within the company's strategy to diversify its operations geographically and to broaden its product range, as well as a strategic move to take advantage of the

possibilities of growth in countries such as Colombia (Votorantim Metais, 2007b). The companies most actively involved in acquisitions in the steel sector, however, were the Techint group and Gerdau.

Tenaris, the steel pipes subsidiary of the Argentine group Techint, bought the United States company Hydril, which manufacturers and markets connections and pressure control products for oil and gas drilling activities. This purchase, which comes on the heels of another acquisition of a United States company (Maverick) in 2006, will enable Tenaris to produce more value added products that offer its customers integrated solutions for highly complex applications. Hydril enjoys a good brand name and has a strong manufacturing capacity in North America, which complements Tenaris' structure (Tenaris, 2007).

Ternium, the flat and long steel subsidiary of Techint, bought Imsa in Mexico. This was one in a series of acquisitions that began in 2001. Techint's incursion in the flat and long steel products sector is relatively recent, but of growing significance given the rise in world steel prices and how the move strengthens its international position. Unlike the strategy it has pursued in the steel pipes segment, Techint, in addition to investing in Argentina (in the flat-rolled steel producer Siderar), has concentrated on taking advantage of opportunities elsewhere in the region: in 1998, it acquired Sidor (Bolivarian Republic of Venezuela); in 2005, Hylsa (Mexico); and most recently, Imsa (also Mexico).[47]

Imsa itself is an important trans-Latin (ECLAC-2006), and by buying the company, Techint will be able to expand in Mexico, which, given the structure of the steel market, could pose a threat to potential competitors, such as Gerdau. Although Gerdau entered the Mexican market with its purchase of Tultitlán (Sidertul), this was a relatively small acquisition compared with the assets currently held in the country by Ternium (Expansión, 2007m). The purchase of Imsa will also enable Techint to improve the integration of the group's various units. Hylsamex receives steel sheets from the Sidor plant in Venezuela, converts them into value added products in Mexico and then sells them on the United States market. Imsa's role will follow the same logic. Once the expansion of Siderar's plant in Argentina is complete, steel sheets will be sent from there to Mexico for processing and export by Imsa as higher value added products for the United States automotive and domestic appliance industries. With Imsa, Ternium will be able to improve its standing in the United States market, which will account for 60% of its billing. The United States represents larger profits than the South American market, and by increasing its production capacity in Mexico, Ternium reduces its exposure to the uncertainty in the Bolivarian Republic of Venezuela (Expansión, 2007m).[48] Ternium also announced the sale of its non-essential assets in the United States, namely Imsa's shares in Steelscape Inc. (excluding the steel mill), ASC Profiles Inc, Varco Pruden Buildings Inc., and Metl-Span LLC (Ternium, 2007b).

The Brazilian company Gerdau accounted for 4 of the 24 acquisitions worth over US$ 100 million made by trans-Latins outside their countries of origin in 2007 (see box I.6). These were a continuation of the company's strategy to ensure it plays a leading role in the steel industry's expansion worldwide. Historically, the company has always expanded gradually into new markets. Having bought up small steel mills in the Americas in the past and acquired a plant in Europe in 2006, the company has now begun to extend its foothold in Asia as well. In Latin America, it is using its acquisitions in Mexico,

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[47] In 2007, the group bought an additional share (4.85%) in Siderar, which was owned by CVRD.

[48] One of the points of conflict with the Government of the Bolivarian Republic of Venezuela has been the destination of Sidor's production. In August, Ternium announced an agreement between Sidor and the Venezuelan Government, whereby the company would increase its participation in social programmes and intensify its efforts to develop the steel value chain in the country, with special emphasis on support for small and medium-sized enterprise. The company would use average export prices as a reference prices for the Venezuelan market. (Ternium, 2007a).

the Dominican Republic and the Bolivarian Republic of Venezuela to explore the markets that are growing rapidly thanks to improvements in the regional economy and the growing demand for investments in infrastructure. The company continues to pursue greater value added in its products and to diversify its portfolio (Gerdau, 2007a, 2007b, 2007c).

Gerdau's largest acquisition in 2007 was Chaparral Steel, the second largest producer of steel structures in North America. This purchase will allow the company to diversify its products portfolio and offer its customers a broader range of steel products produced in small factories (Gerdau, 2007d).

Gerdau's bid of US$ 1.458 billion for the steelworks of Quanex Corporation in the United States falls in with the company's strategy to consolidate its position as a world supplier and open up new growth possibilities. Quanex, through its steel division MacSteel, is the second largest producer of special bar quality (SBQ) steel in the United States and a worldwide supplier of SBQ long steel products for the motor vehicle and auto parts industry. Gerdau's acquisition of Quanex will increase the group's presence as a supplier of special long steel products in the globalized motor vehicle market (Gerdau, 2007e).[49]

Gerdau's joint venture in India aims to exploit the opportunities generated by the country's economic growth and its increasing importance as a consumer and producer of steel. India is also a low-cost location for the production of steel and has good quality iron-ore deposits (Gerdau, 2007f). This series of acquisitions has enabled Gerdau to keep up the pace of its national and international growth. During the past decade, the company has invested more outside than inside Brazil (see table I.13).

Table I.13
GERDAU'S INVESTMENTS: 1997-SEPTEMBER 2007
(Billions of dollars)

Brazil	4.2 + debt
North America	6.1 + debt
Latin America	1.3 + debt
Europe	0.7 + debt
Asia	0.07 + debt

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of a presentation made by Gerdau at the Apimec meeting, Porto Alegre, 26 November 2007, São Paulo, 30 November 2007.

Another trans-Latin steel corporation, CSN, halted its internationalization process after its attempts to buy Wheeling-Pittsburgh (United States), Corus (UK-Netherlands) and Acerias Paz del Río (Colombia), which was bought by another Brazilian company, Votorantim Metais, fell through. Its strategy had been based on acquiring small and medium-sized assets to process and distribute its steel sheets in the United States and Europe. In light of these failed purchases, however, CSN opted to make new investments in its mining and its raw steel production capacity in Brazil and to expand its existing foreign operations. It announced an investment of 2.7 billion reais in its Portuguese subsidiary Lusosider to install a new rolling mill and expand the volumes that it sells in Spain, Portugal and the South of France. The company also announced investments in its operations in Kentucky, United States (AméricaEconomía.com, 2007e; Latin Finance, 2007h). One of CSN's competitive advantages at the

[49] The purchase by Pacific Coast Steel, a joint venture of Gerdau's United States subsidiary, of the assets of Valley Placers, Inc. (VPI) forms part of the strategy to access higher value added segments in the United States market.

global level is its privileged access to mineral resources in Brazil, an advantage that the company is working hard to boost.

Finally, it should be mentioned that Madeco, a Chilean trans-Latin corporation with operations in Argentina, Brazil, Colombia and Peru, as well as in Chile, sold its copper cable subsidiary to the French company Nexans. Madeco retained a 9% share in Nexans, however, which is a market leader in the copper cables market in the United State and Europe (Nexans, 2007).

(iii) Cement

The largest acquisition in 2007 by a trans-Latin corporation was the purchase of the Rinker group by Cemex (Mexico). Although the company is headquartered in Australia, much of the attraction, as far as Cemex was concerned, lay in Rinker's significant presence in the United States, where it generates 83% of the group's profits. The two companies complement each other in the United States market both in terms of product (see table I.14) and geographical location.

Table I.14
SALES VOLUME AND RANKING IN THE CEMENT, PRE-MIXED CONCRETE AND AGGREGATES MARKET OF THE UNITED STATES

Sales/ranking in the United States	Cemex	Rinker	Cemex + Rinker
Cement			
- Millions of metric tons	18	4	22
- Ranking	Among the top 3	Among the top 10	Among the top 3
Premixed concrete			
- Millions of metric tons	18	14	32
- Ranking	Among the top 3	Among the top 3	Among the top 3
Aggregates			
- Millions of metric tons	48	92	140
- Ranking	Among the top 10	Among the top 5	Among the top 5

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEMEX, "Summary transaction overview", 27 October 2007.

The acquisition improves Cemex's standing in three key segments (see table I.15) and furthers the company's evolution from cement supplier to integrated building materials platform, along the lines of LaFarge and Holcim (*Latin Finance*, 2007i).

The purchase of Rinker has, however, also made Cemex more vulnerable to the crisis in the United States housing market. Sales in fact dropped in 2007. Cemex's broad geographical diversification, however, and the fact that there has been a sharp increase in demand in other markets, including those in South America and the Caribbean, thanks to higher levels of public spending on infrastructure, industrial and commercial development and housing construction, should cushion the impact of the downturn in the United States economy. The United States now accounts for a smaller proportion of the company's sales, which have grown in Mexico, Europe and the rest of Latin America instead (CEMEX, 2007).

Table I.15
CEMEX: STANDING IN THE MAIN SEGMENTS OF THE GLOBAL VALUE CHAIN AFTER THE ACQUISITION OF RINKER

Cement (2005 millions of tons)		Premixed concrete (2005 millions of m3)		Aggregates (2005 millions of tons)	
Company	**Capacity**	**Company**	**Sales**	**Company**	**Sales**
Holcim	183	Cemex+Rinker	97	Cemex+Rinker	293
Lafarge	155	Cemex	76	CRH	253
Cemex+Rinker	97	Holcim	40	Lafarge	240
Cemex	94	Lafarge	39	Hanson	240
Heidelberg	86	Heidelberg	28	Vulcan	236
Italcementi	64	Italcementi	21	Martin Marietta	184
Anhui Conch	62	Rinker	21	Cemex	175
Taiheiyo	46	Hanson	20	Holcim	174
Buzzi	34	CRH	19	Rinker	118
Eurocement	31	Tarmac	8	Colas	101
Rinker	3	Vicat/Cimport	7	Heidelberg	98
Others	~1 750	Others	~2 900	Others	~18 000

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CEMEX, "Summary transaction overview", 27 October 2007.

In addition to the purchase of Rinker, Cemex announced the start of a US$ 400 million investment project in a cement plant in Arizona, one area in the United States in which demand is expected to increase. Additionally, the company is expanding its production of clinker at the Bayano plant in Panama, with an investment of US$ 200 million.

(iv) Food and beverages

In the beverages segment, companies have been breaking into new markets, either in competition or association with Coca-Cola. In the food segment, baked goods, candy and ethnic foods manufacturers continued to broaden their international client base, and, for the first time, there was a sharp increase in the international sales of refrigerated food items.

Coca-Cola Femsa and Ajegroup spearheaded the internationalization of the beverages industry. Coca-Cola Femsa, the second largest distributor of Coca-Cola products in the world, bought the Mexican company Jugos del Valle in partnership with The Coca-Cola Company. Jugos del Valle was a powerful trans-Latin corporation in its own right with plants in Mexico and Brazil and a strong market presence in both these countries, as well as in the United States. The takeover of Jugos del Valle will further Coca-Cola's ambitions to expand its penetration of the juice market. The non-fizzy drinks segment has in fact been growing rapidly, and Jugos del Valle is well positioned in that segment. Since entering the market, and thanks to the convenience of its points of sale, Coca-Cola Femsa has managed to conquer a part of the market previously served by non-industrialized juice producers. This transaction reveals the extraordinary growth capacity of companies like Coca-Cola Femsa. It also highlights how vulnerable independent trans-Latin corporations are vis-à-vis the large transnationals.

Coca-Cola Femsa also bought The Coca-Cola Company's share in the distribution company Refrigerantes Minas Gerais (Remil) in Brazil. This increases Coca-Cola Femsa's operations in Brazil by over 33% and marks the first step in a plan to improve the company's position (always within the Coca-

Cola system) at strategic points throughout Latin America and the Caribbean (Coca Cola Femsa, (2007); *América economía*, 2007n).

The Peruvian company Ajegroup has gained a solid advantage in low-cost products in direct competition with Coca-Cola. Through its Mexican subsidiary, Ajemex, and the brand name Big Cola, the company has successfully fended off the giants of the beverages industry in their main market outside the United States. The company's strategy is to sell low-cost products in a country where the price-sensitive population is large and open to new brands. Ajemex now corners 10% of the Mexican market. When Coca-Cola bought out Jugos del Valle, Big Cola Ajemex entered the juice segment in Mexico with its product Big Country. The company also launched a new energy drink and a brand of purified water. These moves were in direct imitation of the diversification strategy used by the large beverages companies, but Ajemex always concentrates on consumers at the base of the pyramid. It also has an advantage over the Coca-Cola and Pepsico bottling companies: it does not have to pay royalties. Ajemex operates through independent distributors who work on commission. Mexico was the fourth country in which Ajegroup started operating, in 2002. Since then the company has expanded into Guatemala, Nicaragua, Costa Rica, El Salvador, Panama, Belize, Honduras and Thailand.

The company's directors are now considering breaking into other markets in Asia. Certain similarities between the developing Asian markets and the Latin American one, namely, low per-capita income levels, high per-capita soft-drink consumption rates and complex distribution arrangements and infrastructure, represent an advantage for Ajegroup in Thailand, and eventually in China (*Latin Finance*, 2007j). Ajegroup also entered the beer market recently with the launch of its brand Franca in Peru. The company shelved its plans to enter the beer market in Mexico, however, due to a tax on non-returnable bottles, which led the market leaders Backus y Johnson (SabMiller) and AmBev (InBev) to cut prices and launch new brands there.

In the food segment, while the leading trans-Latin corporations concentrated on baked goods (breads, cakes and cookies), candies and ethnic foods (Bimbo, Arcor, Gruma), 2007 marked the international expansion of other companies, especially Brazilian ones, in the meat segment.[50] The main Brazilian meat producers are Sadia and Perdigão. Having concentrated on taking advantage of the growing internal market, Sadia renewed its international expansion efforts in 2007, and in the wake of the drop in poultry prices triggered by the avian-flu threat, built a new plant in the United Arab Emirates and opened up production in Russia (Valor online, 2007c). Perdigão received considerable media attention during the year thanks to its failed attempt at a merger with Sadia, rumours of a possible takeover by Kraft, which were subsequently denied, and a local acquisition. The company's production is still largely concentrated in Brazil, but the purchase of Plusfood in the Netherlands boosted its international presence. Plusfood manufactures poultry and beef-based processed food products, and owns two well-established brands in the European market. Perdigão acquired one of these and may use the other for up to five years. Plusfood has plants in the Netherlands, the United Kingdom and Rumania. The goal of this purchase was to extend the company's participation along the meat products value chain in Europe and to reach final consumers, especially in the retail and food services segments (Perdigão, 2007).

[50] The trans-Latins in the baked goods, sweets and tortilla market continue to expand their operations. Bimbo bought Panifício Laura in Brazil for US$ 300 million, which strengthens its position in the Christmas cakes and Easter eggs segment (AméricaEconomía.com, 2007t). Maseca announced US$ 1 billion over the next five years for its expansion in Asia and Europe (*América economía*, 2006). Meanwhile Arcor invested with Bimbo in Mexico to produce confectionery and expand its presence in the Mexican and Central American markets (*Expansión*, 2007q).

During the avian flu crisis, the increased supply of poultry drove down the value of beef. Beef producers like the Brazilian companies Friboi (and its controlling company JBS) and Marfrig therefore benefited when the crisis passed (América Economía, 2007o). Friboi had acquired Swift & Co.'s Argentine operations in 2005. In 2007, it took over the company's global operations. This United States-based company had production plants in the United States and Australia and worldwide distribution activities. This transaction made Friboi the largest beef producer in the world, as well as the largest beef exporter, the largest Brazilian transnational in the food sector, and the third largest pork enterprise in the United States. All this will pave the way for the company's future diversification. The advantages for Friboi include gaining access to two important trade blocks (the Atlantic and the Pacific) and the possibility of spreading the company's phyto-sanitary risks, exploiting the size of the local markets of its operations and lowering its capital costs. New opportunities for improving the company's performance also arose in the ensuing overhaul of the company's organization and through the exchange of good practices among units, which built on the experience gained with the purchase of the Swift's Argentine unit (JBS, 2007a, 2007b). In December 2007, JBS bought 50% of Inalca in Italy and thereby a controlling stake in the meat and meat products manufacturer Cremonini, which will give it access to important customers in the retail, food production and fast-food sectors in Europe.

Marfrig made a series of acquisitions in Argentina, Uruguay and Chile, mainly in the beef sector, but also in sheep operations. The costs of producing a kilo of meat in these countries are far lower than in the United States, Canada or Australia. The company bought Quinto Cuarto and Frigorífico Patagonia in Chile, Estancias del Sur, Best Beef (Vivoratá) and Quickfood in Argentina and Establecimientos Colonia in Uruguay. These acquisitions will boost the company's market position and consolidate its position as the fourth largest beef and beef products supplier in the world. They will also ensure the company diversifies its activities in the region, which will mitigate the risks of an outbreak of cattle disease, and enable it to increase the scale of its operations. Some of the companies Marfrig purchased have well-established brand names and a significant client base, which includes supermarkets, international restaurant chains and food processing companies (Marfrig Group, 2007).[51]

(v) Retailing

In the retail sector, it was the Chilean trans-Latins that gained the most ground in the region's large markets (Brazil, Mexico), as they simultaneously stepped up their investments in the other markets they had already penetrated (Colombia, Peru, Argentina). One Mexican company meanwhile expanded its operations into Central America and the United States. In each case, the key to success has been the integration of retail services and financial services.[52]

Cencosud was the most active Chilean corporation. The group first went international in 1982 when it invested in Argentina. In 2007, it carried out three major transactions: it broke into the Colombian market in a partnership with the French company Casino and announced the opening of Paris department stores in Colombia; it bought the supermarket chain Gbarbosa in Brazil, and it purchased the Peruvian

[51] In January 2008, Marfrig also bought Mirab, an Argentine meat processing company that has plants in Argentina and the United States.

[52] Parallel to this expansion in the retail segment, Chilean trans-Latins (Salca, Invasco, Besalco, among others) have also been moving into the construction and real-estate sector. This sector was in fact the largest recipient of Chilean investment in the first semester of 2007. The main destinations were the United States, Argentina and Spain. In addition to investments in housing projects, these investments were often associated with the development of infrastructure for the retail industry, such as the construction of shopping centres and other kinds of retail facilities (CCS 2007 and *América economía*, 2007p).

chain Wong. Gbarbosa is the largest chain store in north eastern Brazil, which, by regional standards is a market that still has considerable growth potential.[53] These investments make Cencosud the third largest retail operator in Latin America after Wal-Mart and Carrefour. In Peru, the company has multiple projects under way, in addition to the Wong chain of supermarkets (the largest retail chain in the country), and is planning to open Paris stores there too (*El Mercurio*, 2007b; *Business Latin America*, 2007k; *La Tercera*, 2007a). Cencosud made a bid for the Gigante chain in Mexico, but lost out to Soriana.

Falabella is banking on economic growth in Chile, Peru, Argentina and Colombia and has extended its expansion plans in the region.[54] The internationalization strategy of this group has focused on the "integrated" retail model, which involves taking advantage of synergies among the various aspects of the business (retail activities per se, financial services and real estate) (Calderón, 2006). The group has thus expanded and consolidated its international presence along these lines and opened new supermarkets in Peru, as well as Falabella, Sodimac and Tottus stores at the new Mall Plaza in the country (*La Tercera*, 2007b).

The most important international transactions in 2007 for another Chilean company, Ripley, whose operations are mainly located in Chile and Peru, were an agreement with Palacio de Hierro (Grupo Bal) in Mexico and the opening of a possibility in Colombia. The operation in Mexico involved the development of a chain of supermarkets targeting low-income consumers (CNNExpansión, 2007).

Retail-trade-related financial services have been instrumental in the expansion of Chilean companies, which made notable strides in this sector in 2007. Falabella transformed Financiera CMR in Peru into Banco Falabella, and Cencosud broke into the credit card market in Argentina.

The Mexican group Salinas also used the link developed between retailing and financial services, in this case, between the retailer Elektra and Banco Azteca, in order to consolidate its international presence. Both companies were set up in Brazil in 2007. Like Cencosud, Salinas chose the North East as the entry point for its incursion in the Brazilian market. Less densely populated and with lower per capita income levels than in the other more economically developed regions of the country, the North East represents an important untapped market. Banco Azteca had had plans to penetrate the Brazilian market several years ago, but felt it necessary to make its entry coincide with the opening of Elektra stores in the country in 2007. The plan now is to inaugurate eight new Elektra stores in Recife and Fortaleza and 16 branches of Banco Azteca in 2008 and to then expand in the coming years into other states in northern and north eastern Brazil.

The most striking features of Banco Azteca are the attention it pays to low-income customers and its capacity for credit management in the low-income sector. The company has a unique risk assessment system: instead of just recording data on loan applicants, the bank's representatives go directly to their place of residence to determine whether their earning-power is compatible with the amount of the requested loan (*Valor online*, 2007d, e). Banco Azteca has also obtained authorization to open branches in

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[53] Cencosud bought Gbarbosa from a United States private-equity fund, Acon, which had bought the company from Wal-Mart. Wal-Mart had sold it in order to comply with fair competition rulings when it purchased the Brazilian assets of Royal Ahold (Netherlands). BLA, "Shops go shopping", 26 November.

[54] One of the main arguments in favour of the merger with D&S, which was thrown out by the Chilean fair competition authorities, was that it would have granted the company the economies of scale and critical mass needed for its internationalization. (*Qué pasa*, 2007) CorpBanca's purchase of Unimarc and its proposal to merge the company with Deca (other regions) in order to compete with the large players in Chile is also noteworthy. BCI bought SalcoBrand (*Business Latin America*, 2007k).

El Salvador and Peru and is paving the way for its entry in Panama, Guatemala, Honduras and Argentina (*Expansión*, 2007n, 2007o, 2007p). The bank also distinguishes itself from other financial institutions by setting up branches in regions in which traditional banks have shown little or no interest. Unlike other banks that target the low-income sector, Banco Azteca has the advantage of the commercial infrastructure of its affiliated retail stores.

4. Conclusions

Although the flows of outward foreign investment in 2007 were smaller than in the previous year, it is clear that the largest Latin American companies are still actively consolidating their international presence and that a broader range of production sectors are receiving Latin American investment. The strong position of companies operating in sectors related to natural resources has enabled them to extend their operations geographically and, albeit slowly, to increase the value added of their products. Other companies have benefited from the growth of consumer demand in the region and have managed to build on the experience gained in domestic and neighbouring markets to conquer niches in new destinations and countries, in and outside the region. Given the current situation in the international market, operators in the natural resources sector have been behind the most notable expansion efforts. In the other sectors, in which organic growth has been complemented with acquisitions, gradual expansion has been the key strategy for accumulating the necessary experience. In all cases, the constant challenge lies in maintaining the company's foothold in the market in the face of increasingly fierce competition and aggressive consolidation.

E. FINAL CONSIDERATIONS

In 2007, Latin America and the Caribbean was the recipient of unprecedented levels of FDI. Whether this is a one-off situation or marks the start of a prolonged period of high investment levels will depend on the extent of the economic slowdown in the United States and its repercussions in the regional economy. The most vulnerable sector as far as FDI is concerned consists of the export-oriented manufacturing industries in Mexico and the Caribbean Basin, which depend directly and to a great extent on demand in the United States market. The determining factor in other sectors will be the extent of contagion among the economies of the region (especially for market-seeking investment) and worldwide (for natural-resource-seeking investment). Investments could be affected in general by shrinking credit markets. These factors could also influence the outward investments of Latin American countries.

Variations in the volumes of FDI entering the region are not as significant as changes in how these flows have been structured. The extent to which FDI contributes to development in the region depends at least as much, if not more, on the quality, as on the volume, of that investment. In a globalized economy, attracting investment in activities that generate business capacity, innovation and jobs for skilled workers requires world-class levels of competitiveness because the competition for FDI (especially FDI with these characteristics) has become a worldwide one. Factors such as logistical performance, the availability of skilled labour, and the presence of, or capacity to develop, a supplier network are now key factors for improving the region's position in the world's production systems. This issue is addressed in light of ICT equipment in chapter II.

ANNEX

Table I-A-1

LATIN AMERICA AND THE CARIBBEAN: NET INFLOWS OF FOREIGN DIRECT INVESTMENT, BY COUNTRY AND SUBREGION, 1998-2007

(Millions of dollars)

	1993-1997 (annual average)	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Anguilla	17.9	28.1	38.0	39.7	29.6	33.2	29.4	86.7	117.3	164.0	n.a.
Antigua and Barbuda	22.8	22.8	32.1	43.1	98.5	65.9	166.3	80.4	213.6	337.3	n.a.
Argentina	5 629.3	7 290.7	23 987.7	10 418.3	2 166.1	2 148.9	1 652.0	4 124.7	5 265.2	5 037.3	5 720.4
Bahamas	91.0	146.9	149.3	250.3	102.4	152.8	190.2	273.6	563.9	705.7	580.1 [a]
Barbados	12.4	15.8	17.4	19.4	18.6	17.4	58.3	-12.1	62.0	n.a.	n.a.
Belize	26.2	17.7	53.6	23.3	61.2	25.4	-10.9	111.5	126.1	100.2	92.0 [a]
Bolivia	370.3	949.3	1 010.5	733.9	703.3	674.1	194.9	82.6	-290.8	277.8	163.6
Brazil	8 014.6	31 913.0	28 576.0	32 779.2	22 457.4	16 590.2	10 143.5	18 145.9	15 067.0	18 782.0	34 584.9
Chile	3 332.1	4 627.7	8 760.9	4 860.0	4 199.8	2 549.9	4 307.4	7 172.7	6 983.8	7 357.7	14 457.3
Colombia	2 409.6	2 828.8	1 507.9	2 436.5	2 541.9	2 133.7	1 720.5	3 015.6	10 240.4	6 463.5	9 028.1
Costa Rica	343.3	613.1	619.5	408.6	460.4	659.4	575.1	617.3	861.0	1 469.0	1 888.8
Cuba	104.8	206.6	178.2	448.1	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Dominica	25.8	6.5	18.0	17.6	17.1	20.1	31.5	26.2	19.2	26.8	n.a.
Dominican Republic	265.5	699.8	1 337.8	952.9	1 079.1	916.8	613.0	909.0	1 122.7	1 459.4	1 698.0
Ecuador	545.2	870.0	648.4	720.0	1 329.8	783.3	871.5	836.9	493.4	270.7	178.5
El Salvador	21.7	1 103.7	215.9	173.4	279.0	470.2	141.7	376.3	511.1	218.9	1 525.6
Grenada	22.0	48.7	41.6	37.4	58.8	54.5	89.2	65.0	70.2	85.2	n.a.
Guatemala	88.8	672.8	154.6	229.6	455.5	110.6	131.0	154.7	226.7	353.8	535.8
Guyana	72.3	44.0	46.0	67.1	56.0	43.6	26.1	30.0	76.8	102.4	n.a.
Haiti	2.5	10.8	30.0	13.3	4.4	5.7	13.8	5.9	26.0	160.0	n.a.
Honduras	64.8	99.0	237.3	381.7	304.2	275.2	402.8	546.7	599.8	674.2	815.9
Jamaica	148.4	369.1	523.7	468.3	613.9	481.1	720.7	601.6	682.5	882.2	n.a.
Mexico	10 680.9	12 416.2	13 712.4	17 942.1	29 506.8	21 152.9	16 589.3	22 777.1	20 960.2	19 211.0	23 230.2
Montserrat	3.5	2.6	8.2	2.3	0.5	0.6	2.1	2.3	0.8	2.2	n.a.
Nicaragua	99.6	218.2	337.3	266.5	150.2	203.9	201.3	250.0	241.1	282.3	335.3
Panama	501.8	1 203.1	864.4	623.9	467.1	98.6	770.8	1 012.3	962.1	2 574.2	1 825.1
Paraguay	140.1	341.9	94.5	104.1	84.2	10.0	27.4	37.7	52.8	110.0	142.2 [a]
Peru	2 443.4	1 644.0	1 940.0	809.7	1 144.3	2 155.8	1 335.0	1 599.0	2 578.7	3 466.5	5 342.6
Saint Kitts and Nevis	20.9	31.9	57.7	96.2	88.2	79.8	75.6	46.1	93.0	110.4	n.a.
Saint Lucia	33.1	83.4	82.8	53.8	58.8	51.9	106.4	76.5	78.2	233.9	n.a.
Saint Vincent and the Grenadines	48.8	89.0	56.8	37.7	21.0	34.0	55.2	65.7	40.1	109.1	n.a.
Suriname	-17.5	9.1	-61.5	-148.0	-26.8	-73.6	-76.1	-37.3	27.9	-163.4	n.a.
Trinidad and Tobago	509.8	729.8	643.3	679.5	834.9	790.7	808.3	998.1	939.7	882.7	n.a.
Uruguay	135.2	164.1	235.3	273.5	296.8	193.7	416.4	332.4	847.4	1 319.1	532.8
Venezuela (Bol. Rep. of)	2 111.0	4 985.0	2 890.0	4 701.0	3 683.0	782.0	2 040.0	1 483.0	2 589.0	-590.0	646.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures. The data considered is based on the most recently available official figures as at 30 April 2008.

[a] Extrapolation performed on the basis of data for the third quarter.

Table I-A-2

LATIN AMERICA AND THE CARIBBEAN: NET INFLOWS OF FOREIGN DIRECT INVESTMENT, BY DESTINATION SECTOR, 1998-2007

(Percentages) [a]

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Argentina	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**…**	**…**	**…**
Natural resources	18	74	26	41	53	-17	53	n.a.	n.a.	n.a.
Manufactures	16	8	14	2	46	69	29	n.a.	n.a.	n.a.
Services	50	13	46	58	-21	33	3	n.a.	n.a.	n.a.
Others	16	4	14	-2	23	15	16	n.a.	n.a.	n.a.
Bolivia	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	57	47	53	65	72	63	44	71	67	58
Manufactures	2	15	11	10	9	11	23	14	9	12
Services	42	38	36	26	19	26	33	14	29	30
Brazil	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	1	2	2	7	3	12	5	10	7	14
Manufactures	12	26	17	33	40	35	53	30	37	39
Services	88	73	81	60	56	54	42	60	56	47
Chile [b]	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	42	15	12	23	59	31	8	33	36	32
Manufactures	9	9	8	16	6	18	9	11	3	5
Services	49	76	80	61	34	50	83	53	61	63
Colombia	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	3	-3	5	41	43	53	58	32	55	50
Manufactures	28	34	23	10	14	17	6	54	12	17
Services	68	70	72	49	43	31	36	14	32	34
Costa Rica	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	7	8	-3	0	-1	-6	6	4	4	0
Manufactures	72	59	75	51	74	69	57	43	29	38
Services	21	32	27	48	28	37	36	52	66	61
Others	0	1	0	1	0	1	0	0	0	2
Dominican Republic	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	0	0	0	1	2	13	7	3	7	-10
Manufactures and commerce	25	14	16	15	24	17	35	18	14	11
Services	70	80	71	74	65	53	41	64	69	95
Others (includes free zones)	4	7	13	10	8	17	9	16	10	4
Ecuador	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	88	93	95	86	64	23	55	45	-26	-63
Manufactures	3	1	1	4	9	9	14	15	33	59
Services	8	5	4	10	27	68	32	40	92	33
El Salvador	100	100	100	100	100	100	100	100	100	100
Natural resources	2	-7	-6	11	4	-1	5	0	13	1
Manufactures	8	10	18	23	22	37	10	62	7	1
Services	83	97	77	57	69	9	77	37	80	91
Others	7	1	11	9	5	55	8	1	0	7
Honduras [b]	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	3	47	21	16	22	20	20	12	14	2
Manufactures	24	20	44	19	8	17	47	38	24	21
Services	72	33	21	40	44	36	34	49	60	54
Others	1	0	13	24	27	27	0	1	1	23
Mexico	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	1	2	2	0	1	1	1	1	2	6
Manufactures	60	67	56	20	38	46	57	57	54	50
Services	39	32	43	80	61	54	42	42	44	44

Table I-A-2 (concluded)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Nicaragua	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	16	8	3	4	0	0	0	0	5	3
Manufactures	13	11	27	37	34	24	13	36	22	36
Services	71	81	70	59	66	76	86	64	73	61
Panama	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**…**	**…**
Natural resources	0	0	0	0	0	0	0	0	…	…
Manufactures	-3	5	0	68	-77	0	4	-6	…	…
Services	108	98	63	46	100	69	107	176	…	…
Others	-5	-3	37	-14	77	20	-3	-72	…	…
Paraguay [c]	**100**	**100**	**...**	**...**	**...**	**...**	**100**	**100**	**100**	**100**
Natural resources	5	6	...	...	...	...	68	-4	-33	1
Manufactures	21	25	...	...	...	...	-3	-48	87	-8
Services	74	69	...	...	...	...	35	152	46	107
Peru	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Natural resources	23	24	1	8	5	2	-208	1 265	49	50
Manufactures	15	9	35	21	71	42	69	56	29	6
Services	62	67	96	71	24	56	238	-1 221	22	44
Trinidad and Tobago	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	…	…
Natural resources	80	70	90	94	88	88	87	87	…	…
Manufactures	2	1	-6	-2	2	1	2	2	…	…
Services	2	3	0	4	5	4	5	5	…	…
Others	16	26	15	4	5	7	7	7	…	…
Uruguay	...	...	...	**100**	**100**	**100**	**100**	**100**	...	...
Natural resources	...	...	...	-5	25	48	43	31	...	...
Manufactures	...	...	...	4	28	9	7	3	...	...
Services	...	...	...	95	75	36	44	29	...	...
Others	...	...	...	6	-27	7	7	37	...	...
Venezuela (Bol. Rep. of)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Petroleum	36	66	26	55	68	-1	-35	34	-122	-34
Finance	12	1	13	11	67	7	22	14	25	126
Others	52	32	62	34	-35	94	113	52	26	8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures available as at 30 April 2008.

[a] These data are based on official figures of Argentina (National Directorate of International Accounts (DNCI) of the National Statistics and Census Institute (INDEC); net income); Bolivia (Central Bank; gross income); Brazil (Central Bank; gross income), Chile (Foreign Investment Committee; investments made); Colombia (Bank of the Republic; net income); Ecuador (Central Bank; net income); El Salvador (Central Reserve Bank, net income); Honduras (Central Bank; net income); Mexico (Department of the Economy; net income); Nicaragua (Central Bank; net income), Nicaragua (Central Bank; net income); Panama (General Comptroller of the Republic; net income); Paraguay (Central Bank; net income); Peru (Proinversión; net income); Uruguay (Central Bank; net income); Bolivarian Republic of Venezuela (Central Bank; net income); Dominican Republic (Central Bank; net income) and Trinidad and Tobago (Central Bank; net income).

[b] Includes maquila from 2004 onwards.

[c] Extrapolation performed on the basis of data for the third quarter of 2007.

Table I-A-3

LATIN AMERICA AND THE CARIBBEAN: NET INFLOWS OF FOREIGN DIRECT INVESTMENT, BY COUNTRY OF ORIGIN, 1998-2007 [a]

(Percentages)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Argentina	**100**	**100**	**100**	**100**	**100**	**100**	**100**	…	…	…
Netherlands	15	2	4	60	-20	-10	23	n.a.	n.a.	n.a.
United States	13	5	9	25	16	-15	14	n.a.	n.a.	n.a.
France	18	6	6	24	-29	-11	9	n.a.	n.a.	n.a.
Germany	7	1	1	-5	18	7	8	n.a.	n.a.	n.a.
Chile	4	1	1	-11	1	1	4	n.a.	n.a.	n.a.
Others	44	84	79	7	115	128	42	n.a.	n.a.	n.a.
Bolivia	**100**	**100**	**100**	**100**	**100**	**100**	**100**	n.a.	n.a.	n.a.
United States	35	34	44	40	29	33	36	n.a.	n.a.	n.a.
Netherlands	9	11	6	7	1	1	15	n.a.	n.a.	n.a.
Spain	5	1	6	7	27	11	11	n.a.	n.a.	n.a.
United Kingdom	1	2	3	6	5	11	8	n.a.	n.a.	n.a.
Colombia	0	0	0	0	0	1	7	n.a.	n.a.	n.a.
Others	51	53	41	40	38	43	23	n.a.	n.a.	n.a.
Brazil	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Netherlands	15	8	8	9	18	11	38	15	15	24
United States	21	30	19	21	14	18	20	21	20	18
Luxembourg	1	1	4	1	5	2	4	1	3	8
Spain	23	21	33	13	3	6	5	6	7	6
Germany	2	2	1	5	3	4	4	6	4	5
Others	39	39	36	50	56	59	30	51	51	39
Chile	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Canada	17	6	24	3	27	15	8	5	58	24
United States	22	15	26	36	16	29	3	-1	11	19
Colombia	0	0	0	0	0	0	0	1	0	14
Spain	15	50	21	8	7	12	81	12	2	8
Australia	7	0	1	13	4	4	3	16	7	8
Others	39	29	27	40	46	40	6	67	23	27
Colombia	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
United States	13	23	4	13	47	23	44	17	48	34
Brazil	0	0	0	0	1	0	0	0	1	14
Panama	4	8	8	8	2	11	1	3	8	13
Mexico	1	0	1	1	1	2	1	13	1	9
Spain	15	7	15	10	6	13	7	7	15	8
Others	67	62	73	69	43	51	47	60	27	23
Costa Rica	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
United States	79	56	69	56	50	62	69	64	47	54
Netherlands	0	0	0	0	33	4	2	0	2	13
Germany	2	1	3	1	0	10	2	1	2	4
Switzerland	0	0	1	1	2	2	4	-1	1	4
Spain	0	0	5	6	0	1	1	2	1	3
Others	19	43	22	37	15	20	22	35	48	22
Dominican Republic	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
United States	26	14	21	40	42	75	19	41	47	47
Spain	29	34	20	18	4	-2	14	19	16	15
Canada	18	7	14	1	2	-4	30	10	9	10
Switzerland	1	1	1	0	0	1	2	4	0	5
United Kingdom	3	6	2	0	0	-4	2	8	5	5
Others	22	38	42	41	52	34	32	18	23	19
Ecuador	**...**	**...**	**...**	**...**	**100**	**100**	**100**	**100**	**100**	**100**
United States	...	...	...	...	56	-5	9	-16	-59	44
France	...	...	...	...	11	8	2	0	3	43
Panama	...	...	...	...	5	10	11	15	25	41
Spain	...	...	...	...	0	0	0	1	3	40
China	...	...	...	...	2	2	-1	-4	4	34
Others	...	...	...	...	25	85	79	104	124	-103

Table I-A-3 (concluded)

	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
El Salvador	…	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
Panama	…	3	4	2	7	0	1	8	13	59
United States	…	66	63	38	70	48	-1	4	60	35
Mexico	…	-6	0	1	2	8	129	6	1	4
Costa Rica	…	8	3	6	3	-1	0	0	1	2
Spain	…	18	0	19	19	2	8	0	0	1
Others	…	11	30	34	-1	43	-31	81	26	0
Honduras [b]	**...**	**...**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
United States	...	...	30	42	85	66	35	51	50	57
United Kingdom	...	...	5	5	0	-1	11	8	7	13
Mexico	...	...	0	3	1	1	7	8	6	13
Canada	...	...	5	8	11	7	14	13	16	7
France	...	...	1	0	0	0	0	3	1	3
Others	...	...	59	42	4	26	33	28	20	7
Mexico	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
United States	65	54	72	73	56	56	37	50	63	47
Netherlands	13	8	15	9	6	5	15	12	17	15
Spain	4	8	12	9	19	18	33	7	6	10
France	2	1	-14	1	2	3	1	2	4	7
Canada	3	5	4	3	1	2	2	2	3	4
Others	14	25	12	5	16	16	13	27	7	17
Panama	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	…	…
Spain	1	1	0	4	-6	27	6	28	…	…
United States	8	36	37	30	19	174	11	8	…	…
Republic of Korea	-1	3	9	0	7	0	2	7	…	…
Japan	5	4	5	-9	6	-29	14	7	…	…
Switzerland	0	1	0	-1	-9	7	8	6	…	…
Others	88	55	49	75	83	-79	58	45	…	…
Paraguay [c]	…	…	…	…	**100**	**100**	**100**	**100**	**100**	**100**
United States	…	…	…	…	355	112	6	71	61	60
Panama	…	…	…	…	-7	-8	-11	-20	4	18
Brazil	…	…	…	…	-77	-71	-2	28	29	9
Netherlands	…	…	…	…	251	-43	0	42	19	8
Argentina	…	…	…	…	-33	49	-25	26	1	8
Others	…	…	…	…	-389	61	131	-48	-14	-3
Peru	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**
United States	24	18	4	-11	13	71	-140	1 174	27	35
United Kingdom	30	53	6	30	8	163	274	0	34	29
Germany	1	1	0	2	1	1	-1	3	0	10
Spain	4	2	79	-3	4	5	340	-1 405	-1	10
Colombia	4	1	0	1	53	4	0	21	3	9
Others	37	26	15	81	48	-143	-373	307	37	6
Venezuela (Bol. Rep. of)	**100**	**100**	**100**	**100**	**100**	**100**	**100**	**100**	…	…
Cayman Islands	75	4	5	7	2	1	0	44	n.a.	n.a.
United States	8	6	13	9	16	84	35	40	n.a.	n.a.
Japan	1	0	7	0	0	1	0	6	n.a.	n.a.
Spain	1	2	9	2	2	1	4	3	n.a.	n.a.
Netherlands	2	7	12	35	21	4	0	3	n.a.	n.a.
Others	14	81	54	47	60	10	61	4	n.a.	n.a.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of official figures as at 30 April 2008.

[a] Data based on official figures of Argentina (National Directorate of International Accounts (DNCI) of the National Statistics and Census Institute (INDEC); net income); Bolivia (Central Bank; gross income); Brazil (Central Bank; gross income), Chile (Foreign Investment Committee; investments made); Colombia (Bank of the Republic; net income); Ecuador (Central Bank; net income); El Salvador (Central Reserve Bank, net income); Honduras (Central Bank; net income); Mexico (Department of the Economy; net income); Panama (General Comptroller of the Republic; net income); Peru (Proinversión; net income); Paraguay (Central Bank; net income); Bolivarian Republic of Venezuela (data obtained from the publication *Petróleo y Otros Documentos Estadísticos* of the Office of the Superintendent of Foreign Investments (SIEX); net income); Dominican Republic (Central Bank; net income) and Trinidad and Tobago (Central Bank; net income).

[b] Includes maquila from 2004 onwards.

[c] Extrapolation performed on the basis of data for the third quarter.

Table I-A-4
LATIN AMERICA: TOP 60 NON-FINANCIAL TRANSNATIONAL CORPORATIONS, BY CONSOLIDATED SALES, 2006
(Millions of dollars)

Ranking	Corporation	Country	Sector	Consolidated sales	Main subsidiaries
1	General Motors	United States	Automotive	26 430	Mexico, Brazil, Colombia, Argentina
2	Wal-Mart	United States	Commerce	24 882 [b]	Mexico, Brazil, Guatemala, Costa Rica Honduras, Nicaragua, El Salvador, Argentina
3	Telefónica de Spain	Spain	Telecommunications	23 166	Brazil, Argentina, Chile, Mexico, Peru, Colombia, Ecuador
4	Volkswagen	Germany	Automotive	17 884	Mexico, Brazil, Argentina
5	Repsol-YPF	Spain	Oil/Gas	16 900	Argentina, Brazil, Bolivia
6	Telmex [a]	Mexico	Telecommunications	15 400 [c]	Brazil, Argentina, Paraguay, Uruguay, Chile, Colombia, Ecuador, Peru, Guatemala, El Salvador, Honduras, Nicaragua, Dominican Republic
7	DaimlerChrysler	United States	Automotive	15 111	Mexico, Brazil, Argentina
8	Ford	United States	Automotive	11 170	Brazil, Mexico, Argentina
9	Nestlé	Switzerland	Food	9 768	Mexico, Argentina, Brazil, Chile
10	Royal Ducth-Shell	Netherlands/United Kingdom	Oil/Gas	9 757 [d]	Brazil, Argentina, Venezuela (Bol. Rep. of)[p]
11	Cargill	United States	Agro-industry	9 609	Brazil, Argentina
12	Endesa	Spain	Energy	8 920	Argentina, Brazil, Chile, Colombia, Peru
13	ExxonMobil	United States	Oil/Gas	8 208 [e]	Brazil, Colombia, Venezuela (Bol. Rep. of), Argentina[p]
14	Carrefour	France	Commerce	7 825	Argentina, Brazil, Colombia
15	Nissan	Japan	Automotive/Auto parts	7 820 [f]	Mexico, Brazil
16	Chevron	United States	Oil/Gas	7 532 [e]	Brazil, Colombia, Venezuela (Bol. Rep. of), Argentina, Trinidad and Tobago[p]
17	AES Corp	United States	Electricity	7 200	Argentina, Chile, Brazil, Colombia, Dominican Republic, El Salvador, Panama
18	Delphi	United States	Automotive/Auto parts	6 763	Mexico, Brazil
19	Arcelor Mittal	Luxembourg/India	Iron and steel/Metallurgy	6 747 [g]	Brazil, Mexico
20	BHP Billiton	Australia/United Kingdom	Mining	6 746	Chile, Brazil, Peru, Colombia
21	Hewlett Packard	United States	Electronics/Computing	6 532	Brazil, Mexico, Argentina
22	Anglo-American	United Kingdom	Mining	6 433	Chile, Brazil, Peru, Colombia, Venezuela (Bol. Rep. of)
23	Unilever	Netherlands/United Kingdom	Consumer goods	6 428	Brazil, Argentina, Mexico
24	Fiat	Italia	Automotive	6 323	Brazil, Argentina
25	Bunge	United States	Agro-industry	6 100 [h]	Brazil, Argentina, Mexico
26	Italia Telecom	Italia	Telecommunications	5 572	Brazil, Argentina, Paraguay, Cuba, Bolivia
27	General Electric	United States	Electrical equipment, Machinery, Computing	4 922	Mexico, Brazil
28	PETROBRAS[a]	Brazil	Oil/Gas	4 437 [i]	Argentina, Peru, Ecuador, Venezuela (Bol. Rep. of), Bolivia, Mexico
29	Siemens	Germany	Electrical equipment/ Electronics/Computing	3 911	Mexico, Brazil
30	Techint [a]	Argentina	Iron and steel/Metallurgy	3 761 [j]	Mexico, Brazil, Venezuela (Bol. Rep. of), Colombia, Guatemala, Ecuador
31	Caterpillar	United States	Machinery/Equipment	3 600	Brazil, Mexico
32	British American Tobacco	United Kingdom	Tobacco	3 552	Brazil, Mexico, Venezuela (Bol. Rep. of), Argentina, Honduras, Jamaica, Panama, Peru, Trinidad and Tobago
33	PepsiCo	United States	Beverages/Alcoholic beverages	3 470 [k]	Mexico, Argentina, Venezuela (Bol. Rep. of)
34	Peugeot-Citroën	France	Automotive/Auto parts	3 212	Brazil, Argentina

Table I-A-4 (concluded)

Ranking	Corporation	Country	Sector	Consolidated sales	Main subsidiaries
35	Dow Chemicals	United States	Petrochemicals	4 401 [d]	Brazil, Argentina, Mexico, Chile, Colombia
36	Sanmina SCI	United States	Electronics	3 110 [l]	Mexico, Brazil
37	Procter & Gamble	United States	Hygiene/Cleaning	3 100 [m]	Mexico, Brazil, Argentina, Costa Rica, Venezuela (Bol. Rep. of)
38	IBERDROLA	Spain	Electricity	3 035	Brazil, Guatemala, Mexico, Chile, Bolivia
39	BP Group	United Kingdom	Oil/Gas	2 782 [n]	Colombia, Venezuela (Bol. Rep. of), Bolivia, Trinidad and Tobago, Argentina
40	Portugal Telecom	Portugal	Telecommunications	2 777	Brazil
41	IBM	United States	Computing	2 762 [h]	Brazil, Argentina, Mexico
42	Avon	United States	Hygiene/Cleaning	2 743	Brazil, Mexico, Colombia
43	Philip Morris	United States	Tobacco	2 677	Mexico, Brazil
44	Basf	Germany	Chemicals/Pharmaceuticals	2 626	Brazil, Mexico
45	The Coca-Cola Co.	United States	Beverages/Beers	2 450	Mexico, Brazil, Argentina
46	Électricité de France	France	Electricity	2 376	Mexico y Brazil
47	Honda	Japan	Automotive/Auto parts	2 347 [g]	Brazil, Mexico, Argentina
48	Samsung Corp.	Republic of Korea	Electronics	2 336	Brazil, Mexico
49	E.I. Du Pont de Nemours	United States	Petrochemicals/Chemicals	2 200	Brazil, Mexico, Argentina
50	Sonae SGPS	Portugal	Commerce	2 067 [o]	Brazil
51	Cencosud [a]	Chile	Commerce	2 058 [c]	Argentina[q]
52	Renault	France	Automotive/Auto parts	2 047 [g]	Brazil, Argentina, Colombia, Mexico
53	Bayer	Germany	Petrochemicals/Chemicals	2 042	Brazil, Mexico, Argentina
54	Honda	Japan	Automotive/Auto parts	1 861 [g]	Brazil, Mexico
55	Kimberly Clark Co.	United States	Pulp/Paper	1 858 [l]	Mexico, Brazil, Colombia, Costa Rica, Bolivia, Peru, Honduras, Dominican Republic, El Salvador, Venezuela (Bol. Rep. of)
56	Danone	France	Food	1 808	Mexico, Brazil, Argentina
57	Lear	United States	Automotive/Auto parts	1 803 [l]	Mexico, Brazil, Argentina
58	Intel	United States	Electronics	1 800	Costa Rica
59	Nokia	Finland	Electronics	1 769 [g]	Brazil, Mexico
60	Bosch	Germany	Automotive/Auto parts	1 737 [g]	Brazil, Mexico, Argentina

Source: Prepared by the authors on the basis of the annual reports of each company, América economía (2007), Expansión (2007), Portal Exame (2007), Gazeta mercantil (2007), Semana (2007) and Mercado (2007).

[a] Company whose origins are in Latin America.
[b] This figure corresponds to its sales in Brazil, Mexico, Guatemala and Argentina.
[c] This figure corresponds to its sales in Latin America but outside its country of origin.
[d] This figure corresponds to its sales in Brazil and Argentina.
[e] This figure corresponds to its sales in Brazil, Colombia and Argentina.
[f] Estimated sales. Calculated on the basis of information on the number of vehicles sold and sales in 2005. Only information on the number of vehicles sold is available for 2006.
[g] This figure corresponds to its sales in Brazil.
[h] This figure corresponds to its sales in Brazil and Argentina.
[i] This figure corresponds to its sales in Argentina.
[j] This figure corresponds to the sales of its subsidiaries: Tenaris in Brazil, Ternium in Mexico and Techint E&C in Mexico and Brazil.
[k] This figure corresponds to its sales in México y Argentina.
[l] This figure corresponds to its sales in México.
[m] This figure corresponds to its sales in México, Brazil and Argentina.
[n] This figure corresponds to its sales in Colombia and Argentina.
[o] In October 2006 the company sold 50% of Sonae Sierra Brasil.
[p] Localization of upstream petroleum operations and exploration and production activities.
[q] Since 2007 the company also has operations in Brazil, Colombia and Peru.

Table I-A-5

LATIN AMERICA AND THE CARIBBEAN: NET FLOWS OF OUTWARD FOREIGN DIRECT INVESTMENT, BY COUNTRY, OFFICIAL FIGURES, 1998-2007

(Millions of dollars)

	1993-1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Argentina	1 693.7	2 325.5	1 730.3	901.0	160.9	-627.1	773.8	676.0	1 311.0	2 119.0	1 196.0
Barbados	2.1	1.0	1.3	1.1	1.1	0.5	0.5	3.9	9.2	3.0	n.a.
Belize	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.1	2.0	0.6	1.2 [a]
Bolivia	2.1	2.8	2.8	2.8	0.0	0.0	0.0	0.0	0.0	3.0	4.0
Brazil	697.4	2 721.0	1 690.0	2 281.6	-2 257.6	2 482.1	249.3	9 807.0	2 516.7	28 202.0	7 067.0
Chile	938.6	1 483.4	2 557.9	3 986.6	1 609.7	343.2	1 606.3	1 563.1	2 182.7	2 875.6	3 830.3
Colombia	356.5	796.0	115.5	325.3	16.1	856.8	937.7	142.4	4 661.9	1 098.3	370.3
Costa Rica	5.0	4.8	5.0	8.5	9.5	34.1	26.9	60.6	-43.0	98.0	227.5
El Salvador	0.5	1.0	53.8	-5.0	-9.7	-25.7	18.6	-53.3	112.9	-26.4	99.8
Honduras	0.0	0.0	0.0	0.0	0.0	0.0	19.8	-6.2	1.0	0.6	1.0
Jamaica	53.8	82.0	94.9	74.3	89.0	73.9	116.3	60.0	101.0	85.4	n.a.
Mexico	n.a.	n.a.	n.a.	n.a.	4 404.0	890.8	1 253.5	4 431.9	6 474.0	5 758.5	5 478.9
Paraguay	3.2	5.6	5.6	5.7	5.8	-2.0	5.5	6.0	6.4	4.0	7.6 [a]
Peru	15.2	62.0	128.0	0.0	74.4	0.0	60.0	0.0	0.0	0.0	0.0
Trinidad and Tobago	0.0	0.0	264.1	25.2	150.0	106.4	225.2	25.4	341.0	370.0	0.0
Uruguay	2.6	9.3	-3.0	-0.6	6.2	13.7	15.1	17.7	36.3	-2.4	3.5
Venezuela (Bol. Rep. of)	479.8	1 043.0	872.0	521.0	204.0	1 026.0	1 318.0	619.0	1 167.0	2 076.0	2 237.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the most recent official figures available as at 2 April 2008.

[a] Extrapolation performed on the basis of data for the third quarter.

Chapter II

THE INFORMATION AND COMMUNICATIONS TECHNOLOGY HARDWARE INDUSTRY IN LATIN AMERICA

A. INTRODUCTION

This chapter analyses the global changes that have taken place in the information and communications technology (ICT) hardware industry, the effects of those changes on the sector's leading firms and on foreign investment patterns, and the effects thereof on the host economies.[1]

The electronics industry, in which ICT hardware is increasingly important, has made a significant contribution to the economic growth and development of many Asian economies, thus demonstrating the industry's great capacity in that regard (Schipper and de Haan, 2005; Cassen and Lall, 1996; Krugman, 1994; Rodrik, 1995; Ernst, 2004). In Latin America and the Caribbean, this potential has been recognized as a source of foreign currency, employment, and technological know-how, for which reason substantial resources and efforts have been devoted to attracting foreign direct investment (FDI) into the ICT hardware sector.

The electronics industry has undergone far-reaching changes over the last two decades. Trade liberalization, rapid technological change, particularly the development of ICTs, and lower transport costs have changed the behaviour of the sector's large transnational enterprises and, hence, its industrial organization. One of the most significant changes in the global industry, which has been particularly forceful in the electronics sector, has been the rise of international systems of integrated production (ISIPs).

In this new setting, transnational enterprises seek global integration; on the basis of costs, available skills and the business climate in differing locations, they may decide to establish their operations anywhere in the entire world. The strategies employed by the leading ICT hardware firms aim to consolidate their leadership under these new sets of conditions.

These transformations in the industry and these new business strategies have had an effect on developing countries. Nonetheless, the repercussions are not homogeneous because the capacity for attracting FDI, and its effects on the receiving economy, depend on the skills and characteristics of each country. It is therefore important to analyse the impact that changes in the global ICT hardware industry have in Latin American and Caribbean countries and to attempt to determine how they can benefit or take better advantage of the new trends.

This chapter is organized as follows: Section B describes and analyses how the global ICT hardware industry has changed, focusing particularly on ISIPs; Section C reviews the key repercussions of these changes worldwide; Section D addresses the current situation of the ICT hardware industry in

[1] In this chapter, ICT hardware is defined as encompassing any equipment, product or component that is used to transmit, process or store information and data, namely: (i) telecommunications and telephone network equipment; (ii) personal computers; (iii) television sets; and (iv) their basic components, both active (semiconductors, integrated circuits, microprocessors and memories) and passive (printed circuits) and displays.

Latin America and the Caribbean, and assesses the regional effects of the global changes, particularly in the cases of Mexico and Brazil, which account for the majority of ICT hardware exports and FDI entering the region. Lastly, Section E sets out conclusions and identifies the main challenges facing the region, presenting a number of policy implications.

B. CHANGES IN THE GLOBAL INDUSTRY

Over the last two decades, the electronics industry, and hence the ICT hardware industry, has undergone far-reaching changes. This chapter focuses on one of the most important of such changes, given its repercussion on FDI, namely the de-verticalization of production chains and consequent emergence of ISIPs.

Three phenomena in particular have facilitated and encouraged the emergence and development of ISIPs. The first is trade liberalization, which has opened up national markets and promoted the expansion of FDI.[2] The second is rapid technological change and, particularly, the development of communication technologies and the reduction in transport costs. Internet use, in particular, has drastically cut the costs of long-distance information exchange (Ernst and Kim, 2002; UNCTAD, 2002; van Liemt, 2007). The third phenomenon is the growing competition in the international manufacturing market, which has fuelled a search for new forms of industrial organization allowing for cost reduction (efficiency-seeking), access to markets under better conditions (market-seeking) and access to specialized resources (strategic-assets-seeking investments).

Apart from the major repercussions that the emergence of ISIP has had on FDI flows, its spillover effects on local economies also need to be taken into account. Understanding the logic and functioning of ISIP is not only essential for understanding the businesses strategies that promote FDI, but also for identifying the challenges and opportunities for the region's countries, in the face of this relatively new global industrial organization.

1. International systems of integrated production (ISIP)

The concept of ISIP is closely related to the global value chain;[3] it entails a division of the links of the chain among various subsidiaries, associated firms, or plants of a given firm in different geographic locations. A country or region's participation in the different links of the global chain has far-reaching implications in terms of economic and social development, because the activities associated with each link use resources (capital, technology, labour or natural resources) with different degrees of intensity. They also have different possibilities for productive linkage and, therefore, imply different alternatives for

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[2] Liberalization includes four elements: liberalization of trade, capital flows and foreign investment policies; and privatizations. The overall effect of these four elements can be summarized as a substantial reduction in the costs and risks of international transactions, and increasing international liquidity. Global corporations have benefited enormously from these changes (Ernst and Kim, 2002).

[3] The value chain concept relates to the wide range of activities that firms undertake to produce a given product, ranging from its conception through to its use by the customer. The chain includes activities such as design, production, marketing, and after-sales service. These activities can either be done by a single firm or else distributed among several. The links into which the value chain can be broken down vary substantially from industry to industry (Kaplinsky, 2000).

local capacity development.[4] Analysis of the global value chain is also useful for identifying the power relations or hierarchy, which has direct repercussions on the industry's global organization, and the spaces assigned to the countries that participate in those chains.

ISIPs are established to optimize production, marketing and innovation activities by locating products, processes or functions in different countries or regions (Lall, Albaladejo and Zhang, 2004, p. 2).[5] ISIPs link transnational firms with their own subsidiaries, affiliated enterprises, suppliers and partners ,through strategic alliances that encompass transactions and coordination agreements within firms and between them (Ernst and Kim, 2002). These systems or networks are associated with spatial separation of activities of the value chain, particularly, separation of the design, development and marketing of the product from manufacturing processes (Ernst and Lüthje, 2003). Nonetheless, the characteristics of the networks vary between the different industrial sectors and even within them.

ISIPs are characterized by defined hierarchical relations between the participants, for which Gereffi and Korzeniewicz (1994) identified two general principles:

- ISIPs dominated by producers involve transnational firms in which power is exercised vertically from the parent company down to its subsidiaries, e.g. automotive industry systems dominated by assembly firms.

- ISIPs dominated by buyers are normally developed by large brand-name retailers which determine the specifications of the products in question and their marketing, but subcontract production activities to independent enterprises. An example of such systems is the global textile and garment industry dominated by large retailers such as Wal-Mart and JCPenney.

What distinguishes ISIP from previous productive organization strategies implemented by transnational firms is the accentuated global integration of participants and the emphasis on overall systemic efficiency (Kaplinsky, 2000). In other words, competition on the international market occurs increasingly between production systems directed by transnational firms rather than between individual enterprises (UNCTAD, 2002, p. 121).

The leading ISIP enterprises concentrate on the activities they consider decisive for creating and strengthening their competitive advantages, such as product development, marketing and brand management, while also setting and supervising technical and quality standards throughout the network (Sturgeon, 2002; UNCTAD, 2002). The leading firms “de-verticalize” their internal activities, abandoning and outsourcing manufacturing processes. This trend is particularly clear in the electronics industry.

The geographic dispersion of the links in the value chain has also affected research and development (R&D) activities. Although most of such activities are still undertaken in developed countries, there is a growing trend to shift them to subsidiaries in the developing world, and even outsource them to locally owned firms in such countries (UNCTAD, 2005; Ernst, 2006). An example is

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[4] The spatial dispersion of production allows the factor intensity of each component, rather than the average factor intensity of the end product, to determine the location of production (van Liemt, 2007, p. 4).

[5] The specialized bibliography has used different concepts to study ISIP. For example, Sturgeon (2002) defines the concept as “modular production networks”, while Ng and Yeats (1999) refer to it as “international production sharing”. Ernst and Kim (2002) refer to global production networks, which is possibly the most widespread term. ECLAC has used the term international systems of integrated production has been used (ECLAC, 2004).

provided by R&D activities in India undertaken by General Electric (aircraft turbines, consumer goods and medical equipment), and by leading firms in the pharmaceutical industry such as AstraZeneca, Novartis and Pfizer, among others. Another example are textile industry production activities undertaken by Chinese and Korean firms (ECLAC, 2007a).

2. International systems of integrated production in the electronics industry

Fierce international competition in the electronics industry, together with increasing product complexity and sophistication, pressure for continuous cost reductions and the ever-shorter product lifecycle have generated increasing demand for advanced capacities in manufacturing and related services.[6] Whereas previously, transnational firms could be vertically integrated and remain competitive, nowadays it takes a great deal of time, money and energy to be an expert in all links of the value chain. For that reason, the leading ISIP firms in the electronics industry increasingly concentrate on the spheres in which they are best (usually the most knowledge-intensive activities): creating innovative products and services, managing customer relations and developing brand loyalty (Sturgeon and Lester, 2002; van Liemt, 2007).

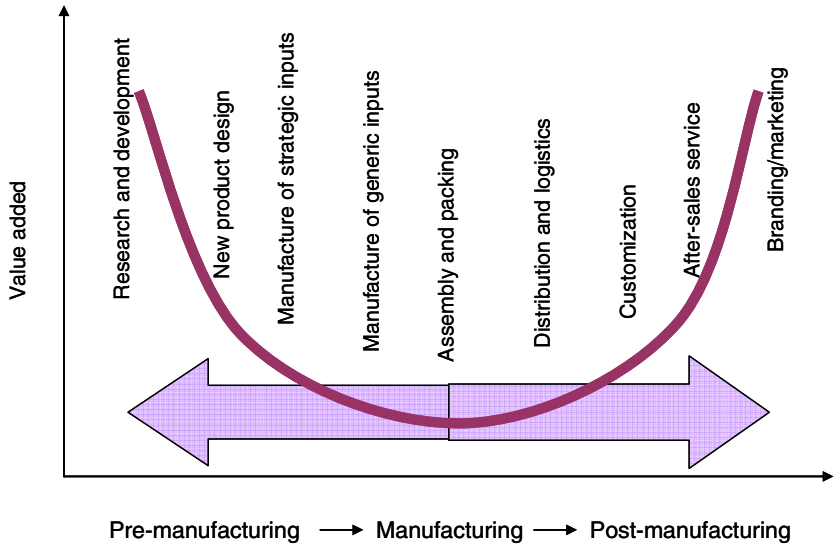
The electronics industry value chain is characterized by its high capacity for fragmentation or divisibility. The various links or activities have different characteristics in terms of scale, knowledge and technological needs; and their production can be located in different places (Padilla, 2005). Moreover, the capacity of the electronics industry to fragment its activities has increased as a result of new communication and transport technologies (Lall, Albaladejo and Zhang, 2004). Consequently, product design and development (undertaken by specialized firms with recognized brands, but without manufacturing assets, such as Apple) have become increasingly separated from physical production (performed by firms that manufacture on a contract basis) (Ernst and Lüthje, 2003).

Figure II.1 shows the supply chain of the electronics industry and the level of value added generated in each of its links. It displays a U-shaped curve: value added is high in research and development and in the design and production of strategic inputs; it is lowest in assembly, and then rises in after-sales service and brand and market development. Generally speaking, the industrial activity of developing countries is concentrated in the lower value-added links: production of generic inputs, assembly and packaging, and distribution and logistics.

ISIPs in the electronics industry have four main categories of participant: Original Equipment Manufacturers (OEMs), Contract Manufacturers (CMs), suppliers and design firms (see figure II.2).

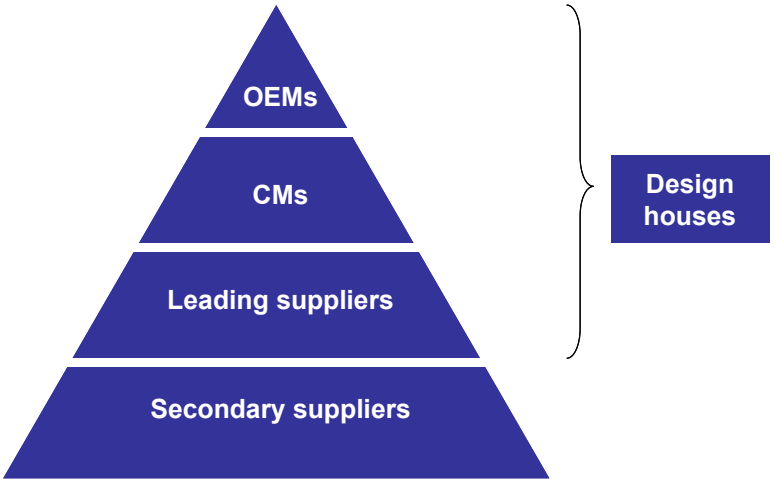
[6] See Padilla (2005), for a more thorough description of these characteristics of the electronics industry.

Figure II.1
VALUE ADDED IN AN ELECTRONICS INDUSTRY SUPPLY CHAIN



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of PRODUCEN (Centro de Inteligencia Estratégica), "Presentación cluster de electrónica", Baja California, November 2006.

Figure II.2
GLOBAL PRODUCTION NETWORKS IN THE ELECTRONICS INDUSTRY



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Padilla-Pérez, *Estudio sectorial de la industria electrónica en México,* Mexico City., Autonomous Technological Institute of Mexico (ITAM), 2005.

OEMs, also known as global flagships, are the centre of the ISIP and provide strategic and organizational leadership. Their advantages are based on greater resources and skills to innovate and coordinate transactions and knowledge exchange between network elements (Ernst and Kim, 2002).

Contract manufacturing differs from the traditional subcontracting of manufacturing or assembly processes, which usually make intensive use of labour that is closely controlled by the contractor. In contrast, CMs have the capacity to develop and undertake complex production processes on a global scale (Padilla, 2005). They also set up their own international production systems to supply components and products to OEMs.

In recent years, increasing competition has squeezed profit margins in the traditional manufacturing activities of CMs. In response, these firms have offered a wider range of services, particularly those offering a better chance of appropriating value added, e.g. prototype design, component and product testing, materials purchase, and even services such as product design and supply chain management (van Liemt, 2007). In short, this represents a process of "re-verticalization" or reintegration of the industry.

Outsourcing to CMs enables OEMs to obtain the benefits of experience and specialization of the pioneers in design, manufacturing and supply chain management. OEMs keep control over strategic aspects of administration and the supply chain, such as interaction with the customer, quality assurance, customer service and the introduction of new products (Omelas, 2004; van Liemt, 2007). The benefits obtained by OEMs from this strategy are as follows: reduction in operating costs and capital investment, access to world-class manufacturing processes, global scale manufacturing of the product itself, using the plants of CMs located in various countries, and the possibility of focusing on key competencies.

Among suppliers (the third category of participant in ISIPs) a distinction can be made between leaders and secondary suppliers. The first fulfil an intermediation function between CMs and secondary suppliers and own valuable assets (including technology). In contrast, secondary suppliers base their comparative advantages on low-cost, speed and flexibility (Ernst and Kim, 2002).

The fourth participant in the electronics industry ISIPs are the design houses. These offer highly specialized knowledge-intensive services to the first three participants in the network (OEMs, CMs and leading suppliers). Recently there has been a major boom in design houses in the wake of the increasing vertical specialization of R&D activities. For complex systems, such as integrated circuits or software, development of the product technology is becoming increasingly modular, i.e. certain activities in the design and development process (mainly routine ones) are done as standard procedures and can be outsourced to specialist firms such as design houses (Ernst and Lüthje, 2003).

Nonetheless, the different ISIPs in the electronics industry have their own characteristics. The greatest network development has occurred in the telecommunications and computer hardware sectors. For example, IBM's decision to use standardized components in its computers, manufactured by other firms, was a key factor in the development of contract manufacturing in the electronics industry (Lüthje, Schumn and Sproll, 2002). Similarly, the decision by CISCO in the 1990s to outsource its manufacturing processes had a notable effect on the industry by demonstrating the potential benefits to be obtained (Lynn, 2005). American-owned OEMs (Hewlett-Packard, Apple, Cisco and others) make greater use of contract manufacturing than their Asian competitors (van Liemt, 2007).[7]

Lastly, participation or integration in ISIPs offers major potential benefits to developing countries, such as the transfer of advanced knowledge in manufacturing, process engineering and product design, together with access to international markets (Ernst, 2000 and 2006; Mortimore, 2001). ISIP increases the complexity and scale of the value chain, thereby creating spaces for participation by

[7] Canadian-owned firms, such as Nortel, also use a high level of CM outsourcing (see section D).

specialist suppliers (Ernst, 2000). Participation by locally owned firms is initially possible in assembly or manufacturing activities; but there is also increasing potential for participation in design and R&D activities. In this regard, the vertical specialization of R&D activities opens up new entry possibilities for developing countries. For example, in semiconductor design, many global specialist suppliers have emerged throughout the value chain, ranging from assembly and testing through to the manufacture of chips and design instruments, thereby generating opportunities to participate in the chain for countries that are not at the technological frontier (Ernst, 2004).

Nonetheless, the benefits for developing countries are not automatic, nor is their participation in the more knowledge-intensive activities of the value chain. As considered in greater detail in the following sections, local capacity needs to be developed through investment in human capital and science and technology —areas in which public policies have a key role to play.

C. IMPLICATIONS OF THE CHANGES IN THE GLOBAL INDUSTRY

1. The change in ICT hardware industry trade patterns

The emergence of ISIPs and contributory factors, analysed in the previous section, have had very major repercussions in terms of the reallocation of value chain resources and tasks in the ICT hardware industry. This has occurred not only at the enterprise level, but also between countries, as can be seen by reviewing trade patterns over the last decade (see table II.1).

Table II.1
INTERNATIONAL TRADE IN ICT PRODUCTS
(Billions of dollars)

Exports	**1996**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
China	17.2	43.5	52.3	75.5	117.9	171.8	226.0	287.3
Japan	93.9	108.2	82.8	81.2	90.1	102.4	98.0	99.5
United States	104.6	153.4	126.7	109.1	112.5	121.3	125.7	136.8
European Union	63.8	81.3	73.9	68.3	75.7	89.2	130.6	116.8
Latin America and the Caribbean	15.5	38.0	37.7	35.4	35.0	37.1	43.8	52.8
Mexico	14.4	34.0	34.4	32.2	31.2	36.2	38.0	46.6
Brazil	0.9	2.3	2.4	2.2	2.1	2.0	3.7	4.0
Costa Rica	0.0	1.7	0.9	1.0	1.5	1.3	1.7	2.0
Imports	**1996**	**2000**	**2001**	**2002**	**2003**	**2004**	**2005**	**2006**
China	13.9	44.4	49.6	66.4	96.3	128.7	160.5	197.9
Japan	43.4	60.9	52.6	49.3	54.5	64.3	67.0	68.7
United States	140.7	215.5	172.8	173.2	180.5	212.9	233.1	253.7
European Union	100.2	162.3	130.5	140.2	145.2	169.3	190.6	210.8
Latin America and the Caribbean	25.6	45.5	45.8	39.9	30.9	39.6	63.0	64.1
Mexico	11.5	29.0	29.8	28.3	28.0	34.4	36.1	42.4
Brazil	6.1	7.6	7.0	4.8	4.9	6.9	8.8	11.0
Costa Rica	0.2	1.0	1.3	1.5	1.7	1.6	2.1	2.4

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations Commodity Trade Database (COMTRADE).

Note: Data for the European Union exclude intra-regional trade.

One of the most outstanding changes has been the rapid growth of exports from China. In 1996-2006, China's exports grew by 1,500%, far outpacing export growth in industrialized countries: Japan, 6%; the United States 31%; and the European Union 83%. It is clear that a large proportion of production has shifted to this country in a short space of time. The fragmentation of production and ISIPs have been decisive in consolidating China as the world's number one supplier of ICT products.

China is currently the world's largest producer, attracting large volumes of FDI as a result of its advantages in terms of domestic market size, infrastructure, production costs and Government support (Amighini, 2005; Lazonick, 2004). As a result, it is particularly attractive for efficiency-seeking investment in order to export to third markets. This can be seen in the correlation that exists between its exports and imports during the period under analysis. Nonetheless China's trade surplus has grown over the years, which may be indicative of the evolution of Chinese industry into component production.

The changes that have taken place in the industry have also been felt in Latin America and the Caribbean, despite the region's low specific weight in international trade. During the period 1996-2006, ICT exports from the region increased by 240%, outpacing growth in industrialized economies. The main beneficiaries were Mexico and, to a lesser extent, Brazil and Costa Rica. While these three countries accounted for nearly all exports in 2006, there are differences between them. The correlation between imports and exports in the cases of Mexico and Costa Rica demonstrate the export vocation of both countries, based on imported inputs. Both countries are attractive for efficiency seeking investment, so China is their major competitor. In the case of Brazil, however, its persistent trade deficit in ICT products shows that most of its imports are used in the domestic market; so, unlike its Latin American counterparts, Brazil is attractive for investment seeking access to its domestic market and some neighbouring markets.

2. From macro to micro: repercussions of the strategies of leading enterprises in the ICT hardware sector

The aggregate changes in international trade and the industrial organization of the ICT hardware sectors (described in the previous section) reflects a collective change in behaviour and business strategies at all ISIP levels: OEMs, CMs, suppliers (both leading and secondary) and design houses (see figure II.2).

Table II.2, below, identifies the leading OEMs in the global ICT hardware industry, in its four most important segments.

As can be seen, the nationality of the main network producers is distributed similarly in three geographic areas: North America (4), Europe (3) and Asia (3). The absence of European firms in the computer sector is notable: the market is divided between the United States (5) and Asia (5). In the telephony sector, most of the firms are Asian (5), followed by those of North America (3) and Europe (2). Asian firms (8) clearly dominate the television sector.

Table II.2
THE 10 LARGEST PRODUCERS OF ICT GOODS, 2005-2006

Networks	Computer hardware[a]	Telephones	TV [c]
Cisco (United States)	IBM-Lenovo [b] (United States)	Ericsson (Sweden)	Sharp (Japan)
Alcatel-Lucent (United States)	HP (United States)	Nokia Siemens Networks (Germany, Finland)	Philips (Netherlands)
Ericsson-Marconi (Sweden)	Toshiba (Japan)	Alcatel Lucent (United States)	Samsung (Republic of Korea)
Nokia Siemens Networks (Germany, Finland)	Dell (United States)	Nortel (Canada)	SONY (Japan)
Nortel (Canada)	NEC (Japan)	Motorola (United States)	LG Electronics (Republic of Korea)
NEC (Japan)	Fujitsu (Japan)	NEC (Japan)	Panasonic (Japan)
Huawei (China)	Hon Hai Precision (China)	Huawei (China)	Toshiba (Japan)
Motorola (United States)	Apple Computers (United States)	ZTE (China)	JVC (United States)
Siemens Enterprise (Germany)	Sun Microsystems (United States)	Samsung (Republic of Korea)	Sanyo (Japan)
Fujitsu (Japan)	Quanta Computer (China)	Fujitsu (Japan)	TCL-Thompson Electronics (China)

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Fundación Telefónica and ENTER, *DigiWorld América Latina 2007, Editorial Ariel, 2007 for columns 1, 3 and 4; Organization for Economic Co-operation and Development (OECD),* OECD Information Technology Outlook 2006, *Paris, 2007,* for column 2; various sources for column 4.

[a] The data does not include all mergers and acquisitions and reorganization operations that took place in 2006.
[b] In 2005, Lenovo (China) purchased IBM's computer production capacity.
[c] There are different classifications in the sector, so the enterprise ranking shown here may not coincide with other sources.

Broadly speaking, transnational firms have passed through three stages. In the first stage, during the nineteenth century, firms concentrated their productive capacity in their country of origin, from which they exported to other parts of the world. In the second, following the emergence of the transnational enterprise as traditionally conceived, the firms had their headquarters in their country of origin but set up smaller versions of themselves in other parts of the world. The third stage consists of the appearance of a modern and globally integrated transnational enterprise, which sets up operations in any part of the world based on costs, available skills and the business climate in the receiving countries. The strategies of many large ICT hardware firms are tending to move towards this new reality.

Nonetheless, the repercussions of the changes described are not homogeneous but vary across regions and countries. A glance at the broad trends of the business strategies of ICT hardware industry leaders reveals the different effects these changes have had, and the areas of opportunity for developing countries wishing to enter or strengthen their position in ISIPs. The analysis of the strategies presented here does not claim to be exhaustive, but to cover the key trends of the leading OEMs in the ICT hardware industry.

(a) Reorientation and specialization of OEMs

One of the clearest changes in business strategies has been the specialization of leading OEMs in higher value-added activities, and their gradual abandonment of manufacturing. Accordingly, many firms have refocused, specializing on specific segments of the value chain. Two of the most emblematic examples of this trend are IBM and HP, both of which have refocused towards services and higher value-added and more differentiated products. While this has afforded them larger profit margins in each product or service, it also demands higher investment in R&D activities to maintain their leadership in a market that is subject to constant technological change (see boxes II.1 and II.2).

Box II.1
SUCCESS BASED ON REINVENTING ONESELF: IBM

The creator of the personal computer, IBM, has probably been the most emblematic firm in the information technology field. It was created on 15 June 1911 in Binghamton (United States) as a result of a merger between the Tabulating Machine Company and Computing Scale Corporation and International Time Recording Company. The enterprise that resulted from the merger was called the Computing Tabulating Recording Corporation (CTR). The original CTR enterprises made a wide range of products, from employee control systems to automated meat carving equipment. In addition, they manufactured equipment for operating punched cards, which would prove to be a key element of computers in the future.

On 14 February 1924, CTR changed its name to International Business Machines Corporation (IBM). During World War II, IBM placed all its facilities at the disposal of the United States Government, but also took its first steps towards computing. The Automatic Sequence Controlled Calculator, also known as Mark 1, was completed in 1944. In the 1950s, IBM introduced the first large computer based on vacuum tubes, which transistors began to replace in 1959. One of the first transistor-based IBM computers was the IBM 7090. In that decade, IBM created the first disk-based computerized storage system; and in 1964 it introduced System 360, which was the first family of computers to use interchangeable software and peripheral devices. In 1971 it introduced the floppy disk, which became the standard product for storing personal information on computers.

In 1981, IBM created the PC, the most successful personal computer of all time, thereby initiating its entry into homes, small businesses and schools. The PC had 16 kB of memory (expandable to 256 kB), one or two floppy disk drives, and an optional colour monitor. When it designed the PC, IBM outsourced the production of its components to third parties for the first time: the processor was made by Intel and the operating system by Microsoft. This decision to outsource fundamental activities would mark the future of the industry.

As IBM did not have control of the key components, other firms gradually started to manufacture IBM compatible machines. In 1993, the firm announced losses running into millions of dollars, largely due to the fierce competition it was facing. It began a major restructuring process to strengthen its customer orientation, but also to gradually move towards service activities and thus reduce its economic reliance on computer sales. This latter trend peaked in 2005 with the sale of its computer manufacturing division to the Chinese firm Lenovo.

In 2006, IBM declared total revenues of US$ 91 billion, with operations in 170 countries, employing 355,000 people throughout the world. The firm has abandoned the basic product segments, such as computers and hard disks, and has strengthened its position in higher value-added segments of the industry, such as service-oriented architecture, business process services, modular systems and information on demand, among others. In terms of regions, 45% of its revenues came from the American continent, 35% from Europe, the Middle East and Africa, and 20% from Asia and the Pacific.

IBM provides a wide range of services in three broad areas: (1) services, which encompass consulting, systems integration, applications management, maintenance, integrated technology services and strategic outsourcing, among others; (2) software, which includes operating systems, software for manufacturing, software to assist computer-based design, intermediate software, and others; and (3) systems and technology, including printers, microelectronics, storage systems and servers, among others. In 2006, 37% of its revenues came from the services area, 40% from software, and 23% from systems, technology and financing.

Box II.1 (concluded)

With the new business model (oriented towards high value-added services), in 2006 IBM reported record profits (US$ 13 billion before tax), with a gross profit margin of 41.9%. This has enabled it to make significant investments including the purchase of strategic assets and the R&D area (it has invested over US$ 28 billion in that sphere over the last five years).

IBM has manufacturing plants in North America (the United States and Mexico), Europe (Ireland, Hungary and France) and Asia (China and Singapore), where it makes printers, microelectronics, storage systems and servers, which are generally higher value-added products that are not produced on such a massive scale. For manufacturing operations, IBM largely uses contract manufacturers. It also has research laboratories in the United States, India, Japan, China, Switzerland and Israel. As a result of its aggressive R&D strategy, it obtained 3,125 patents in 2007 alone.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of IBM annual reports.

Box II.2

HEWLETT-PACKARD (HP): FROM MANUFACTURING TO SERVICES

HP was created in 1939 by Bill Hewlett and Dave Packard, classmates at Stanford University. The company's first product was an audio oscillator, used in electronic testing. In the 1940s, the firm expanded its range of electronic products, which were in great demand by the Government of the United States during World War II.

In the 1950s, they continued to innovate in the electronics area, including testing and measurement products. In 1959 the firm became a global enterprise, setting up a manufacturing plant in Germany and a marketing office in Geneva. In 1966 it entered the computer market with its first computer, and in 1968 it created the first desktop scientific calculator.

The 1970s saw significant growth in terms of jobs and profits, together with the introduction of a new variety of computers. In the following decade, HP became a leading player in the computer industry, supplying a wide range of products, from desktop personal computers to powerful minicomputers. HP also linked its computers with electronic measurement devices and medical instruments; and it entered the printer market in the 1980s.

In the 1990s, HP made new advances in the field of portable computers and continued to invent new image and printing solutions. In 1999, it decided to hive off its measurement activities and chemical and medical analysis equipment, creating a new firm called Agilent Technologies. At the start of that decade, HP focused on supplying a wide range of products to its customers, covering printing, personal computers and ICT infrastructure. In 2002 its merger with Compaq Computer Corporation made HP a world leader in products, technologies, solutions and services for individual and business consumers. In the ensuing years, HP made a series of acquisitions that enabled it to increase its presence in the software, printing and computer markets.

In 2006, the firm reported total sales of US$ 91.7 billion and had 156,000 employees worldwide. Its operations are organized in the following market segments: (1) storage and servers, encompassing a wide range of industrial servers and data storage equipment; (2) HP services, with technological services, consulting, integration and outsourcing; (3) software, consisting of software solutions for managing information technology infrastructure, operations, applications and business processes; (4) personal systems, covering personal computers, workstations, portable devices and digital entertainment, among others; (5) image and printing, with printing hardware, scanners, digital image products and printing accessories; (6) financial services, consisting of financing, leasing and asset recovery; and (7) corporate investment, including research laboratories and new business incubation projects.

Revenues in 2006 came mainly from the following segments: personal systems (31.8%), image and printing (29.2%) and storage and servers (18.9%). The services and software spheres generated 17% and 1.4% of its total annual revenue, respectively. HP makes intensive use of CMs and Original Design Manufacturing (ODM) throughout the world to manufacture and design its products. Its use of CMs aims to generate cost efficiency and reduce market delivery times for certain HP-designed products. In addition, by contracting ODM, HP purchases finished products which it sells under its own brand name. Nonetheless, it also continues to make products and components itself.

HP is highly committed to innovation, with efforts focused on the design and development of new products, services and solutions. R&D expenses in 2006 totalled US$ 3.6 billion. Its product development and manufacturing centres are located in the United States, Puerto Rico, Europe (Germany, Ireland, the Netherlands, Spain and the United Kingdom), the Middle East and Asia (Israel, China, Japan and Singapore). It has R&D laboratories in California (United States) India, Israel, Japan and the United Kingdom.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of HP annual reports.

This transition to higher value-added activities means dropping others that are considered less strategic, to free up resources and focus on activities with greater future potential, particularly in dynamic markets where R&D activities are fundamental. An example of this is the sale by Nortel of its third-generation (3G) mobile phone technology division, to focus on next-generation (4G) products (see chapter III).

Other firms have decided to target specific segments. An example Siemens, which sold its network production area to Nokia and its cellphone production to BenQ, to concentrate on services with a capacity to respond to mega-trends, such as population ageing and large cities. Philips also altered its strategy, abandoning the ICT domain (except for television) to target the medical area, audiovisual products, lighting, and domestic appliances. Similarly, Siemens, Philips and Motorola have abandoned semiconductor production, which requires a financial and operational commitment that is incompatible with the structures of large-scale operations.[8]

A major repercussion of this trend, as a derived effect, is productive restructuring of a number of production plants located in developing countries. IBM provides a good example: the transition from manufacturing to service activities occurred not only in its corporate offices, but also in several plants that previously engaged in manufacturing in developing countries. At the present time, IBM has 53,000 employees in India and also has major centres working on services and software development in Brazil, China and Russia (*The Economist*, 2007a). Unlike manufacturing, those activities normally require higher paid staff with university or postgraduate studies. Moreover, these are more knowledge intensive activities, so they offer greater potential benefits in terms of technological learning for the receiving economy.

(b) Outsourcing of production and the emergence of CMs

One of the major industrial organization changes in the ICT hardware market, which has been fundamental in the relocation of production worldwide, has been production outsourcing and the emergence and expansion of CMs. OEMs need to be flexible to respond rapidly to changes in technologies or demand, without this significantly affecting manufacturing costs. While outsourcing generally enables them to satisfy those conditions, CM outsourcing also gives them access to world-class manufacturing processes with a global footprint. This enables OEMs to reach final markets more quickly and satisfy local demand (Schipper and de Haan, 2005).

The level of outsourcing in the ICT hardware industry is high and continues to rise. In 2004, just 27% of manufacturing activity was outsourced, but by 2006 the figure had risen to an estimated 73% (Pick, 2007). Thus, the function of CMs in global production has grown significantly.[9] In this group, the leading firms in terms of sales are: Foxconn (Taiwan), Flextronics-Solectron (United States), Jabil Circuit (United States), Sanmina-Sci (United States), Celestica (Canada), Elcoteq (Finland), Benchmark (United

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[8] From those three operations, Infineon emerged as an offshoot of Siemens; NXP from Philips, and Freescale from Motorola. These three semiconductor producers are ranked among the 15 largest in the world.

[9] Historically, the most important location for the initial growth of contract manufacturing was Silicon Valley (Lüthje, 2003), where the major United States contract manufacturers were located (Solectron, Flextronics, Sanmina, Celestica and Jabil). The first and largest operations to acquire entire OEM plants included those of IBM, Cisco and Sun Microsystems (Schipper and de Haan, 2005). The relation between OEMs and CMs, which has grown continuously and is a key element of global production networks (Ernst, 2003), currently has its major development centres in China, in the Perla and Yangtze river deltas. Asia in general has emerged as an advanced manufacturing region in the sector (UNCTAD, 2002), where there are also important CM clusters in Malaysia and Thailand.

States), Venture (Singapore) and Universal Scientific (Taiwan).[10] Most of these enterprises are United States-owned, although the Asian presence is increasing.

The following table shows the concentration of revenue earned by the top 10 CMs in 2006, accounting for 70% of the subcontractor manufacturing market. The firms are divided into two groups: EMS (*electronics manufacturing services*), which only produce for OEMs on the basis of the latter's designs, and ODM (*Original Design Manufacturing*), which also design products for which they retain the intellectual property.

Table II.3
REVENUE CONCENTRATION OF THE TOP 10 CMs (EMS AND ODM) IN 2006
(Millions of dollars)

CM type	Top-10 by sales	Total market sales	Top-10 by market share
EMS	110 592	157 006	70.4%
ODM	72 819	99 960	72,8%

Source: iSuppli Corp, 2 March cited in Adam Pick, "Big contract manufacturers get bigger" 2007 [online] http://www.emsnow.com/npps/story.cfm?id=25825.

It is important to note that the increased outsourcing of activities does not have the same repercussions in all regions. The location strategy of most CMs depends on the technological intensity of the products supplied. North America and Europe specialize in high technology services, while Asia and Latin America offer the advantages of low production costs.

Generally speaking, the expansion and use of CMs by the leading OEMs is a distinctive characteristic of the ICT hardware industry. All leaders of the network, computer or telephony hardware industries (see table II.2) use CM contracting to a greater or lesser extent. The television industry is a notable exception, however.

Unlike OEMs in other ICT hardware sectors, the market leaders in the television segment remain closely involved in their manufacturing operations, and they themselves assemble their final products. Television market leaders outsource part of the intermediate production, which includes making components or sub-assemblies, but not through CMs.

The television industry has also changed significantly as a result of digital television, and the strategies of the leading firms are also changing accordingly (ECLAC 2007a). Previously, television could be considered a relatively stable product in terms of price and market share. R&D focused mainly on materials, design and aesthetic changes. Nowadays, technology and product lifecycles are shorter, and more intensive competition has squeezed profit margins. In that setting, product and content innovation has become an essential factor for competing in the market;[11] and the need to focus more on R&D activities could cause sector leaders to outsource their manufacturing operations to a greater extent.

[10] Classification based on Emsnow.com [online] www.emsnow.com.
[11] Based on interviews held with a number of leading OEMs in the television sector, with manufacturing plants in Latin America.

(c) The de-verticalization and relocation of R&D activities

R&D is considered a strategic and fundamental activity to guarantee the competitiveness of the industries such as ICT hardware, which are subject to rapid and constant technical change. Many of the sector's leading firms have increased their R&D spending; and, given the strategic nature of this activity, outsourcing levels tend to be lower than in the manufacturing segment. Nonetheless, in an effort to reduce the cost of processes and gaining access to specialized resources, transnational enterprises have relocated a number of activities. It is worth mentioning that another strategy used by firms to strengthen their position and R&D efficiency involves mergers and acquisitions (see box II.3).

Box II.3

ALLIANCES, MERGERS AND ACQUISITIONS AS A WAY TO ACQUIRE STRATEGIC ASSETS AND ACHIEVE SYNERGIES IN R&D ACTIVITIES

Alliances, mergers and acquisitions have been another of the strategies implemented by firms to strengthen their market position or penetrate specific areas that are seen as strategic. Nonetheless, the motive underlying a number of mergers, mainly horizontal ones, has not only been to gain access to strategic assets, but also to generate scale economies in R&D activities. The largest horizontal mergers, in terms of transaction value, include the following: Alcatel-Lucent, motivated by potential scale efficiencies in R&D activities and synergies in its product lines; Ericsson-Marconi, which not only could involve efficiencies, but could also strengthen several Ericsson segments, such as copper and fibre optic broadband; and Cisco-Scientific Atlanta, an acquisition that aims, among other things, to strengthen the presence of the new firm in the routers market (EE Times, 2005).

In addition, non-horizontal mergers or alliances tend to involve investments to acquire assets making it possible to gain access to specific market segments. Examples of this type of acquisition include the following: the purchase of Nuova Systems by Cisco, to penetrate the data centre market; or the acquisition of Loudeye Technologies by NSN to enter the digital music platforms and digital media distribution markets.

Strategic alliances with the content industry is another common practice, as a way of diversifying production in response to the demand for products and services stimulated by digital convergence. Examples of this trend include alliances between Phillips and Microsoft, or Motorola with Google, Kodak and Universal Music Group.

Generally speaking, there has been a great deal of merger and acquisition activity in the ICT hardware sector over the last decade. In 1997, there were 129 transactions, for a total value of roughly US$ 18 billion. In 2006, the number of transactions reached the level of 2,872, worth about US$ 400 billion. In this period, acquisition activities peaked in 2000, when the value of transactions reached approximately US$ 435 billion.[a]

Mergers and acquisitions have not been exclusive to the leading OEMs in the ICT hardware sector. CMs have also used the strategy to build a global footprint giving OEMs the chance to minimize production and logistics costs on a global scale, while also increasing their revenues. An example of this is the acquisition of Solectron by Flextronics in July 2007. That operation enabled Flextronics to diversify its activities with its historical customers and, at the same time, expand its customer base, while increasing its capacity to respond to growing competition from Asia, such as Foxconn.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

[a] ECLAC estimate based on Zephyr (Bureau van Dijk).

Many leading OEMs have relocated not only their manufacturing activities, but also their R&D, in an attempt to improve efficiency and reduce costs. Several leading firms in the network sector have research centres outside their countries of origin, in lower cost locations, such as Alcatel-Lucent in China (Alcatel-Lucent, 2006); Cisco in China, India, Israel and Ireland;[12] and Ericsson in Brazil, China,

[12] Cisco Systems [on line] http://newsroom.cisco.com/dlls/2006/eKits/cisco_corp_overview.pdf.

Hungary, India and Ireland (Djuphammar, 2007). Nortel has research centres in Europe (France, Ireland and the United Kingdom) and in Asia (China); and more than a quarter of its 12,000 engineers are currently in China (*The Economist*, 2007b). This trend also includes the computer sector, as exemplified by Dell (China, India, Singapore and Taiwan); Toshiba (China, Europe and the United States) and Sun Microsystems (China, Czech Republic, Germany, India, Ireland, Japan and Russia).

In 2002, three quarters of the subsidiaries of United States transnational enterprises in Asian developing countries were undertaking R&D activities in the spheres of computing and electronic products. In contrast, very little of the investment entering Latin America and the Caribbean is directed towards R&D intensive activities, and what there is relates fundamentally to the adaptation of technology or products to local markets, although there are notable exceptions in Mexico and Brazil (UNCTAD, 2005). In general, it can be said that Asia is the developing region to have benefited most from the modularization of R&D activities and their relocation. This process has led to the emergence of design houses which, as will be seen in the following section, have also developed strongly in Mexico and Brazil.

(d) Modularization and production of strategic inputs

The third group of ISIP enterprises —leading and secondary suppliers— includes semiconductor producers. The reason why this group is mentioned separately, is because it represents the main source of technological innovation for the final products (Jørgenson, 2004).

Leading semiconductor producers are: Intel (United States), Samsung Electronics (Republic of Korea), Texas Instruments (United States), ST (Europe), Toshiba (Japan), TSMC (Taiwan), Hynix (Republic of Korea), Renesos (Japan), FreeScale (United States) and NXP (Europe).[13] The production and market of the top 50 producers is equally distributed between the United States and Asia, although Asian production is biased more towards manufacturing goods of lesser technological content (see box II.4).

The modularization of production has had effects on the relocation of production plants particularly in Asia. Even some of the advanced design and R&D activities in the semiconductor segment have been located in Asian developing countries (UNCTAD, 2005). None of the world leaders, except for Intel and Texas Instruments, which have plants in Costa Rica and Mexico, respectively, have production plants in Latin America. Nonetheless, the region has centres for testing, design and even R&D, such as those of Freescale (Brazil, Mexico) and Intel (Mexico), together with integrated microprocessor assembly plants, such as Smart (Brazil) and Skyworks (Mexico). The scant production of semiconductors is one of the characteristics of Latin America.[14]

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[13] EDN.com on the basis of *Thomson Financial* and *Reed Business Information* [online] http://www.edn.com/index.asp?.

[14] One of Latin America's projects to attract capital intensive and high-technology industry, including semiconductors, is the Silicon Border Science Park. This consists of 10,000 acres located in the State of Baja California, on the border between Mexico and the United States. Nonetheless, despite the convenient location of the park and promotion efforts by the Federal and State Government, since the creation of the promoting group in 2001 no investment has actually been undertaken. This could be interpreted as evidence of the preferences of investors in this type of industry for locations outside Latin America.

Box II.4
THE GLOBAL SEMICONDUCTOR MARKET AND ITS TYPOLOGY

The market and production of the largest semiconductor enterprises are distributed equally between the United States and Asia. Of the 50 largest producers, nearly half are from the United States, four are European, and the rest are divided between Japan (12), Taiwan Province of China (6), the Republic of Korea (2), Singapore (1) and China (1) (Arensman, 2007). Nonetheless, there is a clear difference in the specialization pattern of United States and Asian firms. Asian manufacturers focus on goods of lesser technological content (semiconductor commodities), while their United States and European counterparts work mainly with proprietary technologies. For example, Hynix and Samsung Electronics specialize in the production of memories, while Intel specializes in producing processors. Another key difference is that the United States firms have historically shown great innovation capacity in computer technologies, while Japan has clear leadership in the entertainment segment (Edwards, 2006).

In the semiconductor industry, the so-called "foundry model" describes how firms have separated design from manufacturing processes to reduce costs and increase efficiency. This type of firm is divided into three groups: (a) "fabless" firms that do not have manufacturing capacity and focus on design and R&D activities; (b) firms producing under manufacturing contracts (chip contract manufacturers, also known as merchant foundries), which are restricted to manufacturing and testing services; and (c) integrated device manufacturers (or IDMs), which design and have their own production facilities.

Of the 10 leading semiconductor producers, all are IDMs except for the Taiwanese TSMC which belongs to the second group. The best-known of the other firms of this type are UMC, which is also Taiwanese, IBM, SMIC of China (Ernst and Lüthje, 2006), and Chartered, of Singapore. In 2006, UMC was ranked 22nd among the top 50 producers worldwide, SMIC was 47th and Chartered 45th. IBM was in 18th place based on its classification as an IDM, which also includes contract production activities. Firms focusing on design (the third group) include Qualcomm, NVidia and Sandisk, Marvell and Xilinx, all of which are United States-owned and ranked among the top 40 producers worldwide.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of John Edwards, "A mix of strategies in what propels the winners to the top spots", *Electronic Business*, May 2006 and data of EDN.com on the basis of information from Thomson Financial and Reed Business Information.

3. Repercussions on the telecommunications network segment

The networks and telephony sector can be seen as the link between the ICT hardware industry and the telecommunications operator sector, analysed in chapter III. This sector plays a key role in the type, quality and price of the service that telecom operators can provide to consumers. The technology, cost and hardware provided by network producers largely determines the behaviour and strategies adopted by telecom operators. Similarly, the strategies and economic conditions of the operators sector have major repercussions on the strategies pursued by hardware suppliers. For example, when competition in the operator sector increases, pressure to reduce prices for consumers shifts to network and telephony producers in the form of pressure to lower prices, reduce costs and increase their flexibility.

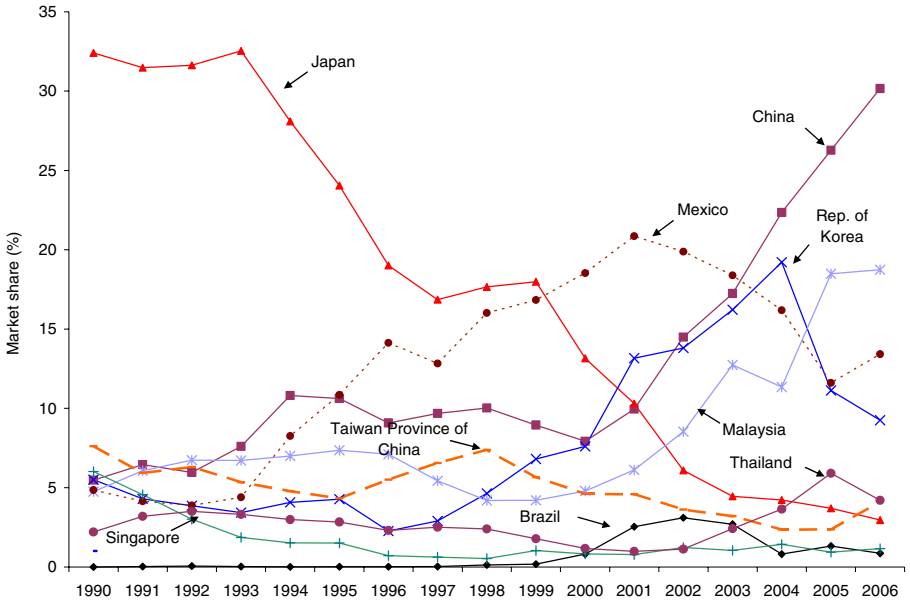
In view of that important connection function between the ICT hardware industry and telecom operators, the following analysis focuses on the repercussions of global changes and the strategies of the leading OEMs in the networks and telephony sector.[15]

The globalization of production and emergence of ISIPs has caused a major relocation of production in the networks and telephony sector, also allowing for the emergence of major exporting

[15] The networks and telephony sector is one of the ICT hardware segments, along with computers, in which ISIPs have developed most.

enterprises in developing countries. Figure II.3 shows the trend of market shares in imports of network and telecommunications equipment in the United States market.

Figure II.3
MARKET SHARES IN UNITED STATES IMPORTS OF NETWORK AND TELEPHONY EQUIPMENT



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of the software Module for the Analysis of Growth of International Commerce (MAGIC).

The drastic reduction in Japan's share of United States imports is one of the most notable developments, having fallen from 35% in 1990 to less than 5% in 2006. In contrast, four countries have substantially increased their share of United States imports of network and telephony equipment: China, Malaysia, Mexico and the Republic of Korea. These four countries started from a similar base, with a market share of around 5%, but each has evolved differently.

Mexico was the first to achieve take-off, driven by the signing of NAFTA, and it achieved its maximum market share of 21% in 2001, before falling back below 15%. This decline may be related to the takeoff of its three competitors China, Malaysia and the Republic of Korea. In the 1990s, there were no major changes in the market shares of those three countries in the United States imports of network and telephony equipment. China's accession to the World Trade Organization (WTO) in 2001 served as a trigger for its exports to the United States market, which rose from a market share of 8% in 2000 to 30% in 2006. Malaysia and the Republic of Korea also achieved take-off in 2001, the first peaking in 2004 with a market share of around 20%, before dropping back below 10% in 2006, while Malaysia grew to a market share of 20% in 2006.

The intense competition in the ICT hardware industry exerts constant pressure on firms to improve their efficiency, lower costs, or adopt strategies to increase their profit margins. This has been aggravated recently mainly by two factors. The first is that the wireless network market has started to mature, with repercussions on demand. For example, a number of operators in the United States have postponed equipment purchases, while several operators in Europe have granted concessions to virtual operators, which has postponed network upgrading and thus affected the profits of network producers. The second factor stems from the major competition from two Chinese firms: Huawei and ZTE (see box II.5). The cost structure of those two enterprises enables them to offer prices up to 40% cheaper than their western counterparts, which obviously has eaten into the revenues of the leading OEMs in this sector. Consequently, and with the aim of responding to the competition from Chinese firms, telecommunications equipment producers are transferring much of their manufacturing and R&D activities to low-cost countries, including China (*The Economist*, 2007b).

The above has accelerated the trends mentioned earlier: the specialization of OEMs in higher value-added activities, production outsourcing, and the de-verticalization and relocation of R&D activities. The patterns seen in figure II.3 reflect one of these trends.

Interviews held with leading OEMs in the sector (Alcatel-Lucent, Cisco, Ericsson, Motorola, Nokia Siemens Networks (NSN) and Nortel) confirm the trend towards specialization in higher value-added activities and intensive use of R&D. In that process, the firms in question have gradually abandoned their manufacturing activities, and all of them report a high level of CM outsourcing, along with manufacturing plants in developing countries with lower production costs. Sony-Ericsson produces one third of its telephones in China, while the rest are produced by CMs distributed across Asia, Latin America and Europe (Ericsson, 2006, p. 124). Alcatel-Lucent has production plants in China; NSN has plants in China and India; Motorola produces networks in China and Malaysia and outsources production to CMs in Asia, while its telephones are produced in China, Singapore and Brazil; Samsung produces telephone equipment in Asia and the Pacific (China, India, Indonesia, Malaysia, Philippines, Thailand and Viet Nam), Europe (Hungary, Slovakia) and Latin America (Brazil, Mexico).

There is also a clear trend to shift R&D activities to lower-cost areas, particularly Asia. Several of the sector's leading OEMs have R&D centres in developing countries: Alcatel-Lucent (China), Cisco (China, India, Ireland and Israel), Ericsson (Brazil, China, Hungary, India and Ireland), Nortel (China and Ireland), NSN (China and India) and Sony-Ericsson (China).

In general, Asia, and particularly China, has been the region benefiting most from the modularization and relocation of manufacturing and R&D activities.[16] But this begs the question of what has happened in Latin America and the reasons that have prevented the region taking better advantage of the opportunities provided by these new industry trends. The following section attempts to answer that question, while proposing policy alternatives to enable the region to make the most of opportunities in the ICT hardware industry.

[16] The growth of the Chinese industry is one of the factors that has significantly increased competition in manufacturing. In 2005 China reported sales of nearly US$ 500 billion, representing an increase of around 30% on the previous year's figure. Since 2001, its exports have outweighed those of Mexico or Eastern Europe; and since 2004 they have also surpassed those of Japan, the European Union and the United States (OECD, 2007).

Box II.5

THE NEW MAJOR COMPETITORS IN THE TELECOMMUNICATIONS EQUIPMENT MARKET: HUAWEI AND ZTE

HUAWEI

Founded in 1988, Huawei is a high-technology enterprise specializing in the production, R&D and marketing of communications equipment, while also providing custom-made network solutions for telecom operators. It is the largest telecommunications enterprise in China and employs over 10,000 professional workers.

In 2006, it obtained revenue of US$ 8.5 billion, representing a 42% increase on the previous year's figure (*The Economist*, 2007b). In that year, sales contracts amounted to US$ 11 billion, 34% up on the previous year, Of these, 65% come from international market, which has become the main engine of sales growth. In 2007, the proportion was expected to reach 72%.

Huawei has achieved balanced development between products, solutions and fundamental technologies. It has formed product lines encompassing mobile networks, broadband, data transmission, optical networks, applications, services and terminals. Those products and solutions have been widely used in European countries, including France, Germany, the Netherlands, Spain and the United Kingdom. The firm has also made significant progress in Japan and the United States.

Recently, Huawei has acquired key technology enabling it to support future network development. In addition, the firm assigns roughly 48% of its labour force and 10% of its annual revenues to R&D activities, of which 10% involves advanced research. The firm has 12 R&D centres, located in several parts of the world: United States (Dallas, Silicon Valley), India (Bangalore), Sweden (Stockholm), Russia (Moscow) and China (Shenzhen, Shanghai, Beijing, Nanjing, Xian, Chengdu and Wuhan).

Huawei has also entered long-term cooperation partnerships with the world's leading operators, thereby strengthening its market position. As of 2006, 31 of the 50 leading telecom operators, including Vodafone, BT, Telefónica, FT Orange and China Mobile, had chosen Huawei as their strategic partner. The firm has also established partnerships with direct competitors, e.g. the R&D centre in the universal mobile telecommunications (UMTS) system which it operates with Motorola; and a joint venture with Siemens for R&D, manufacturing and sales, and time division-synchronous code division multiple access (TD-SCDMA) services.

ZTE

ZTE was founded in 1985 with Chinese capital, and is now a world leader in the telecommunications equipment and network solutions markets. It supplies its products and services in over 100 countries, employing more than 4,000 people in Asian, North American, European, Latin American and Commonwealth countries. It has a wide range of products encompassing each sector of the wireless, wired, terminal and services markets. ZTE supplies innovative products and services to meet the needs of the main telecom operators around the world.

The firm supplies world-class development and manufacturing services for technological products in the wireless, access, optical transmission, data, telecommunications software and handsets segments, providing "end-to-end" solutions configured in accordance with its customers needs. ZTE allocates roughly 10% of its annual revenues and 40% of its labour force to R&D activities, and plays a key role in a wide range of international organizations that develop standards for the telecommunications industry. It has 15 R&D centres located in China, France, India, Pakistan, Sweden and the United States.

The firm has made strategic alliances with other leaders in the telecommunications sector such as Portugal Telecom, France Telecom, Alcatel, Ericsson and Nortel in the area of "next generation networking" and mobile systems; with Hutchison in third-generation (3G) equipment; and with Marconi in optical transmission systems. ZTE has also set up joint laboratories with Texas Instruments, Intel, Agere Systems, IBM, Microsoft (China), Qualcomm, Huahong NEC and the University of Tsinghua. The firm has undertaken joint technological research projects with 50 academic institutions in China.

The surprising growth and ability to penetrate international markets shown by Huawei and ZTE has enabled these two firms to become leading players in the telecommunications sector. Their low cost structure, effective and efficient R&D processes, and competitive prices have turned them into major rivals of global telecommunications equipment producers.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the firms and the annual reports published by Huawei and ZTE.

D. THE INDUSTRY IN LATIN AMERICA: THE EXPERIENCES OF MEXICO AND BRAZIL

This section briefly summarizes the historical development of the ICT hardware industry in Mexico and Brazil, describing its current situation and analysing the repercussions of the global changes in the industry and the strategies pursued by the sector's global leaders in those two countries.

The analysis focuses on the cases of Mexico and Brazil, since these countries account for about 96% of the total value of ICT hardware exports from Latin America.[17] They also receive the majority of investment entering in the region through the sector's leading OEMs and CMs. Nonetheless, Costa Rica is also one of the region's leading exporters, although the value added by its industry is way below that of Brazil or Mexico (see table II.3 and box II.6).

Box II.6
FDI ATTRACTION POLICY IN THE ICT HARDWARE INDUSTRY OF COSTA RICA

The Costa Rican experience is interesting because of the country's ability to develop a national strategy to channel foreign investments into certain sectors, in which the Costa Rican Coalition for Development Initiatives (CINDE), a non-profit institution founded in 1982, has played a crucial role. The institution's main objective has been to collaborate with development efforts in the local economy, for which it has promoted and facilitated the entry of major foreign investments into the country. Its status as a non-governmental organization has enabled it to implement a long-term strategy, without being significantly affected by political changes.

In 1993, CINDE selected three basic subsectors (electricity, electronics and telecommunications) in which to target its investment attraction efforts. The work done by CINDE, in conjunction with the efficiency-seeking strategy pursued by transnational firms to capture export markets, began to bear fruit in 1995. In that year, the United States enterprises DCS Communications Corporation and Sawtek Merrimac set up business in the country (ECLAC, 2004). In 1996, Costa Rica became host to the world's largest microprocessor producer, Intel. This firm has continued developing up to the present, attracting smaller investments and also developing a local suppliers network.

Intel's choice of Costa Rica to set up its microprocessor testing and assembly plant was based not only on the country's competitive labour costs, but also on the presence of skilled labour, streamlined bureaucracy, easy access to the United States market and a firm commitment by the State. The Government adopted very specific measures to facilitate Intel's arrival: amendment of the study programme of the Costa Rica Technology Institute; construction of two electric power substations and the establishment of special electricity rates; various projects to improve highway infrastructure; and an open skies policy to increase the frequency of flights between Costa Rica and the United States.

Intel's investment has had positive effects on the Costa Rican economy at large, including its industry, the education system and business culture. In Costa Rica, there are 55 electronics enterprises (42 of them foreign-owned), which are competitive and dynamic, generating roughly 12,000 jobs and exporting over US$ 1.65 billion per year.

[17] The value added by ICT industries in Brazil and Mexico varies between US$ 6 billion and US$ 7 billion in each country, equivalent to about 95% of industry value-added regionwide. These two countries are followed far behind by Argentina (US$ 200 million) and Colombia (US$ 140 million). The evaluation of economic variables in the sector suffers from a great lack of precision (ECLAC, 2008); for example, the value added by Intel in Costa Rica has been estimated in a range of US$ 90 million to US$ 500 million per year, according to different methodologies (World Bank Group, 2006, p. 16).

Box II.6 (concluded)

Despite its renowned successes, however, 10 years later Intel remains the only large-scale investment in Costa Rica. It has thus far been impossible to replicate the experiences of Shanghai, Malaysia, Singapore or Ireland, for example. The reasons for this include an inability to develop networks or strong links between investors and suppliers, compounded by a lack of incentives for suppliers themselves (Ciarli and Giuliani, 2005). Many international firms, such as HP, IBM or Dallas Semiconductors, have shown interest in setting up plants in Costa Rica, but those interests have never materialized.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of World Bank Group, "The impact of Intel in Costa Rica. Nine years after the decision to invest", *Investing in Development Series,* Multilateral Investment Guarantee Agency (MIGA), 2006 and Tommaso Ciarli and Elisa Giuliani, "Inversión extranjera directa y encadenamientos productivos en Costa Rica", *Heterogeneidad estructural, asimetrías tecnológicas y crecimiento en América Latina*, project documents, No. 35 (LC/W 35), Mario Cimoli (ed), Santiago, Chile, Economic Commission for Latin America and the Caribbean (ECLAC), 2005 CEPAL (2003). Economic Commission for Latin America and the Caribbean (ECLAC), *foreign investment in Latin America and the Caribbean, 2003* (LC/G.2226-P), Santiago, Chile. United Nations publication, Sales No.: S.04.II.G.54.

1. Brief history of the ICT hardware industry in Mexico and Brazil

The ICT hardware industries in Mexico and Brazil have very different vocations. Whereas in Mexico, favoured by proximity to the United States, the industry focuses on production for the United States market, the Brazilian ICT industry concentrates on supplying goods for the domestic market. In fact, Mexico is Latin America's leading producer and exporter of ICT hardware, and the second largest supplier of ICT hardware to the United States market, after China.[18] Brazil is the region's second-largest producer and exporter of ICT hardware; but the sales of firms established in Brazil are targeted on the national market and exports are secondary. Nonetheless, the historical evolution of the two industries has been very similar.

In both countries, ICT hardware assembly and manufacture began in the 1940s and 1950s, following the installation of nationally-owned and foreign plants in the consumer electronics segment (radios and televisions). The industries of both countries were greatly boosted during the post-war years, by the import substitution industrialization (ISI) policy. This not only gave incentives for the emergence of enterprises based on national capital, but also —despite market reserves being imposed for certain products— it encouraged the entry of foreign-owned firms seeking to fulfil ISI requirements and supply the growing Mexican and Brazilian markets.[19]

At the same time, from the mid-1960s onwards, both countries implemented programmes based on tariff advantages and production incentives in certain regions. In the case of Mexico, the programme favoured industrialization of the country's northern border.[20] In Brazil, consumer electronics was one of the sectors benefited by the establishment of the Manaus Free Zone (ZFM), as part of a development policy for the Amazon region.[21]

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[18] This classification includes the export of telecommunications, computer, telephony, and audio and video equipment. The classification shown in figure II.3 only includes telecommunications equipment.

[19] The market reserve in Brazil consisted of measures favouring local enterprises in public procurement processes for ICT equipment, or the restriction of purchases to nationally owned firms. In the information technology domain, the granting of licences to locally owned firms excluded transnational enterprises from the country's mini- and microcomputer segments (Dahlman, 1990 and Adler, 1986).

[20] This programme is commonly known as the maquila industry programme.

[21] Despite originally being conceived as a duty-free export zone, in practice, ZFM always had the domestic market as its main target. It has achieved notable success by attracting a large group of firms to the Amazon region,

In the early 1980s, new development incentives were introduced for the ICT hardware industry. The 1981 promulgation of the Mexican programme to promote the manufacture of computer systems, including their main modules and peripheral equipment, resulted in the arrival of major firms from the computing area (IBM and HP), and from telecommunications (NEC, AT&T and Mitel); and the State of Jalisco emerged as one of the key areas for the development of Mexico's ICT hardware industry. In Brazil, introduction the Information Technology Act in 1984, heralded the start of a regime of tax incentives for production and R&D in this sector, which, with far-reaching changes through time, persists to the present day alongside the ZFM incentives.

As a result of the crises of the 1980s, both countries were forced to abandon ISI and opened up their economies to foreign trade and investment.[22] Trade liberalization and foreign investment exposed weak national industries to international competition. This confrontation revealed that ISI had been a double-edged sword. Excessive protection and a failure to recognize the importance of technological development, among other things, had put the industry in a vulnerable situation characterized by: (i) lack of competitiveness in terms of price and product quality; (ii) insufficient production scale, particularly in parts and components; (iii) absence of innovation skills; and (iv) inability to enter international markets.[23]

Once exposed to competition, many Mexican- and Brazilian-owned firms either went out of business, were bought up by transnational enterprises, or else shifted their activities to other sectors. The components industry was affected particularly seriously, because final goods producers started to obtain spare parts and components from the competing Asian industry on a more intensive basis. The region's low level of parts and components production would prove to be a pattern lasting until today. By the late 1970s, a large proportion of semiconductor assembly had moved to Southeast Asia (Scott, 1987).

As from the second half of the 1990s, a new FDI surge occurred in the ICT hardware sector, following trade liberalization, entry into force of NAFTA in Mexico, and the boost to the national market in Brazil (resulting from monetary stabilization and liberalization of the telecommunications sector, among other things). During this period, major ICT hardware enterprises entered both Brazil (Motorola, Nokia, Nortel, Samsung, LG Electronics and others) and Mexico (LG Electronics, Samsung, Sharp, JVC and others).

Lastly, also starting in the second half of the 1990s, a group of firms that were fundamental for ISIPs arrived in both countries: CMs. The main global leaders of contract manufacturing (Foxconn, Flextronics-Solectorn, Jabil, Sanmina-SCI, Celestica and others) now have manufacturing and assembly plants in both Mexico and Brazil.

This similar past has defined many of today's challenges, which are common to the two countries: becoming more competitive in terms of price and quality, and leading their industries towards higher value-added activities.

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including research and development centres, given the demands of incentives programmes. Nonetheless, the predominant pattern was, and continues to be, assembly based on foreign technology and components. Some analysts consider that ZFM hindered the development of an industry with greater local technological content in other parts of the country (Baptista, 1988, cited in Ariffin and Figueiredo, 2003; interviews with the firms).

[22] In 1991, Brazil eliminated the market reserve and established a structure of tax incentives conditional on certain stages of the productive process being undertaken in the country. More than openness in itself, the greatest boost to the entry of new firms was the expansion of the Brazilian market, especially from 1994 onwards.

[23] For a more detailed explanation of this situation see Peres (1990), FINEP/MCT (1993) and Frischtak (1990).

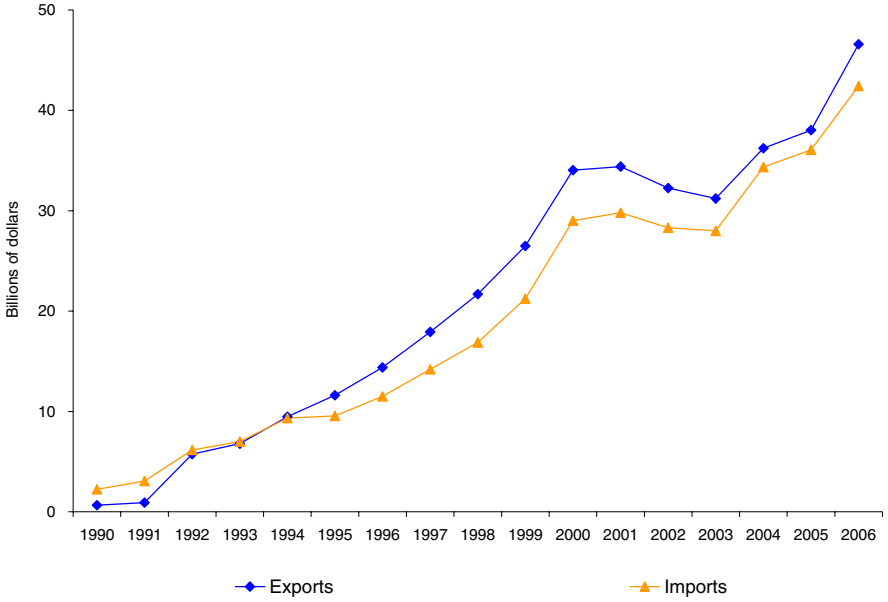
2. Current overview of the ICT hardware industry in Mexico and Brazil

(a) The industry in Mexico

In 2006, Mexico's ICT hardware exports and imports amounted to US$ 46.6 billion and US$ 42.4 billion, respectively, i.e. a sector trade surplus of US$ 4.2 billion. Global changes have influenced Mexico's ICT hardware industry, defining its function in ISIPs as an assembly and manufacturing centre for export markets.

In the early 1990s, imports outweighed exports, but this situation began to be reversed from 1992 onwards in the wake of trade liberalization. As from 1994, with the signing of NAFTA, major global OEM and CM leaders entered the Mexican market, seeking to reduce their manufacturing costs (pursuit of efficiency), to subsequently export, particularly to the United States. Since then, the sector trade balance has remained in surplus, with a high correlation between imports and exports, reflecting the industry's heavy reliance on imported inputs.

Figure II.4
MEXICO: EXPORTS AND IMPORTS OF ICT GOODS

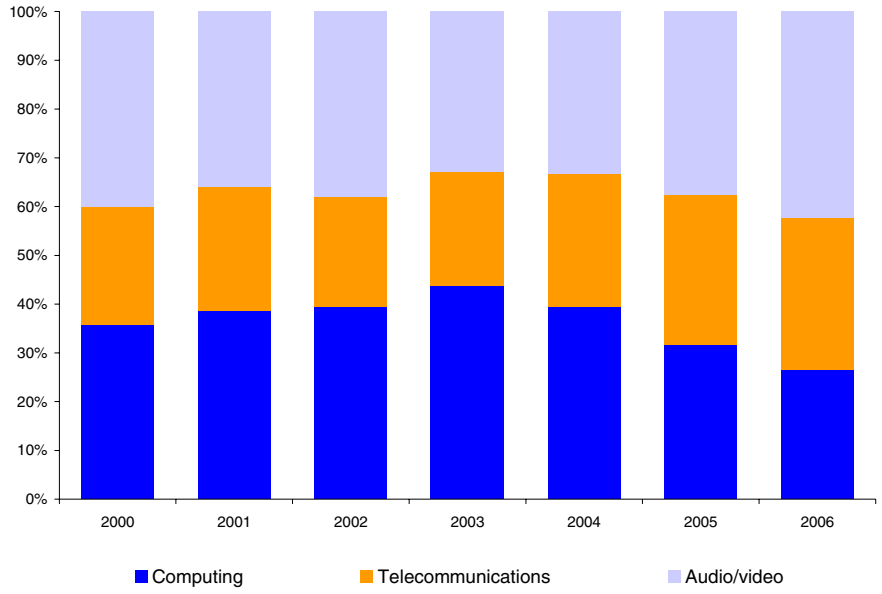


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations Commodity Trade Database (COMTRADE).

In 2001-2003, ICT hardware exports posted negative growth rates, resulting particularly from a contraction of demand in the United States and intense competition from Asian countries in that market. In contrast, 2004-2006 has been a period of vigorous expansion, thanks to the recovery of the United States market and growth in the production of goods of higher unit value, such as digital television sets.

By sectors, exports of audio and video equipment accounted for 42.3% of Mexico's total ICT hardware exports in 2006, while 31.1% corresponded to telecommunications equipment, and 26.6% to computer hardware. Changes in the shares of these three sectors reflect recent developments in the industry in Mexico (see figure II.5). Between 2000 and 2004, audio and video equipment exports lost market share, declining from 40.2% to 33.4% of total ICT hardware exports. In 2005 and 2006, they posted a very sharp expansion (rising from US$ 12.1 billion to US$ 19.8 billion), and their market share grew to 42.3%. Telecommunications equipment exports gained market share between 2000 and 2006, rising from 24.1% to 31.1%, while the share of computer hardware fell back from 35.8% to 26.6%.

Figure II.5
MEXICO: SECTOR STRUCTURE OF ICT HARDWARE INDUSTRY EXPORTS, 2000-2006
(Percentages)

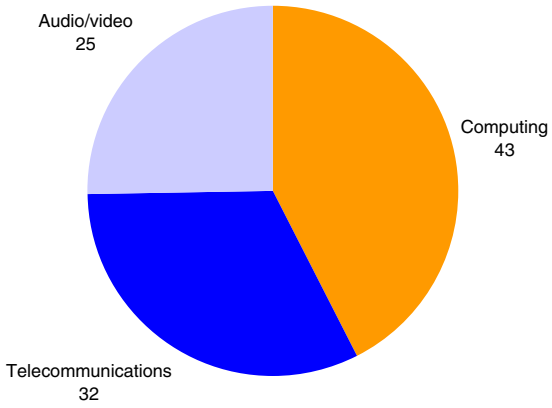


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Secretariat of Economic Affairs, Mexico.

The initial drop in the market share of audio and video equipment, along with its sudden expansion, reflect the technological changes that occurred in the industry. In 2000-2004, the production of analogue television sets gradually declined and their market price fell, while in 2005 and 2006, the production of digital television sets (high-priced items) increased substantially. The loss of export share by computer hardware is largely explained by IBM's and HP's decision to hive off their manufacturing activities and, consequently, downscale or eliminate such activities in Mexico.

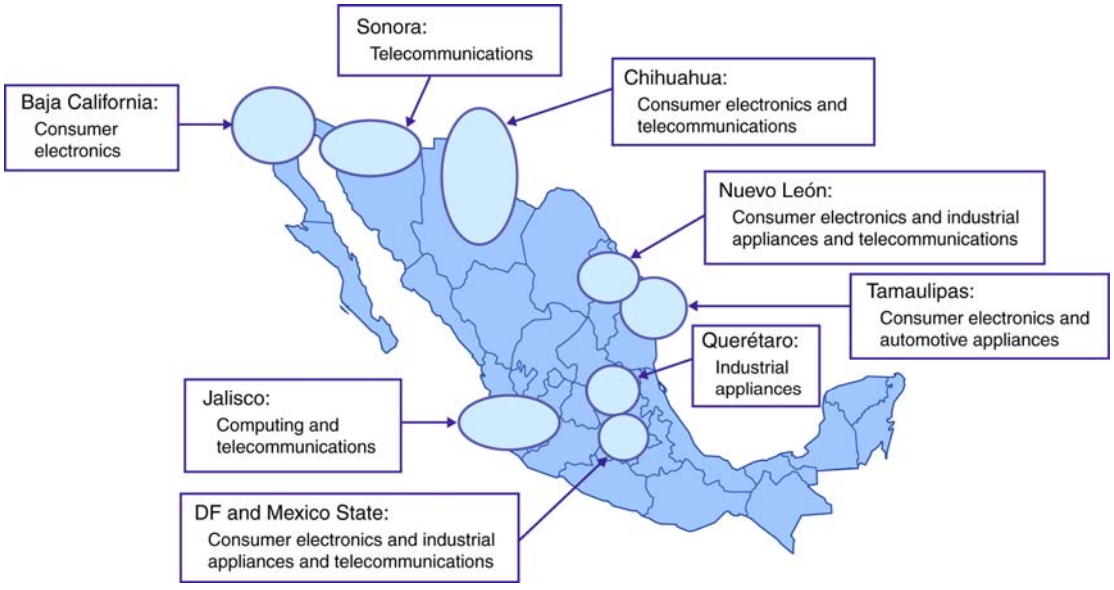
Between 2000 and 2006, Mexico received US$ 5,019 million in FDI destined for the ICT hardware industry. The computing sector accounted for 42.4% of that investment, followed by the telecommunications equipment sector with 32.2%, and audio and video equipment with 25.4% (see figure II.6). FDI inflows between 2001 and 2003 (the annual average was US$ 528 million) were significantly smaller than in the second half of the 1990s —particularly 1999, when ICT hardware FDI amounted to US$ 1.57 billion. Between 2004 and 2006, there was a major recovery in relation to the three previous years, with the average annual inflow rising to US$ 913 million.

Figure II.6
MEXICO: FOREIGN DIRECT INVESTMENT IN THE ICT HARDWARE INDUSTRY (AVERAGE 2000-2006)
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Secretariat of Economic Affairs, Mexico.

Figure II.7
MEXICO: MAIN GEOGRAPHIC CLUSTERS IN THE ICT HARDWARE INDUSTRY, BY SECTOR SPECIALIZATION



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Padilla-Pérez, *Estudio sectorial de la industria electrónica en México,* Mexico City, Autonomous Technological Institute of Mexico.

Note: The consumption sector includes: television sets, video cassette players, DVD recorders and other items. Computing encompasses personal computers and computer peripherals such as printers, memory units and others. Telecommunications equipment covers cellphones, conventional telephones, networks, fax machines and others; Electronics components include semiconductors, circuit boards and others. Industrial and medical equipment includes control and instrumentation equipment, signalling equipment, electrocardiograms, x-ray equipment and others.

Mexico's ICT hardware industry is grouped in various industrial clusters in the border states of Baja California, Chihuahua, Tamaulipas, Sonora and Nuevo León, and in the interior in the states of Jalisco, Querétaro and Mexico. Some of these clusters have a clear sector orientation, e.g. the Baja California industry, which is heavily biased towards the audio and video sector. The leading OEMs in that state include Hitachi, LG Electronics, Panasonic, Samsung, Sanyo, Sharp and Sony.

In the State of Chihuahua, unlike Baja California, there is no dominant sector, and the industry produces television sets, monitors, telecommunications equipment and computer hardware. Apart from OEMs such as Philips and Motorola, the State has large contract manufacturers, such as Jabil, Flextronics-Solectron, Sanmina-SCI and Foxconn, and others. In Nuevo León, Sonora and Tamaulipas there is also no clear sector specialization, but ICT hardware industry OEMs such as LG Electronics, Nokia, Motorola and Panasonic are all present.

Among the country's interior states, Jalisco stands out because its ICT hardware industry is focused on the manufacture and assembly of computer hardware, peripherals and telecommunications equipment. This State hosts many of the world's largest CMs, including Flextronics-Solectron, Jabil, Foxconn, Sanmina-SCI and USI, among others. Leading OEMs, such as HP and IBM, which are currently focused on software and services, are also in the region, along with firms producing basic components, such as Intel and Freescale.[24]

Lastly, the ICT hardware industry in Mexico displays considerable heterogeneity in terms of its productive and technological characteristics. Exhaustive surveys and studies on this industry[25] reveal the assembly and subassembly activities that make intensive use of unskilled labour, coexisting with other capital-intensive activities along with design and R&D. The Mexican industry is concentrated in the manufacturing, assembly and subassembly links of the chain, whereas design and R&D activities are less in evidence. Successful cases of technological upgrading can be found, such as the design and R&D departments of Intel and Freescale in Jalisco, and those of Sony and Plantronics in Baja California.

In short, Mexico has received large FDI flows in the ICT hardware sectors, which have contributed to the development of regional industrial clusters, in some cases with a clearly defined sector specialization. In those clusters, firms with different productive and technological characteristics coexist, although it can be said that most of them are concentrated in the assembly and packaging links, along with the production of generic inputs, which also determines Mexico's role of in ISIPs. Most of the FDI entering the country in the ICT hardware industry is efficiency seeking, i.e. low-cost production for subsequent export, mainly to the United States.

(b) The industry in Brazil

Brazil's ICT hardware exports and imports in 2006 amounted to US$ 4.0 billion and US$ 11.0 billion, respectively, i.e. a trade deficit in this activity of US$ 7.0 billion. Brazil's permanently negative sector trade balance (see figure II.8) is explained by two factors. Firstly, production costs are relatively high, which undermines export competitiveness (further compounded by its distance from the large consumer centres, unlike the case of Mexico).[26] The second factor is the weakness of the components

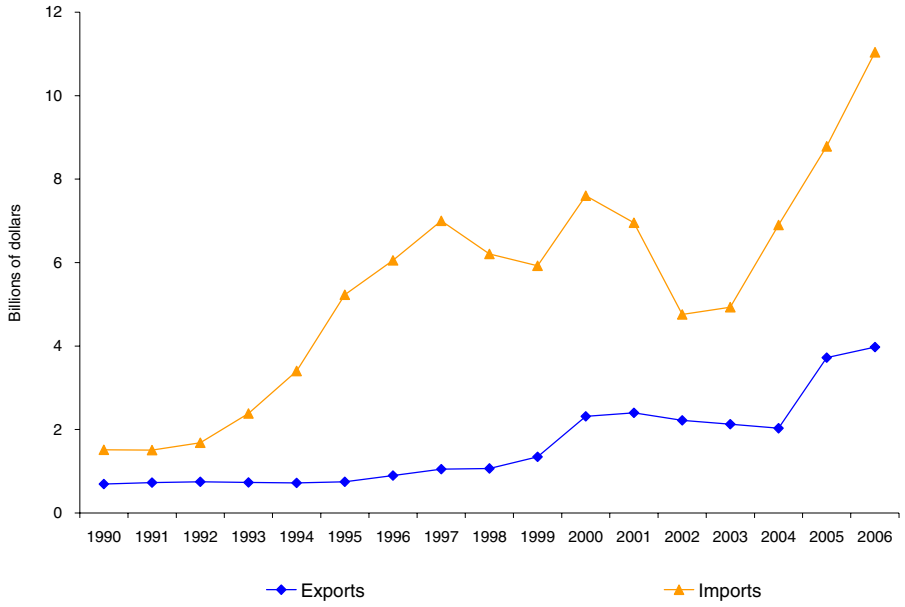
[24] Intel and Freescale do not have manufacturing plants in Mexico, but testing, design and R&D centres.

[25] See, for example, Padilla Pérez (2006) and Carrillo and Gomis (2004).

[26] The reasons most often given by manufacturers for high production costs are as follows: the tax burden and complexity of the tax structure; uncertainty over legal interpretation of the regulations; infrastructure shortcomings; logistics costs, particularly for production in Manaus; high labour costs; lack of skilled labour;

industry, which limits the potential for productive linkages.[27] These factors have restricted the industry in terms of scale and composition, confining it, with few exceptions, to final goods assembly.[28]

Figure II.8
BRAZIL: INTERNATIONAL TRADE IN ICT GOODS



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of United Nations Commodity Trade Database (COMTRADE).

In the period 1990-2006, although Brazilian ICT hardware imports and exports both followed rising trends, import growth occurred earlier and was much greater than that of exports, thereby worsening the sector trade deficit. Imports started to increase in the early 1990s, in the wake of market liberalization, the arrival of new firms, growth of the ICT hardware sectors among already established

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problems of market access (currently Brazil only has tariff preference agreements with a few neighbouring countries); and costly and slow-moving bureaucracy and customs procedures (ECLAC, 2006). Since 2003, the appreciation of the local currency has aggravated export competitiveness problems. Although the cost of imported inputs has fallen, the net effect has been to raise the dollar cost of the final product.

[27] Over the years, the incentives structure benefited final goods to the detriment of components; and when attempts were made to give incentives to components, particularly semiconductors, through protection mechanisms and technology transfer requirements, this had the perverse effect of moving national manufacturing away from the technological frontier at a time of rapid growth.

[28] Component producers include the capacitor manufacturer Epcos, previously associated with the Siemens group, which exports much of its production to Europe. There are a small number of semiconductor producers, such as Smart, which only undertakes the encapsulation stage in Brazil. Freescale, the enterprise that resulted from the divestment of Motorola's semiconductor unit, operates as a design house in the latter's premises, but production is done in other units of the group. Lastly, the Centre for Excellence in Advanced Electronics Technology (CEITEC) is currently being implemented in the State of Rio Grande do Sul, and will have capacity to undertake the whole production process for Application-Specific Integrated Circuits (ASICs). This centre is premised on the basis of technology transfer by the Motorola semiconductor division (now Freescale), which is now several years out of date. Apart from creating capacity it is expected to help develop niche products for which access to more advanced microprocessors is not essential.

domestic enterprises, and the increasing need for components that were not competitively produced in Brazil in final-good assembly operations. Within the rising trend, variations also reflect the dynamism of domestic demand and fluctuations in the exchange rate.[29] In addition, the trend of exports is explained by the export capacity of recently established enterprises that exported their surplus production (particularly cellphones). Despite the gradual increase, Brazil's share in world ICT hardware trade is minimal.

By sectors, the majority of exports consist of telecommunications equipment (75%), mostly cellphones, followed by components (13.5%), computer and information technology hardware (9.8%) and television sets (1.7%). Imports almost tripled exports in value terms, reaching US$ 11.0 billion in 2006. Most imports consist of components (78.1%) followed by computer and information technology hardware (11.4%), telecommunications equipment (10.2%) and television sets (0.3%).

The scale and density shortcomings mentioned above partly explain the scant participation of the ICT hardware industry in aggregate economic indicators. The information technology and electronics and telecommunications material categories account for 0.1% and 0.3% of total value-added, respectively (MDIC, 2007). Those two segments jointly account for 1.4% of manufacturing industry employment, a proportion that has changed very little between 2000 and 2006 (MDIC, 2007).

The FDI boom in the ICT hardware sector in Brazil occurred in the late 1990s. Information technology hardware and electronics and telecommunications material received 1.5% of FDI in 2006 (4% of total FDI received by the manufacturing sector), having peaked between 1999 and 2001, when it received between 4% and 6% of total FDI, equivalent in value terms to between 16% and 17 % of FDI in the manufacturing sector (see figure II.9). Between 1997 and 2006, 20% of investments were channelled into the information technology sector, and the remaining 80% went into electronics and telecommunications.

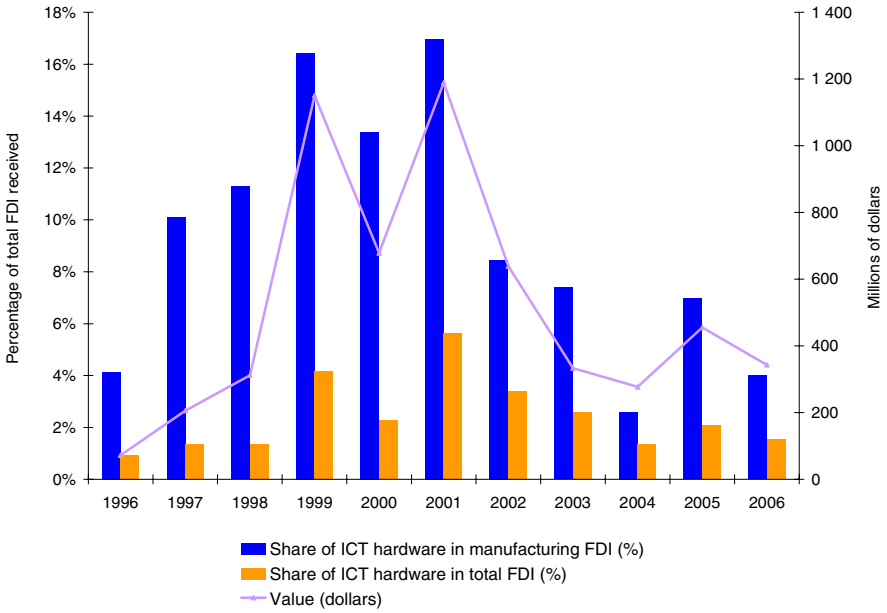
These investments resulted from the entry of the sectors main leaders, both OEMs and CMs. In fact, some of the main OEMs, such as Nokia, Motorola, Nortel, Lucent, Dell, Samsung and LGE, set up business between 1995 and 1999, and made significant investments in the ensuing years. In addition, following the liberalization of the telecommunications market and the popularization of mobile telephony and computers, firms that had entered the market many decades earlier, such as Siemens, Ericsson, IBM and HP, expanded their product lines and increased their capacity. Lastly, many of those firms outsourced their production, wholly or partially, to CMs, particularly from 2000 onwards.[30]

[29] The monetary stabilization, which was accompanied by an appreciation of the local currency and an increase local demand, triggered a new import surge in 1994, which then subsided substantially following the 1999 depreciation, before rising again in 2003. Starting in 2005, a policy to give incentives to local computer assembly (mostly using imported components), and increased control over illegal imports, stimulated component imports.

[30] In many cases, CMs entered Brazil by purchasing assets and plants from OEMs, particularly from 2000 onwards. The Information Technology Law allows OEMs to fulfil the conditions on incentives through the CMs.

Figure II.9

TREND OF FDI IN MANUFACTURING AND IN THE ICT HARDWARE SECTOR AS A PERCENTAGE OF THE TOTAL



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Central Bank of Brazil.

It is worth noting that some enterprises with a long-term presence, such as Siemens and Ericsson, have enjoyed a number of advantages. These firms had manufacturing facilities in Brazil, the cost of which had been amortized earlier. This enabled them, unlike other OEMs that entered the country more recently, to use their facilities to manufacture telecommunications equipment and networks. This fact is reflected in the low level of investment for network production in the country by other OEMs that have recently invested in Brazil.

In terms of geographic distribution, the ICT hardware industry in Brazil is concentrated mainly in Manaus and in the State of São Paulo. While Manaus is a centre for the audiovisual industry,[31] there is no clear sector specialization by region in the case of other products. In many cases, including cellular phones, the balance of incentives provided by the Manaus free zone and the advantages of producing in other parts of the country, closer to the main consumption centres, does not clearly favour either Manaus or the other regions. This is illustrated by the presence of Nokia in Manaus and Motorola in the State of São Paulo. This situation is giving rise to competition between regions for investments for the manufacture of certain products; for some higher value-added items such as portable computers, there seems to have been a convergence on São Paulo, given its logistics advantages, labour availability and market access.[32]

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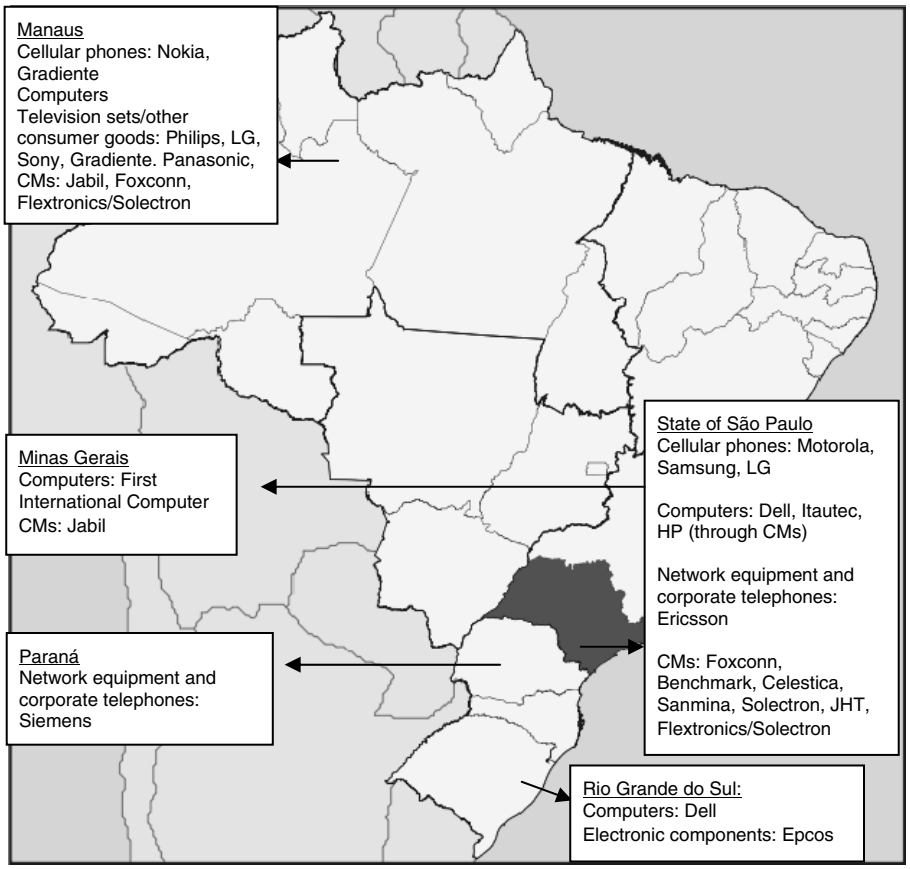
[31] These products are not currently covered by the Information Technology Law and depend on ZFM incentives, although the convergence between different types of equipment (particularly interactive television) has triggered a debate on their possible inclusion in the future.

[32] For example, Dell initially (1999) set up in the southern state of Rio Grande do Sul, roughly equidistant between São Paulo and Buenos Aires, the two consumption centres mainly served by Brazilian production. As the Brazilian computers market strengthened compared to the Argentine one, the State of São Paulo became increasingly attractive, with better access both to imported inputs, and to the consumers of final products. Thus,

Figure II.10
BRAZIL: GEOGRAPHIC DISTRIBUTION OF THE MAIN ICT HARDWARE PRODUCERS



Source: Economic Commission for Latin America and the Caribbean (ECLAC).

In the case of R&D, the Information Technology Act, which benefits nearly all producers, whether OEMs or CMs, makes tax incentives conditional on firms devoting the equivalent of 5% of their sales of information technology and microelectronics products to R&D activities in Brazil; part of which must be invested in partnership with universities or research institutions that have no capital relationship with the firm. This requirement has encouraged the emergence of research centres both within and outside the firms, along with joint ventures between enterprise and university. Whereas some firms maintain research centres in Brazil with globally significant R&D activities, others have restricted their investments in that domain to the minimum required, claiming, as in manufacturing, that labour costs are high and there is a skill shortage.

In short, the incentives structure resulting from ZFM and the Information Technology Act has consolidated Brazil's role in ISIPs: an industry based on the local assembly of imported components, mainly targeting the local market, and, secondly, exports generally confined to Latin American markets.

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the firm's second plant, inaugurated in 2007, was built in Hortolândia (where IBM and Celestica facilities are also located). The medium-term expectation is for manufacturing to concentrate in Hortolândia, with services and development in Rio Grande do Sul.

3. Repercussions of global restructuring in the ICT hardware industry

(a) Mexico: the growing link with global ISIPs and the existence of few local production linkages

Expansion of global production networks has had significant effects on the characteristics of Mexico's ICT hardware industry, dominated largely by transnational enterprises, and the repercussions of this in the rest of the local economy. As can be inferred from the brief description of the industry provided in the previous section, Mexico has entered global networks mainly as an exporter of final goods to the United States.

The growth of the ICT hardware industry in Mexico in the second half of the 1990s, and in the period 2004-2006, has been fuelled by the expansion of contract manufacturing activities. Following several decades of participation in the industry, world-class manufacturing capacity has been developed in several regions of Mexico, and this has been exploited by CMs. Their presence in Mexico, moreover, has allowed for a continuation of manufacturing and assembly activities, following the exit of OEMs from those segments, and diversification towards a wide range of sectors and products in which CMs traditionally participate (e.g. electronic medical and automotive equipment).

Apart from generating exports and jobs, the presence of CMs in Mexico has also led to a strengthening of world-class manufacturing capacity. CMs have a different effect than traditional assembly enterprises in terms of knowledge transfer. While the latter usually undertake assembly processes closely supervised by OEMs, CMs in contrast have full potential to develop and operate more complex products and processes (Sturgeon, 1999; Lüthje, 2003). Given the constant reduction in manufacturing activity profit margins, characteristic of the global electronics industry, CMs are expanding their range of activities, participating increasingly in design, distribution and supplier chain management activities, which in the previous section was referred to as reintegration or re-virtualization.

Interviews with CMs in Mexico revealed the trend to participate in a larger number of links in the value chain, which offer greater opportunities to appropriate value-added. Representatives of one of the firms interviewed, Jabil Circuits, commented that, when the firm began its operations in Mexico, it focused on assembly and manufacturing activities; but recently it has taken on design activities (specifically design to verify that the product or component can be manufactured) and value chain management. As a result, local staff working for CMs can draw on knowledge transfer to carry out new activities. In general, however CMs in Mexico remain basically concentrated in the assembly and manufacturing links. Another outstanding issue is the strengthening of productive linkages between transnational firms and the local economy, which, as mentioned above, are weak.

De-virtualization of the production chain within global networks has caused OEMs established in Mexico to substantially alter their activities and focus on links that generate greater value-added. Such is the case of the IBM plant in Guadalajara, which hived off most of its manufacturing activities and is currently concentrating on software production. In addition, HP in Jalisco has outsourced its manufacturing activities, and is focusing on managing the supply chain and customer relations, together with the provision of management services to the corporation and other subsidiaries of the enterprise.[33] In the north of the country, Plantronics has moved from the manufacture of earphones (wired and wireless) towards R&D activities, equipment design and packaging, and technical assistance to customers. In contrast to

[33] In 2003, HP Jalisco was also undertaking R&D activities. Having outsourced its manufacturing, the firm was left with a design and research and development department in the photocopier sector. Nonetheless, as part of a global strategy, HP decided to abandon that sector, and therefore closed the Jalisco department.

manufacturing, these new activities generally require staff with university and even postgraduate studies, and on average offer better pay. The new activities are also more knowledge intensive and thus potentially offer greater benefits to the receiving economy in terms of technological learning.

Another very important phenomenon associated with ISIP and the modularization of the value chain is the creation of locally owned design houses. The Jalisco industry is an example of the potential offered by this international trend to participate in the more knowledge-intensive links in the industry. In mid-2007, there were 21 Mexican-owned design houses in Jalisco, along with 10 foreign ones (CADELEC, 2007). These design houses have emerged in a innovation-friendly setting, consisting of universities, research centres, transnational enterprises and business chambers, supported by a Government that implements active promotion policies (Padilla Pérez, 2006).

Generally speaking, design houses are microenterprises or small businesses that undertake design and R&D activities for various sectors of the electronics industry, including ICT hardware. Among these design houses, there is also significant specialization in the creation of embedded software. Their activities are knowledge-intensive, and a large proportion of their staff have postgraduate studies. The modularization of design activities has enabled other transnational firms in Jalisco, other Mexican States, and even abroad, to contract design and R&D projects from this group of enterprises. Through such projects, design houses gain access to new technologies, and their activities enable them to appropriate more value-added than is possible in the traditional manufacture of final goods and components.

The arrival of digital television has also transformed the ICT hardware industry in Mexico. Major FDI flows have been received to switch from manufacturing conventional television sets to digital ones. In 2004, seven of the largest television OEMs in the State of Baja California announced new investment projects to produce digital television sets and computer monitors for an amount of US$ 98 million, and this amount is expected to increase considerably in the near future (Hasso, 2004). Nonetheless, the transition to digital television has had a negative effect on technology transfer and productive linkages. For several decades, firms manufacturing conventional television sets in Mexico had been strengthening their capacity (including design) and had set up local supplier networks, albeit with a strong presence of foreign capital. The arrival of the new technology has meant that, initially, it is assembly activities that are undertaken in Mexico, while higher value-added components are imported (including displays).

The growing international competition, particularly from Asia, has also caused the ICT hardware industry in Mexico to alter its strategy to become more competitive. Several strategies explain the growth of the Mexican industry over the last few years.[34]

- First strategy. Transition to “high-mix, low-volume” production regimes. This scheme consists of producing various types of products in low and medium volume, in contrast to the mass production of a single product type. Manufacture of a million units of the same type of mobile phone is an example of “high-volume, low-mix” production, while the manufacture of tens of models of servers configured according to specific customer needs, with a production run of a few hundred, is an example of “high-mix, low-volume”.

- Second strategy. Exploit the shorter response time in comparison to Asia. Mexico's geographic proximity to the main international ICT hardware market offers advantages for operating under a flexible production scheme, since firms in Mexico can react rapidly and deliver new orders in response to changes in customer preferences or variations in estimated demand.

[34] For further details of these strategies, see Padilla and others (2008).

- Third strategy. Focus on products of large physical volume: exporting products, such as large television sets, from Asia is very expensive. Geographic proximity provides major advantages to firms established in Mexico to assemble or manufacture large volume items.

- Fourth strategy. Greater integration between the activities of the value chain and/or upscaling towards more knowledge-intensive activities, as mentioned above. Firstly, the reduction of profit margins in manufacturing, and the development of larger capacities has led firms in the ICT hardware industry in Mexico to engage in logistics activities, particularly product distribution. Secondly, the gradual development of technological capacities has enabled a small number of firms to participate in design and R&D activities.

In brief, many of the largest transnational ICT hardware producers —both OEMs and CMs— are present in Mexico. The presence of CMs has been a major source of knowledge transfer, which has strengthened manufacturing capacity in parts of local industry. Nonetheless, most of the CMs in Mexico remain concentrated in the assembly and manufacturing links. The de-verticalization of production has caused a number of firms to move into higher value-added activities, and has led to the emergence of design houses. These have doubtless been significant achievements, but the number of successful cases is still small. All of this requires a set of strategies, to be implemented by both industry and Government, to be able to better exploit the opportunities offered by changes in the ICT hardware industry worldwide.

(b) Brazil: imported component assembly for the local market

Technological change and the reorganization of the global industry has strengthened the model based on imported component assembly for the local market, which is highly dependent on tax incentives and the tariff protection in force in Brazil, while also posing new challenges.

As a result of Asian competition, Brazil no longer produces many of the low value-added electronics products in the audio and video segment. Moreover, the growth of the Asian components industry has raised entry barriers for products of higher technological content and value-added, such as semiconductors.

Low export competitiveness makes it harder to exploit the opportunities created by the emergence of new products, particularly those associated with convergence, by preventing production on the minimum scales that are efficient for certain products. During the second half of the 1990s, when many of the hardware firms were originally set up, there were few models of each product, allowing for production on the minimum efficient scales. Now, however, increasing diversity of products and models limits scale benefits. For example, while some firms produce the new multifunctional products in the country, such as smart phones, others consider that the size of the domestic market would not allow operations on an efficient scale.[35] This constraint could be complicated by the lack of definition, until recently, of the regulation of new services (e.g. global interoperability for access to microwaves (WiMax)).

[35] When the research for this report was being undertaken, Motorola, HP and Palm were producing smart phones in Brazil, either directly or through CMs. Other firms take a more cautious view of the potential of the Brazilian consumer market for sophisticated products. For example, Nokia imports more sophisticated products and concentrates its local manufacturing activities on higher-volume and lower value-added products. A criticism that is made of the current system of the Information Technology Act is that with the wider diversity of products the production scale for each product decreases. The requirement to undertake certain stages locally for each product raises production costs.

Digital television and the revolution in the display technology has increased the demand for flat screen television sets and monitors, along with other products such as decoders. This has required relatively few investments in Brazil's production structure, concentrated essentially in Manaus (Gutiérrez and others, 2006). The most significant change in this market is the progressive decline in domestically produced components, such as cathode ray tube (CRT) monitors. In CRT television sets, the domestic content amounts to 90%, whereas in liquid crystal (LCD) and plasma screen sets, the figure is 5%, which does not exceed the legal requirements for access to the corresponding incentives (known as "basic productive process" or PPB) (Suframa, 2007). Lastly, convergence also poses a challenge for the dichotomy between ZFM and the Information Technology Act. With the imminent arrival of interactive television, an argument could be made for the inclusion of those products in information technology goods category, which would reduce the attractiveness of Manaus as an exclusive hub for the manufacture of television sets, one of its main products.[36]

The de-verticalization of production and the growing importance of CMs in Brazil have had greatest effects on the ownership of assets and the nature of the agents which, given the nature of the production process, is determined by PPB. CMs have increased their presence in a number of markets, purchasing plants from OEMs and continuing the latter's manufacturing processes. The strategies of OEM firms on CM use in Brazil vary from case to case. Some OEMs outsource the entire manufacturing process for all, or nearly all, of their products; others use CMs to manufacture certain products only. Some firms use CMs for certain stages of the production process, such as the surface mounting of circuit boards (*PCB surface mounting*). CMs are also a way of fulfilling the requirements of the Information Technology Act (PPB and R&D investments), as is also revealed by the fact that some of them offer tax management services to their customers.

The reduction in manufacturing profit margins has required a reorientation of certain OEMs, in Brazil, towards specific services or segments. The country has shown that it has potential as a service centre in the form of business process outsourcing (BPO). Thus, IBM chose Brazil, Russia, India and China (the BRIC group) to concentrate its investments and promote enterprise growth, focusing on corporate services and solutions. The firm employs over 6,000 people in service provision in the State of São Paulo, and since 2005 has had a global centre for outsourcing operations. IBM also has an advanced laboratory for "on demand" solutions. In addition, between 60% and 70% of employees at HP, a firm that undertakes most of its production through CMs, are focused on services. The decisions taken by Siemens to abandon the production of cellphones and networks, by Philips to concentrate on other segments of the electronics industry that do not belong to ICTs, and by Siemens, Philips and Motorola to stop producing semiconductors, have been reflected in their operations in Brazil, which they sold to third parties.

Lastly, with regard to the de-verticalization and relocation of R&D activities, although some transnational firms maintain global research centres in Brazil, the country has not been a priority destination in relocating these centres. [37]

In this scenario, the Government of Brazil faces a dilemma that is by no means trivial. The system comprised of a combination of ZFM incentives and those of the Information Technology Act, currently require the production stages based on card assembly to be undertaken in the country for the main products. The obligation to use national inputs is limited to products of low technological content,

[36] Apart from hardware production, Brazil's adoption of the Japanese digital television standard creates a window of opportunity for its firms to develop an export video coding technology and produce software and middleware (Gadelha, 2007).

[37] Beyond what is established in the legal requirements.

such as batteries and chargers. Representatives of the firms, both foreign and national, interviewed for this study, stated that they seldom did more than what was required. The dilemma is that if the law required the local production of strategic components, such as semiconductors, it could become unviable even to produce final goods, owing to the high costs of production on a relatively small scale. Thus, as long as exports are uncompetitive, it will not be possible to achieve scales that are compatible with efficient production for a wider range of products; and it is unlikely that progress can be made towards greater local density in ICT hardware production chains. Nonetheless, reliance is being placed on the dynamic effects of the current policy (in particular the long-term effects of R&D activities), and parallel initiatives, such as those seeking to promote the creation of a semiconductor industry.

In short, while many of the largest transnational ICT hardware producers operate in Brazil, the domestic industry is limited by the size of its domestic market, its export competitiveness, and the production stages undertaken locally, owing to the weakness of the electronics component industry. These constraints explain the relatively small share of the ICT hardware sector in industry value-added and employment, and also the sector's trade deficit. The absence of a components industry, particularly semiconductors, restricts local value-added and the development of innovation capacity (FINEP/MCT, 2004). Brazil is facing a major challenge: to generate policies that give incentives for the development of its components industry and which increase the value added of its industry, without this affecting the production of its final goods or further weakening its export capacity.

E. CONCLUSIONS AND POLICY IMPLICATIONS

The economic liberalization of the 1980s and 1990s attracted large-scale investments into Mexico and Brazil through the leading OEMs and CMs in the ICT hardware sector. That investment grew significantly in the second half of the 1990s, following the signing of bilateral agreements (including NAFTA), and the growth of local and global demand for ICT products. ISIPs have encouraged the dissemination of technological know-how to Brazil and Mexico, providing new opportunities for capacity development in local enterprises, and the production of state-of-the-art goods for national markets, in addition to opening up new areas of opportunity that go beyond assembly and manufacture.

The main global changes in the industry have not substantially changed the motives and nature of FDI entering the hardware sector in Mexico and Brazil. While Mexico participates in ISIPs as a major ICT hardware producer, particularly for the United States market, Brazil produces essentially for its domestic market. In other words, FDI entering Mexico in this sector is essentially efficiency-seeking, while flows entering Brazil are primarily market-seeking investments. In both countries, the industry remains concentrated in the manufacturing, assembly and subassembly links of the chain, while design activities are still small and there is heavy reliance on imported electronic components.

The de-verticalization of the production chain has also enabled several firms to refocus and enter higher value-added links of the chain, examples being IBM and HP in Mexico and Brazil. Modularization, in conjunction with the product digitalization, seems to have opened up a major area of opportunity for both countries: the production of embedded software.

The two countries face similar challenges to make the most of the benefits offered by integration in ISIPs: (i) the transition towards activities, within the supply chain, of higher value-added and technological content; (ii) the strengthening of productive linkages with the rest of the local economy, i.e.

increasing local production of electronic parts and components; and (iii) greater linkage between ISIP enterprises (particularly the leading firms) and local universities and research centres.

The Government is playing a key role through the design and implementation of integrated policies to attract FDI,[38] which are implemented as part of the country's overall development policies. When FDI attraction and development policies are coordinated and integrated, it is possible, firstly, to make the most of the conditions that make a country attractive for investors; and, secondly, take maximum advantage of the potential benefits of FDI (ECLAC, 2007a). Nonetheless, improvements in infrastructure, logistics and bureaucratic processes are essential for those integrated policies to have a greater effect, and to promote export competitiveness.

An extremely important element is the strengthening of technological capabilities in the FDI host country or region, through human capital training and investment in R&D. The training of professionals with university degrees and postgraduate qualifications is essential for participation in the more knowledge-intensive links of the value chain, which offer greater opportunities for generating value-added. The development of local capacity would make it possible to enter a virtuous circle in which FDI is attracted into more complex activities, such as R&D and design, which transfer new knowledge to the host country and thus strengthening its capacity. Similarly, the strengthening of links between firms in the ICT hardware industry and local universities and research centres would increase the dissemination of know-how in the local economy and strengthen the capacity of those organizations to offer high-quality and value-added services. One needs to be realistic, however. Policies to strengthen technological capacity have their limits, particularly in an industry of rapid technological change such as ICT hardware. These policies certainly help developing countries to move towards higher value-added activities, but rapid technological change makes the convergence process difficult, so the manufacturing and R&D activities undertaken in the region are not generally on the technological frontier, and it is highly likely that this trend will continue.

Another element of integrated policies is the selective attraction of firms, i.e. placing special emphasis on attracting firms and activities that have greater potential to influence the host economy. Lastly, given the lack of productive linkages and high entry barriers for supplying components and intermediate goods to ISIPs, the opportunity arises of supporting the development of services associated with the ICT hardware industry, particularly design, R&D, logistics, and the production of firmware.

The history of the ICT hardware industry in the region has shown how costly a protectionist policy that does not give incentives to domestic competition and innovation can be. The bill has been paid not only in terms of technological backwardness, but also in terms of a smaller variety of products at higher prices. This has restricted the supply of products and hindered the penetration of ICTs in the region. The major policy challenge facing Latin America and the Caribbean is to achieve access to ICT hardware goods in an economically efficient manner, without neglecting its industry's transition towards higher value-added activities in the value chain. Nonetheless, the high entry barriers, represented by other regions' accumulated investment in technological and industrial capacity, makes the task more difficult. In this setting, it is essential to seek a vocation, to identify competitive capacities in the sector, and perform a cost-benefit analysis of the possibility of implementing measures to overcome some of the region's competitive shortcomings in the ICT hardware industry.

[38] For a more thorough analysis of integrated policies for attracting FDI, see ECLAC (2007a).

Chapter III

TELECOMMUNICATIONS OPERATORS: INVESTMENT AND CORPORATE STRATEGIES IN LATIN AMERICA AND THE CARIBBEAN

A. INTRODUCTION

Eight years ago, ECLAC conducted a study on the telecommunications sector and on the strategies of the main operators worldwide and in Latin America and the Caribbean (ECLAC, 2001). In those days, the scenario was one of optimism stemming from technological change, the opening up and privatization of the sector and, above all, the expansion of a few operators that were poised to become leaders in a market rapidly being consolidated worldwide. When the dominant state-owned enterprises in the region were privatized, much of the industry ended up in the hands of foreign (mainly European) companies, which were venturing outside their national borders for the first time. The new operators defined ambitious investment plans to modernize and expand their infrastructure and to meet much of the decades-long unsatisfied demand that existed in Latin American markets. Indeed, telecommunications was one of the main targets of foreign direct investment (FDI) during the capital-flow boom in Latin America and the Caribbean.

Nowadays, while the industry's broad guidelines have not changed substantially, the corporate and market situation has become more complex. First, the crisis in the technology sector in the early part of this decade left a heavy mark on telecommunications operators. Second, the sudden emergence and spread of broadband Internet access altered traditional sources of income and redefined the industry's frontiers, influencing the strategies of leading companies. Lastly, a poorly defined regulatory framework and uncertainty over the real potential market raised doubts concerning telecommunication operators' capacity to profitably deploy the new networks needed to offer more sophisticated services.

Although these changes have focused on a small group of industrialized economies, especially the United States, Japan, the Republic of Korea and the European Union, the Latin American and Caribbean region has not remained untouched. This chapter analyses the factors determining the behaviour of the main global operators and describes the way in which Latin American companies, many of them subsidiaries of the main operators, have deployed their corporate strategies and are locking in to the paradigm of the industry: convergence.

B. GLOBAL MARKET FOR TELECOMMUNICATIONS SERVICES: AN INDUSTRY IN THE THROES OF CHANGE

1. Erosion of traditional income sources

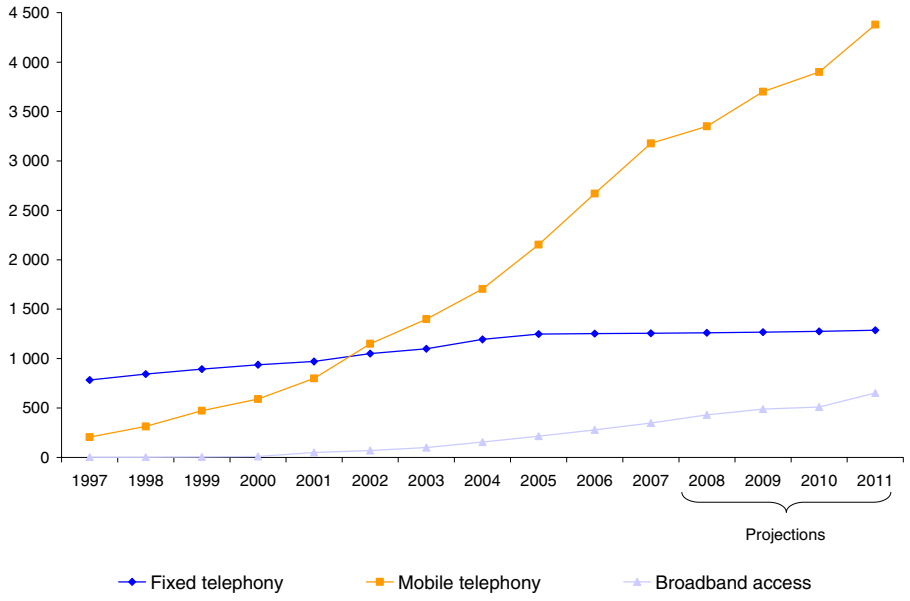
In the 1990s, the telecommunications industry underwent profound change as a result of technological innovation, increased competition, the privatization of state-owned enterprises and the international expansion of the main telephony operators. With the sudden emergence of the Internet, the sector experienced an unprecedented boom. However, when the trend for irrational overvaluation of the industry

suddenly went into reverse early in this decade, it affected the vast majority of stakeholders involved in information and communication technologies (ICT).[1]

It was then that the telecommunications sector embarked on an intensive process of change. Technological change and the development of new services are influencing the core activities of telecommunications operators. The great challenge facing the industry is to reorient its activities towards the emerging high value-added services, which will call for significant investment in new network technologies.

Voice services continue to be the main driver of the telecommunications market. However, the voice segment and the industry's income structure are changing in response, first, to the spectacular growth in mobile telephony and, more recently, to the development of broadband Internet access. Indeed, mobile telephony rapidly overtook fixed-line telephony in terms of users and income. In 2006, mobile telephony services accounted for around half the revenues of the world telecommunications industry, and there were more than double the number of mobile telephony subscribers than subscribers (see figures III.1 and III.2).

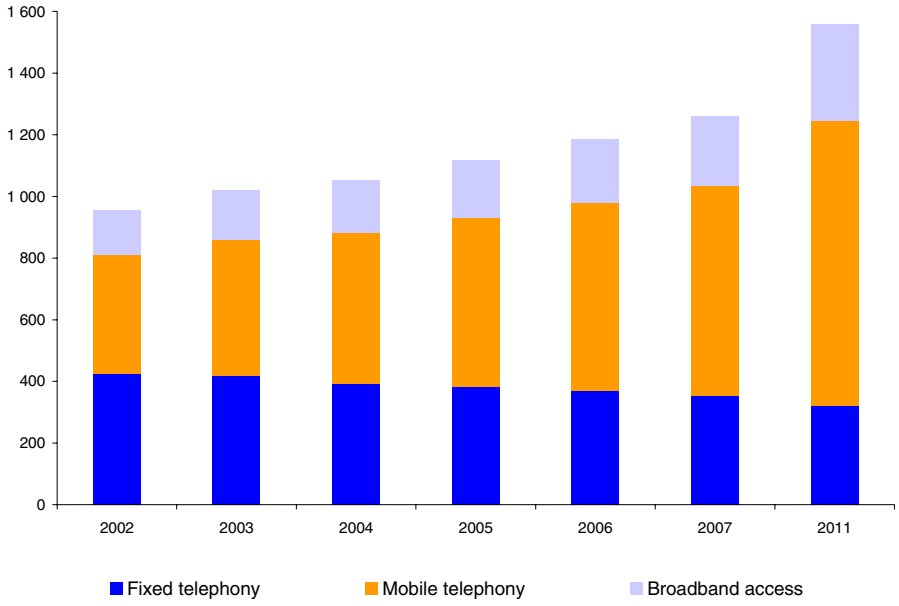
Figure III.1
TELECOMMUNICATIONS SERVICE SUBSCRIBERS WORLDWIDE, BY SEGMENT, 1997-2007 AND PROJECTIONS FOR 2008-2011
(Millions of subscribers)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

[1] The sector's spectacular crash in 2001 led to highly-publicized bankruptcies and cases of fraud, coupled with losses of around US$ 1 trillion of investors' money (*The Economist, Survey: Telecoms Convergence, 12 October 2006).*

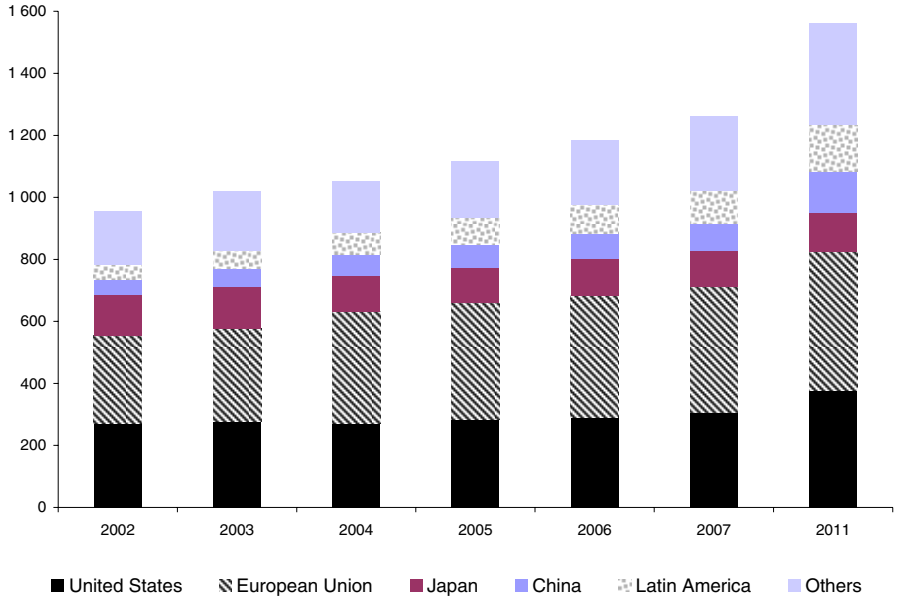
Figure III.2
WORLD MARKET FOR TELECOMMUNICATIONS SERVICES, INCOME BY SEGMENT, 2002-2011
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

Although developed countries dominate the world market for telecommunications services, they are gradually losing their supremacy. Between 2002 and 2006, the share of the sector's total revenues held by the three leading markets (the United States, the European Union and Japan) fell from 72% to 64% (see figure III.3). By contrast, the developing countries' share of the world market grew from 20% to almost 30% during the same period. In addition, developing countries were responsible for almost 80% of the growth in global revenues in 2006 (IDATE, 2007, p. 15). This shows that the markets of industrialized countries are stagnating while emerging markets are growing in importance.

Figure III.3
LEADING WORLD MARKETS FOR TELECOMMUNICATIONS SERVICES, BY INCOME, 2002-2011
(Billions of dollars)



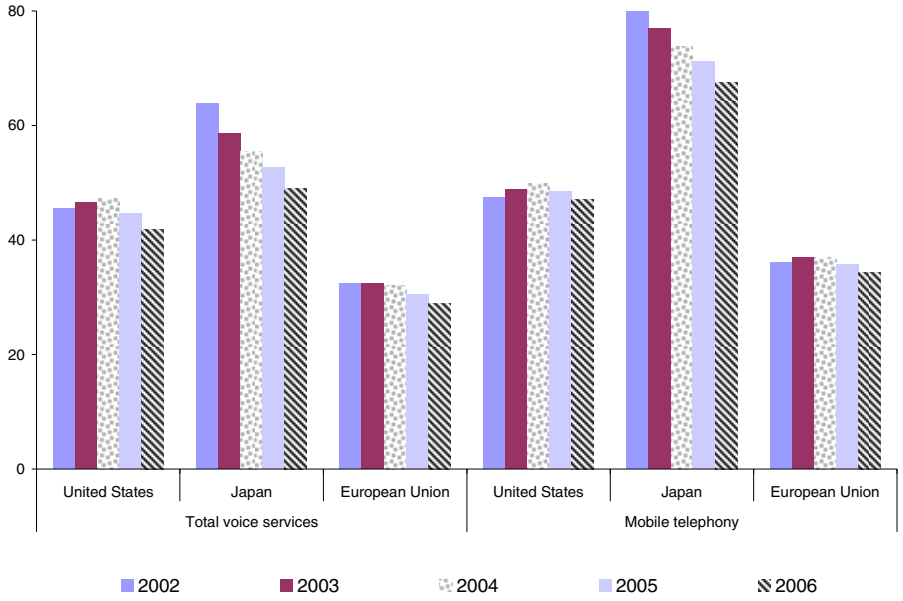
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

In the developed countries, growth in telecommunications services is slowing as a result of falling revenues from fixed-line telephony and increasingly saturated mobile telephony markets. Fixed-line telephony has declined as the number of lines, traffic and rates have decreased. Basically, this decrease has been caused by increasing broadband Internet access and the growing substitution of fixed-line telephony by mobile telephony services (known as fixed-mobile substitution). The spread of Asymmetric Digital Subscriber Line (ADSL) [2] and cable modem technologies has led to the systematic removal of second lines and the advance of Voice over Internet Protocol (VoIP) technology has pushed down the price of voice services. VoIP technology has had a particularly heavy impact on long-distance telephony services and on the corporate segment. In addition, falling mobile telephony rates have induced increasing numbers of people to choose mobile telephony to the detriment of fixed-line alternatives. All this has led to a fall in average revenue per user (ARPU)[3] for voice services in the developed economies, especially in countries like Japan that have experienced the highest growth in voice services (see figure III.4).

[2] ADSL is a broadband Internet access technology that allows high-speed data transmission over the twisted-pair copper wires in conventional telephone lines. This technology is called asymmetric because the speed of data download (from network to user) is greater than that for uploading data (from user to network). An ADSL line carries three communication channels: a downstream channel for sending data, an upstream channel for receiving data and a channel for normal voice telephone calls. Improved versions of this technology are now being rolled out (ADSL2 and ADSL2+) with the capacity to deliver high-quality television and video services over the telephone.

[3] ARPU is an indicator widely used by telecommunications operators that reflects the average revenue per user obtained over a period of time by a service company with a wide user base. It is calculated by dividing the company's total revenue received during the period by the total number of customers providing that revenue.

Figure III.4
AVERAGE REVENUE PER USER FROM VOICE AND MOBILE TELEPHONY SERVICES IN THE UNITED STATES, JAPAN AND THE EUROPEAN UNION, 2002-2006
(Dollars per month)



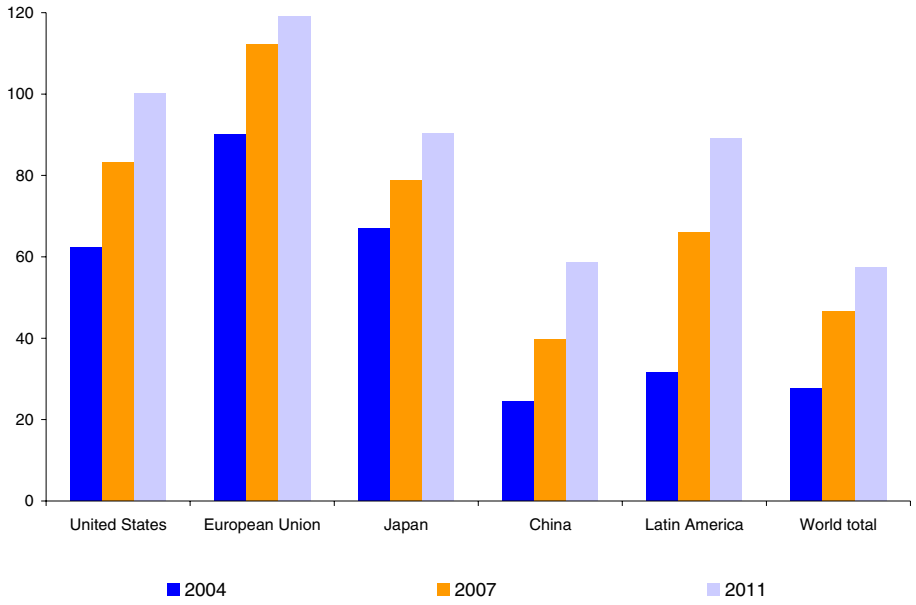
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

In developing countries, the number of fixed-line telephony subscribers is still increasing, albeit with signs of stagnation. The limitations of basic infrastructure are also reinforcing the trend towards fixed-mobile substitution, leading mobile telephony to play a highly prominent role. Between 2002 and 2005, the total penetration of telecommunications (fixed and mobile) in these markets doubled, from 20% to 40%. Mobile services account for more than 80% of this increase (IDATE, 2007, p. 28).

Most of the increase in the number of mobile telephony subscribers has occurred in developing countries. In late 2006, two thirds of the world's mobile telephony subscribers came from developing countries, compared with 50% in 2003. In 2006, developing countries were responsible for around 85% of the net world increase in the subscriber base. The growth was particularly strong in the leading emerging economies of Asia (China, India, Indonesia and Pakistan) and Latin America (Brazil, Colombia and Mexico).

In the industrialized countries, the gap between the United States and the European Union (EU) partly reflects the more widespread use of prepaid services in Europe. The EU countries continue to have some of the highest penetration rates in the world, in some cases exceeding 100% (the Czech Republic, Italy, Sweden and the United Kingdom) (see figure III.5).

Figure III.5
PENETRATION OF MOBILE TELEPHONY, BY REGION, 2004-2011
(Number of mobile telephony subscribers per 100 inhabitants)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

The rapid expansion of broadband services, driven by the increasing numbers of users and services on offer, has consolidated growth in the data services and Internet market, first by means of fixed platforms and, more recently, by incorporating networks that offer mobile communications. This growth has been particularly intensive in the industrialized economies, especially the United States, some Asian countries (Australia, Japan, Hong Kong Special Administrative Region of China and the Republic of Korea) and Northern Europe (Denmark, Germany and the Netherlands), where there are high penetration rates and the largest number of users. Among the developing countries, the Latin American region has made the greatest strides, particularly Argentina, Brazil, Chile and Mexico. At present, this segment represents a little over 16% of total revenues from the telecommunications services market and its share could increase to around 20% by 2010 (IDATE, 2007) (see figure III.2).

In the data segment, the increase in traffic has been offset by a steady fall in prices and a migration towards new broadband solutions in Internet protocol (IP) technology. The increase in the number of high-speed Internet connections is one of the main reasons why technologies such as VoIP have had such a heavy impact on the market, especially in the fixed-line telephony segment. Moreover, transmission technologies have become ever more efficient, which has allowed voice-service quality to be improved. At present, the most commonly-used technology is ADSL, which has become the primary means for increasing the number of subscribers to broadband Internet access services worldwide, including in the United States, where cable television operators play a very prominent role.

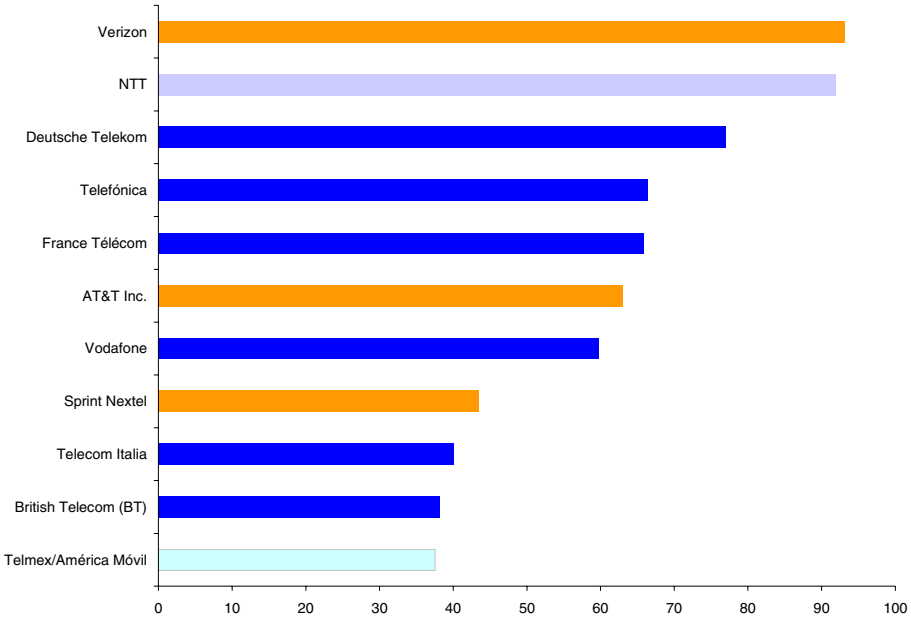
In summary, the world market for telecommunications services continues to grow, although it is starting to show clear signs of stagnation in the traditional segments, especially in the industrialized economies. Mobile services are still driving growth in the market as a whole and new income streams

from broadband access services have helped to offset the decline in fixed telephony services. In an industry dominated by a small group of major operators, the emergence and dissemination of VoIP services and the widespread introduction of mobile services, driven by the convergence process (voice/data, fixed/mobile), are calling into question the business model of many of these companies and introducing new challenges for the future.

2. End to the industry's traditional segmentation and the sudden emergence of new challengers to the dominant operators

Operators have been the main drivers of change in the telecommunications services industry. In little more than 20 years, the situation has changed from one of local monopolies in basic telephony (many state-controlled) to integrated private companies, some with a marked international presence, which provide a wide range of telecommunications and multimedia services. These changes were accompanied by sweeping regulatory changes and an intensive process of geographical and sectoral consolidation led by an unprecedented wave of major mergers and acquisitions. A large proportion of the industry's revenues, profits, customers and innovations are now in the hands of a small group of United States, European and Asian companies. In 2006, the 10 leading telecommunications operators earned 53% of the sector's world revenues (see figure III.6).

Figure III.6
LEADING TELECOMMUNICATIONS COMPANIES, BY SALES, 2006
(Billions of dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Fortune Global 500, several issues.

However, the sudden emergence of the Internet and its conversion into the basic medium for providing services via fixed and wireless networks started to erode the industry's traditional segmentation, in which there were separate networks for the different services. In fact, the gradual

transition from circuit-switched telecommunications networks to Internet protocol networks is expected to break down the barriers between the segments. The outright supremacy of the dominant operators is therefore beginning to be challenged by the sudden advent of other stakeholders operating in similar commercial areas which, until recently, had been entirely separate. The first were cable television operators which, predicting future trends in the industry, made early investments in infrastructure to enable them to offer television, Internet access and, more recently, voice services, simultaneously. This struggle for supremacy is clearly observed in the United States market.[4]

Over a short period, the main providers of Internet-based content and applications (Yahoo!, Google, Microsoft's MSN, America Online (AOL), eBay and Amazon) have also become key stakeholders in the telecommunications and IT industries, a segment where United States companies are particularly dynamic (Fransman, 2007). In addition to being major brands, all the above companies were the quick to gain significant advantage in the content market by adding technological value to web-based services and applications. To speed up their development, Internet companies have had to offer new services, either developed by the companies themselves or purchased from others. As exclusive, entirely new services are few and far between, a number of companies have replicated some of their competitors' service offerings in order to rob them of market share or to destroy their value.[5] Partnerships have also been formed to protect certain market segments.[6]

During their short lifetime, Internet-based companies have structured their business model around advertising and have endeavoured to be present in the services, content and applications fields, where advertising is the main source of income (search engines, aggregation of news content, directories), especially in the corporate segment. However, with the boom in personal news content (YouTube, MySpace, Facebook), blogs (short for web logs) and community networks, Internet companies have begun to eye this market with growing interest (Gaptel, 2007).[7]

As part of the convergence process, the Internet giants have also tried to expand their sphere of operations by tackling segments dominated by traditional telecommunications and media operators. As a result, they are posing an increasing threat to traditional voice service operators. For instance, e-Bay recently purchased VoIP technology leader, Skype, valued at US$ 2.6 billion, and MSN and AOL have launched new computer-to-telephone voice services. The leading Internet companies have also entered the television segment, another pillar of the new convergent service packages (like triple play),[8] by developing video search engines and video on demand (VoD) services. For instance, Google acquired YouTube for US$ 1.65 billion. This has turned the Internet giants into either direct competitors (VoD) or value-destroyers (VoIP) of traditional operators. In both cases, they offer their services using the infrastructure of traditional operators.

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4 The two main cable television operators in the United States, Comcast (which merged with AT&T Broadband in 2002) and Time Warner Cable, share more than 50% of the market for high-speed cable modem access.

5 MSN and Yahoo! have invested in search engines to compete with Google, which in turn has launched a messaging service (Gmail) with a greater storage capacity than those of its competitors. In addition, MSN and Google have started to compete with eBay in the classified advertisement segment.

6 MSN and Yahoo! have joined forces in the electronic messaging field, and Google and AOL in the field of search engines. In February 2008, Microsoft made an unsolicited US$ 44.6 billion bid for Yahoo! This was designed to increase Microsoft's competitiveness in the area of online services, especially against Google and, if successful, would have been the sector's largest acquisition since TimeWarner and AOL merged.

7 Such sites currently receive more visits than general portals and hold enormous potential for new advertising revenue.

8 Triple play offers three telecommunications services simultaneously: television (on demand or conventional), high-speed Internet access and an outgoing and incoming voice call service using a single access infrastructure.

Although this threat is mitigated for the time being by the advantages that traditional operators enjoy, it is nonetheless real. Indeed, the Internet giants could have a heavy impact on the business models of traditional telecommunications operators which, in turn, would influence the growth of the Internet giants.[9] Moreover, in some segments where the Internet giants are breaking new ground, traditional operators have been forced to form partnerships to limit their own investment and take advantage of their partners' dominance in key services (Yahoo!-AT&T (formerly SBC), MSN-Vodafone, iTunes-AT&T (formerly Cingular Wireless), Google-T-Mobile and Skype-Eplus are examples of such partnerships). Internet companies have also benefited from these partnerships and have stolen a lead over their competitors by entering new market segments. This would appear to have led to a segregation of functions between telecommunications operators and Internet giants: while telecommunications operators develop access and profit from this market, Internet giants add value to Internet content and profit from advertising (Fundación Telefónica 2007, p. 36).

As content owners (publishing companies and music, movie and video-game producers) have, for the time being, refrained from distributing their products directly over the Internet, major specialized providers have emerged which distribute, store and manage such resources. In general, these specialist companies operate like umbrella organizations and grant content licences to smaller providers, telecommunications operators and Internet giants. A number of providers have emerged that provide music content (*Rhapsody, Napster, MediaNet, PlayNow, Apple-iTunes*), video content (*CinemaNow, Movielink, Apple-iTunes*) and games content (*Pogo, Zylom, WorldWinner*). In general, content providers have not developed uniformly across all sectors and, although they are highly developed in the music market, in the movie market they are still in their infancy.[10] However, content (especially video content) will doubtless be one of the main drivers of demand for broadband in the coming years (Gaptel, 2007) and content distributors would be required to play a key role in developing markets for broadband Internet access.

In summary, the gradual transition towards IP networks, which allows a wide range of telecommunications services to be offered, has transformed the traditional market. In the past, telecommunications operators provided only fixed-line telephony, whereas now they are required to deliver new integrated services, including voice services, in an ever more competitive environment. This new scenario is certain to present great challenges to the industry's key stakeholders: operators, regulatory and competition authorities, national government policy-making authorities and telecommunications service users.

C. OPERATORS' RESPONSE: OPTING FOR CONVERGENCE?

In the early years of this decade, the crisis was predicted to lead to a reorganization and consolidation of the sector. In short, the market's oligopolic structure was expected to become further entrenched, which would swell the coffers of the dominant operators (Fransman, 2007). However, the complex financial situation in which most operators found themselves following the risky gambles they had taken in the

[9] In the recent debate on network neutrality, the Internet giants have baulked at the possibility that telecommunications operators could constrain other stakeholders' use of the new broadband Internet access networks (Gaptel, 2007).

[10] Legal music downloading is, to a large extent, replacing the sale of compact discs, whereas there is still no competitive business model for films. In 2007, the sale of digital music worldwide grew by 40%. Between 2004 and 2007, the digital music share of the music industry's total sales rose from 0.4% to 15%, primarily owing to the success of Apple iTunes and Amazon (*La Tercera*, 29 January 2008).

period leading up to the crisis, together with structural changes in the market, meant that these predictions did not come to pass.[11]

In a context where new funding was difficult to raise, owing mainly to stock-market distrust, companies took measures to reduce their debt. These included operational improvements, investment cuts and the disposal of assets that the companies did not consider to be strategic. As a result, most operators managed to considerably reduce their level of indebtedness in a relatively short time. Integrated operators could also rely on their mobile telephony subsidiaries, whose revenues and profits continued to climb fast. However, the market trend and technological advances meant that these benefits were not as lasting as had been hoped.

The increase in mobile telephony sales and falling prices reduced revenues from fixed-line telephony, which accentuated a process of fixed-mobile substitution. Moreover, sudden technological change undermined revenues from fixed-line telephony on account of two factors:

(i) The sudden emergence of the upstart VoIP technology, which gave consumers cheaper access to voice services, rapidly eroded revenues from fixed-line telephony, especially in the long-distance telephony segment. Even though the first commercial version of the VoIP application dates back to 1995, it took years to be become widely established owing to the complementary technological change that was occurring with broadband Internet access. VoIP's high connection speed allowed calls to be set up in real time with a service quality that compared favourably with fixed-line telephony.

(ii) Increased competition, as the convergence process intensified in both networks and services. Convergence means interconnecting different types of network (telecommunications, television and mass media), which allows consumers to obtain the same services from various platforms. Telecommunications operators, cable television companies, content providers and Internet companies soon started to offer bundled service packages that included telephony, Internet access and television, known as triple play. This convergence increased competition and seriously undermined the revenues and profits of telecommunications operators.

In addition to the above two factors, regulation affected the performance of telecommunications operators. The trend that forced dominant operators to provide competitors with access to their networks has hit them hard (Fransman, 2007). In a number of industrialized countries, the liberalization of "last mile" connections to the customer (local loop unbundling) has transformed the competitive environment and enabled a variety of providers to offer telecommunications services over the same network.[12] Moreover, competition based on infrastructure, usually between cable and telecommunications networks (fixed and wireless), has prompted operators to enter areas where their competitors traditionally operated, and this has led to a drop in consumer prices.

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[11] Their gambles basically involved huge-scale mergers and acquisitions, together with entry into new market segments, by means of expensive third-generation mobile telephony licences in Europe, for example.

[12] Other synonyms for the term "last mile" connection are local loop or subscriber line, that is to say, the existing wiring between the telephone exchange (switch) and the user. Local loop unbundling consists in making available to competitor companies the dominant operators' copper wires, to enable them to provide different types of telephony service and data network access.

The situation became exceedingly complex when the market for wireless voice services (mobile telephony) began to show clear signs of saturation in many developed countries, hitting the revenues and profits of the dominant operators. In response, the major telecommunications service companies started to establish new strategic guidelines to enable them to maintain and even increase their market share.

1. Regional consolidation: search for economies of scale and components for integrated service provision

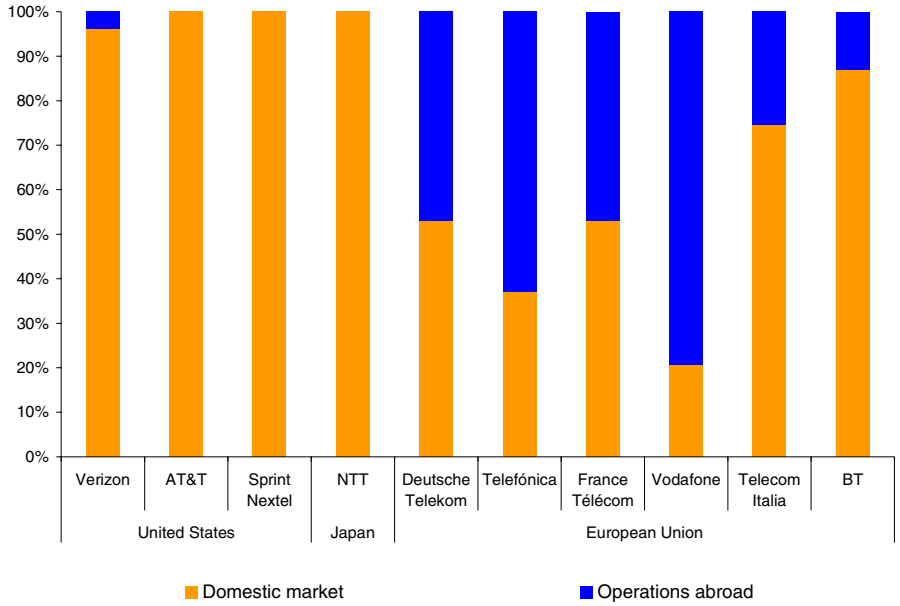
Recently, taking advantage of a more comfortable financial situation and the short memories of markets, operators have embarked on a new offensive to achieve economies of scale and supplement their service offering, in response to the industry's efforts to achieve the new paradigm of convergence. This appears to have led to a new spate of mergers and acquisitions, focusing on the industrialized countries (see table III.1). While United States and Japanese companies have directed their efforts to strengthening their position in domestic markets, in Europe there is a more active trend for operators to strengthen their regional position, reinforcing their historical preference for internationalizing their activities (see figure III.7).

Table III.1
LARGEST MERGERS AND ACQUISITIONS IN THE TELECOMMUNICATIONS SECTOR, 2003-2007
(Millions of dollars)

Year	Company acquired	Country	Purchasing company	Country	Amount
2005	BellSouth Corp.	United States	AT&T Inc.	United States	83 105
2004	Cingular Wireless	United States	AT&T Wireless Inc.	United States	46 745
2007	Bell Canada Entreprises Inc. (BCE)	Canada	Ontario Teachers' Pension Plan and others	Canada	42 435
2004	Nextel Communication	United States	Sprint Corporation	United States	41 413
2005	O_2 Plc	United Kingdom	Telefónica	Spain	31 126
2007	ALLTEL Communication	United States	TPG / Goldman Sachs	United States	27 149
2005	AT&T Corp.	United States	SBC Communications	United States	22 333
2006	Vodafone subsidiary in Japan	United Kingdom	Softbank Corp.	Japan	17 528
2005	TDC A/S	Denmark	Nordic Telephone Co	United Kingdom	13 837
2007	Hutchison Essar Ltda.	India	Vodafone Plc	United Kingdom	13 100
2005	Wind SpA	Italy	Weather Investments	Egypt	12 501
2007	Maxis Communication	Malaysia	Usaha Tegas	Malaysia	11 911
2005	Amena	Spain	France Télécom	France	10 850
2005	Virgin Mobile	United Kingdom	NTL Inc.	United Kingdom	10 266
2006	MCI Inc.	United States	Verizon Communications	United States	7 541
2004	BellSouth assets in Latin America	United States	Telefónica	Spain	5 850
2007	Telecom Italia	Italy	Telefónica and others	Spain/Italy	5 666

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of *Bloomberg*.

Figure III.7
WORLD'S TEN LEADING OPERATORS: SALES BY MARKET, 2006
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the companies.

The United States market has changed significantly. Following an intensive process of consolidation, the major long-distance telephony operators have disappeared, and Regional Bell Operating Companies have gained new momentum with the re-emergence of the emblematic AT&T and the strengthening of Verizon Communications.[13] In addition, concentration in the mobile telephony segment has increased significantly and AT&T Inc. and Verizon subsidiaries now control more than 50% of the market.[14] This trend towards concentration is the response of telecommunications operators to intense competition from cable television providers, which continue to be the leaders in broadband access and triple play services. This has enabled operators to expand and complete their service provision, establishing synergies and getting ahead of competitors by offering more complex convergent packages, such as quadruple play, which provides mobile telephony in addition to fixed-line telephony, broadband access and television.

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[13] The original seven regional operators formed from the dismantling of AT&T in 1984 that provided telephone services in the United States were: Ameritech, Bell Atlantic, BellSouth, Nynex, Pacific Telesis, Southwestern Bell and US West. In 2005, MCI Inc. and AT&T, the two main operators in the long-distance telephony segment, were acquired by Verizon Communications and SBC respectively. In March 2006, AT&T Inc. (as AT&T was rechristened) acquired BellSouth, the third most important local telephony operator in the United States. Its purchase of BellSouth gave AT&T Inc. total control over the United States' largest mobile telephony operator, Cingular Wireless. Paradoxically, Verizon's purchase of MCI resulted in the disappearance of the plaintiff in the antitrust cases that had led to the restructuring of AT&T.

[14] AT&T Inc. controls the largest mobile telephony operator in the United States, Cingular Wireless. In addition, Verizon Communication (55%) and the British company, Vodafone (45%), created the joint venture, Verizon Wireless. Sprint, formerly the third largest long-distance telephony operator, decided to focus its efforts on the mobile telephony market (by merging with Nextel and creating a new mobile telephony company called Sprint Nextel) and to transfer its fixed telephony assets (basically from local traffic) to the firm Embarq. Another major operator is T-Mobile, a subsidiary of German company, Deutsche Telekom.

By contrast, when they met with increased competition in their domestic markets, European operators sought new growth opportunities outside their own borders.[15] Even though they have not followed the same path, the key objective of most operators' growth strategy has been to secure a large share of the continental European market (see table III.2).

Table III.2
LEADING EUROPEAN OPERATORS: MAIN TARGETS OF THEIR INTERNATIONALIZATION STRATEGY, 2007

	Deutsche Telekom	Telefónica	France Télécom	Vodafone	Italia Telecom	British Telecom
Western Europe						
Germany		X		X	X	X
Spain	X		X	X		
France	X			X	X	
Italy		X		X		
Netherlands	X		X	X	X	X
United Kingdom	X	X	X			
Switzerland	X	X	X	X		
Central and Eastern Europe						
Bulgaria	X					
Hungary	X			X		
Poland	X		X	X		
Czech Republic	X	X		X		
Rumania			X	X		
United States	X			X	X	X
Latin America						
Argentina		X			X	
Brazil		X	X		X	
Chile		X				
Colombia		X				
Mexico		X				
Africa						
South Africa				X		
Botswana			X			
Cameroon			X			
Egypt			X	X		
Kenya				X		
Morocco		X				
Asia						
Republic of Korea						X

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the companies.

At first, with bold but intrinsically defensive strategies, the Mediterranean companies were the most active and focused their attention on acquiring fixed assets in emerging markets, mainly in Latin America. During this phase, Spain's Telefónica was highly prominent, as were France Télécom and Italy's Telecom Italia to a lesser extent. Indeed, Telefónica has invested around 100 billion euros over the past 10 years to create one of the industry's largest companies, operating in 22 countries (*The Wall Street Journal Americas*, 16 July 2007).

[15] The level of internationalization among the leading European operators varies. Whereas Deutsche Telekom, France Télécom and Telefónica derive more than one third of their revenues from abroad, BT and Telecom Italia continue to focus heavily on their domestic markets (see figure III.7).

Subsequently, with the wireless telephony revolution, Deutsche Telekom (T-Mobile), Vodafone and France Télécom (Orange) considerably expanded their presence in Europe, the United States and some African and Asian markets via their mobile telephone subsidiaries. Deutsche Telekom has adopted a more cautious strategy, by avoiding non-continental emerging markets and focusing its operations on the United States and the United Kingdom, as well as on most of the new European Union Member States in Central and Eastern Europe. Following its less than gratifying experience in Latin America, France Télécom has targeted its operations on Spain, the United Kingdom and Poland. The company most active in this field was Vodafone, which has become Europe's most globalized telecommunications company and the world's leading mobile telephony operator. However, as the convergence process has intensified, problems have begun to emerge owing to Vodaphone's heavy concentration on the mobile telephony segment.[16]

Operators now seem to be endeavouring to secure a more balanced continental presence by combining their fixed and mobile assets. This is the case with Telefónica, which, with its broad and strong presence in Latin America in all segments and, following its traumatic gamble on third-generation mobile telephony, has stepped up its offensive on the European market, with costly acquisitions in Italy, the United Kingdom and the Czech Republic. Smaller companies appear to be trying to steal market share from dominant operators by offering multiplay services. They include British cable operator, NTL, which purchased mobile telephony company, Virgin Mobile (see table III.1). This could be the first sign of a rapid, mutually binding process of company consolidation.

In summary, United States and Japanese companies have focused their efforts on consolidating their position in their respective domestic markets. In contrast, the leading European operators have continued to step up their process of internationalization, focusing on the European continent. The wave of large-scale mergers and acquisitions has returned local telephony operators to prominence in their new role as providers of multiplay services. Of the leading operators, only Spain's Telefónica has acquired a significant presence in Latin America and has become one of the region's leading operators.

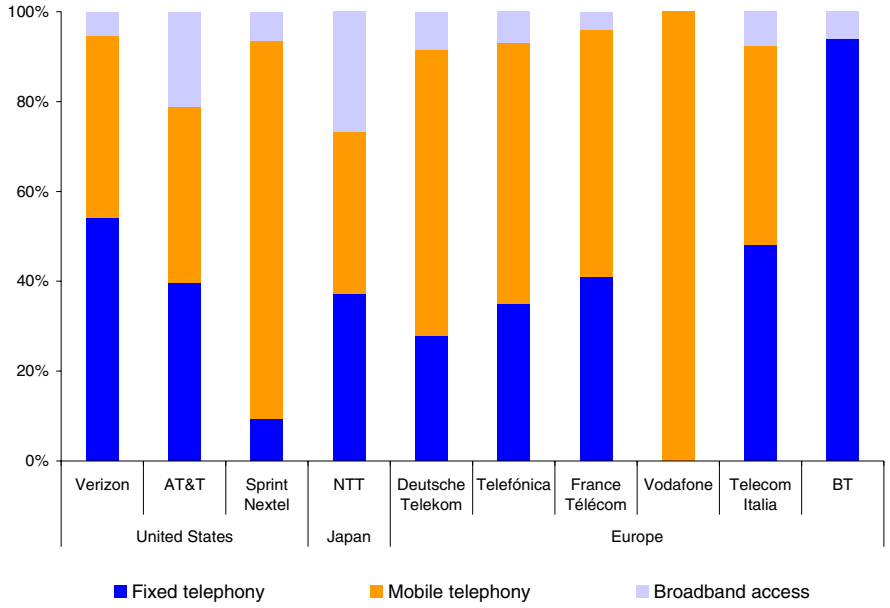
2. Redefining the core business: convergence, connectivity, mobility and speed

In the corporate organization sphere, the major operators are reversing the segmentation established in the late 1990s to increase integration between the various business segments. It seems logical to assume that the companies which survive future changes will be those that manage to create deep synergies and maintain the right balance between the various voice, data and video services to enable them to cope with growing demand for multiplay services (see figure III.8).

Many of the major telecommunications operators believe that the industry's future lies in offering a wide range of value-added services on their "last mile" connections or wireless networks and in relying less on revenues from physical connections. Operators are beginning to see voice as a readily replaceable, homogenous commodity and acknowledge the need to find new sources of income to replace it. The trend in the industry demonstrates the importance of providing connection infrastructure and moving content across networks. Companies are expected to rapidly develop next-generation network (NGN) architecture, re-gearing their business towards IP applications (including voice services) and becoming global service operators in the process. Mobile telephony operators are expected to engage in a similar, albeit less intense, dynamic by rolling out new third-generation networks to provide data and multimedia services.

[16] Vodafone's world expansionist trend slowed when it sold its Japanese subsidiary to a local broadband operator, Softbank, for US$ 17,528,000 (see table III.1).

Figure III.8
WORLD'S TEN LEADING OPERATORS: SALES BY SEGMENT, 2006
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the companies.

In contrast, other operators have decided to concentrate on offering connectivity via fixed or wireless infrastructure. This requires them to abandon the applications market, including telephony, and to reduce their business of providing access or transmitting packages and applications. Instead, companies are focusing on the development of high-capacity networks to transmit content and to the provision of cheaper and more effective data services. One of the problems this raises is to maintain income levels when both access and transmission prices are subject to strong competitive pressure.

Their visions of the future of the telecommunications market will lead companies in different directions, based on different investment models. However, the time when all public operators had a similar structure and offered identical telephony services appears to be drawing to an end (OECD, 2007).

(a) Towards the provision of bundled service packages: multiplay

Broadband Internet access has profoundly altered the way in which telecommunications services are accessed and valued. This has turned telephony into just another Internet application and any IP applications provider can provide its users with voice services (VoIP), irrespective of the user's access mode (ADSL, cable modem or third-generation wireless network). Consequently, operators have been obliged to seek new solutions to stem the decline in revenues from traditional services, to progress towards new higher value-added money-making offerings and to endeavour to maintain, and if possible

expand, their customer base. The first steps in this direction have been flat-rate access plans and convergence between fixed and mobile services.[17]

However, the best results are being achieved by providing packages that bundle together telephony services, broadband Internet access and television, known as multiplay (double, triple or quadruple play). Their simplicity has made multiplay services highly attractive to consumers, as it gives them a consolidated account that costs less than paying separately for the different services. At present, most operators are either offering, or preparing to launch, multiplay services (usually triple play).

Users are now able subscribe to different service combinations via a variety of platforms, since operators that formerly occupied separate markets have started to compete in the same markets. As a result, telecommunications operators, which focus primarily on telephony, are trying to broaden the range of services they offer to include, first, Internet access and, second, television. In addition, cable operators, which focus basically on the television market, have moved towards providing, first, Internet access services, and, next, telephone services.[18] The progress being made in triple play services is prompting operators to add further services. Operators in the United States are pioneers in this field: in response to competition from cable television operators, Verizon and AT&T have been the first to offer quadruple play via their mobile telephony subsidiaries. Lastly, Internet services providers are gradually starting to target their efforts on the telephony and television sectors. The development of such packages has created intense rivalry among telecommunications operators, cable television operators and Internet service providers.[19] This has led to the emergence of a number of alternative operators that are starting to challenge the leadership of the dominant companies.

Given the need to offer convergent services, companies have taken measures to reduce costs and to ensure viable network migration, which has enabled them to offer their customers new multiplay alternatives:

- The sharp increase in the use of VoIP technology has obliged dominant operators to take action and to offer multiplay services too, as in the case of Deutsche Telekom, AT&T, Telecom Italia, Telefónica and British Telecom. Owing to the rapid decline in revenues from traditional telephony, those operators have had to secure a position in the market of residential VoIP services even though it might appear to be a strategy of self-cannibalism.

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[17] There are flat-rate plans for national and international calls from fixed lines, plus unlimited calls for mobile telephony customers to a group of preselected numbers. Flat rates are also common in broadband Internet access. A number of operators currently offer handsets that function as mobile telephones but become fixed telephones in the home. Even though such offerings are in their infancy, it is a sign that the gap between fixed and mobile telephony is closing.

[18] In most countries, cable television operators that provide Internet access have found it easier to offer triple play than those using ADSL technology, owing to their strong links with audiovisual content. Traditional telecommunications operators have had to struggle harder to obtain content for their television services and have therefore taken longer to get launched and secure market share.

[19] Some of the alternative operators that have launched packages include cable television operators that also have assets in the fixed telephony market, such as Auna, Telefónica's main rival in Spain, Telewest in the United Kingdom, and Internet broadband access providers that have broadened the scope of their services to include television and voice. In late 2003, French operator, Free, launched an ADSL service that included VoIP and, for subscribers situated in the liberalized zones of the "last mile", Internet protocol television (IPTV). This company, which has burst into the broadband access market with a low-cost triple play service, has become France Télécom's main competitor.

- In a number of markets, Internet protocol television (IPTV) has gone beyond the experimental stage. In many cases, alternative operators have been the first to launch IPTV services in ADSL networks, usually as part of a triple play service, as in the case of Free in France, Fastweb in Italy and HomeChoice in the United Kingdom. Since 2005, some dominant operators have been deploying a more aggressive strategy in IPTV services, where Telecom Italia, France Télécom and Deutsche Telekom are performing well. In the United States, as part of a first phase, the main telephony operators (Verizon, AT&T, Qwest and SprintNextel) have concluded agreements with satellite operators. However, when next-generation networks are developed, these companies will have sufficient capacity to distribute IPTV audiovisual content over their own networks.
- A number of operators without the capacity to offer traditional mobile telephony operate as mobile virtual network operators (MVNO) in order to compete in the quadruple play segment.[20] British Telecom is currently offering such services via BT Mobile.[21]

However, operators have also encountered serious obstacles to defining strategies based on multiple play services:

- In markets where there is little competition, dominant operators have endeavoured to delay the introduction of VoIP services to keep up their profits from voice traffic in switched networks. In fact, as long as telecommunications operators continue to view VoIP technology as a threat rather than an opportunity, no synergies will be created between local telephony and the Internet (Beca, 2007).
- Dominant operators find it difficult to operate in market segments with high barriers to entry where they do not yet have a major presence. Deutsche Telekom in Germany and BT in the United Kingdom have been unable to challenge the supremacy of cable operators, which has diminished their growth prospects in the pay-television market.
- Regulation is still an obstacle. In Europe, the regulatory authorities can limit the capacity of operators with significant market power (SMP) to offer multiplay.[22] In a number of states in the United States, telecommunications operators are required to obtain a cable television licence in every city or municipality where they wish to offer multiplay services. This long and costly procedure has prevented them from deploying their multiplay services. In Japan, NTT is not authorized to distribute its television offering directly, although it can do so using an IP platform.

Triple play and quadruple play represent the first phase in service convergence. The next phase should be to unify the networks over which these services are delivered. However, one of the problems is to guarantee continuous coverage for users. Recently there have been major strides forward in improving coverage and bandwidth, and in resolving mobility problems. In the industrialized countries, operators are expanding their third-generation (3G) networks to provide users with faster access and netsurfing speeds.

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[20] A mobile virtual network operator is a company which, despite not owning its own network infrastructure for providing a mobile telephony service, sells the service under its own brand name using another operator's network.

[21] In the early years of this decade, a number of major operators, such as AT&T in the United States and British Telecom in Europe, sold off their mobile telephony businesses to try to alleviate the complex financial situation in which they found themselves.

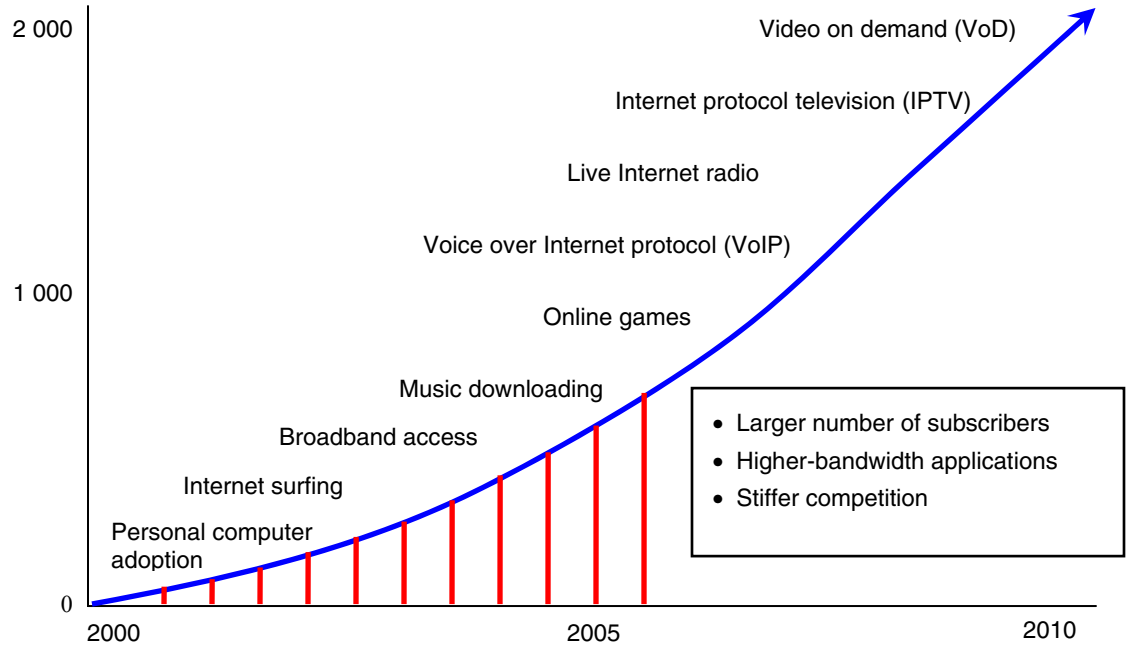
[22] In Italy, Telecom Italia has not been able to offer bundled services. France Télécom has had problems in offering triple play services in France.

Lastly, the abolition of barriers between markets has benefited consumers and enabled them to choose between similar and interchangeable services from several providers. At the same time, the removal of these barriers is forcing regulators to overhaul regulation in specific markets.

(b) The industry's major bottleneck: network capacity

Obsolete networks and increased traffic call for substantial investment in two areas: (i) the fixed segment, to move on from subscriber-based copper loop technologies, like ADSL, towards fibre-optic networks, and (ii) wireless communications, to migrate from second-generation voice services to third-generation networks that allow advanced wireless mobile communications, with high-speed data transfer over the Internet (see figure III.9).

Figure III.9
TRAFFIC GROWTH: NEED FOR NEW NETWORKS
(Petabytes per month) [a]



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Mark Wegleitmer (from Verizon), presentation at the Bear Stearns 18th Annual Technology/Communications/Internet Conference, New York, June 2007.

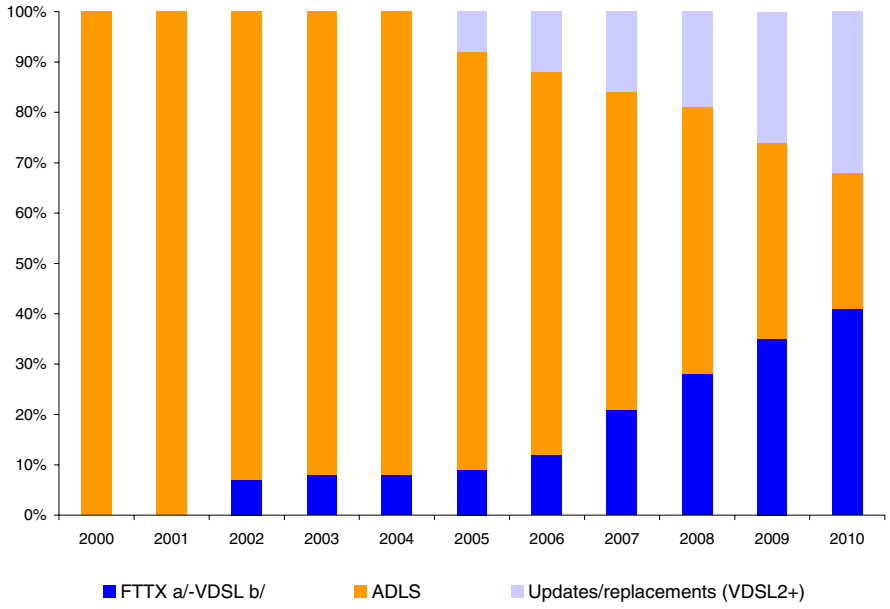
[a] A petabyte (PB) is a unit of information or computer storage equal to 10^{15} bytes.

However, the difficult situation that telecommunications operators have experienced in recent years has done much to curb investment and the migration to next-generation networks. In fact, the investment in infrastructure of the world's ten leading operators, as a percentage of their total volume of business, fell from 20.5% in 1996 to 10.9% in 2005 (Fundación Telefónica, 2007). Producers of networks and hardware for telephony have also been affected.

Recently the trend seems to have begun to reverse. In spite of sluggish revenues, especially in fixed-line telephony, operators have stepped up their plans for investment to the tune of around 150 billion euros worldwide (Fundación Telefónica, 2007). This is because telecommunications companies need to anticipate the gradual transition to optical fibre and to invest in order to maintain and defend their competitive and market position in the coming years (OECD, 2007). This is a key decision, since next-generation networks are able transfer much more information, which is crucial for the new uses and services that are emerging (such as high definition television (HDTV) and video on demand (VoD)), which require higher bandwidth than current networks can provide (see figure III.9).

Most telecommunications operators today are evaluating plans for developing new high-speed networks. The pioneers in this field have been Asian and United States operators, while development in Europe has been more modest. These new advances will change the picture for broadband in the years to come (see figure III.10).

Figure III.10
BROADBAND ACCESS WORLDWIDE, BY TECHNOLOGY, 2000-2010
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Danny Goderis, Director Marketing, Alcatel Access Networks Division, "Is there enough bandwidth on tap?", September 2006.

[a] Fibre to the x.
[b] Very High Speed Digital Subscriber Line.

High population density, price competitiveness and a strong political will have helped Japan and the Republic of Korea to take the lead in fibre optics.[23] ADSL technology has been losing ground in those countries as next-generation networks (especially FTTX networks) have been rolled out (see figure II.10).[24] Moreover, in Japan optical fibre has been incorporated not only into basic networks, like in the United States and Europe, but also into the access network, and even reaches users via fibre to the home (FTTH) (Fransman, 2007). In Japan, the leading companies, headed by telecommunications operator, NTT, have invested more than 38 billion euros in this new network architecture (OECD, 2007).[25] By April 2007, NTT, which has a 67.5% market share, was operating more fibre-optic networks than ADSL lines, making fibre optics the most commonly-used method of broadband access (BMP Telecommunication Consultants, May 2007).

The Asian countries' significant lead started to shrink when the United States Federal Communications Commission (FCC) announced that operators were not obliged to share the new fibre-optic infrastructure with competitors (Bauer, 2005). This significantly boosted the investment of United States operators and they began to roll out a variety of FTTX network solutions to offer competitive services and so challenge cable operators' dominance in the residential Internet market (see figure III.11). Verizon has invested more than US$ 20 billion to focus exclusively on FTTH architecture and on connecting some 14 million homes by the year 2010 (IDATE, 2007b).[26] However, AT&T Inc., via BellSouth and SBC, has invested some US$ 10 billion and has given priority to fibre to the node (FTTN)/VDSL2 technology as its core system, and to FTTH technology when rolling out new networks, as in recently-built apartment buildings.[27] The company hopes to connect some eight million homes in the next five years.

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[23] The Republic of Korea's strategy has relied on sound policies of personnel training and competition based on duplication of infrastructure and the reorganization of State services to include information and communication technologies (ECLAC, 2007). This has led to the Republic of Korea gaining one of the highest broadband penetration rates in the world. The country is also a leading innovator in mobile services and terminals. Crucial to this performance was the involvement of mobile telephony operators, equipment manufacturers (Samsung Electronics and LG) and the government, which has promoted the development of the mobile telephony industry.

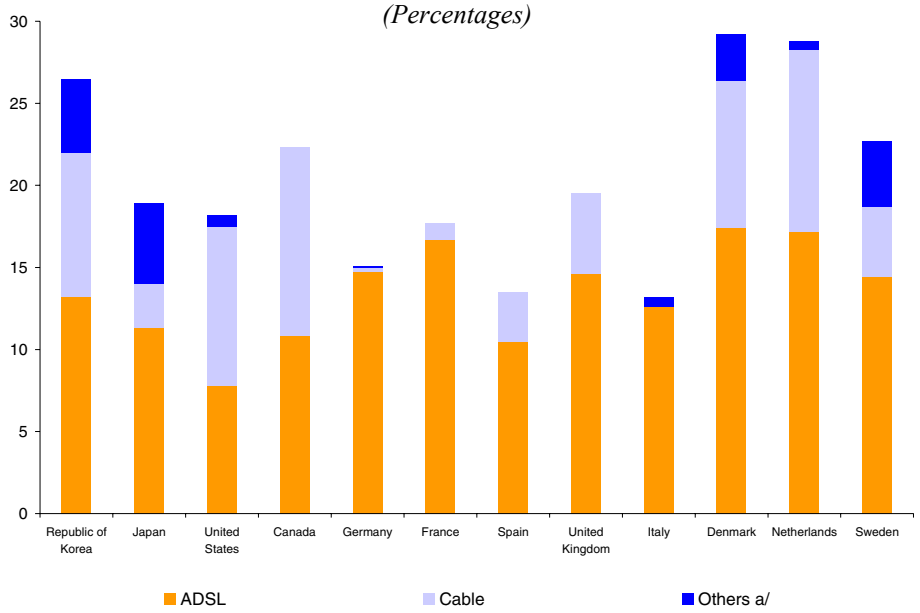
[24] FTTX (fibre to the x) is a generic term for any network architecture that uses optical fibre to replace all or part of the usual copper local loop used for telecommunications.

[25] Fibre-optic subscribers in Japan can download at a speed of 100 Mbits per second (10 times faster than average in the developed countries) and at the lowest price of all the countries in the Organisation for Economic Co-operation and Development (OECD). Furthermore, Japanese fibre-optic subscribers can upload information at the same speed as they can download it, which is not possible with either ADSL technology or most cable modem options (OECD, 2007).

[26] Verizon currently services around 81% of all FTTH subscribers in the United States, with the remaining 19% serviced by AT&T, Qwest, alternative operators and municipal initiatives (Gaptel, 2007).

[27] Very High Speed Digital Subscriber Line 2 (VDSL2) is an access technology that exploits the existing infrastructure of copper wires and is the newest and most advanced standard in the ADSL family. VDSL2 is designed to support the wide deployment of triple play services (combining voice, video and data), high-definition television (HDTV) and interactive gaming. In addition, VDSL2 enables operators and carriers to gradually upgrade existing ADSL lines cost-efficiently.

Figure III.11
BROADBAND ACCESS PER 100 INHABITANTS, BY TECHNOLOGY, IN SOME DEVELOPED COUNTRIES, JUNE 2006
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organisation for Economic Co-operation and Development (OECD), *OECD Communications Outlook 2007*, París, 2007.

[a] Other broadband technologies include: satellite broadband access, fibre to the x (FTTX) and fixed wireless subscriber lines (with a downloading speed of more than 256 Kbps).

European domestic markets have developed at an uneven rate, mainly on account of their differing situations in competition for the "last mile" and to the existence of possible challengers.[28] Fibre optics are growing fairly fast and FTTN/VDSL2 networks, such as the one used by AT&T Inc., are expected to be the commonest form of network in the coming years. The countries that are most committed to FTTX technology are Denmark, Italy, the Netherlands and Sweden (see figure III.11). In many cases, the projects are headed by municipal authorities or local gas and electricity companies.

The major European operators have announced investment plans to build their own FTTX networks to replace their fixed infrastructure. Some operators have even announced plans to step up the installation of fibre optics in access networks and to reach homes. This is the case with France Télécom, which seems to have opted for FTTH network architecture to deliver its future broadband services. Alternative operators like Free have also announced new FTTX projects.[29] Favourable regulation enabled

[28] In Europe, European Union guidelines on the liberalization of telecommunications markets are currently being revised and an analysis is being made of the proliferation of new convergent services and the resulting overlapping of reference markets, as well as the conditions for implementing the obligation to open up networks, which lay the foundations for a competition model that includes investment incentives. This raises the dilemma of whether to choose a model based on differing access infrastructure or to recognize that the natural monopoly over access is a systematic feature that is here to stay.

[29] Free's deployment of its FTTH network is altering France's competitive environment. It is more ambitious than any other European project put forward to date. Free's FTTH project started in Paris in 2007 and is expected to

Deutsche Telekom to invest 3 billion euros to make it the European company with the highest deployment of VDSL2, which will enable it to offer Internet protocol television. By the end of 2010, Deutsche Telekom expects to have around 1.5 million IPTV subscribers (*TV over Net*, 2 March 2007 [online] http://www.tvover.net).

British Telecom (BT) has pioneered this field with its '21st Century Network' project, in which it has invested some US$ 18.5 billion, and plans to replace its basic telephone network with a wireless fibre-optic network by 2008 (*The Economist*, 12 October 2006). It was a key decision for the British company, given its vulnerable situation following the sale of its mobile telephony subsidiary, which limited its ability to offer new multiplay products.

Lastly, a major debate is in progress on the future financing and ownership of the new fibre-optic networks. Municipal networks have recently joined the competitors in the telecommunications sector. "Wi-Fi hotspots" or "Wi-Fi cities" have been established in a number of towns and villages in industrialized countries, or plans to establish them have been announced. These are areas with wireless access or fibre-optic networks designed to improve their residents' connectivity.[30] Some such networks have been built in accordance with rules on free access, which oblige network operators to provide access to any service provider under the same terms. In other areas, low-cost Wi-Fi and Wi-MAX networks are being promoted in order to improve public services and help to bridge the digital gap.

In summary, while operators agree that it is crucial to move in this direction because existing infrastructure will be unable to satisfy future demand for multimedia services, their great dilemma is to decide when and how to do so. The main driver of FTTX networks will be the video services that they provide to users, even though operators are still unsure how large this business will be, or what profits it will yield. This is creating uncertainty amongst them, as, while they are certain that it will be a very important segment in the future, it is extremely difficult to establish activities around fibre-optic access. Also, until the regulatory uncertainty over local loop unbundling (LLU) is resolved, operators will baulk at making the necessary investment. Regulatory bodies are currently evaluating the operation of fibre-optic networks to devise new measures that are bound to have a decisive impact on the deployment of FTTX infrastructure.

(c) The ultimate challenge: unlimited connectivity, mobility and speed?

Telecommunications companies have endeavoured to improve their wireless platforms and to progress to new solutions for delivering convergent services. Among the technology alternatives available, networks for advanced mobile communications, more commonly known as third-generation networks (or 3G), seem to be becoming a good option in the current uncertainty facing fixed-network operators (see box III.1). First, it is the least costly solution for delivering voice, multimedia and data services using high-speed broadband (see figure III.12). Second, it allows new applications to be created that could complement wireless voice services, the profits from which are starting to shrink markedly. Lastly, having operated in competitive environments since the very start, mobile communications would face less regulatory uncertainty than fixed options.

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have reached more than four million French homes by 2012, for an estimated investment of 1 billion euros (Gaptel, 2007).

[30] Users in a "Wi-Fi (or wireless) hotspot" or "Wi-Fi city" have broadband Internet access anywhere within it, provided only that they have a personal computer, personal digital assistant (PDA) or other device with a built-in wireless card.

Box III.1

TECHNOLOGY PATH OF MOBILE TELEPHONY

First-generation mobile telephony (1G) emerged in the 1980s, based on analogue networks with limited coverage and traffic capacity. In the early 1990s, second-generation (2G) systems emerged that used digital communications. This increased spectrum efficiency, which in turn boosted the quality and supply of new services, such as instant messaging (SMS). A number of technologies coexist in second-generation mobile telephony, including Time Division Multiple Access (TDMA), Global System for Mobile Communication (GSM), Personal Digital Cellular (PDC) and Code Division Multiple Access (CDMA).[a] However, these technologies are mutually incompatible, which restricted the coverage of services to a single country or region.

In a context of rapid technological progress, it became apparent that traditional methods for establishing standards were limited. So, the leading competent bodies endeavoured to draw up a core set of definitions for devising a plan of action to support the globalization and technology-convergence processes efficiently. The International Telecommunication Union (ITU) laid down the technical requirements and rules for future advanced mobile communications, called third-generation (3G), in its global standard, International Mobile Telecommunications-2000 (IMT-2000). These parameters were used to establish six basic standards for third-generation telecommunications, from which two key development trends emerged, based on the most popular second-generation standards: GSM and CDMA.[b] Most operators adopted one of the two technologies, whilst the PDC and TDMA standards started to decline in importance.

At first, the CDMA standard pulled into the lead owing to its better services and performance, as well as to its ease of upgrading technology by reusing the spectrum and networks. However, despite stepping up investment in new CDMA network infrastructure, the European GSM standard quickly became the main platform for advancing towards third-generation network technology. This trend was consolidated by the open nature of the GSM technology standard, its high market penetration, its global economies of scale, its facility for roaming and the greater availability of terminals.

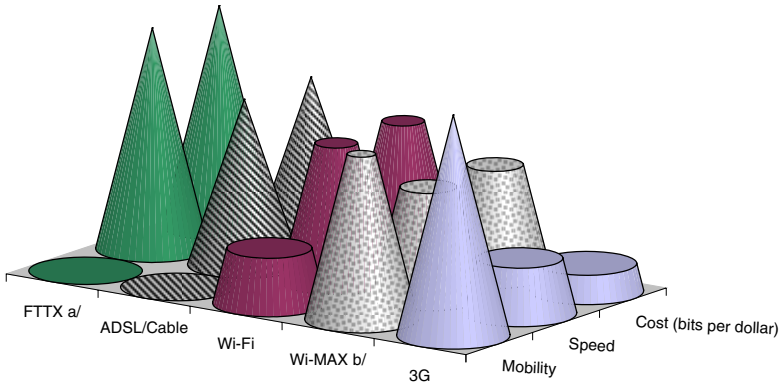
In response to increasing demand for new services, technologies started to develop that could transmit data at higher speeds over second-generation networks, leading to what has been dubbed generation 2.5: GSM with a General Packet Radio Service (GPRS) network, and CDMA with CDMA2000 1x. Lastly, both standards completed their transition to third generation by means of Enhanced Data Rates for GSM of Evolution (EDGE) —its offshoots, Wideband Code Division Multiple Access (W-CDMA) and the High-Speed Downlink/Uplink Packet Access (HSDPA/HSUPA)— and CDMA2000 1x, with Evolution-Data Optimized (EV-DO) technology, respectively. These technologies allow high-speed data transfer, comparable to the speed of fixed platforms like ADSL or cable modem, which has made it possible to offer better services and interactive applications, including mobile broadband, online games, video on demand, and live content such as news, sports, and traffic and weather information. Fourth generation technology (4G) is currently in the experimental phase and the first commercial applications are expected to be available in Japan in 2010.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from The Global Mobile Providers Association (GSA) [online] http://www.gsacom.com; 3G Americas [online] http://www.3gamericas.com; GSM World [online] http://www.gsmworld.com; CDMA Development Group (CDG) [online] http://www.cdg.org/technology/3g/migration.asp; and Informa Telecoms & Media, World Cellular Information Service (WCIS).

[a] TDMA technology provides a digital wireless service by means of Time Division Multiple Access, which enables several users to use a single communication channel simultaneously without any interference. GSM uses narrow-band TDMA, which allows a larger number of simultaneous calls on the same radio frequency, in addition to other services such as instant messaging. PDC, which is used only in Japan, is also based on TDMA technology. CDMA is a digital technology that uses spread-spectrum techniques and does not assign a specific frequency to each user. Instead, every channel uses the full available spectrum. This technology allows many terminals to use the same frequency channel simultaneously.

[b] In 1998, the European Telecommunications Standards Institute (ETSI) promoted the creation of the Third Generation Partnership Project (3GPP) based on GSM technology. Apart from ETSI, project partners include institutions from China, the United States, Japan and the Republic of Korea. Despite initial talks between ETSI and CDMA technology promoters, the latter felt it appropriate to establish a parallel initiative called Third Generation Partnership Project Two (3GPP2) to support the dissemination of their own CDMA standard. At present, 3GPP2 partners include institutions from China, United States, Japan and the Republic of Korea.

Figure III.12
COSTS OF THE VARIOUS TECHNOLOGIES FOR DELIVERING CONVERGENT SERVICES



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Organisation for Economic Co-operation and Development (OECD), *OECD Communications Outlook 2007*, París, 2007.

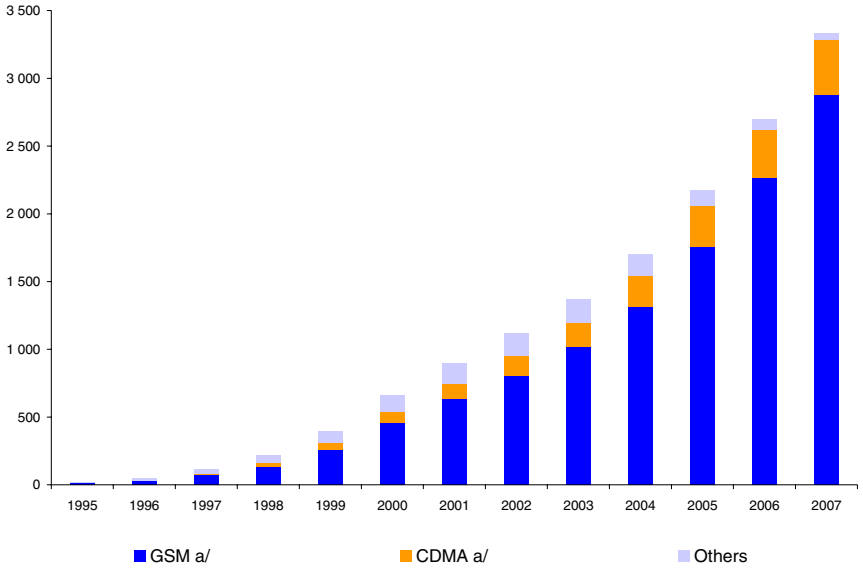
[a] Fibre to the x.
[b] Worldwide Interoperability for Microwave Access.

Based on the most widespread second-generation standards, GSM and CDMA, the main operators started to define their technology path to obtaining better wireless and mobile services (see box III.1). In the early years of this decade, Japan and the Republic of Korea conducted ground-breaking commercial trials of third-generation mobile telephony. In October 2000, Korean operator, SK Telecom, launched a service that could transmit data faster than over fixed-line telephony networks, using CDMA2000 1x, the first official third-generation technology.[31] The following year, Japanese operator, NTT DoCoMo, launched the first commercial network of the GSM family (W-CDMA). In 2001, the introduction of third-generation technology gave renewed momentum to the Japanese mobile telephony market. NTT DoCoMo, Softbank Telecom and KDDI began to provide third-generation services under free licences, with an obligation to offer coverage to half the population within a five-year period.

By late 2007, around 300 million users worldwide were using CDMA2000 1x, the earliest version of third-generation technology, compared to more than 190 and 62 million subscribers respectively for the more modern technologies, W-CDMA and CDMA2000 1x EV-DO (Rev 0/A/B) (see [online] http://www.3gamericas.com and CDMA Development Group [online], http://www.cdg.org/technology/3g.asp) (see figure III.14).

[31] Even though CDMA2000 1x is officially considered to be a third-generation standard, many believe that it is actually a generation 2.5 (or even 2.75) technology. Although CDMA2000 1x far surpassed previous technological advances, its data speeds are much lower than using EV-DO technology. In January 2002, SK Telecom updated its network to CDMA2000 1x EV-DO Rev. 0.

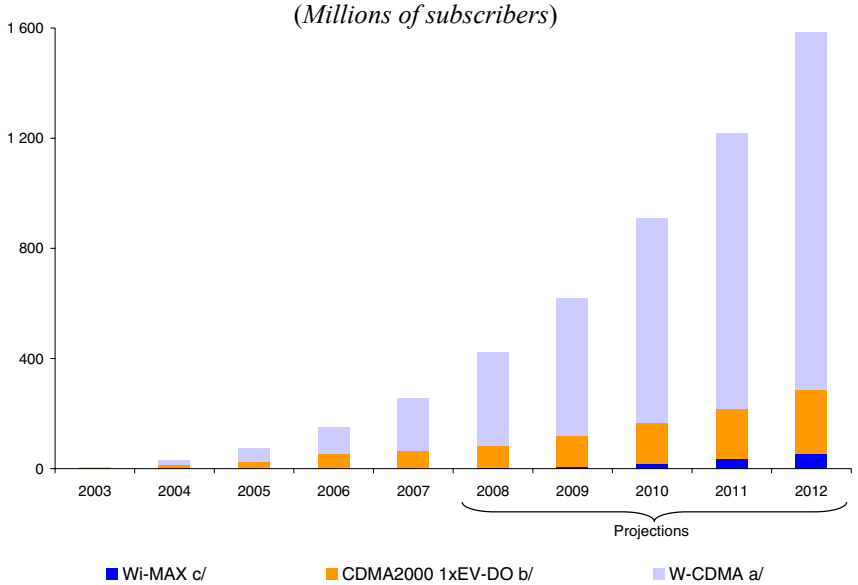
Figure III.13
MOBILE TELEPHONY SUBSCRIBERS WORLDWIDE, BY TECHNOLOGY, 1995-2007[a]
(*Millions of subscribers*)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of GSM World [online] http://www.gsmworld.com.

[a] Includes third generation updates.

Figure III.14
SUBSCRIBERS TO THIRD-GENERATION MOBILE TELEPHONY WORLDWIDE, BY TECHNOLOGY, 2003-2012
(*Millions of subscribers*)

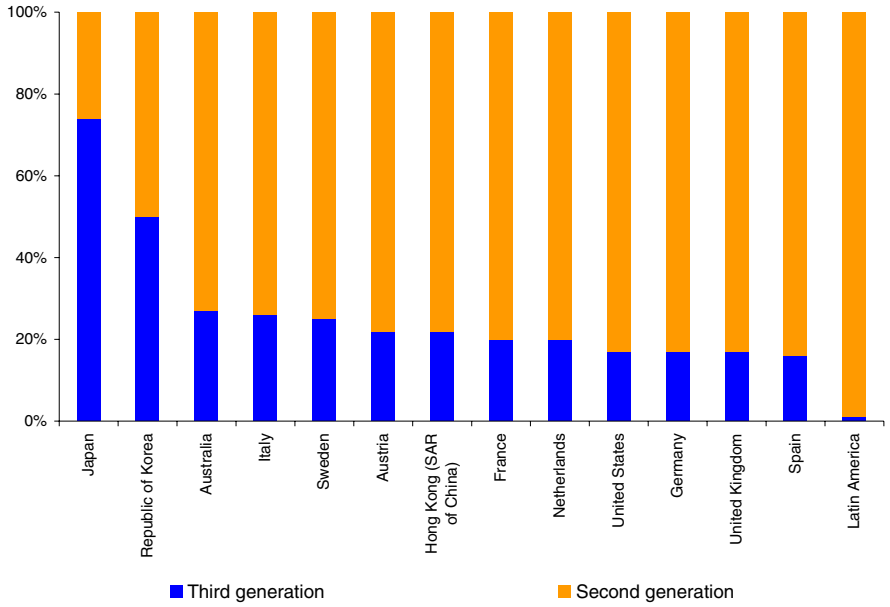


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of 3G Americas [online] http://www.3gamericas.com; Informa Telecoms & Media, World Cellular Information Service (WCIS) and Senza Fili Consulting LLC.

[a] Wideband Code Division Multiple Access.
[b] CDMA2000 1x with Evolution-Data Optimized technology.
[c] Worldwide Interoperability for Microwave Access.

The number of third-generation users in Japan and the Republic of Korea has begun to exceed the number of second-generation users and this is expected to have become a worldwide phenomenon by 2011 (see figure III.15) (CDMA Development Group [online] http://www.cdg.org/technology/3g.asp). Third-generation services could therefore surpass second-generation services in 10 years, that is to say, five years faster than it took the second generation to surpass the first. It could happen even more rapidly, since the scarcity of radio frequency spectrum can be offset by converting the bands used for second-generation services.

Figure III.15
SELECTED DEVELOPED COUNTRIES AND LATIN AMERICA: MOBILE TELEPHONY SUBSCRIBERS WORLDWIDE, BY TECHNOLOGY, 2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

As a result of the strong leadership position achieved by GSM technology (see figure III.13), it is fair to assume that the evolution from GSM and EDGE to W-CDMA and subsequent upgrades will continue to dominate in the coming years (*Press Release 3G Americas*, 11 November 2007). Indeed, large numbers of operators that formerly used CDMA standards have adopted GSM technology owing to CDMA's declining market share. Although some operators have kept both technologies, the majority prefer all their customers to migrate to GSM. The vast majority of TDMA operators also decided to migrate to GSM. However, there are no cases of mobile telephony operators having abandoned GSM technology in favour of CDMA standards (GSA, 2007).

The number of third-generation telephony subscribers is expected to rise from 250 million in 2007 to almost 1.6 billion in 2012, and W-CDMA technology and its successors are predicted to dominate more than 80% of the world market (see figure III.14). The market share of CDMA2000 1x EV-DO Rev 0/A/B technology is expected to continue to shrink to 14%. Lastly, WiMAX technology should

increase in importance, albeit slowly because of its higher cost (see figure III.12) (*Press Release 3G Americas*, 11 November 2007).[32]

Similarly, the world's largest operators have tended to favour the GSM/W-CDMA family of technologies and its successors (HSDPA/HSUPA). Its most loyal followers are European companies, the vast majority of which have adopted this technology path from the very start.[33] The mass-scale adoption of HSDPA technology has made it possible to increase the bandwidth of third-generation technology, and standardization of IP service platforms should foster the emergence of a more varied service offering in Europe. However, there is still little impact on operators' revenues, as the high cost of Internet access from mobile telephones makes its use very limited at present (Fundación Telefónica, 2007). Moreover, even though CDMA2000 technology is firmly entrenched in Japan, the United States and the Republic of Korea, the leading companies in those three markets (SK Telecom, NTT DoCoMo and AT&T (formerly Cingular Wireless)) have tended to favour the W-CDMA standard.

Operators' preference for the GSM family has not been limited to their domestic markets, as many have incorporated it into their internationalization strategies to achieve synergies and economies of scale, which has led the GSM technology option to grow in strength by the day. For example, Apple Inc., producer of iPhone, one of the most successful innovations of recent times, has concluded marketing agreements only with GSM operators that already have the EDGE standard.[34] In 2007, iPhone burst onto the market at the hands of AT&T in the United States, T-Mobile in Germany, O_2 in the United Kingdom and Orange in France, and is expected to reach the rest of Europe and much of Asia in 2008.

Lastly, the processes of convergence between fixed and mobile telephony and of fixed-mobile substitution have forced telecommunications operators to explore synergies between the fixed and mobile segments. Mobile virtual network operators (MVNO) could be the answer for non-integrated companies (cable television operators and providers of Internet-based content and applications) wishing to offer mobile services. The regulatory authorities have played a key role by encouraging, or even obliging, mobile operators to allow virtual operators access to their networks. Moreover, quadruple play services could help mobile operators to survive and grow in the coming years. In fact, mobile virtual network operators could become a serious threat to traditional mobile operators.[35]

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[32] World Interoperability for Microwave Access (WiMAX) is a wireless data transmission standard for providing fixed voice, Internet access and data communications services over private networks, together with video on demand. WiMAX offers connections at speeds similar to ADSL or cable modem, with a low installation cost. WiMAX is a good alternative technology for "last mile" solutions in metropolitan Internet access networks, facilitating connections in rural areas and offering alternatives for internal communications in the business sector. The WiMAX concept is very akin to Wi-Fi technology, although WiMAX has a greater range and bandwidth than Wi-Fi, which was designed for indoor use and has a range of only a few metres from the base station. Although WiMAX could offer services similar to third-generation technology, this is not feasible as yet, since WiMAX is unable to provide reasonably-priced mobile voice or data services on a mass scale (Fiscalía Nacional Económica, 2007).

[33] The leader in this field is Italy, where one third of subscribers have already migrated to third generation, followed by the United Kingdom, Austria and France.

[34] In 2007, the magazine 'Time' voted iPhone invention of the year. More than four million units were sold in 2007. A new iPhone version is expected in 2008 that will be able to operate fully in a third-generation environment and will allow faster Internet connections (*Time*, 31 October 2007).

[35] In the United States, this trend could intensify, owing to the strong position of cable television operators. Mobile virtual network operators, which are currently growing fast in the United States and the United Kingdom, could change future competitive conditions in the global market for mobile telephony, even though traditional operators continue to control the business value chain.

Table III.3
MAIN OPERATORS: TECHNOLOGY PATH OF ADVANCED MOBILE COMMUNICATIONS (3G) IN THE MARKET OF ORIGIN

	CDMA [a]					
	CDMA 2000			W-CDMA		
	1x	EV-DO [b] Rev.0	EV-DO Rev.A	W-CDMA	HSDPA [c]	HSUPA [d]
United States						
AT&T				2004	2005	2007
Verizon	2002	2003	2007			
Sprint	2002	2005	2006			
Japan						
NTT DoCoMo				2001	2006	2008
KDDI	2002	2003	2006			
SoftBank				2002	2006	
Republic of Korea						
Sk Telecom	2000	2002		2003	2006	2007
KTF	2001	2002				
LG TeleCom	2001		2007			
Europe						
Orange				2004	2006	2007
T Mobile				2004	2006	2007
TIM				2004	2006	2007
Movistar				2004	2006	2007
Vodafone				2004	2006	2007

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CDMA Development Group (CDG) [online] http://www.cdg.org/technology/3g/migration.asp; 3G Americas [online] http://www.3gamericas.com; Informa Telecoms & Media, World Cellular Information Service (WCIS).

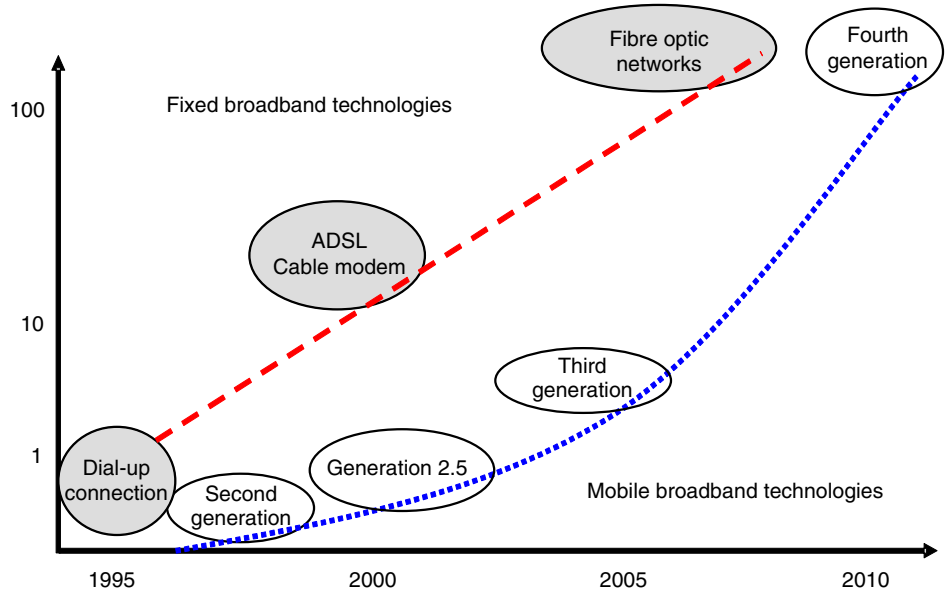
[a] Code Division Multiple Access.
[b] Evolution-Data Optimized.
[c] High-Speed Downlink Packet Access.
[d] High-Speed Uplink Packet Access.

The rapid process of technological innovation therefore enables new and varied services to be created and poses challenges to both established stakeholders and new ones interested in entering the telecommunications business. This has a clear impact on mobile communications, especially considering that the useful commercial life of these new applications and devices is some two years (3G Americas, 2007a).

As the Internet is growing in strength all the time, broadband access is crucial. Broadband connections have enjoyed spectacular growth, especially on fixed platforms. Nowadays, most users access the Internet via a computer connected to a fixed line (ADSL or cable modem). However, soon they are expected to start demanding permanent broadband services, irrespective of their location or type of device (Ericsson, 2007). Thus, by closing the gap between fixed and mobile broadband services (see figure III.16), wireless options are set to become the main mechanism for high-speed Internet access (see figure III.17).[36] Under this scenario, the new third-generation mobile telephony technologies will grow in importance, delivering broadband services to the vast majority of the world market.

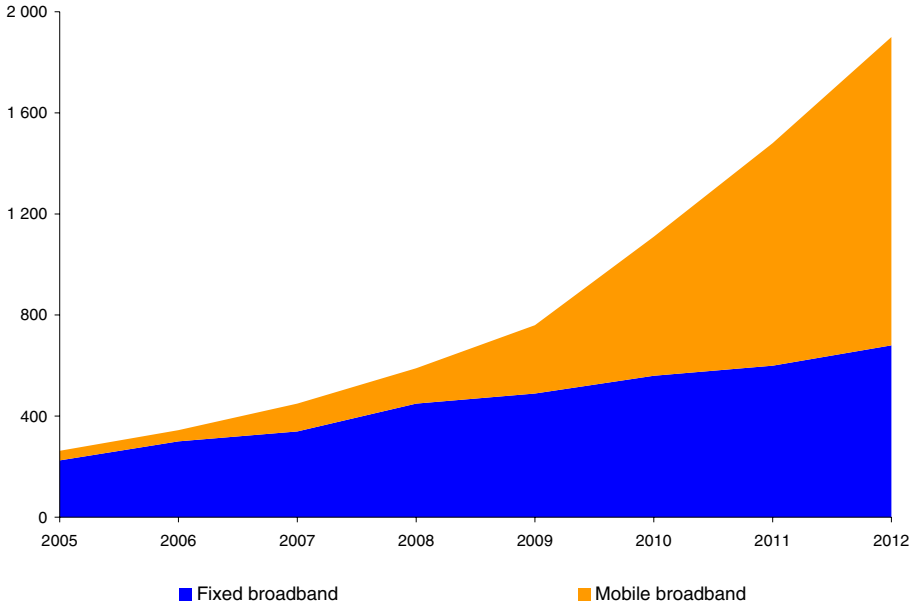
[36] In many countries, pricing mechanisms for fixed and mobile broadband services differ: a flat rate is charged for the fixed broadband service, whereas the cost of the mobile broadband service varies according to the number of kilobytes transmitted (Fiscalía Nacional Económica, 2007).

Figure III.16
EVOLUTION OF BROADBAND INTERNET ACCESS TECHNOLOGIES, FROM FIXED AND MOBILE PLATFORMS, 1995-2010
(Bandwidth, megabits per second, in logarithmic scale)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Grupo de Análisis y Prospectiva del Sector de las Telecomunicaciones, "Oportunidades y desafíos de la banda ancha", Madrid, 2007; 3G Americas [online] http://www.3gamericas.com; Teleco Informação em telecomunicações [online] http://www.teleco.com.br; and CDMA Development Group (CDG) [online] http://www.cdg.org.

Figure III.17
USERS OF FIXED AND MOBILE BROADBAND WORLDWIDE, 2005-2012
(Millions of users)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Ericsson, "White Paper: HSPA, The Undisputed Choice for Mobile Broadband" [online] http://www.ericsson.com, May 2007.

Although voice services will continue to predominate in the near future, pressure will grow for higher-quality, more diverse services, especially interactive multimedia applications.[37] The great challenge for operators is to establish a mass market for this type of service. The leading companies in the sector are endeavouring to provide low-cost, easy-to-use services, geared to users' needs and preferences.

The next step will be to introduce fourth-generation (4G) infrastructure that operates entirely under the Internet protocol, offering low latency, a very high-speed data transfer rate and advanced service quality. This will enable mobile operators to compete with fixed broadband access companies by offering a wide variety of services, including voice over Internet protocol, advertising and mobile television, and differentiating their services by integrating presence, location and mobility (CDG, 2007b). Japan is already experimenting with fourth-generation technologies, with NTT DoCoMo at the forefront. The company has successfully conducted its first trials (reaching 100 Mbps at 200 Km/h) and hopes to be able to launch its first commercial fourth-generation services in 2010. Fourth generation is expected to be established worldwide by around 2020.

These new technologies should, at least to some extent, reverse the downward trend in telecommunications operators' average revenue per user (ARPU), especially in the voice segment. The advance of wireless data services could help to raise the ARPU in years to come. Wireless data services are thought to have increased some operators' revenues by between 20% and 30% and have become the chief differentiating factor in a highly competitive mobile services market (CDG, 2007b). Telecommunications operators in developed countries are staking their future on such data services and, slowly but surely, the same seems to be happening in emerging markets like Latin America and the Caribbean.

D. LATIN AMERICA: OPERATORS GAMBLE ON MOBILITY

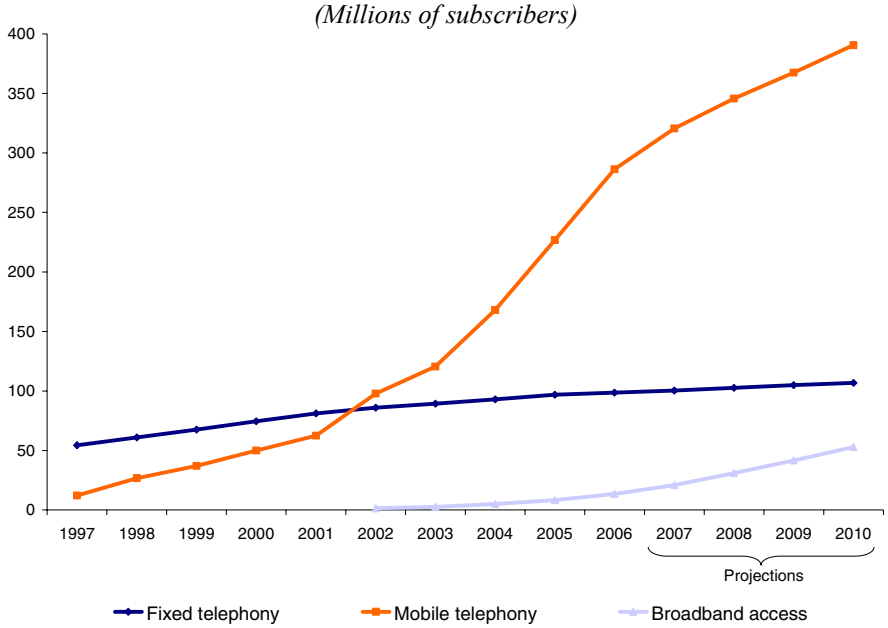
1. Foreign operators and the mobile telephony boom

Latin America has not remained untouched by these major changes in the world telecommunications market. In the past 20 years, most regional markets have been liberalized and State operators privatized. Some of the industry's leading international operators are playing a prominent role in this process. The reforms had a marked impact on the sector in terms of infrastructure investment, technology transfer, price reductions and improved service quality.

In the late 1990s, fixed-line telephony grew sharply, becoming a very attractive business for telecommunications operators. In fact, companies that were subject to particular requirements as part of the privatization process met them in full, even before the agreed deadline. In addition, great strides were made in productivity and the resulting large cash flows meant that they recouped their investment in the space of three years (Beca, 2007). Their performance prompted capital markets to assess telecommunications operators favourably, enabling them to raise plentiful funding to finance their expansion and diversification plans, especially towards the wireless segment. The customer base for fixed-line telephony shot up from 25 million in 1990 to 72 million in 2000 (see figure III.18).

[37] The voice-service share of the sector's total revenues is predicted to fall from 93% in 2006 to 86% in 2012 (Pyramid Research, 2007).

Figure III.18
LATIN AMERICA: TELECOMMUNICATIONS SERVICE SUBSCRIBERS, BY SEGMENT, 1997-2006 AND PROJECTIONS FOR 2007-2010
(Millions of subscribers)

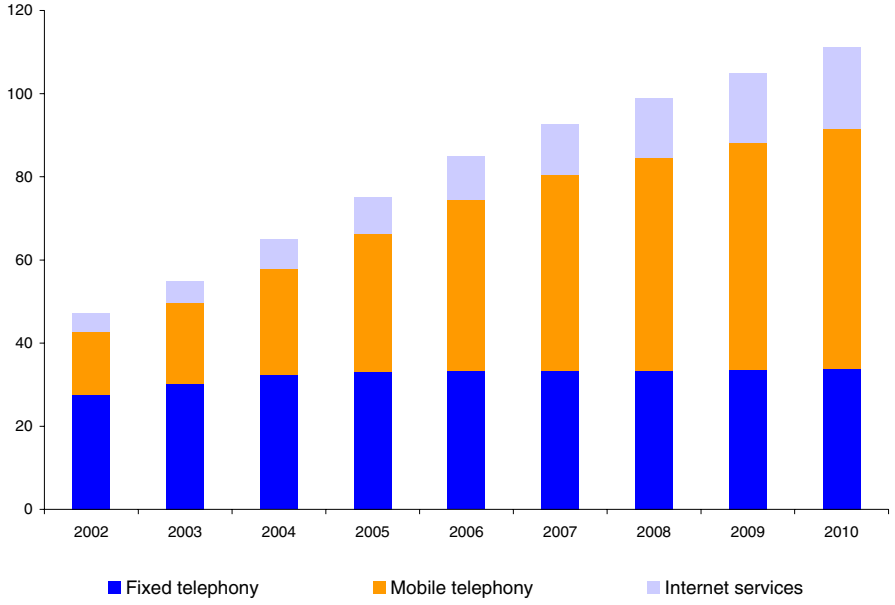


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

The crisis early in this decade hit Latin American operators extremely hard, causing them to halt virtually all investment in fixed-line telephony. Similarly, developed countries experienced a marked, albeit not so rapid, slowdown in the growth of the number of subscribers and in the segment's revenues, owing to falling rates and strong competition from mobile services. As a result, fixed-line telephony's share of the industry's total revenues declined from 60% in 2000 to 40% in 2006 (see figure III.19).

Just as everywhere else in the world, there was explosive growth in mobile telephony in the region, replacing fixed-line telephony at an ever faster rate (see figure III.18). To a large extent, the growth in mobile services has stemmed from the success of the prepayment system, which represents more than 80% of the subscriber base, and from the operators' strategy to subsidize terminal equipment. Consequently, mobile telephony subscribers almost treble the number of fixed-line telephony subscribers and the segment has rapidly increased its share of the industry total, growing from 30% in 2000 to 50% in 2006 (see figure III.19). However, this growth has been accompanied by a hefty reduction in operators' average revenue per user, owing to customer characteristics (customers of the prepayment system) and stiffer competition. Even so, just as in the rest of the world, Latin America's mobile telephony sector was obliged to reflect its real costs because, unless it did, the sector's obvious frailties would not herald a very promising future (Beca, 2007).

Figure III.19
LATIN AMERICA: TELECOMMUNICATIONS SERVICES MARKET, REVENUES BY SEGMENT, 2002-2010
(Billions of dollars)



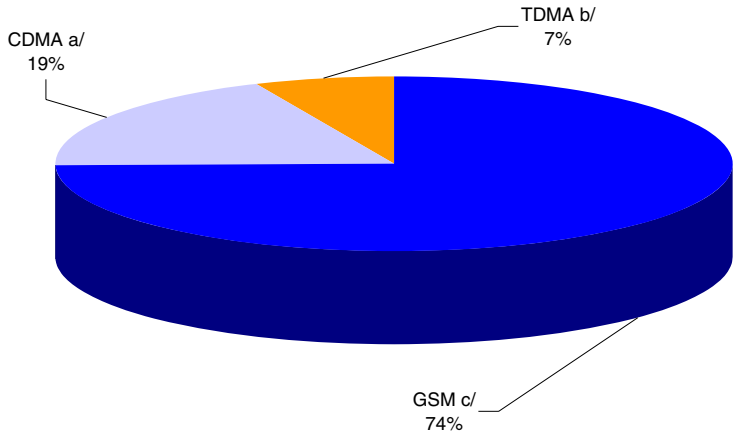
Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the European Audiovisual and Telecommunications Institute (IDATE).

Since the late 1990s, the leading regional operators have earmarked the vast majority of their investment for mobile telephony, in order to speed up migration between second-generation technologies and to expand and improve networks. The fact that most of the main regional operators were European contributed to the expansion of GSM technology, which has now attracted 74% of customers (see figure III.20). So, despite the scarcity of frequencies and the cost of telephones, there has been a gradual migration to new generations of mobile telephony. Indeed, a number of operators have already put into operation 2.5-generation and third-generation services.

Lastly, Latin America is lagging somewhat behind in terms of broadband Internet access, owing to the scant coverage of the broadband Internet service, limited computer penetration, the population's low income levels and the high cost of deploying the network infrastructure. However, this segment has recently grown faster than the world average. The lag stems from a lack of incentives for telephony operators to provide access using technologies like ADSL. For fixed-line telephony operators, the deployment of broadband access in their own networks represented less an opportunity than a clear risk of switched telephone traffic being replaced by VoIP services. Moreover, the lack of triple play services did nothing to speed up the deployment of ADSL technology in local telephony networks. With the reduction in their traditional revenues, operators were forced to modernize their networks and to incorporate broadband access technology. At the moment, 74% of broadband access in the region is via ADSL connections (Fundación Telefónica, 2007).[38]

[38] However, the cable modem market should continue to grow and to provide an alternative to ADSL, which is still controlled by traditional operators owing to lack of network openness. Wireless solutions, such as

Figure III.20
LATIN AMERICA AND THE CARIBBEAN: MOBILE TELEPHONY SUBSCRIBERS, BY TECHNOLOGY, SEPTEMBER 2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Global Mobile Providers Association (GSA), "GSM/3G Market Technology Update: Mobile Market Development in Latin America" [online] http://www.gsacom.com/news/statistics.php4, 29 October 2007.

[a] Code Division Multiple Access.
[b] Time Division Multiple Access.
[c] Global System for Mobile Communication.

2. Companies reposition themselves: towards a regional duopoly?

As the Latin American telecommunications market changed, the main operators began to engage in an intensive process of consolidation. While some abandoned Latin America in response to stiff global and regional competition (especially United States companies like BellSouth, Verizon and AT&T, which sold their Latin American assets), others took advantage of the situation to strengthen their position in the region. The two clear leaders in this second group are Spain's Telefónica and Mexican company, TELMEX/América Móvil, with Italy's Telecom Italia (TIM) trailing far behind (see table III.4).[39] In parallel, smaller operators, including the Swedish-owned company, Millicom, and the Irish company, Digicel, secured a major presence in some smaller Central American and Caribbean markets (see box III.2).

Worldwide Interoperability for Microwave Access (WiMAX), could encourage greater deployment of broadband in the near future.

[39] Telecom Italia has centred its Brazilian operations on the mobile telephony segment, in which it is market leader. Between 2004 and 2006, it sold its mobile telephony assets in Chile, Peru and the Bolivarian Republic of Venezuela. In addition, in April 2007 the Bolivian Government announced the partial nationalization of ENTEL Bolivia. In Argentina, Telecom Italia has a stake in Telecom Argentina.

Table III.4
AMÉRICA MÓVIL, TELEFÓNICA AND TELECOM ITALIA: OPERATIONS IN LATIN AMERICA, DECEMBER 2007
(Thousands of customers)

	Telefónica				Telecom Italia		Telmex/América Móvil	
	Fixed	**Mobile**	**Broadband**	**Pay-television**	**Fixed**	**Mobile**	**Broadband**	**Pay-television**
Argentina	4 578	13 734	1 150	-	4 138	10 666	-	14 618 [a]
Bolivia	-	-	-	-	74	1 756	-	-
Brazil	11 960	33 484 [b]	3 289	231	-	31 268	2 674	30 228
Chile	2 172	6 283	687	220	-	-	-	2 672
Colombia	2 329	8 372	200	73	-	-	-	22 335
Ecuador	-	2 582	-	-	-	-	-	6 936
Paraguay	-	-	-	-	-	1 626	-	…
Peru	2 782	8 129	623	640	-	-	-	5 455
Uruguay	-	1 148	-	-	-	-	-	…
Venezuela (Bol. Rep. of)	-	10 430	-	-	-	-	-	-
South America	**23 821**	**84 162**	**5 949**	**1 164**	**4 212**	**45 316**	**2 674**	**83 284**
Mexico	**-**	**12 538**	**-**	**-**	**-**	**-**	**17 800**	**50 011**
Central America	**125** [c]	**5 278** [c]	**22**	**-**	-	-	2 197	8 157
Caribbean	-	-	-	-	**973** [d]	**153** [d]	**1 340** [e]	**3 496** [e]
Total	**23 946**	**101 978**	**5 971**	**1 164**	**5 185**	**45 469**	**24 011**	**144 948**

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from Telefónica [online] http://www.telefonica.es; Telecom Italia [online] http://www.telecomitalia.it; and América Móvil [online] http://www.americamovil.com.

[a] Includes operations in Argentina, Paraguay and Uruguay.
[b] Joint venture with Portugal Telecom, in which Telefónica owns 50%.
[c] Telefónica operates in the fixed-line and mobile telephony segments in El Salvador and Guatemala and in mobile telephony in Nicaragua and Panama.
[d] Telecom Italia operates in Cuba.
[e] América Móvil operates in Puerto Rico and the Dominican Republic.

Box III.2
TWO PYGMIES IN A LAND OF GIANTS: MILLICOM AND DIGICEL LEAD IN CENTRAL AMERICA AND THE CARIBBEAN

In some of the small economies of Latin America and the Caribbean, operators have emerged that are unlike those dominating the region's large markets and they have succeeded in setting up interesting subregional networks. In the English-speaking Caribbean, two operators lead the telecommunications sector: the British firm, Cable & Wireless, and Irish firm, Digicel. Whereas Cable & Wireless offers both fixed and mobile telephony services, Digicel concentrates on the wireless segment. In Central America, the Swedish-owned firm, Millicom, is emerging as one of the most important operators in El Salvador, Guatemala and Honduras, in direct competition with the two regional leaders, América Móvil and Telefónica. Moreover, Millicom has started to increase its share of smaller South American markets like Bolivia and Paraguay and has recently strengthened its position by acquiring Colombia Móvil for US$ 480 million, which gave it access to the Colombian market with a customer base of 2.2 million.

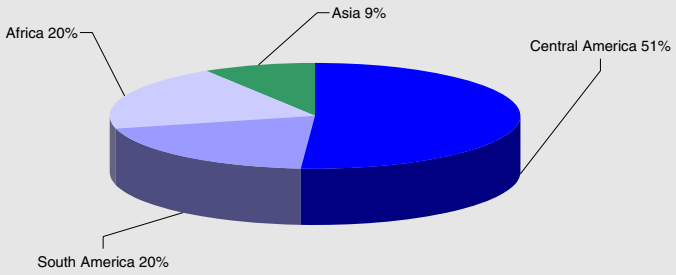
Box III.2 (concluded)

With more than 6 million customers, Digicel has become the fastest-growing mobile telecommunications operator in the Caribbean. In 2001, it started operating in Jamaica and, since then, has expanded into more than 20 countries and territories in the subregion: Anguilla, Antigua and Barbuda, Aruba, Barbados, Bermuda, Bonaire, Curaçao, Dominica, Granada, Guadeloupe, French Guiana, Guyana, Haiti, Cayman Islands, Turks and Caicos Islands, Jamaica, Martinique, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, and Trinidad and Tobago, in addition to El Salvador in Central America. Digicel has invested more than US$ 1.9 billion in this expansion bid.

In May 2006, Digicel entered Haiti, where it invested around US$ 260 million and captured 1.4 million subscribers in its first year of operation. This is the largest investment ever made by a foreign company in Haiti. In December 2007, Digicel obtained a licence to operate mobile networks in Honduras.

Millicom has focused on the mobile telephony segment in the emerging markets of Africa (Chad, Ghana, Senegal, Sierra Leone and Tanzania), Asia (Cambodia, Lao Democratic People's Republic and Sri Lanka) and Latin America, where its main source of revenue is Central America. Millicom's Tigo brand is leader in the El Salvador and Honduras markets, and ranks second in Guatemala, after América Móvil. In South America, it is the leading brand in Paraguay, the second in Bolivia and third in Colombia, where it is surpassed by América Móvil and Telefónica.

MILLICOM: SALES BY REGION, 2006
(Percentages)



Like Telefónica and América Móvil, Digicel and Millicom have embarked on a mass migration to the European GSM standard and have started to roll out upgrades that have enabled them to offer new value-added services.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from Millicom [online] http://www.millicom.com/operations/operations.cfm; and Digicel [online] http://www.digicelgroup.com.

There are some interesting similarities between Latin America's current industry leaders, Telefónica Spain and TELMEX/América Móvil: both were sold as vertically integrated companies with the idea of creating a 'national champion' capable of competing with foreign operators in their domestic markets (Spain and Mexico respectively) and both based their growth strategy on internationalizing their operations with the focus on Latin America. However, there are also some marked differences between the two operators. At first, Telefónica prioritized fixed-line telephony assets in Southern Cone countries, later progressing northwards and entering new industry segments (mobile telephony, Internet and, more recently, pay-television). In contrast, TELMEX/América Móvil focused on the fastest-growing segments from the outset (mobile telephony, the corporate segment and Internet) and on the largest markets (Brazil and Mexico), later extending its operations to the entire region.

In the latter half of the 1990s, while Spain's state-owned telecommunications operator was being privatized, competition in the local market intensified. In anticipation of this, and taking advantage of the opportunities presented by the Latin American privatizations, Telefónica acquired assets in Argentina,

Chile, Peru and the Bolivarian Republic of Venezuela and concluded cooperation agreements with major European operators in order to improve its capacity to operate and survive in an increasingly competitive market (Calderón, 1999). In 1998, Telefónica made a key move in its internationalization strategy when it successfully participated in the privatization of telecommunications in Brazil. In the process, Telefónica acquired control over São Paulo city's fixed-line telephony operator (TELESP), among other assets.

Early in this decade Telefónica exchanged assets in the Brazilian market with Portuguese company, Portugal Telecom (PT), and submitted a number of public tender offers on all the capital not controlled by its Latin American subsidiaries (ECLAC, 2007). Telefónica invested around US$ 20 billion in 'Operation Veronica', roughly doubling its existing investment in the region. In addition, the Spanish company entered the Mexican market after acquiring Motorola's operations in Mexico. This was how Telefónica consolidated its position as the leading telecommunications operator in Latin America. It also defined ambitious investment plans, especially in the mobile telephony segment, by incorporating new products and services.

Faced with stiffer competition in Mexico, TELMEX (like Telefónica years earlier) decided that, in order to survive, it had to compete in the markets of its potential rivals.[40] So, quite early on the company decided to internationalize its operations as the key plank of its growth and consolidation strategy. In the late the 1990s, following a failed attempt to enter the United States market, TELMEX acquired a number of mobile telephony and Internet assets in Brazil, Ecuador and Guatemala. Meanwhile, in Mexico, it was finding novel ways to attract new customers into the mobile telephony market, a segment where scale is very important. TELMEX was quick to realize the importance of scale and used prepayment mechanisms to attract low-income customers (ECLAC, 2006).

So, taking advantage of its strong leadership position in the Mexican market, where it had a monopoly, TELMEX decided to boost its internationalization strategy, especially in the wireless telephony sector and, in September 2000, it split off some TELMEX assets to create América Móvil as a spin-off.[41] The new company began to develop its own strategy to replicate its success in Mexico, taking advantage of the continuing low market penetration of mobile telephony in the rest of Latin America to achieve growth.

América Móvil benefited from favourable circumstances when it entered the telecommunications business. First, the company had some US$ 2 billion in reserve for the acquisition of additional assets (ECLAC, 2006). Second, it pioneered the development of a new form of financing on the Mexican market, based on stock certificates, which enabled it to raise the additional capital needed to finance its aggressive international expansion strategy.

At first, the new company tried to form partnerships with other international operators in order to acquire the necessary experience and to spread the risk outside Mexico's borders. In November 2000, América Móvil, Bell Canada Inc. and SBC Inc. created Telecom Américas. Based on its partners' contributions and the new acquisitions, the consortium started to consolidate a major presence in a

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[40] Even though TELMEX had a monopoly in fixed telephony until the late 1990s, some international operators were starting to challenge the company's position in other market segments, particularly in mobile telephony. In response, the company invested over US$ 13 billion to modernize, expand and diversify its telephony facilities in Mexico (ECLAC, 2006).

[41] TELCEL in Mexico, TELGUA in Guatemala, Consortium Ecuatoriano de Telecomunicaciones S.A. (CONECEL) in Ecuador and Algar Telecom Leste (ATL) in Brazil.

number of countries in the region, especially Brazil. However, although it got off to an enthusiastic start, the company was short-lived, mainly owing to differences in the partners' strategic vision.

At the same time, Telefónica's successful expansion into Latin America encouraged it to tackle the European market and it performed well in tenders for third-generation mobile telephony licences in Germany, Austria and Italy (ECLAC, 2001). However, owing to a downturn in the world and regional economic situation and to the industry's difficult situation, the company was forced to reconsider the pace and depth of its international expansion process.

In this new scenario of crisis in the industry, both Telefónica and TELMEX/América Móvil embarked on a new phase of regional positioning. First, thanks to their relatively good financial position, both companies were able to grasp the opportunities that other operators had cast aside when they decided that their Latin American assets were non-strategic. Second, Brazil became the main battleground, which was subsequently extended to include the entire region.

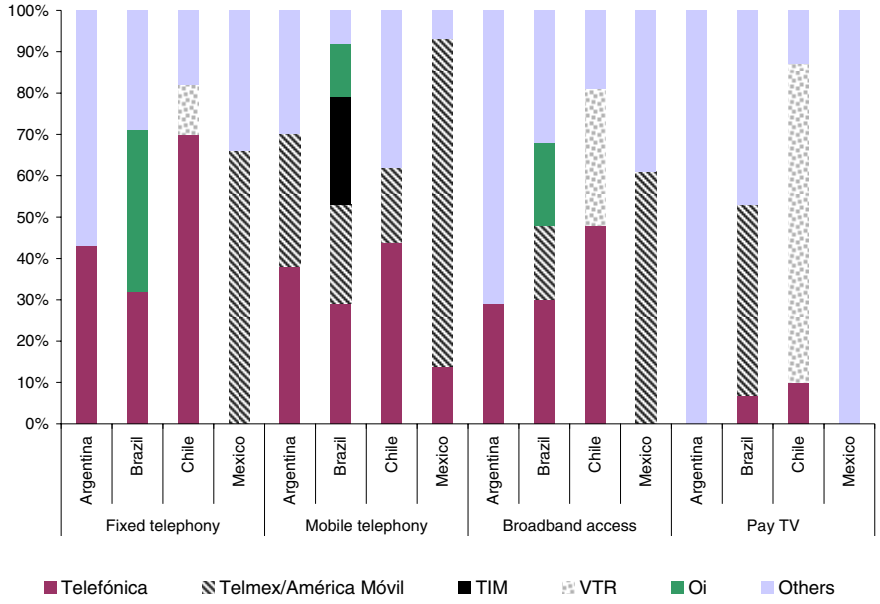
In 2002, América Móvil acquired its partners' holdings and restructured Telecom Américas to concentrate exclusively on Brazil.[42] After that, the company purchased other companies and licences, including BellSouth's Brazilian assets, which gave it national coverage. In late 2003, América Móvil integrated all its regional operators into a single brand: Claro. Meanwhile, TELMEX acquired MCI's stake in Brazilian long-distance operator, EMBRATEL. At the same time as this was happening, Telefónica and PT created a joint venture which enabled them to expand their geographical coverage in the Brazilian market; the new firm acquired the largest cellular telephony company in west-central and northern Brazil (Tele Centro Oeste, TCO) and launched Vivo, which combined into a single brand all the mobile telephony operations of the two companies in Brazil. Thus, Vivo became the largest mobile operator in the southern hemisphere (ECLAC, 2007).

Between 2003 and 2006, América Móvil acquired the assets of United States company, Verizon, in Argentina, Puerto Rico, the Bolivarian Republic of Venezuela and the Dominican Republic, France Télécom's stake in Compañía de Telecomunicaciones de El Salvador (CTE), the Telecom Italia subsidiary in Peru, and a company formed by Spanish firm, ENDESA, in Chile (Smartcom). TELMEX acquired the assets of AT&T in Latin America and other companies in Argentina, Chile and Ecuador. This gave it an immediate presence in a number of the main markets for fixed-line telephony, long-distance telephony and data transmission in South America. Moreover, Telefónica acquired all BellSouth's mobile telephony operations in Latin America, which added a further 10.5 million customers and extended its regional coverage to Colombia, Ecuador, the Bolivarian Republic of Venezuela and Uruguay. After that, Telefónica unified all its operations, except those in Brazil, under a single brand, Movistar, which already existed in Spain and in other countries like Mexico. It also strengthened its position in the fixed-line telephony sector when it acquired Colombia Telecommunications (TELECOM) in 2006.

This has led both companies to secure a strong and widespread presence in the region (see table III.4 and figure III.21) and to focus their efforts on renovating and standardizing their infrastructure. Most progress has been made in the mobile telephony segment, where both companies have migrated *en masse* to GSM technology. This technology allows them to incorporate the industry's new advances more easily and increases their bargaining power with equipment and technology providers.

[42] América Móvil continued to operate the service in Colombia and acquired other companies, which were merged in December 2004 to become Comunicación Celular (COMCEL). This new company provides wireless services to approximately 80% of Colombia's population.

Figure III.21
LATIN AMERICA: SHARE OF THE LEADING OPERATORS IN THE MAIN REGIONAL MARKETS, BY SEGMENT, 2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by the companies.

Telefónica was more successful in the European market, following the complications arising from its gamble on third-generation licences. In 2005, it acquired 51% of Czech state-owned enterprise, Cesky Telecom, for some 2.75 billion euros and launched a public tender offer for 100% of British company, O_2, valued at 31.1 billion euros, which gave it access to the German and United Kingdom markets (see tables III.1 and III.2). In 2007, Telefónica tried to acquire control of 50% of Vivo in Brazil, a bid that was foiled by its Latin American rival, TELMEX/América Móvil.[43] However, the Spanish company triumphed in the struggle to control Telecom Italia.[44] Indeed, Telefónica's acquisition of Telecom Italia served as a severe setback to TELMEX/América Móvil's ambitions to enter the European market and become a global company. The agreement also dashed the Mexican group's hopes of acquiring Telecom Italia's mobile assets in Brazil. Brazil's telecommunications regulator, ANATEL, adopted measures for cushioning the mobile subsidiary of Telecom Italia (TIM) from Telefónica's influence (see box III.3).

[43] The controlling shareholder of América Móvil acquired 3.4% of Portuguese company PT, so preventing a public tender offer for PT from materializing, which would have enabled Telefónica to acquire 50% control of Vivo.

[44] In April 2007, Telefónica joined the consortium that acquired Olimpia's 23% stake in Telecom Italia. This enabled the Spanish company to outbid AT&T and América Móvil (some 4.8 billion euros) and to strengthen a new strategic link between Rome and Madrid. In fact, the preference for Telefónica owed much to pressure from the Italian Government. Telecom Italia is the first major privatized European operator not controlled by national groups.

Box III.3

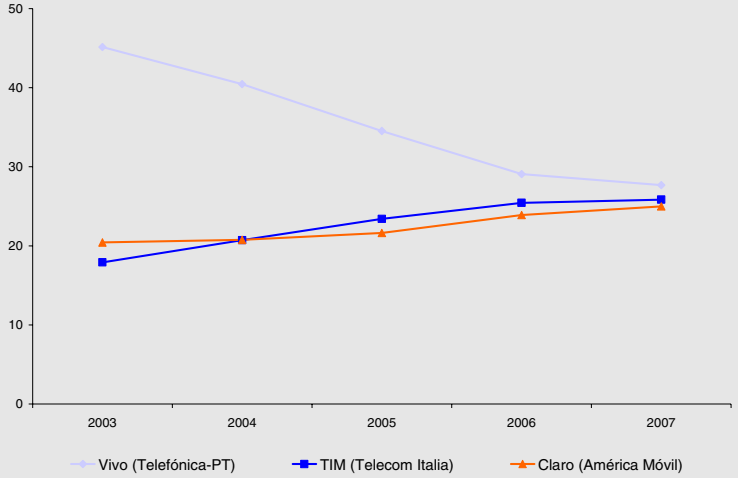
TELEFÓNICA IN BRAZIL: A BATTLE FOR THE REGIONAL MARKET

Unlike other countries, Brazil has been an especially difficult market for Telefónica. The first reason was the cost of entering the country and, second, because it has found it hard to tie in its local activities with its regional strategy.

In 1996, Telefónica entered Brazil by acquiring a large share in one of the few telecommunications companies not owned by the Federal Government, Companhia Riograndense de Telecomunicações (CRT). However, Telefónica's big leap forward in the largest Latin American market was achieved when it successfully participated in the privatization of Telecomunicações Brasileiras (Telebrás), giving it control of the fixed-line telephony operator in the state of São Paulo (TELESP) and of mobile telephony companies, Tele Sudeste Celular and Tele Leste Celular. Crucial to this success was Telefónica's strategic partnership with Portugal Telecom (PT), which grew in strength until a joint venture was created in the mobile telephony segment under the Vivo trade name (ECLAC, 2007). At the start of the joint venture, Vivo had a market share of around 50% nationally and 57% in the concession areas.

BRAZIL: MARKET SHARE OF THE MAIN MOBILE TELEPHONY OPERATORS, 2003-2007

(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC) on the basis of TELECO, Informação em Telecomunicações [online] http://www.teleco.com.br, 1 February 2008.

However, Vivo began to lose market share to its chief competitors, Telecom Italia (TIM) and América Móvil (Claro). In a bid to reverse the situation, Vivo simplified its organizational structure and increased its stake in its subsidiaries to improve operational efficiency and create synergies.

Apparently the main cause of Vivo's decline was its loyalty to Code Division Multiple Access (CDMA) technology in a market where the Global System for Mobile Communication (GSM) was becoming very popular. This prevented it from achieving national coverage and made it less competitive owing to the higher cost of CDMA terminals. Vivo tried to reverse the situation by advancing faster than other operators into the area of third-generation telephony and by developing upgrades to offer high-speed data transfer using CDMA2000 1x, in 2001, and Evolution-Data Optimized (EV-DO), in 2004. However, when it was unable to halt its competitors' advance, Vivo decided to bring a new GSM network into operation in late 2006. Although Vivo currently uses both technologies, in the future it will probably switch the vast majority of its customers to GSM.

Apart from the operational difficulties, in 2006, tensions arose between Telefónica and PT as a result of Telefónica's stance to a hostile bid for PT. Since the launch of the public tender offer, there had been speculation that Telefónica would sell its share in PT and acquire PT's assets in Brazil (50% of Vivo) in order to consolidate its corporate image in Latin America. Following the failure of the public tender offer, in which the intervention of TELMEX/América Móvil was decisive, both companies continued to administer Vivo, and even acquired new assets and third-generation licences which have enabled them to offer national coverage, although rumours of a change of ownership are rife.

Box III.3 (concluded)

In August 2007, Vivo acquired 23% of Telemig and 19% of Amazônia Celular for around 470 million euros. In October 2007, Brazil's telecommunications regulator, Agência Nacional de Telecomunicações (ANATEL), approved Vivo's purchase of Telemig, since the company was not operating in the state of Minas Gerais. However, as the law prohibits a single company from having two mobile telephony licences in a single concession area, ANATEL forced Vivo to sell its share in Amazônia Celular. Lastly, in December 2007, it was announced that Brazilian operator, Oi, would be buying Amazônia Celular. Simultaneously, Vivo prepared a voluntary public tender offer for the entire capital of Telemig Celular and bought new frequencies in six north-eastern Brazilian states, giving it nationwide presence.

Speculation increased with the announcement of Telefónica's stake in Telecom Italia, since it raised the possibility that the two companies' Brazilian assets would be consolidated. In October 2007, ANATEL approved the operation with a few restrictions: Vivo and TIM had to remain separate, with their own corporate status, managers and business plans. This therefore precluded any merger, overlapping of licences or any form of administrative, technological or other imposition. In compliance with the ANATEL ruling, Telefónica and Telecom Italia have competing mobile telephony operations in several concession areas, which is something that is not permitted in Brazilian legislation for companies in the same group.

It is difficult to predict what will happen to one of the two largest telecommunications operators in Latin America, but its experience in the Brazilian market has clearly turned out to be more complex than expected.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

In terms of physical (especially fixed) infrastructure, Telefónica has the great advantage of being the dominant operator in a number of the main regional markets, which, to some degree, has enabled it to 'ration' its investment in new facilities for providing more sophisticated services (see table III.4 and figure III.21). However, competitive pressure from alternative operators, like cable television operators, has pushed Telefónica to speed up its marketing of ADSL broadband access and to go straight into the television segment, where it has favoured the satellite alternative, with direct to home (DTH) technology for providing a variety of integrated service options, especially triple play.[45] Telefónica has offered triple play services in Brazil and Chile since early 2008.

Although TELMEX/América Móvil has secured a large share of some of the industry's fastest-growing segments (mobile telephony, broadband access and the corporate segment) by clearly separating its areas of activity, it has had problems in integrating its activities to meet new consumer demands. In all likelihood, the Mexican company will therefore move to complete its commercial offering with pay-television services and will integrate its operations to offer new multiplay services. In Brazil, TELMEX/América Móvil has taken a major step in this direction by acquiring a stake in the country's largest cable television operator, NET. In Mexico, where it has significant market power, it has not succeeded in expanding its market share in pay-television, the only element it needs to offer triple play. At present, the Mexican authorities are endeavouring to overcome regulatory problems and conflicts of interest, mainly between TELMEX and Televisa, to boost the market and allow convergent services to be deployed.

In summary, Latin America has been the scene of profound changes. In the 1990s, virtually all state-owned telecommunications enterprises were privatized and the resulting private companies (most of which were foreign-owned) became the main operators in the sector. Following an initial burst of enthusiasm, the investment momentum, especially in the fixed-line telephony sector, was slowed by lack of competition, regulatory inefficiency and an economic downturn in many countries of the region.

[45] DTH technology consists of transmitting radio signals from a satellite directly into the user's home by means of a small satellite dish. The most popular DTH service is satellite television.

However, growing demand for telecommunications services has fuelled rapid growth in the industry's most dynamic segments, especially wireless telephony and, more recently, broadband Internet access.

In little more than 15 years, Telefónica has become one of the largest integrated operators in the world, thanks to its aggressive strategy of internationalization initially focused on Latin America (see figure III.6). Also, in less than a decade, América Móvil has become a larger and stronger company than predicted at the outset. This has led to a real duopoly in the Latin American telecommunications market (see figure III.21 and table III.4). Both companies owe part of their success to their satisfactory performance in the plan to promote a 'national champion', although in some cases to the considerable cost of domestic consumers.

3. Latin America and convergent services: the role of alternative companies

Even though commercial multiplay services are still in their infancy in Latin America, they already appear to be playing a major role in the corporate dynamics that are beginning to prevail in the region. The first commercial multiplay options have been seen in the same countries that spearheaded the reform process and are offered by fixed-line telephony or cable television operators. In fact, these commercial multiplay services have emerged in markets where competition has deepened and strengthened, guaranteeing the entry of new competitors into all market segments. However, a raft of structural obstacles remain that wholly or partially inhibit the development of such commercial multiplay services in the vast majority of countries in the region (Beca, 2007).[46]

The first multiplay services Latin America were presented by cable television operators. This obliged dominant fixed-line telephony companies to respond by speeding up their deployment of ADSL technology to enable them to provide comparable bundled service packages and so stem their customer losses. No other stakeholders have yet been able to put together multiplay options. In fact, as long as mobile telephony revenues rely primarily on prepaid service subscribers, it will be difficult to modernize the original service across the board. Moreover, as fixed-service operators perform better financially than mobile-service operators, they have more capacity and funds to organize ventures of this nature.[47]

The first commercial experience of multiplay was in Chile in 2000, when cable television company, VTR, offered a triple play service that immediately attracted the interest of users and fixed-line telephony operators, spearheaded by the Telefónica subsidiary, which attempted to put together similar commercial packages (see box III.4). Indeed, Telefónica expedited its deployment of ADSL technology to provide broadband Internet access. However, all the stakeholders lacked at least two of the four elements needed to construct an integrated service package: mobile telephony and pay-television. This prompted the Chilean

[46] Judging by the experience of the United States, where similar structural constraints were short-lived, it is reasonable to assume that much the same will apply to Latin America. The obligation to provide non-discriminatory facilities to wholesalers, in line with the World Trade Organization (WTO) Agreement on Basic Telecommunications and reinforced by the free-trade agreements that some countries in the region have signed with the United States, has helped to remove the restrictions that prevent some operators from accessing the services they need to construct their bundled service packages.

[47] On average, the earnings of fixed-line telephony operators before interest, tax, depreciation and amortization (EBITDA) more than double those of mobile telephony operators (Beca, 2007). As the EBITDA is calculated on the basis of the profit and loss account (not including tax, interest, depreciation and amortization), it is a good indicator of a firm's profitability.

authorities to lay down clear regulations for providing these services;[48] the authorities also stipulated requirements for cable modem and mobile virtual network operators in order to increase competition.[49]

Box III.4
VTR: CHALLENGING THE LEADERS

Since its inception, VTR has stood out for its ability to innovate and diversify in the Chilean telecommunications market. In the 1990s, it was granted one of the first cellular telephony licences and entered the pay-television segment, for which it acquired a number of regional cable television networks.

In 1995, United States company, Southwestern Bell Corporation (SBC), acquired 49% of VTR and became a strategic partner of Chilean group, Luksic. In the following year, there was a strategic merger with another United States company, United International Holdings (UIH, currently Liberty Global Inc.), which also had cable television assets in Chile, and VTR consolidated a national pay-television network.[a] In 1999, Liberty Global Inc. acquired the holdings of its partners (Luksic and SBC), turning the company into VTR GlobalCom S.A.

In the latter half of the 1990s, VTR pioneered the development of its hybrid fibre-coaxials (HFC) in Latin America, first to provide local telephony services and, later, broadband Internet access. With an investment of around US$ 400 million, this enabled VTR to consolidate a national broadband platform capable of providing integrated video, voice and data services. In the early years of this decade, VTR was the first Latin American company to put together commercial triple play services.

In 2005, VTR completed its merger with Chile's second most important cable operator, Metrópolis Intercom S.A., so strengthening its leadership in the pay-television segment. VTR currently offers voice, data and video services and has become the chief rival to Chile's market leader, the Telefónica subsidiary. VTR has endeavoured to introduce innovations, including Latin America's first high-definition channel, which have helped it to maintain and even increase its market share.

Source: Economic Commission for Latin America and the Caribbean (ECLAC) on the basis of information from VTR [online] http://www.vtr.net.

[a] In 2007, cable company, Liberty Global, operated a network that delivered services to 16 million customers in a number of cities, mostly in Australia, Chile, Europe and Japan.

Other countries in the region have taken longer to roll out multiplay services, owing to resistance from dominant operators and to regulatory constraints.

In Mexico, the fact that there is little capacity to challenge the dominant operator (TELMEX/América Móvil) has caused the convergence process to lag roughly two years behind other countries in the region, like Brazil, Chile and Peru (*América Economía*, 4 June 2007). Under the circumstances, it was not surprising that TELMEX/América Móvil chose not to intensify its efforts to launch multiplay services but instead to use the time to observe and learn from other countries' experience. In fact, Mexico has one of the most concentrated and highest-priced telecommunications markets in Latin America (Mariscal and Ramírez, 2007). However, more recently, the sudden emergence of new convergent service offerings by cable operators, particularly Cablevisión (of which Televisa owns 51%), coupled with the more proactive stance by the Mexican authorities to make such commercial

[48] Chile's telecommunications watchdog, Subsecretaría de Telecomunicaciones, and the Chilean Competition Tribunal have laid down clear provisions that progressively oblige the providers of the four basic services to offer facilities to wholesalers for reselling such services to their own customers. This means that operators must provide facilities to wholesalers for reselling fixed telephony services and for third-party use of subscriber lines.

[49] Following its merger with cable operator, Metrópolis, the authorities obliged VTR to offer resale facilities for the provision of broadband Internet access by cable modem. Also, Telefónica was authorized to provide mobile telephony services via virtual operators after it had merged its mobile assets with those of BellSouth.

options viable, could start reversing the situation.[50] Under that scenario, TELMEX/América Móvil would be willing to negotiate permits to provide pay-television services via its telephone networks and thus widen the distribution of multiplay services in the Mexican market.[51]

The situation is similar in Argentina, where the legal framework prevents telephony operators from broadcasting live television programmes (although this could change).[52] This has prompted some alternative operators, mainly electricity cooperatives, to deploy bundled service packages in the provinces, away from the capital. Insofar as legislation allows, television companies (the recently-merged Cablevisión-Multicanal) and telecommunications operators (Telefónica and Telecom) are expected to roll out triple play services on a larger scale in 2008. For the time being, there appears to be a non-aggression pact in place: Telefónica is not entering the pay-television business and Cablevisión-Multicanal is refraining from making any move into voice services, despite being authorized to offer them.

In Brazil, structural constraints prevent the dominant operators from providing mobile telephony services and pay-television simultaneously. Moreover, foreign companies are not permitted to own more than 50% of the capital of cable television companies. However, the leading companies in the industry appear to be planning moves to reverse the situation and to emulate the industry's international trend. Brazil's telecommunications operators have formed partnerships with cable television channels: TELMEX with Net Serviços, and Telefónica with TVA Sistema de Televisão S.A (TVA). In addition, Oi and Brasil Telecom have announced their intention to merge, an operation that would secure Government backing since it would establish a strong national champion able to compete with the two regional giants: Telefónica and TELMEX/América Móvil.[53]

Lastly, the situation of pay-television is slightly different to that of the three other basic services. Telefónica has apparently chosen to configure its multiplay services to include a satellite television service with direct to home (DTH) technology. This has been a highly successful strategy in Chile, where Telefónica has already captured 10% of the market. In Brazil, it has rolled out a similar service in the city of São Paulo, which it has now extended to other cities like Rio de Janeiro, Curitiba and Porto Alegre, by

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[50] In late 2007, six of Mexico's leading operators were offering triple play in Cuernavaca, Guadalajara, the Federal District of Mexico, Monterrey and Toluca, at a cost of between US$ 53 and US$ 73 a month. In its first two months of operation, Cablevisión managed to capture 6,000 new triple play subscribers in only 20% of the coverage area of the Federal District of Mexico.

[51] In late 2007, Mexico's government authorities tried to reach an agreement with TELMEX and Televisa to boost competition in the Mexican market. This would allow TELMEX to offer pay-television services to promote the provision of convergent packages. Another aim was to intensify competition for the "last mile" and to progress with number portability (allowing users to keep the same telephone number when changing providers).

[52] In 2005, the Argentine Government signed an agreement with Telefónica and Telecom in which the companies agreed to withdraw the claims they had lodged with the International Center for Settlement of Investment Disputes (ICSID) and to freeze their rates. In exchange, the Government would promulgate a new telecommunications act authorizing the companies to offer new services that had not been provided for hitherto (*La Nación*, 4 October 2006). However, to date the act is still going through the legislative process.

[53] At the end of April 2008, Oi announced the purchase of Brasil Telecom for US$ 3.5 billion. The transaction is awaiting a change in the legislation on the sector, however, since fixed telephony operators are prohibited from acquiring firms in other segments, as well as the approval of the regulatory bodies, the National Telecommunications Agency (ANATEL) and the Administrative Council on Economic Protection (CADE) (*Folha Online*, 25 April 2008 [online] www.folha.com.br).

virtue of a trading partnership with cable television operator, TVA.[54] The service could be extended to Argentina, where Telefónica has submitted an application. So, for the time being at least, Telefónica appears to have decided against offering an Internet protocol television service, which provides much greater convergence with telephony and Internet than traditional television does. Moreover, it is unclear whether the market will prefer a television service with a traditional-style programming schedule or a more interactive service that can be programmed on demand.

In turn, TELMEX secured a strong position in Brazil following the entry of EMBRATEL into the country's largest cable television channel, Net Serviços, which is present in Brazil's largest cities: São Paulo, Rio de Janeiro, Belo Horizonte, Porto Alegre, Curitiba, Brasilia, Florianopolis and Goiania. Both companies launched the first triple play service in the Brazilian market in 2006. With this experience and, eyeing the growing trend towards internationalization, TELMEX/América Móvil boosted its international expansion strategy and focused on the provision of convergent voice, data and video services with national coverage in the region's leading markets. To do this, it targeted cable television operators and acquired cable television companies in Chile (Zap and Canal del Fútbol), Colombia (CableCentro, Satel Caribe and Superview) and Peru (Mega Cable and Cable Express). There is also speculation that TELMEX/América Móvil is interested in the largest cable television channels in Argentina and Chile: the one formed by the merger of Multicanal and CableVisión, and VTR. In late 2007, TELMEX began to offer triple play with satellite television in Chile over a Wi-MAX wireless network.

To boost its operations outside the Mexican market, in late 2007, TELMEX grouped its foreign assets into an independent company called TELMEX International.

In summary, owing to as yet limited progress towards convergent solutions in Latin American markets, the debate is highly unlikely to focus on network characteristics, as it has done in developed countries. Instead, it revolves around the regulatory changes needed to offer these commercial options. However, growing demand for traffic that delivers such multiplay services will force operators to consider moving towards next-generation fibre-optic networks, where Latin America is still lagging somewhat behind. However, the gap as regards wireless solutions is starting to close.

4. Is there a market for mobile convergent services?

Mobile telephony operators in Latin America have basically been using three types of second-generation technology: Global System for Mobile Communication (GSM), Code Division Multiple Access (CDMA) and Time Division Multiple Access (TDMA). The GSM standard, which was the latest to be introduced and usually replaced TDMA, currently has the largest number of subscribers (see figure III.20). Between 1997 and 2000, the majority of regional operators adopted the cdmaOne and TDMA technologies for their digital network infrastructure. Subsequently, faced with the need to introduce new data services, operators began to replace their TDMA networks with the General Packet Radio Service (GPRS) for GSM users, or to migrate from cdmaOne to CDMA2000 1x (Fundación Telefónica, 2007, p. 170). Lastly, the supremacy of European operators (Telefónica and Telecom Italia) and global trends led GSM technology to win by a wide margin.

[54] At the end of 2006, Telefónica bought the TVA Microwave Multipoint Distribution System (MMDS) operations in the cities of Sao Paulo, Rio de Janeiro, Curitiba and Porto Alegre, which were not subject to legal restrictions. It also came to control 100% of the preferential shares and some of the ordinary shares of the cable television operations of TVA in Sao Paulo, Curitiba, Florianopolis and Foz de Iguazú.

In the middle of this decade, most Latin American and Caribbean countries were uncertain about deploying third-generation networks. First, the results of these technologies in Europe were not as promising as had been hoped. Second, the real size of the potential market for wireless data services in the region was unknown. Third, heavy investment would be required to fund these new services. Lastly, there was a real scarcity of frequencies suitable for providing third-generation services, especially for the standards developed in Europe and Japan.

The majority of regional operators started cautiously advancing into providing data services via second-generation networks. At first, some of the main operators began to offer generation 2.5 services on a CDMA2000 1x platform, a technology that required less investment, improved existing networks, allowed the use of the same frequencies as for second generation and introduced a continual stream of innovations. However, stiffer competition, the expansion of prepayment systems, the fast spread of the GSM standard worldwide, the strategic options of the main operators (América Móvil, Telefónica and TIM), the need to conclude agreements on roaming, higher operating costs and the heavy dependency of CDMA networks on technology provided by a United States company, Qualcomm, led to a great change of strategy among regional operators, which migrated *en masse* to the European GSM standard.

Companies invested heavily to make this strategic move and to deploy networks in parallel to the existing ones, where profits return could be made as there was still ample room for growth in the second-generation voice market in Latin America and the Caribbean. After this, the vast majority of regional operators moved towards third-generation technology using the available GSM network upgrades (General Packet Radio Service (GPRS), Enhanced Data Rates for GSM of Evolution (EDGE) and, more recently, Wideband Code Division Multiple Access (W-CDMA)). This meant that only a few operators continued on the CDMA2000 technology path, mainly targeting market niches for high-income postpaid users (see table III.5).[55]

Operators' strategies have been crucial to these changes, owing chiefly to strong consolidation in the regional market. América Móvil and TIM prioritized the GSM technology path from the outset, whereas Telefónica, in its rapid regional expansion, created a patchwork of technologies that included TDMA, CDMA and GSM, although TDMA and CDMA were somewhat more important (Telefónica, 2007). Initially, this caused no major problems, since the technologies could operate simultaneously and overlap. In some countries, Telefónica deployed upgrades of its CDMA networks using CDMA2000 1x technology to offer higher-speed data services (see table III.5).[56] However, faced with the need to improve its competitiveness and halt the advance of its main competitors, Telefónica decided to migrate its main Latin American subsidiaries *en masse* to GSM, which allowed it to achieve economies of scale and gave it more freedom to negotiate with providers of equipment, networks and technology solutions. This led Telefónica to start providing equivalent services to those of its rivals at competitive prices. However, Brazil continued to be a particularly complex market for Telefónica (see box III.3). All this has turned Latin America and the Caribbean into one of the highest-growth regions in the world for wireless GSM services.

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[55] Some operators felt that the supply of prepaid telephony and short message services was still insufficient to meet demand from large and medium-sized companies and from more sophisticated consumers.

[56] Telefónica's mobile telephony subsidiary, Movistar, rolled out CDMA2000 1x networks in Argentina, Brazil (via Vivo), Chile, Colombia, Ecuador, Guatemala, Nicaragua, Panama, Peru, Puerto Rico, the Bolivarian Republic of Venezuela and Uruguay.

Table III.5
LATIN AMERICA: TECHNOLOGY PATH OF THE MAIN OPERATORS' ADVANCED MOBILE COMMUNICATIONS

	CDMA [a]						
	CDMA2000			Broadband (W-CDMA)			
	1x	EV-DO [b] Rev 0	EV-DO Rev A	EDGE [c]	W-CDMA	HSDPA [d]	HSUPA [e]
Telefónica/Movistar							
- Argentina	2003 [f]			2005	2007	2007	
- Brazil (Vivo)	2001	2004		2007			
- Chile	2004 [f]			2003	2007		
- Colombia	2003			2006	2008 [g]		
- Ecuador	2002				2008 [g]		
- Guatemala	2003	2004					
- Mexico				2004	2008 [g]	2008 [g]	
- Nicaragua	2003						
- Panama	2002						
- Peru	2003						
- Uruguay	2004 [f]			2007	2007		
- Venezuela (Bol. Rep. of)	2002	2005					
América Móvil							
- Argentina				2004	2007	2007	
- Brazil [h]				2004	2007	2007	
- Chile	2002				2007		
- Colombia				2005	2008 [g]	2008 [g]	
- Ecuador				2005			
- Guatemala					2008 [g]		
- Honduras					2008 [g]		
- Mexico				2004	2008 [g]	2008 [g]	
- Paraguay				2005	2007		
- Peru				2004	2008 [g]		
- Uruguay				2004	2007		
TIM							
- Argentina				2004	2007	2007	
- Brazil				2004	2008 [g]		
- Paraguay				2004			
Other local operators							
- Brasil Telecom (Brazil)				2005	2008 [g]		
- Oi (Brazil)					2008 [g]		
- ENTEL PCS (Chile)				2004	2006	2006	
- Alegro PCS (Ecuador)	2003	2005					
- Iusacell (Mexico)	2003	2005	2007				
- Ancel (Uruguay)				2005	2007		
- Movilnet (Venezuela, Bol. Rep. of)	2002	2005					

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of CDMA Development Group (CDG) [online] http://www.cdg.org/technology/3g/migration.asp; 3G Americas [online] http://www.3gamericas.com; Informa Telecoms & Media, World Cellular Information Service (WCIS).

[a] Code Division Multiple Access.
[b] Evolution-Data Optimized.
[c] Enhanced data rates for GSM evolution.
[d] High-Speed Downlink Packet Access.
[e] High-Speed Uplink Packet Access.
[f] Coverage pending.
[g] The network is expected to become operational in 2008.
[h] In Brazil, TELMEX has a stake in EMBRATEL, the operator that has been running a CDMA2000 1x network since 2006 and EV-DO technology, since 2007.

To some extent, these technology adjustments delayed the adoption of third-generation networks in Latin America. In fact, the main operators, taking advantage of their market power, endeavoured to recoup the costs of migrating their customers to second-generation GSM networks to reverse the fall in average revenue per user for voice services, before pressing ahead to a new phase of technological development. However, they did not totally neglect to upgrade GSM networks to increase data transfer capacity using GPRS and EDGE technology. From the perspective of GSM operators, EDGE had become an excellent opportunity to start familiarizing users with mobile wireless data services and also gave them the possibility of increasing their revenues (*Press Release 3G Americas*, 26 July 2007). In 2003, Telefónica's Chilean subsidiary (Movistar) was the first operator to deploy an EDGE network in Latin America. There are now more than 30 EDGE networks in the major countries of the region (*3G Americas, 2007b)*.

As a result of the leading companies' relative delay in instigating change, the first to roll out more sophisticated commercial initiatives in the mobile telephony sphere were alternative operators, just as occurred in fixed-line telephony. Between late 2006 and early 2007, Entel PCS, the former Chilean subsidiary of Telecom Italia, which is now Chilean-controlled, and Telemig Celular, which was recently acquired by Vivo, were the first operators in the region to deploy a W-CDMA network in Chile and Brazil. This competitive stimulus prompted the main operators to start moving more decisively in this direction.

In 2007, third-generation services really started to become available in the region (see map III.1). Most of the initiatives have been centred on the Southern Cone, especially Argentina, Chile and Uruguay, where all operators offer third-generation services, and the initiatives were spearheaded by the leading companies in the region: Telefónica, América Móvil and TIM.[57] In most cases, the new third-generation services have reused the available spectrum in second-generation GSM networks, by deploying W-CDMA technology. In late 2007, a dozen or so operators were offering W-CDMA/HSDPA services in Latin America and the Caribbean. Meanwhile, some operators that continued to be loyal to CDMA2000 technology, especially in Brazil and Mexico, made significant advances in third-generation networks by upgrading their networks with EV-DO.[58] If this trend continues, W-CDMA subscribers could number an estimated 15.3 million by 2009, triple the subscribers to CDMA2000 1x EV-DO (Rev 0/A/B) technology, of whom there are an estimated 5.2 million (*Press Release 3G Americas*, 20 November 2007). This rapid growth is certain to intensify as the price of terminals comes down.[59]

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[57] In 2007, a number of subsidiaries of the main operators in Latin America and the Caribbean began to offer third-generation services using W-CDMA technology, including: Telefónica in Argentina and Uruguay, via Movistar, and in Monterrey (Mexico), via a pilot plan; América Móvil in Argentina, Brazil, Chile, Paraguay and Uruguay, via its Claro and CTI Móvil brands; and TIM in Argentina, via Telecom Personal.

[58] The main operators offering third-generation services, basically mobile broadband access on a CDMA2000 1x EV-DO platform include: Vivo in Brazil, Iusacell in Mexico, Movilnet in the Bolivarian Republic of Venezuela, Alegro PCS in Ecuador, and Movistar and Telgua in Guatemala (*CDMA Development Group* (CDG), [online] http://www.cdg.org/technology/3g/migration.asp). However, in 2007 Vivo started to operate a new GSM network, which, combined with the purchase of Telemig Celular, is a sign that it will speed up customer migration to the European standard. In late 2007, there were some 30 CDMA2000 1x networks in Latin America and the Caribbean, 11 of which use EV-DO technology ([online] http://www.cdg.org/cdg/teams/Lat_Amer/latin_america.asp).

[59] Although the frequency range of the radio spectrum for third-generation networks is between 400 and 3,000 Mhz, according to IMT-2000, telecommunications equipment is designed to operate in specific frequency bands. Owing to economies of scale in the hardware industry, the volume of sales has a significant effect on the end price of telecommunications equipment. This means that the decisions adopted in the major markets on the use of certain bands influence the price of the equipment operating on those bands (Fiscalía Nacional Económica, 2007).

Map III.1
LATIN AMERICA AND THE CARIBBEAN: ADVANCE OF THIRD-GENERATION TELEPHONY AMONG OPERATORS OF THE GSM FAMILY, DECEMBER 2007

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from World Cellular Information Service (WCIS).

Note: The boundaries and names figuring on this map do not imply that they are supported or officially accepted by the United Nations.

While the majority of major operators plan to migrate to third-generation technologies, many of them must first establish new frequencies (1,900-2,100 MHz) or release spectrum in the current frequency ranges (850-900 MHz) before they can launch High-Speed Downlink Packet Access networks via the Universal Mobile Telecommunication System (UMTS/HSDPA). Brazil took the first step in this direction when it successfully tendered for new frequency bands for third-generation services in December 2007. From the Government's perspective, the tender was a success, since all the licences were sold for a total of nearly US$ 3 billion —after paying a 90% premium on the minimum price (*Reuters*, 20 December 2007). The big winners were the main regional operators: Vivo (50% owned by Telefónica) and América Móvil acquired licences in the nine auctioned areas and TIM, in eight. The remaining licences were granted to Brazilian operators Oi (5), Brasil Telecom (2) and CTBC (3). The only operator that tendered but was not granted any licences was United States company, Nextel. América Móvil was the operator that spent the largest amount on the tender (US$ 792 million), followed by TIM (US$ 736 million) and Vivo (US$ 637 million). The operators will need to invest a further US$ 2.2 billion to fund third-generation services in Brazil. In 2008, similar tenders are expected to be held in Chile, Mexico and some Andean countries.

In summary, most operators have tried to derive the maximum possible benefit from growth in the voice market in recent years, so it is not surprising that they should have introduced data services gradually using the updates available in second-generation GSM and CDMA networks. For the time being, these services have been limited to corporate customers and high-income population segments, on account of the steep cost of terminals and the high rates. However, pressure from falling average revenue per user is expected to prompt operators to step up the development of new data transfer services, especially mobile broadband. The challenge is to find the right applications for providing widespread access to these services in not particularly wealthy markets.

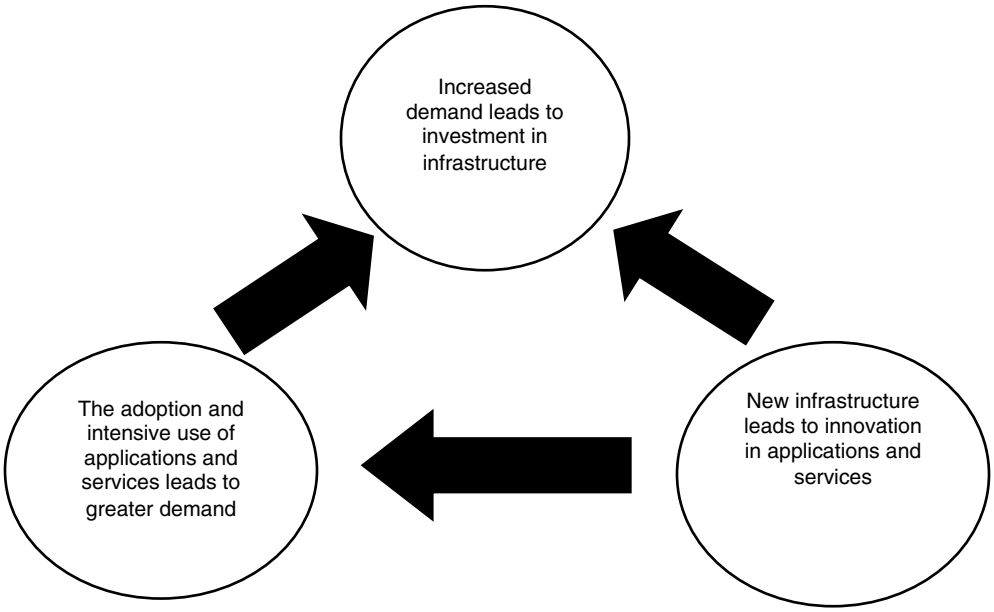
E. CONCLUSIONS

The world telecommunications market is currently facing great challenges from fast technological change, regulatory complexities and the financial and competitive situation of companies in the sector. The latter factor has defined the sort of corporate strategies deployed by the main operators and the alternative companies that have started to compete with them for large segments of the market. Although the changes that will determine the communications of the future are being defined in a small group of industrialized economies including Japan, the United States, the Republic of Korea and a few European Union countries, they have begun to spread rapidly to much of the world, including Latin America and the Caribbean.

Stiffer competition and the removal of the industry's traditional frontiers have led to falling revenues for dominant operators in the fixed-line telephony sector, although this has been partially offset by the performance of wireless services and data traffic. This means that the sustainable growth of the telecommunications sector will, to a large extent, rely on its ability to generate additional revenues from such new interactive applications as Voice over Internet Protocol services, video on demand, Internet protocol television and mobile broadband. So, both dominant operators and alternative companies have surprised the market with innovative commercial services, including the bundled voice, data and video service package known as triple play.

However, in responding to increasingly sophisticated market demand, operators have come up against constraints caused by the scarcity of available infrastructure. Vast amounts of funding are needed to deploy new fibre-optic networks for fixed platforms or third-generation networks for advanced mobile communications. However, nobody knows for sure if it will be possible to achieve a return on this investment. Clearly the potential market for the new multiplay services and very high speed data transfer (fixed and mobile) applications is not a mass market, but rather a niche market of corporate customers and high-income subscribers. A variety of alternatives have therefore been proposed to try to encourage a 'virtuous circle' based on innovation as a catalyst of new services and a driver of demand (see figure III.22). These alternatives include: (i) forging public-private partnerships to support a national scientific and technological development strategy, as has happened in Japan and the Republic of Korea; (ii) encouraging competition between different types of infrastructure, as in the United States, and (iii) promoting competition among services, basically in "last mile" connections, as in a number of European Union countries.

Figure III.22
THE INNOVATION-BASED VIRTUOUS CIRCLE



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from MIT, *The Broadband Incentive Problem*, White Paper prepared by the Broadband Working Group, MIT Communications Futures Program (CFP), Cambridge University Communications Research Network, September 2005.

So, depending on the scenario in which they find themselves, operators are expected to deepen and expedite their investment and innovation strategies in order to restore the value of their fixed and mobile access networks and speed up the transition to partner networks, transforming themselves into suppliers of services, content and applications to Internet users.

In Latin America and the Caribbean, the main operators have focused on expanding their customer base to achieve economies of scale and synergy, especially in the mobile telephony segment. Basically, this has led to the number of companies dwindling to two major regional operators: Telefónica and TELMEX/América Móvil. Apart from fierce competition between these two companies, alternative operators (mainly cable television channels) have also played a major role in intensifying competition and introducing technological innovations into infrastructure, equipment and applications. However, this has not happened on a wide enough scale. In fact, owing to regulatory loopholes, the inertia of industry and competition authorities, intense pressure from dominant operators and the lack of alternative operators, the benefits of the new technologies have taken a long time to reach the great majority of domestic users.

Uncertainty regarding the potential market for the new advanced telecommunications services is much greater in Latin America and the Caribbean than in industrialized markets. However, just as elsewhere, traditional business areas are showing signs of saturation, obliging operators to seek new sources of income.

In investment terms, competitive pressures appear to have induced the main operators (most of which are foreign) to stake their future on providing commercial convergent services, for which they have deployed the necessary infrastructure. This is the case with ADSL technology on fixed platforms and third-generation standards for advanced mobile communications. Other operators have frozen their investments and skimmed the market in traditional services, or have gradually implemented new initiatives to get ahead of future competitors and legislative changes and so avoid losing market share. In this latter situation, operators have tended to postpone the commercial implementation of new technologies for as long as possible.

Lastly, although technology is an exogenous factor for most Latin American economies, its deployment by means of modern, low-cost communications platforms could help to close the gap with developed countries. It is therefore essential to define a national development strategy in this area and to forge public-private partnerships to pass on to users the benefits of the rapid technological innovation process now under way.

Chapter IV

CANADIAN FDI IN LATIN AMERICA AND THE CARIBBEAN

This chapter deals with Canadian FDI in Latin America and the Caribbean and the experience of Canadian transnational corporations (TNCs) operating in the region. Section A briefly examines Canada's development trajectory, with an emphasis on the country's changing development trajectories and the role FDI has played in them. Section B looks at the corporate strategies linked to Canadian outward FDI (OFDI) in the sectors where it is most evident: finance and asset management, natural resources and manufactures. The OFDI strategies of Canadian companies operating in Latin America and the Caribbean (market-seeking, natural-resource-seeking, efficiency-seeking) are examined in section C.

A. INTRODUCTION

1. Canadian development trajectories

Canada has experienced three principal development trajectories during its evolution. First, as a colony of the United Kingdom for over 100 years,[1] Canada's primary role was to supply the mother country with natural resources and fiscal income while providing a new market for British manufacturers and defending the British Empire. Contrary to the experience of the thirteen American colonies, which fought a revolutionary war with the United Kingdom for independence, Canada's relationship with the British Crown was generally amicable and Canada was essentially granted independence at the time of Confederation in 1867, even though it did not have its own national court of final appeal until the 1930s. Canada maintains a special relationship with United Kingdom, in that the Queen of the United Kingdom is still the symbolic Head of State in her capacity as Queen of Canada represented by the Governor-General and Canada is an active member of the Commonwealth. In the colonial phase, Canada was sometimes viewed as a "hewer of wood and drawer of water" and as a consequence there was limited development of the Canadian economy, especially manufacturing industries.

With Confederation, Canada shifted towards a second development trajectory which is referred to as the National Policy. Although Canada maintained strong links with the United Kingdom, the federal government's focus soon turned to developing the national economy through this policy, which was put in place by the first Prime Minister, John A. MacDonald, and lasted until about the Second World War. The National Policy was nationalist and protectionist and was designed to promote Canadian industries. In essence, it erected trade barriers to protect Canada's domestic industry from foreign imports. Over time, however, the National Policy grew in scope to encompass the building of the Canadian Pacific Railway, the settling of the Prairies, the development of ports and financial support for sea links to Europe and Asia to facilitate the export of Canadian goods.

By the middle of the twentieth century the benefits of the National Policy were waning and a third development trajectory emerged, premised on fuller integration with the United States economy. Canada's new closeness with the United States was facilitated mainly by investment-led integration by

[1] Although Canada was officially a colony of the United Kingdom after the Treaty of Paris in 1763, there were both English and French (among others) colonies in the territory known as Canada since the early 1600s.

private Canadian and United States businesses pursuing profit-maximizing strategies, as opposed to any formal policy-led initiative designed to enhance the relationship at that time.[2] This was a natural outcome given Canada's proximity to and cultural affinity with its southern neighbour, on the one hand, and the progress demonstrated by economic integration in competitor markets, such as the European Economic Community (EEC), on the other. As Canada's economic relationship with the United States deepened, that with the United Kingdom weakened, although this country remained important in a political context. Subsequently, the integration of the North American continent was further enhanced by three formal trade agreements: the Canada-United States Auto Pact of 1965, the Canada-United States Free Trade Agreement of 1989, and the North American Free Trade Agreement (NAFTA) of 1994, which incorporated Mexico.

In the shift from the "go-it-alone" to the "integrate into North America" development strategy, the principal instruments of economic policy changed from nationalist to regional and, increasingly, global ones; from hands-on to hands-off instruments; from protectionism and industrial policy based on Crown corporations and regional development to free-market initiatives regarding international trade and foreign investment. Canada's exports remain United-States-centric, since more than 80% of the country's total exports go there; however, the picture on the import side is quite different, with only about 50% of imports coming from the United States. With regard to inward FDI, United States investment is still dominant but less so than previously. Canadian OFDI originally focused on the United States market but is now more broad-based.

Today, Canada is one of the world's economic success stories, ranking eighth in terms of GDP and fifteenth in terms of per capita GDP. It is a large country (almost 10 million square kilometres) with a relatively small population (about 33 million). It possesses an interesting combination of large endowments of natural resources, a highly educated labour force and a privileged relationship with its neighbour, the United States. At present, services account for approximately two thirds of total GDP while manufacturing accounts for less than 20% and natural resources less than 10%. Canada has evolved into an important trading nation and its foreign trade (exports plus imports) is equivalent to 70% of GDP (DFAIT, 2007). Thus, Canada possesses the characteristics of a successful maturing economy.

In spite of past success, the Canadian economy is facing some significant challenges. First, the United States economy is cooling and losing some of its long-term international competitiveness, which translates into reduced demand for Canadian exports at a time when Canada has yet to close the prosperity gap with the United States.[3] Second, Canada's initiatives as regards establishing a new innovation-based [4] development trajectory have been weak and their impact on national productivity and international competitiveness limited. Third, Canada's efforts to shift from a development trajectory centred on the United States to more of a regional or international one (Lynch, 2007) have been only partially successful and the sharp appreciation of the Canadian dollar makes it increasingly

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[2] The United States has been Canada's principal export destination since 1942 and Canada has been the principal foreign market for United States exports since 1946 (U.S Commercial Service, 2008).

[3] According to James Milway, Executive Director of the Institute for Competitiveness and Prosperity (ICAP), the prosperity gap indicates that, with a similar endowment of natural, physical and human resources, Canadians are less successful at adding value to create goods and services for consumers in Canada and around the world. He suggests that governments need to step up their investments in physical and human capital; businesses need greater competitive pressure to encourage greater investment; and all Canadians need to invest in their own skills and productivity.

[4] Canada's innovation strategy is summarized in Innovation in Canada [online] http://www.innovationstrategy.gc.ca/go1/innovation/site.nsf/en/in02314.html and Industry Canada [online] http://www.ic.gc.ca/epic/site/ic1.nsf/en/h_00231e.html.

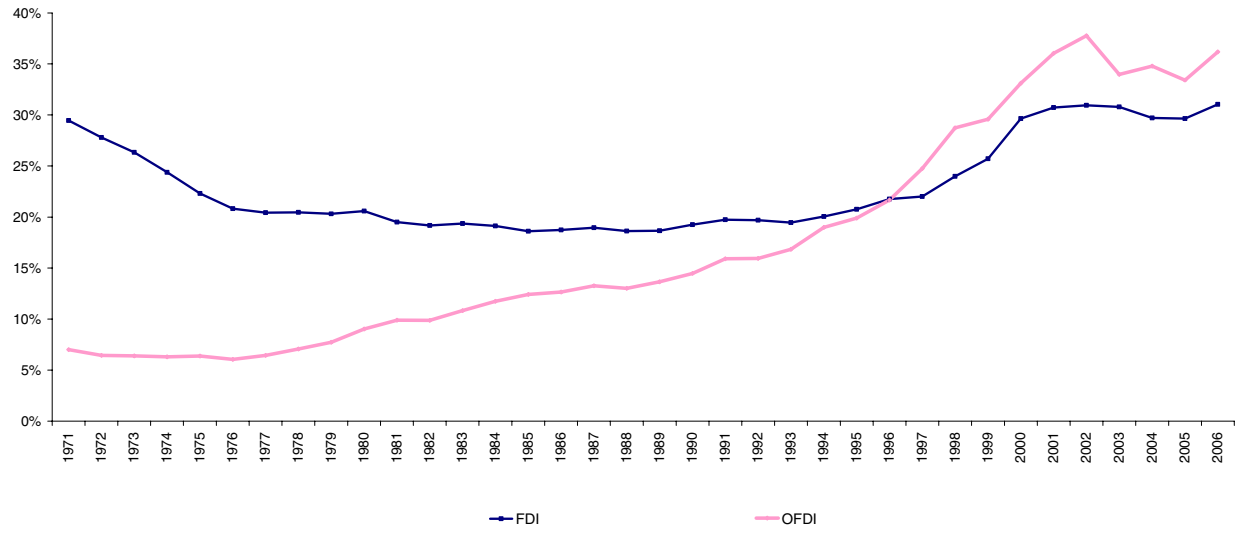
difficult to pursue those goals based on a strictly trade-based agenda.[5] This suggests that FDI will continue to be central to Canadian development. Evidently, FDI will also be needed to complement the shift toward an innovation-based development trajectory and OFDI will be central to Canada's increased global presence.

The next section describes Canada's recent evolution as both a recipient and an investor, and subsection (c) describes the nature of the debate and public policy measures in this area.

2. Canada as an FDI recipient and an outward investor

Figure IV.1 shows that FDI stock in Canada was usually in the range of 20%-30% of GDP during 1971-2006, which was relatively high by international standards, and has increased during the more recent period. OFDI stock, on the other hand, remained between 5% and 10% until 1980, but then made steady progress to reach 30%-35% of GDP, eventually exceeding inward FDI stocks in the mid-1990s.

Figure IV.1
CANADA: FDI AND OFDI STOCKS, 1971-2006
(Percentages of GDP)

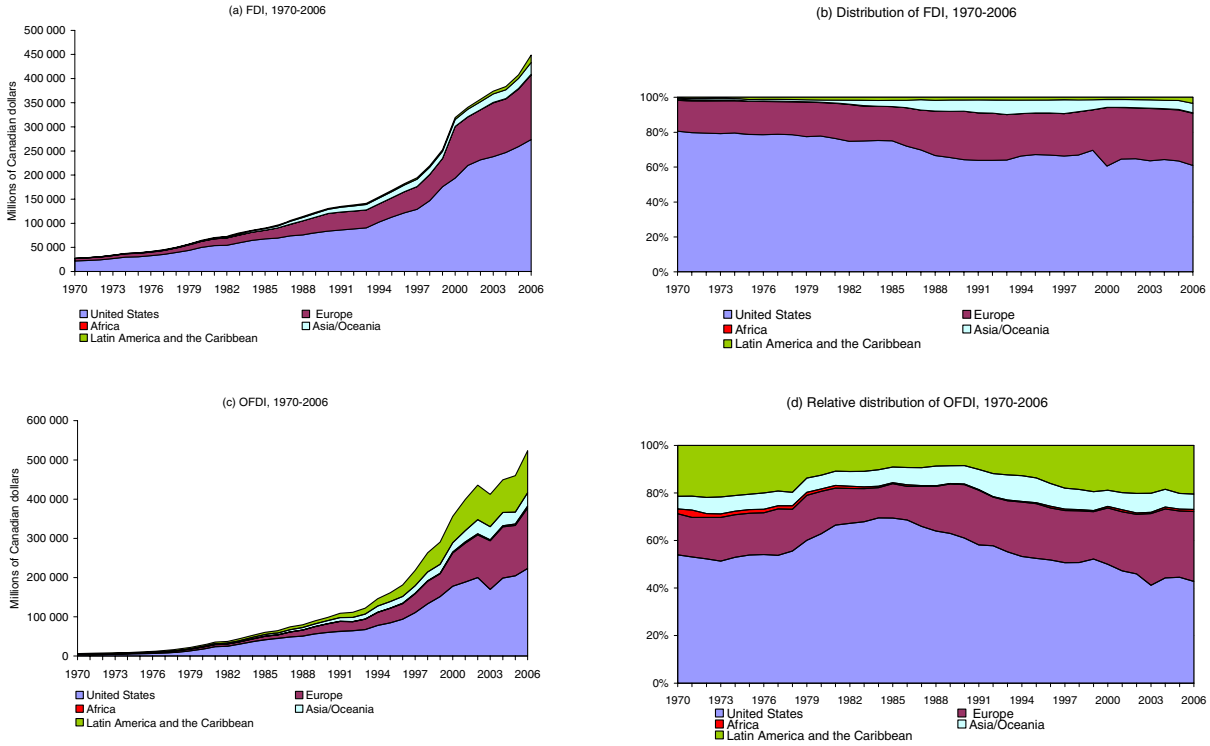


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Statistics Canada.

[5] Canada has implemented several free trade agreements, beyond CUSFTA (1989) and NAFTA (1994), such as most of which include investment chapters (with Chile in 1997, Costa Rica in 2002, the countries of the European Free Trade Association **(**EFTA) —Iceland, Lichtenstein, Norway, and Switzerland— and Peru, both in 2008) and is currently negotiating others (with the Republic of Korea, the European Union and others).

Figure IV.2 provides information on the growth in Canada's FDI in aggregate terms, as well as by region. Both outward and inward FDI have been growing at quite rapid rates, outstripping those of trade and GDP growth by a large margin.[6] The United States very much dominates these FDI stocks, both on the inward and outward sides; that dominance is waning, however.

Figure IV.2
CANADA: FDI STOCK PATTERNS, 1970-2006



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Statistics Canada.

The shares of Canada's direct investment, inward and outward alike, with the United States began to fall in the mid-1980s.[7] This has been directly linked to reductions in trade barriers between the two countries. Prior to trade liberalization, market-seeking transnational corporations (TNCs) from each country had to locate inside the other country to avoid paying tariffs. The lowering of trade protection that followed successive rounds of GATT tariff reductions allowed TNCs in each country to consolidate production in their respective home market and access the other market by export. Trade liberalization was formalized under the Canada-United States Free Trade Agreement (FTA) in 1989, and this

[6] Canada's OFDI has grown at a compound rate of 13% and its FDI at 8% over the period 1970 to the present. Post-1990, OFDI grew at a compound rate of 11%, whereas FDI grew at 8%.

[7] This trend in Canada's FDI stands in contrast to patterns in trade, since the United States still accounts for a very large share of Canada's exports. The proportion of Canada's imports that come from the United States has not changed dramatically.

arrangement was extended to include Mexico in 1994 with the North American Free Trade Agreement (NAFTA).[8]

In contrast to its relationship with the United States, Canada's FDI relationship with Europe has grown, with Canada receiving roughly 30% of its FDI from Europe. This share is up from below 20% in the 1970s. Other regions, such as Asia and Oceania, Latin America and the Caribbean (including offshore financial centres) and Africa have not traditionally been important sources of FDI. However, in recent years, companies from these regions have made investments in Canada in the context of rising FDI from developing countries (UNCTAD, 2006).

The United States and Europe have also dominated OFDI from Canada, but less so than is the case for FDI into Canada. Other regions —Asia and Oceania, Africa and, in particular, Latin America and the Caribbean— are becoming more important as destinations of OFDI from Canada. See box IV.1 for a discussion of the case of Latin America and the Caribbean.

Box IV.1
LATIN AMERICAN AND CARIBBEAN INVESTMENTS IN CANADA

Latin American and Caribbean investments in Canada have usually been associated with Offshore Financial Centres (OFCs) (see table). In fact, OFCs contributed 82% and 76%, respectively, of total Latin American and Caribbean FDI into Canada in 1990 and 2000. However, this seems to be changing as companies from other Latin American countries have started investing directly in Canada. In 2006, largely as a result of one major acquisition —that of Inco by a Brazilian company, Companhia Vale do Rio Doce (CVRD)— 62% of total Latin American FDI into Canada came from Brazil and a further 2% from Mexico.

LATIN AMERICA: FOREIGN DIRECT INVESTMENT IN CANADA, 1990, 2000 and 2006
(*Millions of dollars and percentages*)

Country	1990		2000		2006	
	Amount	Percentage	Amount	Percentage	Amount	Percentage
Argentina	...	...	...	...	5	0
Brazil	152	7	621	16	9 405	62
Colombia	...	...	3	0	1	0
Mexico	-13	0	215	6	277	2
Panama	118	6	93	2	55	0
Others	99	5	26	1	19	0
Offshore financial centres	1 599	82	2 966	76	5 434	36
Bahamas	143	7	197	5	136	1
Barbados	...	...	240	6	471	3
Bermuda	1 302	67	2 065	53	3 507	23
British Virgin Islands	12	1	94	2	152	1
Netherlands Antilles	92	5	338	9	22	0
Cayman Islands	50	3	32	1	1 146	8
Total	1 955	100	3 921	100.0	15 190	100

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Statistics Canada.

[8] Of course, to be eligible for tariff-free access to the other member countries, goods produced inside North America must comply with important "domestic" content rules. NAFTA allowed each country to exempt several sectors, which remained protected.

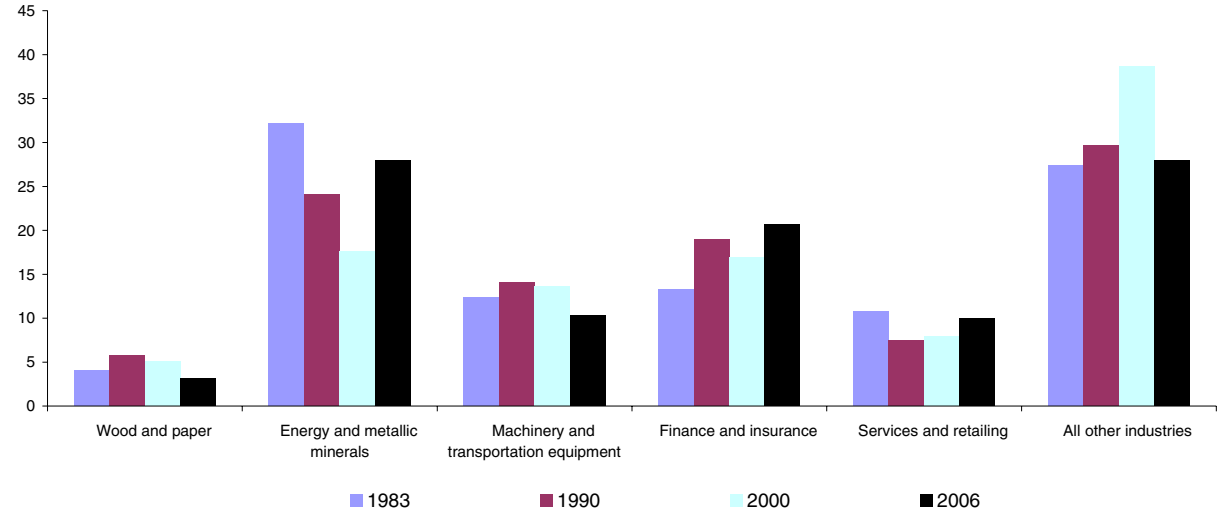
Box IV.1 (concluded)

Non-financial investments from Latin America into Canada go mainly to the mining, metals, and cement industries, where, as mentioned in chapter I of this report, a number of trans-Latins (transnational companies from Latin America and the Caribbean) have attained or are striving toward global status (ECLAC, 2006). The acquisition of Inco by CVRD, which outbid Teck Cominco and paid US$ 16.7 billion, was the largest international acquisition by a trans-Latin outside its home country to date. Other large acquisitions in recent years include the purchase by Votorantim (Brazil) of cement plants previously owned by Lafarge (US$ 710 million, in 2001); and by CVRD itself of Canico (US$ 678 million, in 2005). Other companies that have important operations in Canada are Gerdau (Brazil), with three steel mills and six scrap collection and processing facilities, and Tenaris (Argentina), with welded and seamless pipe plants and service centers.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

The main motivation for FDI into Canada from the rest of the world appears to be natural-resource seeking, since energy, metallic minerals, and wood and paper are the largest recipient industries for foreign investment (see figure IV.3). These are followed by service industries, such as finance and insurance, services and retailing, where investments are most likely to be market-access-seeking, since foreign TNCs need to locate in Canada in order to participate in Canadian services. Next are manufacturing industries such as machinery and transportation, in which investment is probably driven by efficiency-seeking motivations owing to the fact that, since trade liberalization, tariffs are no longer a major factor in FDI (Hejazi and Pauly, 2005).[9] Relatively little can be inferred from these figures about the impact of FDI on innovation in Canada.

Figure IV.3
FDI INTO CANADA, BY SECTOR
(Percentages)

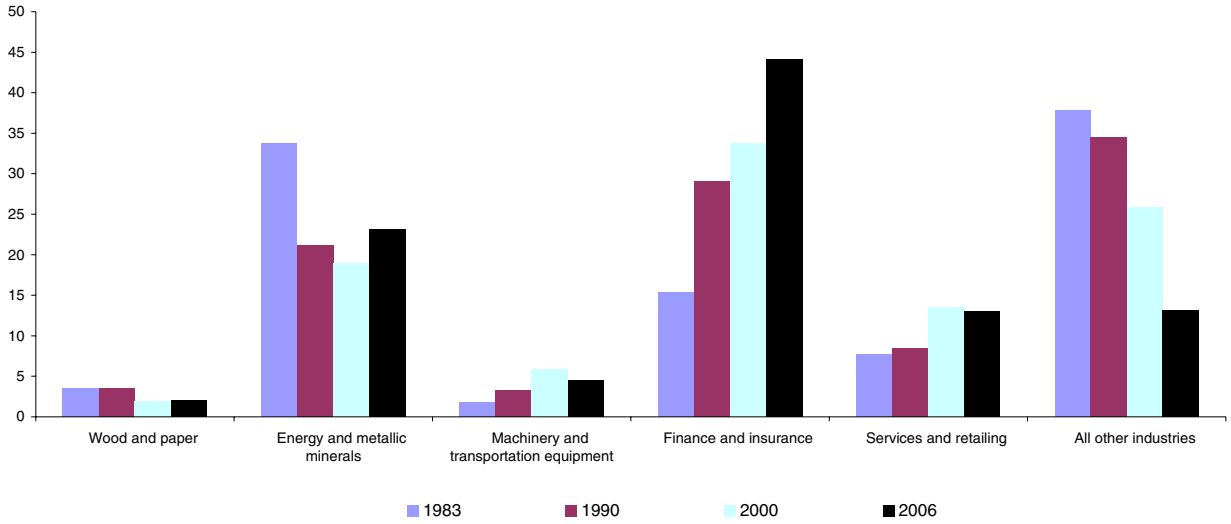


Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Statistics Canada.

[9] Non-tariff barriers remain, hence some tariff jumping-like FDI still exists. This would certainly be supported by data indicating that a large fraction of Canada-United States trade does not take place under the NAFTA preference, but under the most-favoured nation (MFN) tariff. This happens when the costs of compliance with rules of origin, which some view as a kind of non-tariff barrier, exceed the MFN tariff rate.

On the outward side, natural-resource-seeking investments, such as those in energy, metallic minerals, and wood and paper are among the principal components of Canadian investment abroad; however, the largest recipients of Canadian outward investments are service industries, such as finance services and insurance, and retailing, most likely driven by market-access strategies. Manufacturing is least significant (see figure IV.4).

Figure IV.4
OFDI FROM CANADA, BY SECTOR
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Statistics Canada.

Canada's share in world FDI has waned. In 1970, the country held the equivalent of 15.7% of the world's FDI stock. Over the subsequent 35 years, that share fell steadily to 3.2% by 2006. This relative decline on the inward side contrasts with the outward pattern, since Canada has been able to keep pace with the rapidly growing stocks of world FDI. Canada's share of global OFDI stocks has increased somewhat, fluctuating between 3% and 5% over the past four decades. In other words, Canadian TNCs, starting from a small base, have expanded at a much faster pace abroad than foreign TNCs have expanded in Canada.

These trends indicate that, although Canadian OFDI has been able to keep up with the rapidly growing global stocks of FDI, Canada has not been able to attract FDI to the same degree as it did in the past.[10] Furthermore, these patterns are no longer driven primarily by Canada's special relationship with the United States. The United States is still by far Canada's largest partner, followed by Europe, for both inward and outward FDI; as was mentioned, however, its relative importance in terms of shares of Canadian FDI —both outward and inward— has diminished significantly over the past few decades.

[10] It is important to note that although Canada's share of inward FDI has fallen, the stock of FDI in Canada continues to grow. This is also the case on the outward side: although Canada is maintaining its share of the rapidly growing global outward stocks, its OFDI stock continues to grow.

A interesting aspect of Canadian investment is that the Latin American and Caribbean region, including OFCs, received 20% of Canadian OFDI, but was the source of just 3.4% of inward FDI in 2006. It must be stated that the share of FDI going through international financial centers has increased significantly and represents a very important distortion, because these flows of Canadian capital do not remain in OFCs, but go on to final destinations in third markets, be they in Latin America and the Caribbean, Asia, or the United States and Europe. Unfortunately, there is little information on where the capital moving through OFCs is ultimately invested. This is one of the principal distortions affecting Canadian official statistics on OFDI.[11]

As a result of these distortions and limitations, the use of official OFDI statistics for analytical purposes need to be complemented with an analysis of the corporate strategies of the dominant Canadian corporations. Before turning to that analysis in section B, the following subsection examines the nature of the debate and changing policies on FDI in Canada.

3. The debate and changing policies on FDI and OFDI in Canada

Over the course of its development trajectories, Canada has experienced significant changes in FDI patterns. Especially in the context of the third development stage, starting in the mid-1960s, this has influenced public discussions on FDI policy, and consequently affected the Canadian government's stances on the topic. On the one hand, high levels of growth in FDI into Canada have typically generated increased calls for restrictions to be placed on such investment. This was certainly the case in the early 1970s and is a phenomenon which has, to a certain extent, reappeared recently in relation to the foreign takeover of some of Canada's biggest companies (Alcan, INCO, Falconbridge, Dofasco, Hudson's Bay Co.). On the other hand, the surge in outward investment has generated new demands on the part of Canadian companies for increased protection and guarantees in the countries they invest in. Thus, it is sometimes difficult to strike a balance on direct investment as a whole.

With regard to FDI, in 1973, the Federal Government implemented the *Foreign Investment Review Act* (FIRA). FIRA was widely criticized as discriminatory towards foreign investors [12] and it resulted in an exodus of capital from Canada, as well as the country's reputation at that time for having restrictive FDI policies.[13] By the mid-1980s, the Government of Canada changed course since the

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[11] Canadian companies have been making increasing use of OFCs since 1990. Another distortion in Canada's official FDI statistics has to do with the values registered. FDI data are recorded at book value, inclusive of all reinvestment of earnings into the affiliate. This method of valuation is different from market value. This implies that more recent FDI transactions (newer stocks) will better reflect market values, whereas older FDI transactions (older stocks) will likely be more undervalued (assuming, of course, that the assets underlying FDI appreciate over long periods of time). With regard to Canada's FDI position, this means that, to the extent that OFDI is newer and FDI is older, the ratio of OFDI to FDI is not as extreme as portrayed earlier. A third limitation is that confidentiality requirements prevent the Canadian Statistics Agency (Statistics Canada) from making publicly available sectoral data with more detailed levels of disaggregation, although these are included in the regional and overall totals. Often, there are only one or two major Canadian investors in smaller economies and the confidentiality requirement prevents the release of amounts of FDI by industry in such cases, which severely limits serious analysis of the FDI phenomenon.

[12] Competition Policy Review Panel [online] http://www.ic.gc.ca/epic/site/cprp-gepmc.nsf/en/00014e.html.

[13] A regression of FDI into Canada over the period 1930 to 2006 on a time trend captures the year-to-year growth in FDI and a variable to capture the period over which the FIRA was in effect, yields coefficient estimates on the trend variable that are positive and highly significant, indicating that FDI into Canada has been growing year

Canadian economy was experiencing significant difficulties, international prices for commodities were weak and the restrictive investment policies were straining Canada-United States relations. The passing of the Investment Canada Act of 1985 (ICA) saw the end of the era of restrictive policies on FDI and their replacement with a much more accommodating national policy environment for foreign capital and TNCs.

Canada's current inward foreign investment policy consists of a regulatory framework that does nevertheless allow the federal government to review large-scale foreign investments in Canada that exceed a given financial threshold.[14] Approval of foreign acquisitions of Canadian companies is granted when the responsible minister is satisfied that the foreign investment is likely to be of "net benefit to Canada". Outside the cultural sector, greenfield foreign investments, i.e., the establishment of a new facility in Canada rather than the acquisition of an existing one, are no longer subject to review, and the previous test of "significant benefit" was changed to one of "net benefit". For the "net-benefit" test, ICA provides a list of factors to be considered by the Minister of Industry, including the effect of the investment on the level and nature of economic activity in Canada; the degree and participation by Canadians; the factors of productivity, efficiency, technological development and product; innovation and variety; competition in Canada; compatibility with national industrial, economic and cultural policies; and Canada's ability to compete in world markets.[15] According to Industry Canada, over time there has been a shift in the application of these criteria, towards an emphasis on issues of productivity, technology transfer and efficiency, and away from other issues, such as employment.

Currently, a renewed debate is under way in Canada on the merits of both FDI and OFDI, sparked by the high-profile takeovers of the Canadian "icon" companies mentioned earlier. Furthermore, the dramatic rise in global energy prices has generated significant investments or expressions of interest in western Canada's enormous reserves of oil and natural gas from foreign private companies and foreign State-owned enterprises, as well as sovereign-wealth funds. This has helped to fuel the public debate about the merits of FDI in the Canadian economy and implications for national control over key sectors. The interest expressed and foreign investments actually undertaken by many foreign State-owned enterprises, specifically from the Middle East and China, have resulted in the Canadian government announcing a review of its policies on FDI to possibly include the application of a national security test. The policy review currently under way in Canada is also tasked with reviewing the existing policies to ensure they serve to enhance Canadian competitiveness.

These new developments with respect to government policy have raised concerns about the renewal of a protectionist sentiment that Canada has not seen since the abandonment of FIRA in the early 1980s. Canada's economic landscape has changed significantly as has the country's position with respect to foreign investment. The difference between the debate today and that of the 1970s is that although today Canada has as "large" a stock of FDI as it did in 1970, it is counterbalanced by a voluminous stock of OFDI in the global economy. Restricting foreign investment in the country might have a direct impact

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over year. On the other hand, the coefficient estimate on the FIRA is negative and highly significant, indicating that the rate of growth in FDI into Canada slowed over the period that FIRA was in place.

[14] Lower thresholds are set for activities considered more vulnerable or in which national security concerns are important, such as financial services, transport services (including pipelines), uranium and culture.

[15] Five sectors in the Canadian economy have ownership restrictions: telecommunications, broadcasting, cultural industries, transport services and uranium production. These restrictions were introduced to protect aspects of the economy deemed essential to Canada's sovereignty, cultural identity, national security and overall economic well-being. Other restrictions were imposed to deal with a perceived inability of market forces to support the development of domestic activity. Each sectoral regime is unique and is based upon a distinct policy rationale.

on Canadian investments in the global economy, and this will likely temper any decision the government may come to as regards restricting foreign investment.

In July, 2007, the federal government announced the creation of a Policy Review Panel that "will review key elements of Canada's competition and investment policies to ensure that they are working effectively, allowing us to encourage even greater foreign investment and create more and better jobs for Canadians." The Panel's core mandate is to review two key pieces of Canadian legislation, the Competition Act and the Investment Canada Act, including the treatment of State-owned enterprises and the possibility of a national security review clause. The Panel will also examine Canada's sectoral restrictions on FDI and the competition and investment regimes of other jurisdictions to assess reciprocity between their rules and Canada's. Separately, the Panel will assess how Canada's policies may further encourage OFDI. The Panel will report to the Minister of Industry, on behalf of the Government of Canada, by 30 June 2008 with concrete recommendations to further enhance competition in Canada.

In addition to addressing issues as to whether ICA is the appropriate set of policies given changes in the competitive landscape over the past 20 years, the government is concerned about increasing foreign ownership stakes in Canada's energy sector and would like to institute policies today that will allow it to shape foreign ownership in a way that would be consistent with economic prosperity in the country as well as political and strategic considerations. Increasingly, federal government officials seem to be recognizing that more proactive and targeted policies are required to attract priority FDI.

With regard to protection and guarantees for OFDI, Canada has been very active internationally over the last decade or so. In the World Trade Organization (WTO), Canada pushed hard for agreements in services and for the inclusion of investment matters among the Singapore issues. In the Organization of Economic Co-operation and Development (OECD), the country was a strong backer of the Multilateral Agreement on Investment (MAI) and was quite active in promoting the MAI vision among developing countries. Moreover, Canada has encouraged bilateral investment treaties and FTAs with chapters on investment. In fact, Canada was reluctant to abandon the OECD MAI focus even though developed countries themselves were unable to reach agreement on it and OECD opted to promote a more development-friendly "Policy Framework for Investment" among developing countries. Canada has also endorsed more rigorous mechanisms of investor-State dispute settlement.

Thus, the debate on FDI is shifting in Canada and increasingly reflects the needs of the economy in terms of development trajectories, on one hand, and the needs of internationalizing Canadian companies, on the other. It is a dynamic debate reflecting changing conditions and contemplating new policy initiatives.

Section B deals with the dominant corporate strategies that underlie Canadian OFDI in the principal industries in which it occurs (services, manufacturing and natural resources). Section C analyses Canadian investment in Latin America and the Caribbean in the context of that challenge.

B. THE MAIN CORPORATE STRATEGIES ASSOCIATED WITH CANADIAN OFDI

The first part of this section identifies the principal companies operating in Canada and Canada's global leaders in the international economy. There follows a review of the strategies implemented by firms in the main sectors from which OFDI has emerged, such as financial services and asset management, natural resources and manufactures.

1. The main companies operating in Canada

A list of the 300 leading companies, by revenue, operating in Canada was constructed by blending two separate databases of the *Financial Post* [16] (see table 1 of the annex). The top 300 universe broke down as follows: 223 national and 77 foreign firms; 175 publicly-traded or stock-market-listed companies, and 125 private enterprises. Table IV.1 gives an overview of the principal activities of this group of dominant enterprises, which are referred to hereinafter as the "top 300".

Table IV.1
SECTORAL DISTRIBUTION OF THE TOP 300 FIRMS OPERATING IN CANADA, BY REVENUE, 2006
(Billions of Canadian dollars, percentages and number of companies)

Industry /Cluster	2006 revenue	Percentage	Number of national companies	Number of foreign companies	Number of publicly-traded	Number of private
GRAND TOTAL	1,490.0	100.0	223	77	175	125
I. Services	928.7	62.3	138	39	89	88
1. Financial cluster	483.7	32.5	54	13	32	35
(a) Insurance cluster	200.6	13.5	25	7	13	19
- Life insurance	160.2	10.8	12	1	7	6
- Property and casualty insurance	40.4	2.7	13	6	6	13
(b) Retail banking cluster	174.7	11.7	12	5	10	7
- Banks	131.9	8.9	7	3	8	2
- Financial and leasing	35.6	2.4	2	2	2	2
-Trust, savings and loan	7.1	0.5	3	0	0	3
(c) Management companies	85.9	5.8	7	1	7	1
(d) Investment companies	22.6	1.5	10	0	2	8
- Investment houses	16.0	1.1	6	0	0	6
- Investment companies	3.6	0.2	2	0	1	1
- Property management and investment	3.0	0.2	2	0	1	1
2. Commercial cluster	246.0	16.5	29	17	23	23
(a) Retail	205.1	13.8	21	7	16	12
- Food stores	115.3	7.7	6	2	6	2
- Specialty stores	61.6	4.1	12	2	7	7
- Department stores	27.1	1.8	2	3	2	3
- Clothing stores	1.1	0.1	1	0	1	0
(b) Wholesale	40.9	2.7	8	10	7	11
3. Utilities cluster	79.0	5.3	17	4	10	11
(a) Telephone	50.3	3.4	6	0	3	3
(b) Gas	14.8	1.0	4	4	3	5
(c) Electricity	14.0	0.9	7	0	4	3
4. Transportation	33.3	2.2	9	1	8	2
5. Telecom	29.3	2.0	5	0	3	2
6. All other services	57.4	3.9	24	4	13	15
II. Natural resources	304.0	20.4	53	11	54	10
1. Oil and gas cluster	205.0	13.8	27	7	30	4
(a) Integrated oils	92.8	6.2	2	4	4	2
(b) Oil and gas producers	79.4	5.3	16	2	16	2
(c) Gas pipelines	13.4	0.9	2	1	3	0
(d) Oil pipelines	11.9	0.8	2	0	2	0
(e) Oil and gas field services	7.4	0.5	5	0	5	0

[16] The *Financial Post 1000* largest publicly-listed companies and the *Financial Post 350* biggest private firms. Government-owned companies were not included in the top 300 list.

Table IV.1 (concluded)

Industry /Cluster	2006 revenue	Percentage	Number of national companies	Number of foreign companies	Number of publicly-traded	Number of private
2. Mining cluster	55.5	3.7	12	2	12	2
(a) Integrated mines	41.3	2.8	6	1	6	1
(b) Precious mines	7.7	0.5	2	0	2	0
(c) Metal mines[a]	3.6	0.2	3	0	2	1
(d) Misc. mines (coal)	1.8	0.1	1	0	1	0
(e) Mining services	1.1	0.1	0	1	1	0
3. Forestry	38.9	2.6	12	2	10	4
4. Agriculture	4.6	0.3	2	0	2	0
III. Manufacturing	257.3	17.3	32	26	31	27
1. Automotive	96.3	6.5	1	6	1	6
2. Food Processing	23.2	1.6	6	2	5	3
3. Publishing and printing	22.0	1.5	6	0	5	1
4. Chemicals	21.8	1.5	4	2	4	2
5. Transport equipment and components	21.4	1.4	3	1	3	1
6. Electrical and electronic	20.8	1.4	1	4	2	3
7. Steel	20.4	1.4	2	5	4	3
8. All other manufactures	31.4	2.1	9	6	7	8

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Globe and Mail, "2007 Top 1000 companies. The Report on Business Magazine's The Top 1000 Canada's Power Book" [online database] 2007; "2007 Top 350 Private Companies. The Report on Business Magazine's The Top 350 Private Companies" [online database] 2007.

[a] Falconbridge, Canada's largest metal mining company in 2005, does not appear on the 2006 list of the *Financial Post*, presumably because it was being acquired by XStrata (and de-listed) at the time. The effect is to lower the preponderance of the mining sector in the top 300.

This table provides us with a kind of x-ray of the largest companies operating in Canada in terms of principal activities. Fully 177 of the largest 300 enterprises are found in the services sectors (62.3% of the total revenues for the top 300), especially in the finance cluster of activities (32.5%), which includes the insurance cluster (13.5%), retail banking (11.7%), management companies (5.8%), and investment companies (1.5%); the commerce cluster of activities (16.5%) which incorporates retail (13.8%), that is, mainly food stores (7.7%), specialty stores (4.1%) and department stores (1.8%), and wholesalers (2.7%); as well as utilities (5.3%), transportation (2.2%), telecoms (2.0%) and all other services (3.9%). Another 64 companies operate in natural resources (20.4% of the total revenues for the top 300), especially the oil and gas cluster (13.8%); which includes mainly integrated oil companies (6.2%), oil and gas producers (5.3%); the mining cluster (3.7%), which covers primarily integrated mines (2.8%) and other mines (0.8%); and forestry (2.6%). Another 58 enterprises are manufacturers (17.3% of the total revenues for the top 300), found mainly in automotive segment (6.5%), food processing (1.6%), publishing and printing (1.5%) and chemicals (1.5%).

The 223 Canadian-owned companies among the top 300 dominate many financial services (especially life insurance and retail banking, management companies and investment companies), specialized commerce (most notably, specialty and food stores), natural resource extraction (particularly, oil and gas producers, integrated mines, other mines and forestry), other services (such as transportation, utilities and telecoms) and a few manufacturing activities (publishing and printing, food processing, and so forth). Canadian-owned firms in the financial sector (especially the insurance cluster and investment houses) and specialty stores tend to be privately owned, i.e., not listed on stock markets.

The 77 foreign firms in the top 300 are more prominent in some commercial activities (especially wholesalers), natural resources (most particularly integrated oil companies) and some other manufactures (such as the automotive, steel and electrical and electronic segments). Many foreign companies tend to be private rather than publicly-listed.

A comparison of the top 25 foreign firms by revenues of 2006 with those of 1973-1974 [17] shows that while eight of the companies from the 1973-1974 list remain there in 2006 (General Motors of Canada, Imperial Oil, DaimlerChrysler Canada, Shell Canada, Husky Energy, Ford Motor Co. of Canada, IBM Canada and Dow Chemical Canada) fully 17 new firms have entered. The principal new entrants to the list of the top 25 foreign companies operate in commercial activities (Costco Wholesale Canada, McKesson Canada, Hudson's Bay Co., Home Depot Canada, Sears Canada, Canada Safeway, Best Buy Canada and Cargill Ltd.), steel (Dofasco Inc., Gerdau Ameristeel) and metal mining (Alcan and CVRD Inco), among others. At least five of the changes were the result of takeovers or buyouts (Hudson's Bay Co., Sears Canada, Dofasco Inc., CVRD Inco and Alcan).[18] The foreign firms that disappeared from the list of the 25 largest were found mainly in petroleum (Gulf Oil, Texaco Canada, BP Canada and Petrofina Canada) and manufacturing (Steel Company of Canada, Rothmans of Pall Mall Canada, Canadian General Electric, International Harvester Co. of Canada, Swift Canadian, Westinghouse Canada, Du Pont of Canada, Crown Zellerbach Canada, Union Carbide Canada, Canada Cement Lafarge, Hawker-Siddeley Canada and Kraft Foods). In 1973-1974, 37 of the largest companies in Canada were foreign, whereas by 2006 the figure had dropped to 25. While the United States was still the country of origin of most of the foreign firms operating in Canada, by 2006, firms from other source countries were becoming more evident.

In 2007, the Institute of Competitiveness and Prosperity (ICAP) published a list of what it considered Canada's global leaders for 2006. The calculations were based on the selection of Canada's principal companies (stock-market-listed and private but not government-owned) by 2005 revenue. Global leaders were defined as firms on this list that the Institute considered to be among the top five in global market shares in their principal product line. The result was a list of 70 Canadian companies (foreign subsidiaries were not included), as shown in table IV.2.

The ICAP list of global leaders was compared to the database of Canada's top 300 largest companies, with a view to analysing the nature of the global leaders among the dominant companies in Canada. Thirty-nine of the global leaders are found among the largest companies, while thirty-one are not. The larger Canadian global leaders tend to be found in natural-resource extraction (Teck Cominco, Barrick Gold, Cameco, Fording, Canfor, Tembec and PotashCorp) and related services (Finning International, Shawcor and CHC Helicopters), as well as traditional services —financial (Manulife Financial, MacDonald Dettwiler and Atco), commercial (Weston Foods and Couche-Tarde) and transportation (CN Rail and Trimac)— and lower-tech manufactures —food and beverages (McCain Foods, Connors Bros. and Cott), paper (Abitibi Consolidated) and chemicals (Nova Chemicals, Agrium and Methanex). Exceptions to this rule are found in autoparts and transportation equipment (Magna International, Linamar and Bombardier), telecommunications equipment (Nortel, Research in Motion) and contract manufacturers (Celestica), among others whose activities relate primarily to medium- and high-tech manufactures.

[17] Information for 1973-1974 comes from Hughes (1975).
[18] The purchase of Alcan by Rio Tinto was completed in 2007.

Table IV.2
CANADIAN GLOBAL LEADERS,[a] **2006**

Company size	Canadian Global Leaders[b] (ordered by 2006 revenue)	
Large companies (>Cdn$ 0.9 billion 2006 revenue)	Manulife Financial	PotashCorp
	Weston Foods	CGI
	Magna International	Tembec
	Bombardier	Research in Motion
	Nortel	Atco
	Couche-Tarde	Linamar
	Celestica	Methanex
	CN Rail	Cinram
	Teck Cominco	Cameco
	Thomson Corp.	Fording
	Nova Chemicals	Cott
	Jim Pattison Group	CCL Industries
	Quebecor World	MDS
	Barrick Gold	CAE
	McCain Foods	Shawcor
	SNC-Lavalin	CHC Helicopters
	Abitibi Consolidated	MacDonald Dettwiler
	Finning International	Connors Bros.
	Canfor	Husky Injection Molding
	Agrium	
Smaller companies (<Cdn$0.9 billion 2006 revenue)	Gildan Activewear	Ritchie Bros. Auctioneers
	Canam Steel	Marsulex
	ATS	Sierra Wireless
	Patheon	Sun Gro Horticulture
	Magellan Aerospace	Dalsa
	Chemtrade Logistics	Timminco
	Harlequin	Zarlink
	Open Text	Imax
	Mitel	Coolbrands
	Wescast Industries	Ashton-Potter[c]
	Major Drilling	Maax[c]
	Trimac	N. American Fur Auctions[c]
	Axcam Pharma	Peerless Clothing[c]
	TLC Vision	Scotia Mocatta[c]
	Tree Island Industries	TD Waterhouse Ameritrade[c]
	Spectra Premium	

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Institute for Competitiveness and Prosperity, *Canada's Global Leaders, 1985-2007*, 2007; Globeandmail, "2007 Top 1000 companies. The Report on Business Magazine's The Top 1000 Canada's Power Book" [online database] 2007; "2007 Top 350 Private Companies. The Report on Business Magazine's The Top 350 Private Companies" [online database] 2007; and official websites of the companies.

[a] Global leaders are defined as firms that are among the five largest international market share holders of their principal activity.
[b] Alcan was removed given that it was acquired by a foreign company, Rio Tinto, in 2007.
[c] Revenue for 2006 is not known.

The great majority of Canada's dominant firms are not global leaders. For the most part, the very large Canadian companies that are non-global leaders comprise the principal banks (Royal Bank of Canada, Bank of Nova Scotia, Toronto Dominion Bank, Canadian Imperial Bank of Commerce, Bank of Montreal and National Bank of Canada), providers of financial services (Power Corp Financial, Great-

West Lifeco, Sun Life Financial, Manufacturers Life Insurance, Great-West Life assurance, Onex, Canada Life Financial, London Life Insurance, Fairfax Financial Holdings), natural-resource-extraction companies and providers of related services (Petro-Canada, EnCana Corp., Suncor Energy, Husky Energy, Canadian Natural Resources, Enbridge Inc., Talisman Energy, TransCanada Pipelines, Syncrude Canada) and commercial establishments (Empire Co. and Canadian Tire). Generally speaking, these companies' overall assets show incipient or relatively weak internationalization processes, as most of their business activities take place in the Canadian or North American market.

An examination of the smaller global leaders suggests that while several undertake relatively traditional activities, such as food processing (Coolbrands), apparel (Gildan), auto parts (Spectrum Premium Industries, Westcast Industries), mining (Timminco) and transportation (Trimac), most are associated with relatively sophisticated niche activities, such as contract manufacturing for pharmaceuticals (Pantheon), logistics (Chemtrade Logistics), software (Open Text), environment (Marsulex), telecoms (Mitel, Sierra Wireless), digital imaging (Dalsa), semiconductors (Zarlink), specialized financial services (Scotia Mocatta, and TD Waterhouse Ameritrade) and the like. This suggests that, broadly, the global leaders of Canada fall into two main groups: large companies that internationalize based on natural-resource extraction, traditional services and relatively low-tech manufactures, and smaller companies whose internationalization processes are more linked to sophisticated niche activities.

The international competitiveness of the largest firms operating in Canada has changed considerably during the last 15 years. A study by Rao, Legault and Ahmad (Industry Canada, 1994) identified the largest 447 Canadian-based companies in 1991 and separated them into 159 outwardly-oriented (147 Canadian and 12 foreign) and 288 domestically-oriented ones (238 Canadian and 50 foreign). A comparison of this information with that of the global leaders of 2006 produces some interesting observations:

- of the 33 firms that were large global leaders in 2006, only 21 were considered outwardly-oriented in 1991, whereas 12 were categorized as domestically-oriented, i.e., 12 shifted to an outward orientation during the interim;
- 38 of the 2005 global leaders did not appear on the 1991 list, suggesting that they were not as important in terms of sales and assets in 1991;
- only 12 foreign firms were considered outwardly-oriented compared to 50 which were defined as domestically-oriented and not one domestically-oriented foreign company was converted into the equivalent of a Canadian global leader.

This suggests that a significant internationalization process was taking place, driven principally by relatively new Canadian firms, and in which foreign firms established in Canada did play an important role.

2. The FDI internationalization strategies of Canadian companies

The internationalization strategies of the principal Canadian companies differ according to activity. For that reason, financial services and asset management, natural resources, and manufactures will be examined separately.

(a) Financial services and asset management

During the 1990s, there was concern in Canada's financial services sector about increasing global competition. In 1998, Harold MacKay, Chairman of the task force looking into that matter stated that:

> "Canada has a good financial services sector now. It is a source of real strength for the country. But it is facing enormous changes, driven by new technology, globalization and demography, and this is leading to big challenges, both for financial institutions and their customers. We believe that with the right public policies these changes will be converted to opportunities. If Canadians respond to the challenges well, the sector should be able to serve the needs even better in a more competitive and customer-oriented environment." (*Press Release*, September 15, 1998, "Task Force on the Future of the Canadian Financial Services Sector", Department of Finance)

Measured in terms of OFDI, this industry has responded extremely well as it represented the largest increase in OFDI share, and by a large margin. In 1983, only 15% of Canada's OFDI came from the financial services industry, whereas by 2006 that share stood at 45%, that is, the share tripled over the period 1983-2006.

As of April 2007, Canadian banks managed Cdn$ 2.5 trillion in assets. There are some 72 banks operating in Canada; 22 are Canadian-owned and 50 are foreign-owned. Nevertheless, Canada's banking industry is dominated by the "Big Six" Canadian-owned banks: Royal Bank (RBC), Scotiabank, Bank of Montreal (BMO), Canadian Imperial Bank of Commerce (CIBC), National Bank of Canada, and TD Bank Financial Group, which together control roughly 90% of all banking assets in Canada.[19] Of the 22 domestic Canadian banks, only these Big Six possess operations of note outside of Canada. They are much larger than the other banks operating in Canada by a large margin, both in terms of assets and bank capital.[20] The performance of the Big Six, when measured by return on assets or return on equity, is significantly better than that for all banks. Therefore, the Big Six effectively dominate Canada's financial services sector.

As was the case for Canada's trade and FDI, the foreign operations of Canada's banks are also centred on the United States, where more than 50% of these operations are found. The European Union and Japan represent approximately 30% of Canadian banks' foreign operations and Latin America and the Caribbean, about 15% (see figure IV.5). Total foreign claims (assets) held by Canadian banks reached approximately Cdn$ 250 billion in 1994. These foreign exposures peaked in 2002 at close to Cdn$ 600 billion, then fell back towards Cdn$ 400 billion in 2004.

Initially, major financial institutions, which dominate Canadian OFDI flows, limited the focus of their internationalization process to market-seeking strategies in the United States; however, some of the major banks, such as Scotiabank and Royal Bank, are now extending this processes to include the rest of the Americas. Other institutions, such as management companies (Brookfield Asset Management) and pension funds (Ontario Teachers' Pension Fund) are also internationalizing by taking on many more direct investments involving the control of the companies in which they participate.

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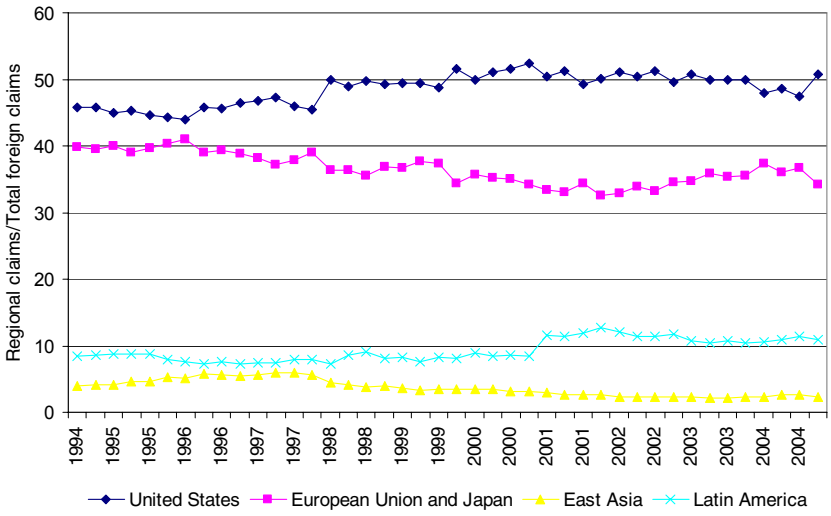
[19] The largest Canadian bank, as measured by bank capital, ranks in the top 60 banks globally.

[20] Data from Hejazi and Santor (2005), and are derived from confidential bank-level data from the Bank of Canada covering 1994-2004.

Figure IV.5
EXPOSURES OF CANADIAN BANKS, BY REGION, 1994-2004
(Percentages)



Source: Bank of Canada.

(b) Natural resources

TNCs in this sector typically follow strategies designed to identify, measure and extract natural resources. Many Canadian companies are found among the global leaders in the natural resource sector; however, the situation varies from industry to industry. For example, 52 of Canada's top 300 companies by revenue are in the extractive industry.[21] Twenty-four are oil and gas companies (12 in Canada's top 100), 14 are forestry enterprises (three in the top 100) and 13 are mining companies[22] (three in the top 100). The analysis in this section will focus on the oil and gas and mining industries, which are some of the sector's riskiest activities (see box IV.2).

Box IV.2
HANDLING RISK IN THE EXTRACTIVE INDUSTRY: THE CASE OF MINING

Extracting natural resources is by its very nature a high-risk activity. According to the 2006 Report of the Canadian Intergovernmental Working Group on the Mineral Industry, mineral development usually consists of four principal phases in terms of expenditures:

Exploration expenditures: all activities carried out to search for, discover and conduct the first delineation of a potential mineral deposit, or the re-evaluation of a known deposit to enhance its potential economic value in order to justify additional and more detailed appraisal work;

Deposit appraisal expenditures: all activities carried out to bring a delineated deposit to the stage of detailed knowledge required for the exhaustive bankable feasibility study that will fully justify and fully support a production decision and the investment required;

Mine complex development expenditures: all mine development, capital (construction, machinery and equipment), repair and maintenance expenditures carried out in a mine property that is in production or committed to production; and

[21] Ten more provide services to these activities as pipeline operators (five) or field service providers (five).
[22] See footnote a of table IV.1.

Box IV.2 (concluded)

Mine complex development: all work and support activities carried out on a mine site to define, block out, and gain access to the ore and prepare it for production (including drilling, rock work and support to extend the current ore reserves by exploring and appraising the immediate vicinity of the deposits).

Huge expenditures have to be undertaken years before any profit is ever made.

The exploration activity is usually undertaken by at least two different kinds of companies: "majors" (or "seniors") and "juniors".[a] The large and often integrated mining companies known as majors tend to be managed by mining engineers who are generally risk-averse while the juniors tend to be managed by geologists who are most often risk-takers. For this reason, the majors tend to undertake their own exploration mainly close to their existing mines where they can benefit from economies of scale, have a higher probability of making a find and run a lower risk. Their principal concern is to feed their project pipeline with good projects at the right moment. The juniors undertake most of greenfield exploration and their principal interest is to make a significant discovery, sell it at a good price, and continue exploring. In periods of high international prices, the majors often contract or associate with the juniors to undertake more risky exploration or they simply purchase the juniors' commercially viable finds.

The activities associated with profitability appraisal, construction estimates and construction, usually referred to as the order-of-magnitude, pre-feasibility and feasibility stages, are often carried out, in full or in part, by contractors. Given the level of activity in mining in recent years, many mine owners opt for a package deal known as engineering, procurement and construction management with a sole contractor, rather than dividing the activities among various contractors.

The most successful major mining companies are those that are best able to evaluate risk in order to permanently feed their project pipeline with the best projects in the context of the life cycles of their existing mines. Given the huge quantities of resources involved, even the more successful mining companies often need to acquire financing to undertake their largest investments, which means that they must carefully protect their reputation and maintain close contact with the financial community. The way they handle risk is reflected in the opinion that investors and the financial community have of them.

Source: Canadian Intergovernmental Working Group on the Mineral Industry, "National roundtables on corporate social responsibility (CSR) and the Canadian extractive industry operating in developing countries" [online] 2006 http://www.CSRExtractiveSectorRoundtables.ca. and interviews with mining companies and mining contractors.

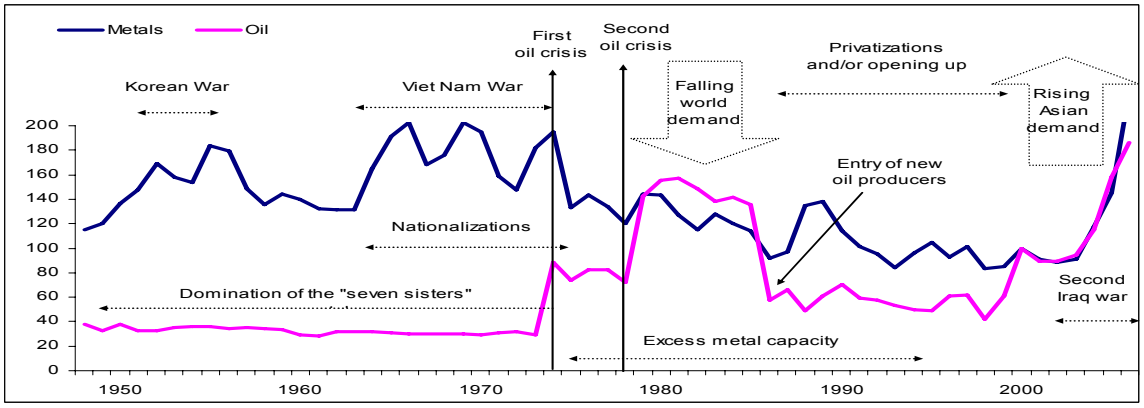
[a] "Juniors" have been defined as exploration companies that are not recipients of significant income from producing mines or other businesses and that are financed mainly by exploration funds raised through the issue of treasury shares (Natural Resources Canada, Sept, 2007, p. 1).

The way the global mining industry has evolved has a fair amount in common with the global oil and gas industry, but there are many significant differences too. Both have enjoyed very strong international price surges in recent years (see figure IV.6). Real international prices of crude petroleum have recently surpassed the previous highs reached in the 1980s, whereas the recent real international prices of metallic minerals have only matched the highs reached in the 1960s. The international price of crude petroleum generally sustained an upward trend in the second half of the twentieth century (excepting 1985-2000) whereas the international price of metallic minerals showed more of a long-term decline until about 2003. Figure IV.6 also indicates some of the factors driving prices (wars, policy and competition) that affected the industries in different ways.

Figure IV.7 indicates the long-term real international price evolution of four different metals: gold, copper, zinc and nickel. As can be appreciated in this figure, the current price of gold is very high compared with the historical tendency but by end-2007 it was still lower than during the boom of the early 1980s. For copper, the current real price levels are superior to anything experienced during the twentieth century but down from the situation in the nineteenth century. In the case of zinc, the current real price is close to the twentieth-century peaks, which occurred in the 1950s and the 1970s, but considerably lower than that of the nineteenth century. Lastly, real international prices for nickel are not

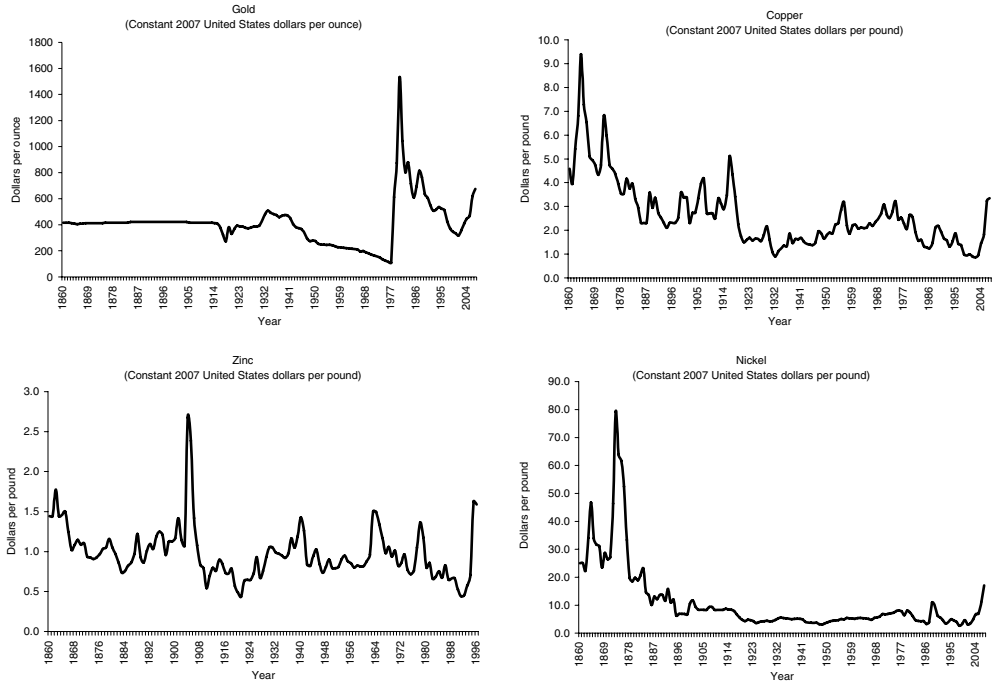
showing the same boom as other metals and represent a small fraction of nineteenth-century prices. Thus, even within the commodity bonanza, certain commodities have done far better than others.

Figure IV.6
REAL PRICE INDEX OF CRUDE OIL AND METALLIC MINERALS, 1948-2006
(Index: 2000=100)



Source: United Nations Conference on Trade and Development (UNCTAD), *World Investment Report, 2007: Transnational Corporations, Extractive Industries and Development*, Geneva, 2007. United Nations publication, Sales No. E.07.II.D.9.

Figure IV.7
LONG-TERM REAL INTERNATIONAL PRICE EVOLUTION OF GOLD, COPPER, ZINC AND NICKEL
(Constant 2007 dollars)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of public records by Dr. U. Petersen, Professor Emeritus, Harvard University, and Dr. P. Bradshaw, President, First Point Minerals Corp.

Another difference between the oil and gas and mining industries is that increased exploration by oil and gas companies has produced a number of major new discoveries (such as Sakhalin Island, Russia, and offshore Brazil) or made feasible more costly known sources of crude petroleum or bitumen [23] (e.g., Alberta oil sands, Canada); in the metallic mining industry, however, the huge increase in exploration since 2000 has not resulted in many major discoveries, especially of world-class deposits.

TNCs play an important role in both industries, especially in developed country markets; however, trends as regards reserves and production are diametrically opposed. In the oil and gas sector of developing countries, where most reserves are found, the global trend favours State petroleum companies and increasingly limits the TNC role to production-sharing agreements or service contracts, rather than the traditional concessions which were more generous to TNCs.[24] Effectively, TNCs no longer control global oil and gas reserves nor are they the principal producers. In 2005, the top 10 oil-reserve-holding firms of the world were all State-owned companies from developing countries, accounting for an estimated 77% of the total, while Russian petroleum firms controlled an additional 6%. The principal privately-owned developed country TNCs such as ExxonMobil, BP, Chevron and Royal Dutch Shell possessed only about 10% of reserves and a share in the joint ventures that made up the remaining 7% (UNCTAD, 2007, pp.115-116).

In the mining sector, poor experiences with nationalizations in the 1960s and 1970s convinced many developing country governments thereafter to offer more generous concessions to promote TNC investment in mining, even though there has recently been a tendency to raise taxes on those operations (especially royalties). With few exceptions (Codelco of Chile and Alrosa of the Russian Federation), developed country TNCs such as BHP Billiton, Rio Tinto and Anglo American are still the dominant producers and refiners in the metal mining industry, which is, moreover, undergoing continual concentration.

In Canada, a major difference between the oil and gas and mining sectors is that while many of Canada's largest companies are oil and gas producers, some with integrated operations, they are not particularly prominent in the global arena just now. None of the principal Canadian oil and gas extraction companies, such as Petro-Canada, EnCana and Suncor Energy, are found among the world's largest, ranked by total production in 2005 (UNCTAD, 2007, p. 117). Another change concerns foreign ownership. During 1973-1974, all four petroleum companies in the top 25 firms were foreign-owned; by 2006, three of the four petroleum firms in that ranking were Canadian-owned. Even so, foreign petroleum companies tended to have integrated operations while the vast majority of Canadian companies within the top 300 did not.

Canada is not currently a dominant force in the global oil and gas industry even though the Alberta oil sands have huge potential. According to the Mining Association of Canada (MAC, 2007, p.14), the oil sands contain an estimated 2.5 trillion barrels of bitumen of which existing technologies can

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[23] Bitumen is the heaviest, thickest form of petroleum. The two largest known sources of bitumen (in Alberta and Bolivarian Republic of Venezuela) each contain more petroleum than the entire proven conventional oil reserves of the Persian Gulf. Synthetic crude oil produced from bitumen accounts for about 28% of Canada's total oil production. Compared to conventional oil (obtained from traditional, easily accessible sources), however, synthetic crude from bitumen is expensive and complicated to produce. See The Canadian Encyclopedia (n/d).

[24] The provincial government of Alberta, Canada seems intent on implementing the recommendations of an Alberta Royalty Review Panel to significantly raise the provincial take from the Tar Sands. The Canadian Association of Petroleum Producers considered that the Panel did not achieve the government's objectives in finding the balance between a reasonable royalty and tax system and a healthy, sustainable oil and gas industry (CAPP, 2007).

extract about 300 billion barrels.[25] Measured another way, the National Energy Board of Canada (2003, p. 52) estimates that the Alberta oil sands deposits contain 400 billion square metres of original bitumen, of which 12% is considered recoverable. About 10 billion square metres can be accessed by surface mining methods, whereas another 39 billion square metres could be obtained through in situ recovery methods.[26] The National Energy Board of Canada (2006, p. 43) noted that the original goal of producing one million barrels a day from the oil sands by 2020 was surpassed in 2004. By end-2000, only 1% of Canada's bitumen resources had been produced. Some of the principal oil sands projects are the following:

- *Syncrude* (Canadian Oil Sands Trust, Imperial Oil and Petro-Canada) 350,000 barrels per day (bpd), to be expanded to 500,000 bpd by 2020;
- *Voyageur* project (Suncor Energy) 260,000 bpd;
- *Athabasca Oil Sands Project* (Shell, Western Oil Sands, Chevron Canada) 155,000 bpd, to be raised to 770,000 bpd;
- *Fort Hills* project (Petro-Canada, Teck Cominco, UTS Energy) 170,000 bpd mine and extraction plant has been approved;
- *Northern Lights* project (Synenco Energy and SinoCanada) 100,000 bpd is being built;
- *Kearl* project (Imperial Oil Resources and Exxon Mobil Canada) 100,000 bpd mine is being built, with expansion to 345,000 bpd expected by 2018;
- *Horizon* project (Canadian Natural Resources) 110,000 bpd mine being built, with expansion to 232,000 bpd expected by 2012.

Most of Canada's largest companies have the Alberta oil sands at the heart of their investment strategies. The attention of the largest oil and gas companies operating in Canada has been taken up with the dynamics of the North American oil and gas industry, especially activities related to the Alberta oil sands. In that context, OFDI by these companies (excluding the United States) is relatively small in relation to the industry in which they operate. Thus, Canada's main oil and gas companies concentrate on Canadian resources and, although they are large, dominant firms within the country, they are not considered global leaders in the international oil and gas industry.

In the mining sector the situation is different. Canada, historically, has been a leading mining country and several Canadian mining companies are global leaders. The Mining Association of Canada (MAC, 2007) has described Canada's importance in the global mining industry in the following manner:

- Canada received the biggest slice (19%) of global exploration expenditure in 2006;

- Canada exported more than 1 billion Canadian dollars (Cdn$) of each of aluminum, gold, nickel, copper, zinc, iron ore, uranium, potash and diamonds;

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[25] This represents more than the reserves of Saudi Arabia, which are 260 billion barrels.

[26] About 80% of the oil sands in Alberta are buried too deep below the surface for open-pit mining. This oil must be recovered by in situ techniques. Using drilling technology, steam is injected into the deposit to heat the oil sand lowering the viscosity of the bitumen. The hot bitumen migrates towards producing wells, bringing it to the surface, while the sand is left in place ("in situ" is Latin for "in place"). Steam Assisted Gravity Drainage (SAGD) is a type of in situ technology that uses innovation in horizontal drilling to produce bitumen. In situ technology is expensive and requires certain conditions, such as a nearby water source. Production from in situ already rivals open-pit mining and in the future may well replace mining as the main source of bitumen production from the oil sands (Oil Sand Discovery Centre, undated).

- Toronto has become the mining capital of the world and is the global leader for mining finance with 38% of the world's equity raised in 2006;

- Vancouver is home to the world's leading cluster of exploration companies (850) and expertise.

Unlike the oil and gas industry, the dominant Canadian mining companies are global leaders: Falconbridge, Inco, Barrick Gold, Placer Dome and Teck Cominco were all found on the 2005 list of top 25 metal mining companies (UNCTAD, 2007, p. 109) even though the industry has since consolidated, including the sale to foreign TNCs of several of Canada's largest mining companies (see box IV.3). Even so, the Canadian mining sector continues to be a major motor of OFDI.

Box IV.3
THE DOUBLE WHAMMY IN THE CANADIAN MINING INDUSTRY SINCE 2001

The strong upswing in international metal prices after 2000 facilitated two huge changes to the structure of the Canadian metal mining industry; first, the appearance of new, large mining companies to challenge and elicit reactions from the existing leaders and, second, the purchase of several of Canada's principal mining companies by major foreign TNCs.

With regard to the first phenomenon, Teck acquired 50% of Cominco for US$ 1 billion in 2001 to become Teck Cominco, a zinc major; Barrick Gold purchased Homestake for US$ 2.3 billion in the same year and added Placer Dome for US$ 10.4 billion in 2005 to become a gold major; Goldcorp acquired Wheaton River for US$ 2.4 billion in 2004, added part of Placer Dome (from Barrick) for US$ 1.5 billion and acquired Glamis Gold (United States) for US$ 8.7 billion in 2006, thus further challenging Barrick Gold. At the same time, the traditional leaders, such as Noranda, Falconbridge and INCO reacted by consolidating. Noranda acquired Falconbridge for US$ 2.5 billion in 2005, renaming itself Falconbridge. Inco tried to acquire Falconbridge for US$ 10.6 billion in late 2005 but could not complete the deal. Thus, a number of Canadian mining companies were moving up the list of the top 300 companies in Canada (see table 1 of the annex);[a] by 2006, Teck Cominco was in fifty-ninth place, Barrick Gold was seventy-third, Inco was seventy-eighth and Goldcorp was 174th.

As this consolidation was taking place among Canadian mining companies, foreign TNCs also became involved. In a period of about 16 months, three of Canada's principal mining companies were acquired by foreign majors. Xstrata, a Swiss mining company, purchased Falconbridge for US$ 17.4 billion in 2006; CVRD of Brazil acquired Inco for US$ 17.2 billion the same year; and Rio Tinto of the United Kingdom —itself currently undergoing a possible takeover from BHP of Australia— took control of Alcan (eleventh in the top 300 in 2006) for US$ 42.9 billion in early 2007. Lastly, Norilsk Nickel of the Russian Federation acquired Lion Ore (255th in the top 300) for US$ 6.8 billion in 2007.

In other words, the double whammy to the Canadian mining industry consisted of the emergence of new leaders to challenge the existing ones, followed closely by a strong denationalization process in which several of Canada's largest mining companies were acquired by foreign TNCs.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from United Nations Conference on Trade and Development (UNCTAD).

[a] Falconbridge, Canada's largest metal mining company in 2005, does not appear on the 2006 list of the *Financial Post 1000.*

Box IV.4

CANADIAN MINING AT THE FOREFRONT OF GLOBAL ISSUES FACING THE MINING INDUSTRY

Originally, the main issues between mining companies and host governments concerned the nature of the economic impacts, both direct (financial and technological contributions, employment, export enhancement and government revenue generation) and indirect (production linkages and infrastructure development), of mining activity and their overall influence on macroeconomic variables (stability, growth and income distribution). By the 1970s, a host of problems associated with acid mine drainage, surface and groundwater pollution, soil contamination and waste and tailings dumps, among others, brought environmental issues into the equation. The last decade and a half has witnessed the emergence of a host of new social and political issues, such as health and safety, local community development, human rights and corruption, conflict and others. The Canadian mining industry has been at the forefront of many of these discussions.

One instance of this was the Whitehorse Mining Initiative of 1992, in which the Canadian mining industry concluded that it needed support, assistance and advice within a non-adversarial framework to help it develop a new strategic vision and to create solutions for the twentieth century (Natural Resources Canada, n/d). That led to discussions among the mining industry, senior government officials, labour unions, Aboriginal peoples and the environmental community, which resulted in the Whitehouse Mining Initiative Leadership Council Accord of August 1994. While considerable progress was made in the four issue areas (finance/taxation, environment, land access and workforce/workplace/community) formally dealt with by the initiative, growing criticism was being expressed about the operations of Canadian mining companies outside of Canada, especially in developing countries.

That sentiment was manifest in the Report on Mining in Developing Countries and Corporate Social Responsibility produced by the Canadian Parliament's Standing Committee on Foreign Affairs and International Trade in June 2005. In response, a series of national roundtables on corporate social responsibility and the Canadian extractive industry operating in developing countries were held in Vancouver, Calgary, Toronto and Montreal between June and November of 2006. These culminated in a report to Parliament in December of that year. The extended list of issues included environmental concerns; community relations; human rights; security and armed conflict; labour relations; indigenous peoples' rights; compatibility of resource development with national and local economic priorities; benefit sharing with local communities; ineffective legal systems; and the potential for corruption.

The *Advisory Group Report* (2007, p. 5) suggested that industry, government and civil society were broadly agreed that the extractive sector must effect a steady improvement in its corporate social responsibility (CSR) performance as a matter of fundamental importance. A proposal was discussed that the Government of Canada should adopt legislation to establish CSR standards for Canadian companies operating abroad. The reaction of the Canadian Chamber of Commerce was lukewarm: it suggested that the "corporate" be removed from the CSR concept and insisted that corporate initiatives remain voluntary, objecting to the idea of an independent ombudsman and any possibility for the extraterritoriality of Canadian law (Canadian Chamber of Congress, 26 July 2007). On the other hand, mining associations, such as the Mining Association of Canada (MAC), which reflects the opinions of the mining companies, and the Prospectors and Developers Association of Canada (PDAC), which reflects that of explorers, generally embraced the main aspects of the Report. In the first venture of its type by mining association, MAC has developed an initiative known as Toward Sustainable Mining, which requires the external verification of TSM performance (The Mining Association of Canada, *Towards Sustainable Mining Progress Report, 2006*). PDAC developed a special publication that summarizes 36 national and international CSR codes, standards and tools and it also offers its Environmental Excellence in Exploration (e3) toolkit to registered users (PDAC web page).

Box IV.4 (concluded)

Many of Canada's extractive industry companies now produce formal annual sustainability reports and the actions of mining companies, such as Teck Cominco and Barrick Gold, among others, and petroleum and gas producers, such as Suncor Energy Inc. and Syncrude Canada Ltd., are highlighted in the Towards Sustainable Mining Progress Report, 2006. Many of these same firms are among the principal participants in a number of international initiatives, such as the International Council on Mining and Metals (Teck Cominco), the Extractive Industries Transparency Initiative (Barrick Gold) and the United Nations Global Compact, among others. Another factor contributing to this development is that financial institutions associated with the World Bank Group International Finance Corporation (IFC) and Multilateral Investment Guarantee Agency (MIGA) have begun to condition their financial engagement in major natural resource projects to the sustainable development goals of the principal investors. For its part, the Canadian Export Development Corporation required an independent Environmental Impact Assessment of Barrick Gold's Veradero project in Argentina before financing was granted. In this fashion, the concept of a "social licence" to operate has been inculcated in many of these major Canadian mining companies and reflects how many of them have come to the forefront of this debate.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Standing Committee on Foreign Affairs and International Trade, Canada, *Mining in Developing Countries. Corporate Social Responsibility*, June 2005; The Mining Association of Canada MAC), *Toward Sustainable Mining Initiative- Progress Report 2006* [online] http//www.minning.ca; Prospectors and Developers Association of Canada PDAC), official website [online] 2007 http://www.pdac.ca; G. Ross, "Mining: EDC's approach, perspectives on making corporate social responsibility work in Argentina's mining sector", Buenos Aires, 29 September 2005 [online] http://www.infoexport.gc.ca/iei/ieiSmartViewer.jsp?did=7946&sitid=81.

Although some of the biggest global mining companies are found in Canada, the Canadian mining industry is facing some serious challenges, including the sharp decline during the last 25 years in Canada's proven and probable mineral reserves: 80% in the case of lead, zinc, molybdenum and silver and 50% with regard to copper and nickel (MAC, 2007, p. 16). Moreover, exploration expenditure[27] crashed during the mid-1990s in Canada and has recovered only in the last few years. Many mineral exploration companies consider Canada to be well-explored compared to other countries, especially developing countries, which also possess "easier" finds. This, together with rising production costs in Canada, has led about 1,000 Canadian mining companies[28] to explore elsewhere; as a consequence, Canadian companies currently account for a world-leading 40% of global exploration expenditure. The stock of Canadian OFDI in 2006 (Cdn$ 61.5 billion) was double that of inward FDI and foreign properties rose from 25% of the total mineral property portfolios of companies listed on Canadian stock exchanges in 1992 to 48% in 2005 (Canadian Intergovernmental Working Group on the Mineral Industry, 2006, p. 165).

In sum, the principal natural-resource-seeking companies of Canada are found mainly in the oil and gas and mining industries and their experiences have been quite different. The dominant oil and gas companies in Canada, such as Petro-Canada, EnCana and Suncor Energy, are very much focused on the opportunities presented by the Alberta oil sands and that has significantly influenced their international exploration and production activities, such that the oil and gas industry's OFDI is small in comparison to the size of the industry. Quite the opposite occurs in the Canadian mining industry, in which better exploration and production opportunities outside of Canada are driving huge OFDI flows by Canada's

[27] Exploration expenditure can become a complex matter as it usually involves additional elements, such as deposit appraisal and mine complex development expenditures. See box IV.2.

[28] Juniors now are responsible for a major slice of exploration activities both in Canada and worldwide. (See Metals Economic Group, The Mining Association of Canada, Prospectors and Developers Association of Canada).

global leaders in mining, such as Teck Cominco, Barrick Gold, PotashCorp. and Cameco, as well as by a host of junior explorers. The global commodity boom in mining is stimulating OFDI by Canadian mining companies, whereas investment in oil and gas is channelled more into investment opportunities in Canada, particularly the Alberta oil sands. In both cases, the companies involved have shown quite spectacular growth recently.

Internationalization is, therefore, a fundamental strategy for many of Canada's mining companies, which increasingly seek their natural resource inputs outside of Canada; however, that is not so true of Canadian oil and gas companies due to the fact that the Alberta oil sands play such a dominant role in their project pipelines.

(c) Manufacturing

The international competitiveness of Canada's manufacturing industry has been under stress for some time now. Full access to the United States market by way of the Canada-United States Free Trade Agreement in 1989, which was consolidated to include Mexico with the signing of NAFTA in 1994, helped to integrate Canadian firms into continental supply chains; however, global challenges have since emerged. The internationalization of most Canadian manufacturing companies did not extend beyond North America.

An initiative labelled Manufacturing 20/20 was undertaken in 2004-2005 by the Canadian Manufacturers & Exporters Association (CME).[29] This was a huge undertaking, with 98 meetings involving 2,500 manufacturers and stakeholders across Canada. Observing that Canada had dropped from fifth most prosperous country in the OECD to ninth over 15 years and that United States per capita income levels were 22% higher than Canada's, CME suggested that in spite of the strong growth of manufacturing the industry was at a crossroads with regard to international competitiveness. Among the challenges mentioned were the intensified competition in international markets, the appreciation of the Canadian dollar, the emergence of China as an industrial powerhouse, trade and border problems with the United States and mounting competition with other countries around the world for investments and product mandates. Within Canada were escalating business costs, increased constraints on the energy supply, an ageing workforce and an erosion in the quality of Canadian infrastructure. The CME president opined that:

> "Change is reshaping our industry, not only in Canada, but around the globe at an unprecedented pace. The result is the emergence of a new paradigm of manufacturing in which innovation instead of volume drives growth; where global business systems instead of production systems are employed; where companies do business not only across the country, but around the world and where competition is not among companies, but supply chains". (Canadian Manufacturers and Exporters Association, 2005).

The Canadian manufacturing sector is a heterogeneous industry difficult to characterize in a few pages. Broadly speaking, most companies have demonstrated three kinds of corporate strategy: (i) internationalization via FDI to establish export platforms to compete better in global markets ("efficiency-seeking" strategies); (ii) internationalization via FDI to establish a local affiliate in order to offer their products in the host-country market and, sometimes, that of its immediate neighbors ("market-

[29] CME members account for an estimated 75% of total manufacturing production in Canada and 90% of the country's exports, according to http://www.cme-mce.ca.

seeking" strategies); and (iii) avoidance of internationalization by continuing to export from Canada or simply limiting survival strategies to competing against imports in the Canadian market.

Canada's manufacturing companies, for the most part, have faced an uphill struggle. Those implementing efficiency-seeking internationalization strategies, using FDI to establish export platforms for finished or intermediate goods in the businesses of auto parts or transportation equipment, have generally seen their growth and earnings slow; this includes global leaders such as Magna International, Linamar, and Bombardier Inc. Efficiency-seekers associated with electronics, such as global leaders Celestica and Nortel Networks, face outright crises. Some of those firms internationalizing via market-seeking strategies have done better —the experience of global leader McCain Foods is a good example— whereas others have not, such as Quebecor World, also a global leader. Within the manufacturing sector, pursuers of natural-resource-based manufacturing strategies appear to have adapted well, whether establishing an international system, like global leader Methanex Corp, or servicing a national or subregional market, like global leader Agrium Inc.

Canadian OFDI will probably continue to rise in services and some natural resources (mining, not oil and gas). Conversely, the problems now facing efficiency-seekers could portend a slowdown or decline in manufacturing OFDI.

In summary, the more dynamic elements driving Canadian OFDI appear to be associated with services, where market-seeking strategies are prominent (especially financial services), and with natural resources (mining much more than oil and gas). Growth in manufacturing as a focus of Canadian OFDI seems to be somewhat stifled by the difficult experiences of the principal companies employing efficiency-seeking internationalization strategies, but this is less true of firms following market-seeking strategies, particularly those linked to natural-resourced-based manufactures.

C. CANADIAN COMPANIES OPERATING IN LATIN AMERICA AND THE CARIBBEAN

This section looks at Canadian companies in Latin America and the Caribbean and the nature of their operations, from the perspective of the principal corporate strategies guiding their investment, i.e., natural resource-seeking, market-seeking or efficiency-seeking.

Table IV.3 shows the data available on stocks of Canadian OFDI in Latin American and Caribbean countries. Confidentiality requirements prevent Statistics Canada from releasing data for many countries. According to this information, more than half of the stock of Canadian FDI in Latin America and the Caribbean is found in just three offshore financial centers (OFCs): Barbados [30] (35.8%), Bermuda (14.5%), and Cayman Islands (8.3%). Outside of OFCs, the main recipient countries of Canadian OFDI are Brazil (7.7%), Chile (4.8%), Mexico (4.1%), Argentina (3.7%), Peru (2.7%) and the Dominican Republic (1.7%). All other countries for which data are available receive less than 1% each. Thus, on the one hand, the huge concentration of investment in OFCs represents an insuperable distortion of the statistical information, since the final destination of this OFDI is unknown. On the other, these data suggest that Canadian OFDI in Latin America and the Caribbean is a recent phenomenon, taking place mainly in the 2000-2006 period; thus, the distortions from the perspective of historical cost valuation are smaller than in areas where Canadian OFDI has a longer experience.

[30] It is interesting to note the asymmetry in Canada's relationship with Barbados: whereas Canada had Cdn$ 38.4 billion invested through Barbados in 2006, only Cdn$ 471 million was invested in Canada from or through Barbados.

Table IV.3
STOCKS OF CANADIAN OFDI IN LATIN AMERICA AND THE CARIBBEAN, 1970-2006
(Millions of Canadian dollars)

	1970	1980	1990	2000	2006	Percentage 2006
A. Latin American and Caribbean OFCs						
Antigua and Barbuda	nd	nd	nd	nd	nd	
Aruba	nd	nd	nd	nd	nd	
Bahamas	187	426	1 950	7 006	nd	
Barbados	2	11	1 453	19 668	38 392	35.8
Bermuda	136	1 003	1 758	9 482	15 560	14.5
British Virgin Islands	nd	nd	28	279	520	0.5
Cayman Islands	nd	nd	78	3 839	8 848	8.3
Netherland Antilles	6	153	72	121	96	0.1
Subtotal OFCs	331	1 593	5 339	40 395	63 416	
B. Latin American and Caribbean non-OFCs						
Argentina	nd	nd	123	5 023	3 981	3.7
Belize	nd	nd	nd	nd	nd	
Bolivia	nd	nd	nd	52	87	0.1
Brazil	648	691	1 698	6 667	8 244	7.7
Chile	nd	nd	285	5 421	5 171	4.8
Colombia	nd	nd	24	898	453	0.4
Costa Rica	nd	nd	nd	116	448	0.4
Cuba	nd	nd	nd	nd	nd	
Dominica	nd	nd	nd	nd	nd	
Dominican Republic	nd	nd	nd	nd	1 847	1.7
Ecuador	nd	nd	nd	244	46	...
El Salvador	nd	nd	nd	59	nd	
French Guiana	nd	nd	nd	nd	nd	
Grenada	nd	nd	nd	nd	nd	
Guadeloupe	nd	nd	nd	nd	nd	
Guatemala	nd	nd	5	3	nd	
Guyana	nd	nd	nd	145	41	...
Haiti	nd	nd	nd	nd	nd	
Honduras	nd	nd	nd	9	101	0.1
Jamaica	nd	nd	337	592	nd	
Mexico	45	165	245	3 857	4 369	4.1
Nicaragua	nd	nd	nd	nd	nd	
Panama	2	15	23	217	149	0.1
Paraguay	nd	nd	nd	nd	nd	
Peru	nd	nd	nd	1 925	2 910	2.7

Table IV.3 (concluded)

	1970	1980	1990	2000	2006	Percentage 2006
Saint Lucia	nd	nd	nd	nd	nd	
Suriname	nd	nd	nd	nd	nd	
Trinidad and Tobago	nd	nd	nd	96	276	0.3
Uruguay	nd	nd	nd	26	nd	
Venezuela	12	59	54	328	574	0.5
Subtotal non-OFCs	707	930	2 794	25 678	28 697	
TOTAL	1 396	3 571	8 360	67 479	107 135	100.0

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of data from Statistics Canada.

Note: nd - not disclosed.

Thus, in Latin America and the Caribbean, it is difficult to obtain a clear overall picture of the nature and presence of Canadian OFDI. Moreover, with few exceptions, most of the countries' official statistics do not offer detailed information on Canadian investments due to the fact that they are not usually among the largest ones. Since official statistics on FDI are not a good guide for the purposes of the analysis in this section, it is necessary to resort to case studies based on interviews and secondary sources of information in order to form an idea of the nature of Canadian OFDI and the presence of Canadian TNCs in Latin America and the Caribbean.

Company-level information is becoming easier to obtain, in general, especially for companies listed on Canadian stock markets, although sometimes it is an arduous task to make diverse sources of information compatible. In this context, given the lack of better alternatives, an approximation of the principal investments of Canadian companies was created using the information available from Vecino [31] for 2003 in combination with the information on net investments (acquisitions less divestments) during 2004-2007 available from Bloomberg. Thus a "ball park" or order of magnitude estimate was established (see table IV.4). Such a procedure is obviously insufficient since it leaves out greenfield investment by Canadian enterprises, as well as all acquisitions not captured by Bloomberg; nevertheless, there were no better alternatives. This analysis is complemented with a more detailed examination of the operations of specific Canadian companies in the region according to their dominant corporate strategy. Furthermore, the quality of the information on the facilities of Canadian mining companies operating in the region (see below) is considered to be much better as it is based on more solid data on assets collected by Natural Resources Canada. Thus, this first approximation should be considered as precisely that and will be reinforced with the analysis of specific company strategies.

Table IV.4 does permit a degree of analysis of the presence of Canadian companies in Latin America and the Caribbean. First, according to these numbers, the value of investments by Canadian companies in Latin America and the Caribbean more than doubled over 2003-2007, from US$ 18.3 billion to US$ 37.4 billion, which ratifies the view that the Canadian business presence in the region is in a marked process of renewal and expansion.

[31] The Ph.D thesis of Carlos Vecino at HEC Montreal contains a detailed examination of Canadian companies operating in the region up to the end of 2003 (Vecino, 2007, pp. 162-163).

Table IV.4

PRINCIPAL CANADIAN COMPANIES WITH INVESTMENTS IN LATIN AMERICA AND THE CARIBBEAN, 2003, WITH ACQUISITION UPDATE TO END 2007 [a]

(Millions of United States dollars)

Rank	Company	Sector	Investment as of 2003 (from Vecino)	Reported assets acquired minus disinvestments, 2004-2007 [b]	Estimated investment as of 2007	Countries
1	Goldcorp [c]	Mining	292.0	7901.1	8 193.1	Argentina, Mexico, Brazil
2	Brookfield Asset Management [d]	Finance	2 143.0	3 423.3	5 566.3	Brazil, Chile
3	Yamana Gold [e]	Mining	402.5	3 403.8	3 806.3	Argentina, Brazil, Chile, Honduras, Nicaragua
4	Scotiabank	Finance	1 639.5	1 733.3	3 372.8	Mexico, Chile, Peru, Costa Rica, Panama, El Salvador, Dominican Republic
5	Royal Bank of Canada	Finance		2 187.2	2 187.2	Trinidad and Tobago
6	Barrick Gold (including Placer Dome)	Mining	2 126.5	-3.0	2 123.5	Peru, Argentina, Chile, Dominican Republic, Mexico
7	Canadian Imperial Bank of Commerce	Finance		1 299.9	1 299.9	Barbados, Jamaica
8	Ontario Teachers Pension Fund	Finance		1 226.2	1 226.2	Chile, Brazil
9	Methanex	Manufacturing	1 000.0		1 000.0	Chile, Trinidad and Tobago
10	Nortel	Services	760.0		760.0	Brazil, Mexico, Argentina
11	Teck Cominco (excluding Aur Resources)	Mining	520.0	-2.3	517.8	Peru, Chile, Panama, Mexico
12	Rusoro Mining	Mining		506.6	506.6	Venezuela
13	Nexen Inc.	Oil and gas	389.2		389.2	Brazil, Colombia
14	TransCanada Corp	Oil and gas	148.8	190.2	339.0	Colombia, acquisition pending in Mexico
15	Kinross Gold (including Bema Gold)	Mining	76.9	261.1	338.0	Brazil, Chile, El Salvador
16	PotashCorp	Mining	279.0	40.5	319.5	Chile, Brazil
17	Agrium	Manufacturing	236.6		236.6	Argentina
18	Onex Corp.	Finance	255.2	-28.8	226.4	Mexico
19	Quebecor World	Manufacturing	211.5		211.5	Argentina, Brazil, Colombia, Chile
20	Finning International Inc.	Services	180.0		180.0	Chile, Bolivia
21	Sun Life Financial	Finance	163.6		163.6	Chile
22	Petrobank Energy & Resources	Oil and gas	136.3		136.3	Colombia
23	Celestica	Manufacturing	108.2		108.2	Brazil, Mexico
24	McCain Foods	Manufacturing	106.5		106.5	Argentina
25	Transcontinental Inc.	Manufacturing	100.5		100.5	Mexico
26	HudBay Minerals	Mining	100.0		100.0	Mexico
27	Iberian Minerals Corp	Mining		99.0	99.0	Peru
28	Peak Gold	Mining		93.3	93.3	Brazil
29	Apotex Inc	Manufacturing	90.0		90.0	Brazil, Mexico,

Table IV.4 (concluded)

Rank	Company	Sector	Investment as of 2003 (from Vecino)	Reported assets acquired minus disinvestments, 2004-2007[b]	Estimated investment as of 2007	Countries
30	Agnico Eagle Mines	Mining		80.8	80.8	Mexico
31	Gildan Activewear	Manufacturing	75.0		75.0	Dominican Republic, Honduras, Nicaragua
32	National Bank	Finance	75.0		75.0	Chile
33	Pacific Stratus Energy	Oil and gas		60.2	60.2	Colombia
34	CCL Industries	Manufacturing		55.2	55.2	Brazil
35	Saputo Inc.	Manufacturing	50.8		50.8	Argentina
	Falconbridge	Mining	1 569.0	sold to Xstrata (Switzerland)		Chile, Peru, Dominican Republic
	HydroQuebec	Infrastructure	1 256.0	sold to Brookfield in 2006		Chile, Peru
	Noranda	Mining	1 161.8	sold to Falconbridge		Peru
	EnCana	Oil & Gas	1 075.0	sold to CNOOC/Sinapec (China)		Ecuador
	Alcan	Manufacturing	782.0	sold to Rio Tinto (United Kingdom)		Brazil
	Molson	Manufacturing	645.0	sold to FEMSA (Mexico)		Brazil
	Fairmont Hotels & Resorts	Services	99.3	sold to Saudi Arabian investor		Mexico
	Total		18 254.7	22 527.8	34 194.4	

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Carlos Vecino, "Foreign direct investment in Latin America: exploring host-country determinants and multinationals' motives. Based on global and Canadian investors' activities", Ph.D. thesis, Bucaramanga, Universidad Industrial de Santander, 2007 and information from Bloomberg.

Note: The methodology used here was to add to Vecino's figures for 2003 all acquisitions or divestments of assets indicated by Bloomberg for 2004-2007.

[a] Firms that should be on the list but for which data were not found include: Magna (Mexico, Brazil), Bombardier (Mexico, Brazil), Thomson (Argentina), SNC-Lavalin (Chile, Brazil), Linamar (Mexico), Fording (Mexico), Inmet (Panama), Sherritt (Cuba), IAM Gold (Surinam, Guyana), Breakwater Resources (Chile, Honduras).
[b] Includes pending operations.
[c] Includes Wheaton River, Glamis Gold.
[d] Includes acquisitions by Brascan (Brazil).
[e] Includes Meridian Gold, North Orion Resources.

Second, it is apparent that up until 2003 mining companies dominated the list of Canadian companies operating in the region, with global leaders like Falconbridge and Noranda high on the list. Although investment by Canadian mining companies —especially gold companies such as Goldcorp, Yamana Gold, Barrick Gold and Teck Cominco— remained strong during 2004-2007, it was the combination of the sale of Falconbridge (and Noranda) to XStrata with very significant acquisitions by Canadian financial institutions —such as Brookfield Asset Management, Scotiabank, Royal Bank, Canadian Imperial Bank of Commerce and the Ontario Teachers' Pension Fund— that moved financial companies up the list of principal operations of Canadian companies in the region. Of the top 10 Canadian companies shown in table IV.4, five are financial and four are mining companies, although the mining firms tend to rank higher than the financial ones.

Third, the list contains "old timers" that were present in 2003 but have not made acquisitions since, such as Methanex, Nortel, Nexen Inc., Agrium, Quebecor World, Finning International Inc., Petrobank Energy and Resources, Celestica, McCain Foods, Transcontinental Inc., and "newcomers" that had no major presence in the region in 2003 but made significant investments during 2004-2007, such as Royal Bank of Canada, Ontario Teachers' Pension Fund, Rusoro Mining, Iberian Minerals Corp. and Peak Gold.

Fourth, there is a group of Canadian companies that were present in the region in 2003 and considerably upped their investments during 2004-2007, such as Goldcorp, Teck Cominco, Brookfield Asset Management, Yamana Gold, Scotiabank, Barrick Gold and Kinross Gold.

Fifth, aside from Falconbridge and Noranda, investments in a number of important Canadian firms were liquidated when those firms were acquired (Alcan, by Rio Tinto) or their assets were sold (HydroQuebec sold Transelec in Chile to Brookfield Asset Management, EnCana sold its assets in Ecuador to CNOOC/Sinopec, Molson sold control of its Brazilian subsidiary —Kaiser— to FEMSA, BCE sold its assets in Telecom America in Brazil and Andean countries to America Móvil of Mexico, and the Mexican assets of Fairmont Hotels were acquired by a Saudi Arabian investor).

Sixth, most of the investments are concentrated in only a few countries of the region, mainly Mexico, Brazil, Chile, Argentina, Trinidad and Tobago and Peru. The financial companies' investments have relatively widespread geographic coverage when taken together. The investments of mining companies are focused on Mexico, Chile, Brazil, Argentina and Peru. The oil and gas investments are principally in Trinidad and Tobago and Colombia. Manufacturing firms tend to concentrate on the larger markets, that is, Brazil, Mexico and Argentina.

1. Overview of case studies in Latin America and the Caribbean

As indicated in the last section, the two main corporate strategies driving Canadian OFDI are natural-resource-seeking by mining companies and market-seeking by banks or financial service providers. Market-seeking OFDI by other Canadian companies seems to have slowed. Efficiency-seeking OFDI by Canadian manufacturers and natural-resource-seeking OFDI by Canadian oil and gas companies appears to be declining although the official information on this type of investment does not allow confirmation of that hypothesis.

Latin America and the Caribbean is clearly a very important region for natural-resource-seeking Canadian mining companies, especially those in the precious metals sector. All classes of such companies —global leaders (Barrick Gold), seniors (Goldcorp), intermediates (Yamana Gold, Kinross Gold and IAM Gold) and juniors (Silver Standard Resources)— have concentrated their mining assets in the region. This is not so much the case of other Canadian global leaders in mining, such as Teck Cominco in base metals, PotashCorp. in industrial minerals or Cameco in energy minerals, although all have some assets in the region and Teck Cominco's presence could increase substantially depending on the progress of its project pipeline (see below). Canadian exploration companies continue to invest heavily in the region. Mining is the single activity in which Latin America and the Caribbean in the most prominent region for Canadian OFDI.

Canadian retail banks and providers of other financial services represent the other major group of firms investing in the region in recent years. Banks have done so in order to offer their financial services in local markets, as is the case for Scotiabank, mainly in Mexico, Central America and South

America, and Royal Bank, primarily in the Caribbean. Asset managers, such as Brookfield Asset Management, have acquired real estate or infrastructure assets in Brazil and Chile. Pension administrators, like Ontario Teachers' Pension Plan, have invested in sanitation companies in Chile. Other market-seeking service providers have built up a notable presence in the region, such as Finning International in the Southern Cone, SNC-Lavalin in Chile and Brazil, and Thomson in Argentina; however, these investments are far smaller than those undertaken by the retail banks and providers of other financial services mentioned above.

Canadian manufacturers present in Latin America and the Caribbean have demonstrated three principal corporate strategies: efficiency-seeking, market-seeking and natural-resource-seeking. Efficiency-seeking OFDI in Latin America and the Caribbean by Canadian companies became relevant with NAFTA and other measures liberalizing trade in apparel. Several leading Canadian firms set up efficiency-seeking plants in Mexico. The experience of some of the major Canadian electronics companies, such as Nortel Networks and Celestica, suggests that the NAFTA benefits did not compensate for the increased competitiveness of Asian firms in the North American market. Something similar seems to be taking place in the automotive industry, in which Canadian auto parts suppliers (Magna International, Linamar) are still largely dependent on United States automobile TNCs, such as GM, Ford and Chrysler, which are losing market share to Asian automobile makers, such as Toyota, Honda and Hyundai. Bombardier and Bombardier Recreation products both set up efficiency-seeking plants in Mexico to manufacture aircraft components and recreational craft, respectively. While the apparel industry is usually considered to have been even more displaced by Asian competition, one Canadian company —Gildan Activewear— has proved to be the exception, by successfully establishing efficiency-seeking activities in the Caribbean Basin in order to compete better in the North American market. With the exception of Gildan, Canadian manufacturers' efficiency-seeking investments in Mexico and the Caribbean Basin do not seem to have lived up to their promise.

Market-seeking manufacturers have established a presence too, with Quebecor World in Argentina, Brazil, Chile, Colombia, Mexico and Peru, McCain Foods in Argentina and Agrium in Argentina, as well as market-seeking investments by firms like Nortel, Celestica and Magna International in Brazil. Most operations have been reasonably successful although QuebecWorld's subsidiaries in the region had to endure the dislocation caused by the parent firm's financial weakness. Firms operating in Argentina, such as McCain Foods, Nortel Networks and Agrium, were all hurt by the 2000-2001 crisis there. McCain Foods has not only overcome that bump in the road, it is even contemplating expansion into Brazil. Examples of natural-resource-seeking manufacturers are Methanex, which has facilities in Chile and Trinidad and Tobago, and Agrium, which set up a joint venture with Repsol in Argentina. Methanex exports around the world from its base in the region, while Agrium focuses mainly on the Argentine market with some exports to Brazil.

These cases will now be analysed in more detail, according to the principal corporate strategy guiding their investments in Latin America and the Caribbean.

2. Canadian companies seeking natural resources

Canadian OFDI in natural resources in Latin America and the Caribbean has taken place mainly in the mining sector; this is not to say that there has been none in oil and gas in the region, but this type has declined sharply.

(a) Oil and gas

Two principal factors, described in the following paragraphs, account for the decline of Canadian investment in oil and gas activities in the region: better opportunities in North America and changing regulation by host countries. A third factor was the harsh conflict between the Canadian major, EnCana (twenty-third on the top 300 list), and the Government of Ecuador, which sent shock waves through the North American oil and gas industry and discouraged companies from further investment in the region (see box IV.5).

As noted earlier, the major oil and gas companies in Canada have increasingly focused their investment on the very significant opportunities available in North America, especially the Alberta oil sands; therefore, Latin America and the Caribbean has not been of such interest for these companies as it has been for the mining industry:

Petro-Canada [32] (nineteenth on the list of the 300 largest companies in Canada) is the largest Canadian-owned integrated oil company, though it is a mid-sized company by industry standards. Petro-Canada's proven reserves at end-2006 were concentrated in Canada (74.3%), especially in the Alberta oil sands (39.4%), although its international reserves were not unimportant (especially the Buzzard field in the North Sea). The company's International Business Unit was set up in 2002 when it acquired the upstream operations of Veba Oil & Gas, although previous investments in exploration and production had secured it reserves in Algeria, the United Kingdom and the Netherlands. In Latin America, its operations are concentrated in upstream operations in Trinidad and Tobago and the Bolivarian Republic of Venezuela. Petro-Canada's proven reserves additions are almost entirely in Canada and even more concentrated in the oil sands. Moreover, four of the five major development projects in Petro-Canada's pipeline for 2008-2011 are in Canada and mostly related to the Alberta oil sands.

EnCana [33] (twenty-third on the list of the 300 largest) refers to itself as a leading North American unconventional natural gas and integrated oil sands company. Its production is concentrated in gas in Canada (51%) and the United States (30%), and in conventional oil (15%); conversely, its Alberta oil sands production is just beginning (4%). EnCana explores in several parts of the world, such as the Middle East (Oman, Qatar), Greenland and France. In Latin America it had significant operations in Ecuador, but sold its production facilities (about 150 million barrels per year or 11% of its production) in the country in 2006, in what turned out to be a controversial transaction (see box IV.5). Following this, in 2007 EnCana sold its exploration activities in Brazil (as well as in other countries). Like Petro-Canada, therefore, it has focused its growth in North America.

Suncor Energy [34] (twenty-fourth on the list of the 300 largest) was a pioneer in the commercial development of the Alberta oil sands. In became a publicly-traded company in 1992. The Government of Ontario sold its holdings in 1995 and the company's headquarters were moved from Toronto to Calgary. Thereafter, Suncor Energy entered a phase of rapid growth in which revenues grew from Cdn$ 2.5 billion in 1999 to Cdn$ 15.8 billion in 2006 and assets increased from Cdn$ 5.1 billion in 2002 to Cdn$ 18.8 billion in 2006, based in good part on the firm's Millennium project, which doubled production to 225,000 bpd during 2002-2006, among others. Suncor Energy does not operate or invest outside the North American market.

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[32] Based on Petro-Canada (2007a, 2007b, 2007c, 2006a, 2006b).
[33] Based on Encana (2007a, 2007b, 2007c, 2006 and 2002).
[34] Based on Suncor Energy (2007, 2006 and 2003).

Box IV.5

ENCANA AND ECUADOR: FROM PERFECT MATCH TO PERFECT STORM?

At the beginning, the firm and the country were well matched. On one side was Ecuador, a small, highly indebted developing country whose integration into the international market depended on a few commodities (crude petroleum, bananas, coffee, and so forth). Ecuador wished to expand its crude petroleum production and exports and was seeking foreign investment in exploration, production and a new heavy crude pipeline to achieve that goal. In 2001, it revised its Mining Law to eliminate royalties, reduce surface rights per hectare and simplify authorization procedures. On the other side was EnCana, a major Canadian gas company that already possessed important assets in Ecuador from its acquisition of Pacalta Resources in 1999 for US$ 973 million. At that time, EnCana was looking to further diversify its international assets.

The initial results were excellent. Between 2001 and 2005, Ecuador succeeded in increasing its crude production from about 150 million barrels to almost 200 million barrels and exports from about 90 million barrels to almost 130 million barrels. EnCana became the largest foreign investor in Ecuador, accounting for about 12% of national crude petroleum production, and came to assemble a significant portfolio of assets there. These assets included 100% of the Tarapoa block (38,000 bpd), 40% of Block 15 of Occidental Petroleum (30,000 bpd), 75% of block 14, 70% of Block 17 and 100% of others (together adding 7,200 bpd) and 31% of the OCP pipeline (450,000 bpd capacity) with partners Repsol YPF (26%), Petrobras (15%), Occidental (12%), ENI-Agip (8%), Perenco (4%) and Techint (4%).

But the relationship between EnCana and Ecuador turned sour. In 2006, EnCana sold its assets for US$ 1.42 billion to Andes Petroleum, a joint venture of two Chinese petroleum companies, China National Offshore Oil Company (CNOOC) and China Petrochemical Corp (Sinopec). In the process, EnCana lost US$ 47 million on the sale, had to pay another US$ 242 million in compensation and saw the failure of its international arbitration initiative against the Ecuadorian government. On the other hand, the government accused EnCana of selling its assets in Ecuador without authorization. What went wrong?

It might be said that EnCana ran into a kind of perfect storm as a host of separate factors seemed to combine fortuitously into a mix that poisoned the relationship between the Canadian oil and gas company and the Ecuadorian government. Some of the factors usually mentioned in this regard include the previously conflictive relationship between the Ecuadorian State and Texaco and the growing conflict with Occidental Petroleum; political instability; untimely elections; unresolved environmental, health and safety and community development issues; social mobilization on the part of indigenous groups; government policies that ended rebates and raised taxes; International Monetary Fund conditionality; the United States' governments suspension of FTA talks with Ecuador; and Occidental Petroleum's request for international arbitration at the International Center for Settlement of Investment Disputes (ICSID); among others.

There are factors that contradict the perfect storm thesis. One is the report by Robert Goodman of the World Bank, which found that EnCana had failed in four important areas as regards the World Bank's criteria for approving the financing of the pipeline project: environment, natural habitats, involuntary resettlement and indigenous peoples —the subject of an award-winning documentary on EnCana's role in Ecuador entitled "Between Midnight and the Rooster's Crow"— and the fact that EnCana, like Occidental Petroleum before it, appears to have sold its assets in Ecuador without first receiving the approval of the Ecuadorian government.

Source: Department of the Interior, United States, "Ecuador", *US Geological Services 2005 Minerals Yearbook*, June 2007; *China Daily*, "Oil consortium buys EnCana Ecuador assets", 16 September 2005; Alexander's Gas and Oil Connections, "EnCana sells Ecuador oil and pipeline business to Andes petroleum", *Company News: Latin America*, vol. 10, No. 18, 28 September 2005; *La Tercera*, "Petroecuador crea estatal Petroamazonas para administrar campo que explotaba compañía de EEUU", 19 December 2007; *International Herald Tribune*, "Ecuador seeks to soothe U.S. ties amid asset feud", 18 May 2006; *Reuters*, "EnCana CEO says Ecuador approved block sale", 24 May 2006; EnCana, *Sustainable Development Experience in Ecuador: the EnCana Case*, La Jolla, California, Instituto de las Américas, 17 June, 2004; *Business Week* , "The heat is on oxy in Ecuador", 24 April 2006; *Marari Magazine*, "Ecuador's OCP Pipeline – A false promise of wealth", 25 June 2007; L. Jermyn, "In whose interest? Canadian interests and the OCP crude oil pipeline in Ecuador" [online] 2002 http://www.globalaware.org; J. Klaszus, "Viewpoint- EnCana's chief's legacy far from flawless", 2006 [online] http://www.FFWDWeekly.com; Pueblos en camino, "Canadian mining mischief in the Americas", 18 January 2007 [online] http://www.en-camino.org; N. Drost, "Between midnight and the rooster's crow - a film about EnCana in Ecuador", 26 October 2005 [online] http://www.cbmwatch.ca and information from Encana, official website, 2007 [online] http//www.encana.ca.

The second important factor in the decline of Canadian investment in oil and gas activities in the region is the sharp change of national policy by some Latin American governments, which have sought to increase their income from non-renewable natural resources, especially oil and gas.

A number of Latin American governments shifted their policy stance in order to tighten rules and thus increase national returns from and control over foreign-owned operations for extracting natural resources. The changes were most drastic in Bolivarian Republic of Venezuela, Bolivia and Ecuador.[35] In the first of these countries, at the end of 2005, the government required private investors to accept the conversion of their operating agreements into joint ventures, with a majority share for the State petroleum company, PDVSA. Soon afterwards, the government proposed an increase in royalty taxes (which had also been increased in 2004) on projects for extra-heavy crude extraction from the Orinoco Belt. This operation was nationalized as of 1 May 2007. The consortiums were converted into joint ventures, with a controlling share for PDVSA. Exxon Mobil responded in early 2008 by attempting to obtain court orders to freeze the international assets of PDVSA to ensure that it would be adequately compensated.

In Bolivia, the Hydrocarbons Act of 2005 created a royalty of 32% in addition to the existing 18% tax. The law gave foreign investors 180 days to migrate to the new contracts. This period elapsed without changes being made in the contracts, although the investors were already paying the additional royalties to the government. When the nationalization of hydrocarbons was declared on 1 May 2006, an additional period of six months was allowed, this time for the companies to sign new operating contracts (which included transfer of ownership to the State) with higher tax rates that varied according to the characteristics of each project, up to a legal maximum of 82%. In September, the nationalization of private refineries was announced. This measure affected mainly the interests of Petrobras (Brazil). The petroleum companies ultimately signed new contracts in October.

In Ecuador, as in Bolivia and the Bolivarian Republic of Venezuela, the law on hydrocarbons was reformed in 2006 in order to give the government a greater share in revenues from petroleum and gas extraction. It was established that when crude prices exceeded the levels agreed in the contract with each private company, the State would receive 50% of the export income. In contrast to what occurred in the other two countries, the reforms in Ecuador did not require a transfer of ownership to the State, although a specific dispute with Occidental Petroleum did have that result after the contract was cancelled.

Colombia was the principal exception to this tendency towards more restrictive natural-resource policies in the region. As of 1999, the government reduced the obligatory share of the State petroleum company, Ecopetrol, in joint ventures and made regulatory and institutional changes, including the creation of a National Hydrocarbons Agency to promote new investment to achieve increased reserve levels. In 2006, Colombia privatized the Cartagena refinery and indicated that it would sell 20% of Ecopetrol. Colombia considered itself the second most attractive location for petroleum investment in Latin America after Brazil (*El Tiempo*, 2008). Most of the exploration and production operations of Canadian oil and gas companies are currently located in Colombia. This is the case of Nexen Inc. (ranked seventy-seventh), TransCanada Corp. (fifty-fifth), Talisman Energy Inc. (forty-second), Petrobank Energy and Resources, Pacific Stratus Energy and Adulis Resources Inc. TransCanada Corp. sold off its assets in the region (Argentina, Chile and Brazil) in 2001, but has an acquisition pending in Mexico.

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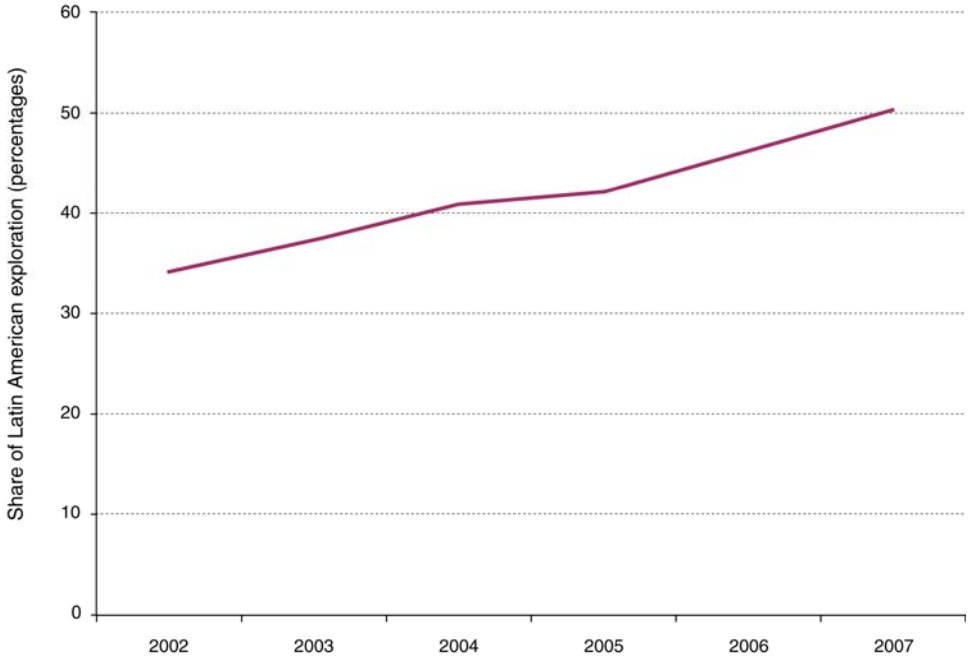
[35] It might be mentioned in this context that concerns over the provincial take from the Alberta oil sands led the Alberta government to establish a commission on the matter. The Alberta Royalty Commission report concluded that the province's take was small and should be increased, which sparked outrage by the companies —both national and foreign— that had already undertaken investments or were in the process of doing so. See CAPP (2007).

In the first survey of the petroleum industry conducted by the Fraser Institute in 2007 (Fraser Institute, 2007a), four of the last six ranks were occupied by Bolivia (fifty-fourth), Venezuela (fifty-third), Ecuador (fifty-second) and Argentina (forty-ninth), while Brazil (thirtieth), Colombia (twenty-eighth) and Peru (twenty-fifth) did much better. In spite of the unfavourable opinions of oil and gas TNCs and the harsher new conditions, internationalizing petroleum companies from China, India, and other emerging markets have been active in Latin America and the Caribbean, sometimes showing interest in filling the spaces vacated by Canadian oil and gas TNCs.

(b) Mining

An unmistakable indication of the importance of Latin America for Canadian mining companies is the fact that between 2002 and 2007 the proportion of all exploration in the region done by Canadian companies rose from 35% to 50% (see figure IV.8). Another is that, since 1994, Latin America has been the principal destination of exploration expenditures by mining companies, with 24%, ahead of Canada (19%), Africa (16%), and the rest of the world (Metals Economic Group, 2007).

Figure IV.8
CANADIAN COMPANIES' SHARE OF MINING EXPLORATION IN LATIN AMERICA, 2002-2007



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information from Metals Economics Group.

The presence of Canadian mining companies in Latin America and the Caribbean is represented in table IV.5. The information in this table is based on mining assets (properties, plant and equipment, deferred exploration expenditures at cost —book value— less accumulated amortization and write-

downs) as defined by Natural Resources Canada. There is some dissonance between this figure and table IV.4.[36]

Table IV.5
PRESENCE OF CANADIAN MINING COMPANIES IN LATIN AMERICA AND THE CARIBBEAN, BY ASSETS,[a] 2006

Company	Principal products	Revenues 2006 (Cdn$millions)	Headquarters Location	Assets in LAC, 2006 (Cdn$millions)	Latin America and Caribbean presence
Goldcorp	Precious (gold)	1 900	Vancouver	13 726.2	Mexico, Guatemala, Argentina, Chile, Brazil, Dom. Rep.
Barrick Gold	Precious metals (gold)	6 400	Toronto	3 769.8	Chile, Argentina, Peru, Dominican Republic
Yamana Gold	Precious (gold)	169	Toronto	2 345.3	Brazil, Argentina, Chile, Honduras, Nicaragua
Kinross Gold	Precious (gold)	1 000	Toronto	941.2	Brazil, Chile, El Salvador
IAMGold	Precious (gold)	377	Toronto	831.2	Surinam, Guyana, Peru, Ecuador, Mexico, others
Teck Cominco	Base metals (zinc)	6 500	Vancouver	806.2	Peru, Chile, Panama, Mexico
Potash Corp of Sask	Other (potash)	3 829	Saskatoon	591.9	Chile (manufacturing plant in Brazil not included)
Sherritt	Base (nickel)	1 100	Toronto	260.5	Cuba
Silver Standard Resources	Precious (silver)	n.a.	Vancouver	164.1	Argentina, Mexico, Peru, Chile
Breakwater Resources	Base (zinc)	452	Toronto	138.0	Chile, Honduras
Inmet	Base (copper, zinc)	1 100	Toronto	16.7	Panama
Fording Coal	Other (coal)	1 800	Calgary	16.2	Mexico
Intrepid Mines	Precious (gold)	n.a.	Toronto	6.0	Argentina, others
First Point Minerals	Precious (gold)	n.a.	Vancouver	4.8	Honduras, Nicaragua
Cameco	Other (uranium)	1 800	Saskatoon	0.0	Peru (via interest in Centerra Gold)
	Subtotal Canadian Firms	26 427		23 618.1	
	Other Canadian Firms	n.a.		4 565.6	
	TOTAL Canadian Firms	n.a.		28 183.7	

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of information provided by Natural Resource Canada and company reports.

[a] Defined as properties, plant and equipment, deferred exploration expenditures at cost (book value) less accumulated amortization and write-downs by NRCAn.

[36] This stems mainly from the different amounts reported, which is partly because of the distinct concepts used (revenue, assets) and partly because table IV.4 includes 2007, which explains the presence of Rusoro Mining, Iberian Minerals Corp., Peak Gold and Agnico Eagle Mines there but not in figure IV.8.

This information demonstrates that only some of the Canadian mining majors (those with 2006 revenues over Cdn$ 1 billion) have a significant presence in Latin America and the Caribbean. These include Teck Cominco, Barrick Gold, PotashCorp, Goldcorp, Sherritt and Kinross Gold. Notable absentees are Cameco (except via Centerra Gold), Alouette, First Quantum and Hudbay Minerals.[37] At the same time, several non-majors had extensive assets in the region in 2006, as is the case for Yamana Gold, IAM Gold and, to a lesser extent, Breakwater Resources. Some juniors also possessed assets, such as Silver Standard Resources, Intrepid Minerals and First Point Minerals. The significance of the acquisition of Canadian global leaders, such as Falconbridge,[38] which possessed Latin American assets in the order of Cdn$ 4 billion (in Chile, Peru and Dominican Republic), and of Alcan,[39] which had assets in the region worth about Cdn$ 125 million (in Brazil), cannot be over overestimated. In other words, the presence of Canadian mining firms, as measured by their assets in the region, has changed considerably in the last few years.

There has recently been a sharp shift in Canadian mining assets in favour of precious metals, especially gold (see box IV.6), which, coupled with the exit of Falconbridge and Alcan, has reduced the assets held by base metals companies in Latin America and the Caribbean.[40] The extreme concentration of Canadian mining assets in the region translates, in this case, into the seven companies with assets over Cdn$ 500 million accounting for a very high proportion of the total assets of the 16 largest Canadian mining companies there and, notably, by 2006, five of those seven top companies were gold producers. This is also because the principal acquisitions by Canadian mining companies were in the gold industry, involving a very significant amount of gold assets in Latin America and the Caribbean.

The principal examples include Goldcorp's acquisition of Glamis Gold for US$ 8.7 billion in 2006, which included huge assets in Mexico (over US$ 8 billion) and Guatemala (over US$ 1.3 billion) coupled with the previous purchase of Wheaton River for US$ 2.4 billion in 2004, which included gold assets in Chile, Brazil and Mexico. Barrick Gold purchased Placer Dome [41] for US$ 10.4 billion in 2005, which included gold assets in Chile and the Dominican Republic. Yamana Gold acquired Desert Sun for US$ 505 million in 2006, and Meridian Gold for US$ 3.4 billion and Northern Orion Resources for US$ 856.2 million, both in 2007, which contributed assets in Chile and Argentina. In addition, Viceroy purchased other Argentine properties for US$ 460 million in 2006. Kinross Gold bought Bema Gold for US$ 2.9 billion in 2007, bringing it important assets in Chile to add to its purchase of Rio Paracatu Mineração for US$ 260 million in 2004, which had brought assets in Brazil. IAM Gold purchased Cambior for US$ 1.3 billion in 2007, which included assets in Bahamas, Suriname and Guyana. Teck Cominco acquired Aur Resources for over US$ 4 billion in 2007, which brought important copper and gold assets in Chile.

Lastly, the assets of Canadian mining companies in the region are now quite concentrated in a handful of countries. Almost half (47.5%) are in Mexico and consist primarily of the assets that Goldcorp obtained when it acquired Glamis Gold. A little over 12% are in Chile and are found mainly in the operations of Barrick Gold, PotashCorp., Teck Cominco, Kinross Gold and Goldcorp. Almost 12% are in Argentina and include primarily the assets of Barrick Gold, Yamana Gold and Goldcorp. About 9% are found in Brazil and consist principally of the Yamana Gold and Kinross Gold assets. Six percent are in Peru and concentrated in the Barrick Gold and Teck Cominco operations. About 5% are in Guatemala and consist mainly of the Goldcorp assets.

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[37] It was not possible to confirm Vecino's figure of US$ 100 million investments in the region.

[38] Falconbridge was among the top 10 global producers of both zinc and copper in 2005.

[39] Alcan was among the top 10 global producers of aluminum in 2005.

[40] Teck Cominco's acquisition of Aur Resources in 2007, which involved two copper mines in Chile as well as a mine in Canada, is not included in table IV.5.

[41] Goldcorp subsequently purchased from Barrick Gold many of the Canadian assets of Placer Dome.

Box IV.6
CANADIAN MINING COMPANIES PURSUE EL DORADO IN LATIN AMERICA AND THE CARIBBEAN

Canadian mining companies have come to control many of the best gold mines and principal gold mine projects in the region precisely as the international price of gold has reached all-time highs. Barrick Gold is clearly the best positioned; however, others, such as Goldcorp, Yamana Gold, IAM Gold and Kinross Gold, also enjoy very competitive situations in the region.

Mine / Project	Country	Canadian company	2005 contained gold (million ounces)	2005 Gold production capacity (thousand oz/yr)
Pascua Lama	Chile	Barrick Gold	23.7	762
Lagunas Norte	Peru	Barrick Gold	9.5	540
Veladero	Argentina	Barrick Gold	4.1	535
Rosebel	Surinam	IAM Gold	4.8	260
Refugio	Chile	Kinross Gold	14.3	245
Marlin	Guatemala	Goldcorp	2.6	217
El Sauzal	Mexico	Goldcorp	2.0	190
Ampari	Brazil	Goldcorp	2.7	160
San Francisco	Brazil	Yamana Gold	2.8	109
Jacobina	Brazil	Yamana Gold	3.9	108
Cerro Casale	Chile	Barrick/Kinross	28.4	
Las Cristinas	Venezuela (Bol. Rep. of)	Crystellex Intl.	20.9	
Pueblo Viejo	Dominican Rep.	Barrick Gold	18.4	

Source: Metals Economics Group, "Review of Latin American gold developments," *Strategic Report*, vol. 18, January-February 2005.

While Barrick has been a major for many years, Goldcorp made the transition to senior and Yamana Gold, Kinross Gold and IAM Gold became intermediates in large part by way of their acquisitions. Thus, Latin America and the Caribbean has played an important role in the advancement of these Canadian gold companies.

The following paragraphs describe the strategies of the main mining companies investing in Latin America and the Caribbean.

Goldcorp[42] (ranked 174th in the top 300 list) merged with Wheaton River to become a senior gold company, which produced 2,377,700 ounces of gold in 2006 and generated revenues of US$ 1.9 billion. It had previously been a junior partner to other larger companies in a number of projects: to Barrick Gold in Marigold (United States), Dee (United States) and Pueblo Viejo (Dominican Republic), to XStrata in Alumbrera (Argentina) and to Teck Cominco in El Limon (Mexico). Goldcorp became an independent operator through a major acquisition, a purchase and a swap. The acquisition was that of Glamis Gold, which provided Goldcorp with several important properties: the Peñasquito and El Sauzal mines in Mexico, the Marlin and Cerro Blanco mines in Guatemala and the San Martin mine in Honduras. The purchase was of the ex-Placer Dome properties (Porcupine mine and Musselwhite mine in Canada) from Barrick Gold. The swap was for Kinross Gold's holdings in the ex-Placer Dome mines in Canada for a 50% share of La Coipa mine in Chile plus cash.

[42] Based on interviews at Goldcorp headquarters in Vancouver, plus Goldcorp (2007a, 2007b, 2007c, 2007d, 2007e, 2006a, 2006b, 2005, 2002).

In 2006, 52% of Goldcorp's production came from just three mines (Red Lake in Canada, the 37.5% share in the Alumbrera mine in Argentina and the El Sauzal mine in Mexico), but the reformulation of its portfolio transformed its project pipeline. In the future, Goldcorp will expand the Red Lake mine and develop the Los Filos and Peñasquito mines in Mexico, the Eleonore mine in Canada and its share of the Pueblo Viejo project in the Dominican Republic. The Los Filos project came on stream in 2007 and will involve a production of 300,000 ounces of gold a year for ten years. The Peñasquito mine is a US$ 1.2 billion project, which will work reserves of 13 million ounces for 17 years. Also, 7.2 million of the Pueblo Viejo reserves of 18 million ounces belong to Goldcorp and will be mined over 20 years. The company is now in a position to finance many of its own projects internally. The new strategy is to focus on gold (67% of revenues in 2007; aiming for 74% in 2011) in the Americas (47% in Latin America in 2007 and 53% in the United States and Canada). With the exception of its share in the Alumbrero project in Argentina, Goldcorp's focus in the region is very much on Mexico and Central America.

Barrick Gold [43] (seventy-third in the top 300) is the largest gold producer in the world, with 8.6 million ounces in 2006. The company specializes primarily in gold[44] and focuses on maintaining a high quality project pipeline in order to retain its top position. It was created in 1983 and became a global leader by way of major acquisitions, including that of Placer Dome —another Canadian global top ten gold producer— in 2005. After selling many of the Canadian assets acquired with this purchase to Goldcorp, Barrick Gold's exploration in North America (where the 37% of the firm's proven and probable reserves are located) has focused on the Nevada mines and the Donlin Creek project, as well as Pueblo Viejo in the Dominican Republic.[45] Latin America and the Caribbean has been a key area in past and present production and its position in the current project pipeline indicates that this will continue.

Barrick Gold's international expansion began in South America in 1994, and was then extended to Australia and the Pacific in 1999 and Africa in 2001. Latin America and the Caribbean plays a very significant role in present production, including the Pierina (reserves: 1.2 million ounces of gold) and Lagunas Norte (reserves: 8.8 million ounces of gold) mines in Peru, the Zaldivar mine (reserves: 2.5 million tons of copper) in Chile and the Veladero mine (11.4 million ounces of gold) in Argentina. The region will continue to be important given the significance in its pipeline of the Pascua Lama project (reserves: 17 million ounces of gold, with 689 million ounces of silver and 565 million pounds of copper contained in the gold reserves) on the Chile-Argentina border (see box IV.7) and the Pueblo Viejo project (reserves: 18 million ounces of gold) in the Dominican Republic.

In other words, the South American operations (total reserves: 38 million ounces of gold) and the Dominican Republic mine (reserves: 18 million ounces of gold) account for over half of Barrick Gold's overall proven and probable reserves. The firm's strategy seems to consist of maintaining its primary specialization in gold and to improve its competitiveness by maintaining a high quality project pipeline through major acquisitions and its own exploration efforts in existing sites (see figure IV.9). Latin America and the Caribbean is and will continue to be a significant component of this strategy.

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[43] Based on interviews at Barrick Gold headquarters in Toronto as well as Barrick Gold (2007a, 2007b, 2007c, 2007d, 2006a, 2006b, and 2001).

[44] Barrick Gold possesses a significant copper mine in Chile, Zaldivar, which it acquired as part of Placer Dome in 2005.

[45] The Dominican Republic mine is counted as part of the firm's North American operations because of the technology used.

Box IV.7

PASCUA LAMA: LITMUS TEST FOR BARRICK GOLD'S COMMITMENT TO RESPONSIBLE MINING

Pascua Lama sparked Barrick's interest in 1994 and since then the firm has invested over US$ 400 million in the project, even though it has yet to come into production. Today, the Pascua Lama project represents one of the company's largest planned development projects ever.

It is couched in the Chile-Argentina Mining Integration and Complementation Treaty of 2000 designed to promote mineral development in the two countries' Andean border region. Since the reserves straddle the border and open pit technology will be employed, it was important to have both governments on board so that the mines could fully incorporate the border reserves. In 2001, Barrick Gold obtained the requisite environmental permits from the Chilean government; however, it decided to delay construction due to low commodity prices at the time. In 2004, with improved international commodity prices, Barrick decided to move ahead and applied for the requisite environmental permits in Argentina and requested a modification of the authorization in Chile. Both authorizations were received in 2006. Barrick estimates that the total investment will be between US$ 2.3 billion and US$ 2.4 billion and will generate 1,600 direct jobs in operations for 23 years, as well as 5,500 during the construction period.

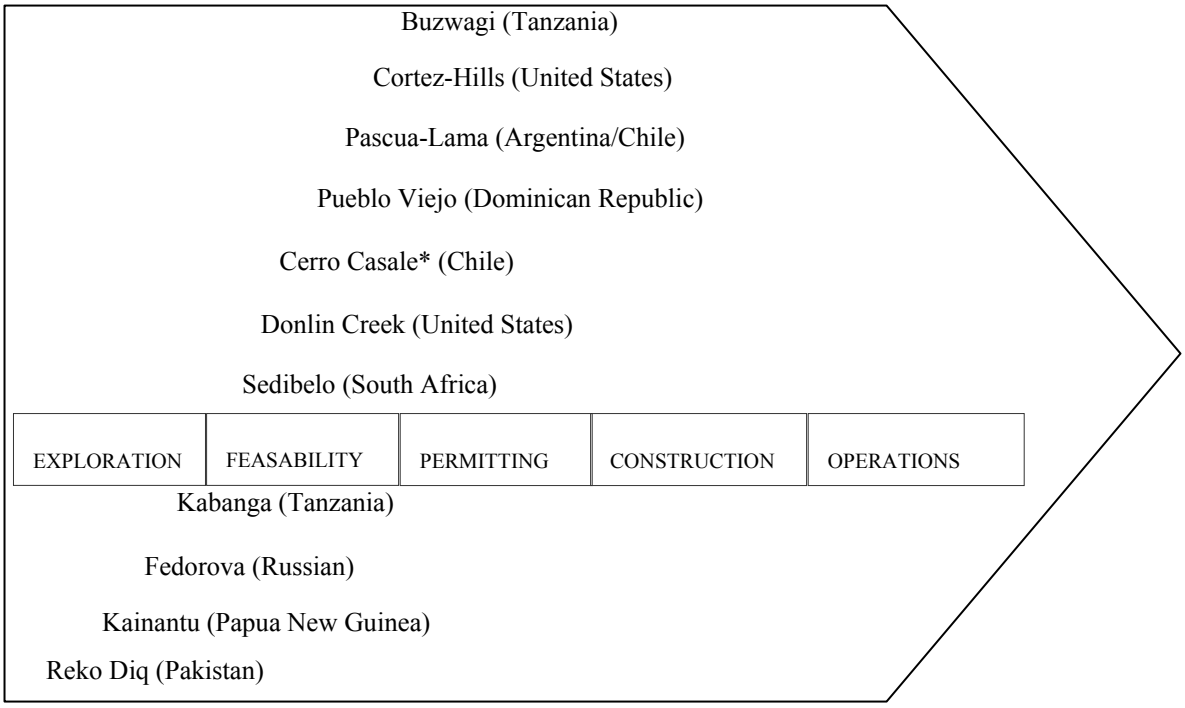
The Pascua Lama project generated a fierce reaction from critics, who cited what they consider to be probable negative environmental, personal safety and community development impacts. Concern was expressed over the future of glaciers in the area (Estrecho, Los Amarillos, Amarillo and Guanaco, as well as the much smaller Esperanza, Toro 1 and Toro 2), the contamination of ground water, the consequences of working at an altitude of 5,000 meters and the effects of transporting all materials to that altitude, and the impacts on the local communities in the area (in the municipalities of Alto del Carmen and Vallenar in Chile and the departments of Jachal, Iglesia and Capital in Argentina), where unemployment was high and physical development was low.

Barrick, perhaps reflecting the legacy of mining in Canada and the public debates generated there, as well as its need to protect its global reputation, responded by reaffirming its commitment to "Responsible Mining" and by attempting to demonstrate this by taking concrete steps in both countries. It has invested in training and employment, water infrastructure, treatment and supply initiatives, provincial education programme assistance, telecommunications infrastructure support, agribusiness support, small business/entrepreneurial assistance, programmes to purchase from local suppliers and the like. Furthermore, Barrick plans to build a US$ 40 million wind farm in the region of Coquimbo, which will contribute up to 20 megawatts of energy to Chile's strained national power grid. Finally, in an undertaking that was more than symbolic action (with a cost of US$ 50 million), Barrick closed its El Indio mine in an environmentally acceptable (but not then legally required) manner.

In many ways, the Pascua Lama project will be a litmus test of Barrick Gold's commitment to responsible mining.

Source: Barrick, "Pascua-Lama: minería responsable", *Comunicaciones Barrick Sudamérica*, Santiago, Chile, Ograma Impresores, 2007; "Minería responsable-trabajando en armonía con el medio ambiente y las comunidades", Santiago, Chile, 2007, unpublished and G. Puig, "Say 'No' to the project Pascua-Lama" 2007 [online] http://www.thepetitionsite.com.

Figure IV.9
BARRICK GOLD'S PROJECT PIPELINE, 2007



Source: Barrick Gold (2007) [onilne] http://www.barickgold.com.

* Pending acquisition.

Yamana Gold,[46] which was a junior mining company only a few years ago, became an intermediate firm with a gold production of about one million ounces in 2007 and gold reserves of 6.8 million ounces by way of a kind of reverse takeover followed by a series of acquisitions. A group of Brazilian and Canadian investors bought the original Yamana Gold Company, which had been created in 1994, and used their improved access to financing on the Toronto stock exchange to expand internationally.

Yamana now possesses eight producing mines and five properties at development stage. The principal acquisitions were the San Andres mine in Honduras, via the purchase of RNC gold in 2006; the Jacobina mine in Brazil, with the acquisition of Desert Sun Mining in 2006; the Gualcamaya mine in Argentina, with the purchase of Viceroy in 2007; and a 12.5% share in the Alumbrera project in Argentina, as well as the Agua Rica property, with the acquisition of Northern Orion in 2007. Lastly, the El Peñon and Minera Florida properties in Chile and the troubled Esquel mine[47] in Argentina were obtained by way of the purchase of Meridian Gold, also in 2007.

[46] Based on interviews in company headquarters in Toronto and in São Paulo and Yamana Gold (2008, 2007a, 2007b, 2007c, 2007d, 2007e, 2006 and 2003).

[47] On the basis of an interview with Yamana officials at their head office in Toronto, it appears that friction with the local authorities —due, among other things, to alleged arrogance on the part of Yamana (formerly Meridian) staff and the employment of Chilean nationals— eventually led the provincial authorities in San Juan to ban the use of cyanide in those mining operations, thereby forcing Yamana Gold to postpone the project until an understanding could be reached.

In the process, Yamana Gold reorganized and is expanding its producing mines, such as El Peñon in Chile, which is raising production from 250,000 to 500,000 ounces per year (oz/yr), Chapada in Brazil (with reserves of 2.5 million ounces), the Jacobina mine in Brazil (with reserves of 1.2 million ounces), São Francisco in Brazil (with reserves of 1.4 million ounces), Minera Florida in Chile (raising production to 120,000 oz/yr), in part financed by the income from the 12.5% participation in the Alumbrera mine in Argentina. The principal development projects include Gualcamaya in Argentina and São Vicente and C1 Santa Cruz in Brazil. On this basis, organic growth will be more important for the firm in the future. Increasingly, Yamana Gold will focus exclusively on gold, mainly in three South American countries: Chile (40%), Argentina (30%) and Brazil (20%-25%). Thus, the region is central to this firm.

Kinross Gold [48] was created in 1993 from the merger of three companies. By 2006 it had grown into an intermediate with 1.65 million ounces of gold production, 43 million ounces of gold reserves and revenues in the order of Cdn$ 1 billion. It possessed nine mines in Canada, the United States, Brazil, Chile and Russia. Kinross Gold consolidated its holdings by acquiring Bema Gold, which brought it 50% of the Maricunga (ex-Refugio) mine in Chile, 49% of the Cerro Casale project in Chile and 75% of the Kupol project in Russia. Through an asset swap with Goldcorp, Kinross Gold obtained a 50% share of La Coipa in Chile plus cash, in exchange for its shares in the Porcupine and Musselwhite mines in Canada. This left Kinross with important operating mines, such as Paracatu in Brazil (16.3 million ounces in reserves), Round Mountain in the United States (1.9 million ounces in reserves), Maricunga in Chile (5.4 million ounces in reserves), Fort Knox (2.7 million ounces in reserves) and La Coipa in Chile (0.4 million ounces in reserves). It has also assembled a solid project pipeline with Kupol (Russia) at 413,000 oz/yr, the Paracatu expansion (Brazil) with 557,000 oz/yr and the Kettle River–Buckhorn project, with 160,000 oz/yr, entering the construction stage. Several projects in Latin America are at the feasibility stage, such as Refugio Pancho and Cerro Casale (both in Chile), or the pre-feasibility stage, such as La Coipa Ladera Farellon (also in Chile), among others.

Kinross Gold's production is concentrated in the United States (39%), Chile (26%), Brazil (16%), Canada (15%) and Russia (4%); however, most of its reserves are located in the Americas (38% in Chile and 37% in Brazil). The firm's strategy now seems to revolve around organic growth in and around its best existing assets. In geographical terms, the company has four focal points, the Andean Cordillera, the Brazilian Craton, the North American Cordillera and Far East Russia. Thus, Kinross Gold is another Canadian gold mining company for which Latin America represents an important global portfolio component.

IAM Gold [49] became an intermediate through the acquisition of Cambior in 2007, which lifted its gold production to about 1 million ounces and its reserves to 9.7 million ounces. Previously, the company possessed a mixture of assets: wholly-owned Canadian gold mines (Doyon Division, Sleeping Giant), the Niobec ferroniobium mine and a 1% royalty from Diavik Diamond Mines; a wholly-owned mine in Botswana; joint ventures in Mali (40% of Yatela and 38% of Sadiola); and minor interests in Ghana (18.9% of Tarkwa and 18.9% of Damang). The Cambior acquisition brought a 95% interest in the Rosabel mine in Suriname, which is now IAM Gold's principal producing mine and has enabled the company to refocus its activities.

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[48] Based on Kinross Gold (2008, 2007a, 2007b, 2007c, 2007d, 2006).

[49] Based on interviews in the company headquarters in Toronto and IAM Gold (2007a, 2007b, 2007c, 2007d and 2006).

The expansion of the Rosabel mine is one of IAM Gold's principal projects. In the project pipeline are three projects in South America (Camp Caiman in French Guiana, La Arena in Peru, Quimsacocha in Ecuador) as well as Buckreef in Tanzania and Westwood in Canada. Exploration expenditures in 2007 went mainly to South America (45%), Africa (30%) and North America (21%). In other words, the Cambior acquisition boosted IAM Gold to intermediate status, solidified its operations on three continents and shifted its focus towards Latin America and the Caribbean.

Silver Standard Resources [50] is a junior silver exploration company. It generated zero revenues in 2006 but invested Cdn$ 39.4 million, possessed total assets of Cdn$ 471 million and controlled 107 million ounces of proven and probable silver reserves. It is a good example of a successful non-gold, precious metal exploration company that now faces the decision to either enter into production itself or sell off its finds and continue exploring. Silver Standard Resources possesses core properties in Argentina (Pirquitas, Diablillos), Australia (Bowden), Canada (Snowfield, Sulphurets, Silvertip and Sunrise lake), Chile (Challacollo), Mexico (Veta Colorada, Pitarrilla, and San Marcial), Peru (Berenguela and San Luis, a joint venture) and the United States (Candelaria, Shafter and Maverick Springs). Its reserves are found mainly in Latin America, with 39% in Mexico, 17% in Argentina, 8% in Peru and 2% in Chile, as are its principal development projects, namely, Piriquitas and Diablillos in Argentina, Pitarrilla in Mexico and the San Luis joint venture in Peru. Silver Standard Resources expects to be producing 9.7 million oz/yr by 2009 and is thus another Canadian mining company hoping to gain intermediate stature on the basis of Latin American precious metal resources.

Teck Cominco [51] (fifty-ninth in the top 300) is the world's second largest producer of zinc and may be considered the Canadian global leader in base metals. Before they merged in 2001, Teck was primarily a mining company and Cominco a metals company. Their principal Canadian possession was a zinc smelter in Trail, British Columbia. They had a broad, if sporadic, production experience outside of North America, with mines in Thailand, South Africa, Spain and Australia, and smelters in India and Japan. They also had separate shares in Peruvian operations: the Cajamarquilla zinc refinery (Cominco) and a minority (22.5%) stake in the Antamina zinc and copper project (Teck), run by Xstrata and BHP Billiton. Recently, the company has worked towards greater geographical diversification and an expanded product mix.

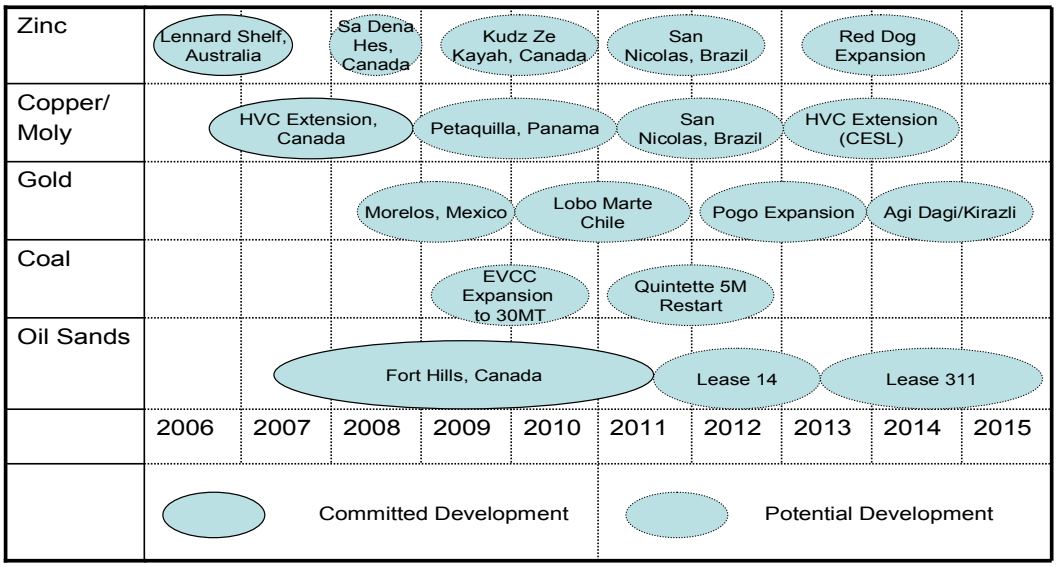
In 2007, Teck Cominco dramatically increased its international presence with the acquisition of Aur Resources for Cdn$ 4.1 billion, which included two important copper mines in Chile (Quebrada Blanca and Andacollo). This raised the firm's copper production by a significant 30% and added over 7 billion pounds of proved and probable reserves. Teck Cominco has extensive exploration experience in several parts of the world, but as of 2006 its exploration focus shifted towards Latin America. One third of its 2007 exploration budget of Cdn$ 90 million was to be spent in Latin America (15% in Brazil, 6% in Chile and Mexico, respectively, 4% in Peru and 2% in Argentina), the rest went mostly to Turkey (16%), Australia (10%) and the United States (10%). In fact, several large "potential" projects in the region have entered the pipeline, such as the Petaquilla (Panama) and San Nicolas (Brazil) copper projects, the San Nicolas (Brazil) nickel project and the Morelos (Mexico) gold project, in association with Goldcorp (see figure IV.10). Even so, with the exception of a copper concentrate mill in Chile, most of Teck Cominco's committed projects are outside Latin America (the copper project at Lennard Shelf, Australia, the Highland Valley Coal expansion in Canada, and oils sands project in Fort Hills, Canada). Thus, the firm

[50] Based on interviews in its office in Argentina and Silver Standard Resources(2007a, 2007b, 2006).

[51] Based on interviews at Teck Cominco in Vancouver as well as Teck Cominco (2007a, 2007b, 2007c, 2007d, 2007e, 2007f, 2007g, 2007h, 2007i, 2006a, 2006b and 2001).

is shifting its focus towards Latin America; that will not be clearly noticeable at the production level, however, until the potential projects in the region enter into production.

Figure IV.10
TECK COMINCO'S PROJECT PIPELINE, 2007



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of R. Vance, "Corporate development", 18 June 2007 [online] http://www.teckcominco.com.

Teck Cominco has achieved product diversification in the gold, nickel, diamond and Alberta oil sands projects. The Morelos mine in Mexico, Lobo Marte in Chile and options for the development of nickel activities at two sites in Brazil (Santa Fe and Araguaia) contribute to this strategy.

Teck Cominco thus appears to have taken advantage of current high international prices to move forward on several objectives, such diversifying its product mix and further internationalizing its resource base, particularly in Latin America. This company also stands out for its significant sustainable development efforts (see box IV.4).

PotashCorp[52] (ninety-ninth in the top 300) is Canada's global leader in industrial minerals, particularly potash. It implemented a focused long-term strategy which rested primarily on maintaining its global market shares by building on its three principal competitive advantages: (i) its position as a low-cost potash producer controlling 75% of global excess capacity; (ii) its cost advantages with regard to nitrogen, with access to low-cost natural gas and ammonia from Trinidad thanks to long-term contracts to 2018; and, (iii) the high quality of its phosphate rock reserves for producing purified acid at a low cost. During 1990-1998 it consolidated its North American (including Trinidad and Tobago) operations, which

[52] Based on interviews at PotashCorp headquarters in Saskatoon as well as PotashCorp (2007a, 2007b, 2007c, 2007e, 2007f and 2006).

consisted of potash production in Canada and feed supplement and nitrogen production in the United States (plus nitrogen in Trinidad) through a series of acquisitions and investments.

PotashCorp did not have a presence in Latin America and the Caribbean outside of Trinidad until a Chilean chemical company, Soquimich (SQM), approached it during a period in which SQM was experiencing difficulties associated with pension fund turmoil in Chile. SQM is an integrated producer of specialty plant nutrients, iodine and lithium, which are obtained from its nine plants that process the caliche ore and solar brines found in the Atacama Salt Desert. As of 2001, PotashCorp. bought into SQM in successive purchases totaling over US$ 450 million. In this manner, PotashCorp. established a presence in Latin America, which was consistent with its strategy to associate with foreign producers to cut transportation costs and diversify supply bases.[53] Thereafter, to deal with high transportation costs, and in a context of overcapacity in potash, PotashCorp. made a series of strategic investments worth over US$ 1 billion outside of North America, inlcuding the establishment of a feed supplement factory in Brazil.

In this fashion, PotashCorp. was able to compete very successfully in the global fertilizer market even though its international presence outside North America was relatively limited, consisting mostly of minority shares in selected strategic partners.

Methanex[54] (150th in the top 300) is another global leader, possessing a global market share of around 20% for methanol. Methanex is, formally speaking, a chemicals company; however, its corporate strategy is better understood from a natural-resource-seeking perspective. Only 8% of its sales come from Latin America and the Caribbean, but over 90% of its production capacity is accounted for by operations in Chile (56%) and Trinidad and Tobago (35%), although new plants are coming on stream in Egypt and China.

The Methanex operation in Chile is a US$ 1-billion-plus investment located in the extreme south of the country, in Cabo Negro near Puntas Arenas, relatively close to the border with Argentina. The four methanol plants produce about 10% of world supply and represent Methanex's largest low-cost production hub. This site is strategically located with regard to natural gas resources in Chile (40%) and Argentina (60%), distance from urban centres and infrastructure for exporting to Asia, North and South America and South Africa using primarily its own tanker fleet. The initial investment was facilitated by Chilean foreign investment rules, under Article 11bis of Decree Law 600. The Methanex methanol operation in Chile has been very successful but not without problems. In spite of a protocol on gas supplies signed by Chile and Argentina, when national supplies grew tight the Government of Argentina did not fully observe either the protocol or the firm's contracts with Argentine suppliers and, moreover, applied an export tax to natural gas. Both of these factors significantly impacted the Chilean plants. Methanex (Chile) is examining two responses to these problems: first, to establish plants in Argentina to ensure direct access to Argentine natural gas supplies and, second, to associate with the Chilean National Petroleum Corporation (ENAP) to further develop natural gas supplies in Chile.

Thus, Latin America and the Caribbean is a very important region for Canadian mining companies and they have undertaken large investments there. Some of Canada's global leaders in the mining industry are heavily involved in the region (Barrick Gold, Teck Cominco, Methanex) others less

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[53] By 2007, PotashCorp. had obtained 44% of the A series shares and 17% of the B series shares; however, its individual voting share was limited to 37.5% of both series. The holders of A series elect 6 directors while the holders of B series elect only 1 director.

[54] Based on interviews at the Methanex subsidiary in Chile and Methanex (2007a, 2007b, 2007c, 2007d, 2007e, 2006a and 2006b).

so (PotashCorp., Cameco). Several "rising star" Canadian mining companies owe a significant degree of their success to their investments in the region (Goldcorp, Kinross Gold, Yamana Gold, IAM Gold, Silver Standard Resources) and Canadian exploration companies continue to invest heavily there. In other words, mining is the single activity in which Latin America and the Caribbean is the most important region for Canadian OFDI.

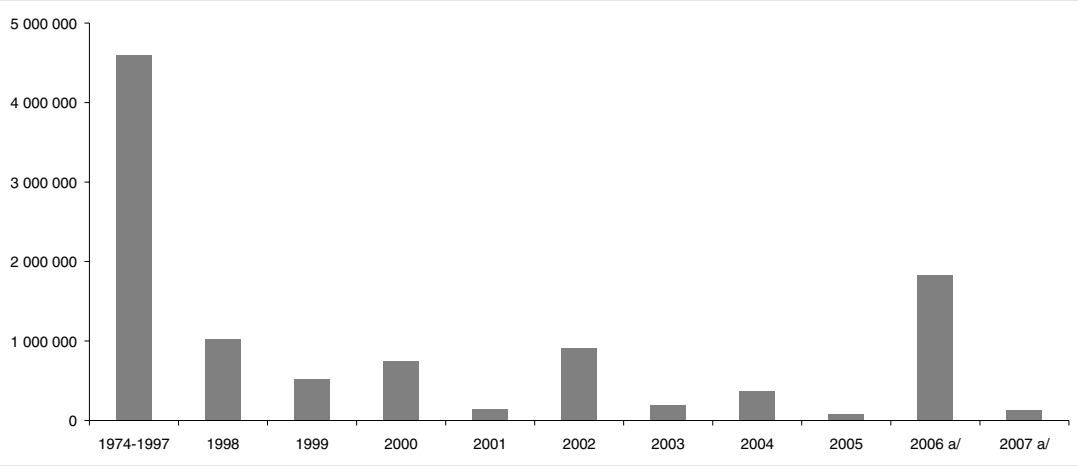
The overview of Canadian mining companies operating in Latin America and the Caribbean would not be complete without a panorama of mining companies' opinions of the region. The Fraser Institute conducts an annual survey of metal mining and exploration companies (Fraser Institute, 2007b), in order to assess how mineral endowments and public policy factors such as taxation and regulation affect exploration investment. The survey is sent to executives and exploration managers in mining and metal consulting companies operating around the world and covers 65 jurisdictions, including subnational ones (provinces, states, territories, and so forth) in Canada, Australia and the United States. The 2006-2007 survey listed Latin American countries as follows in the overall ranking: Chile (seventh), Mexico (eighth), Brazil (seventeenth), Peru (twentieth), Argentina (twenty-fourth), Ecuador (thirty-third), Colombia (forty-fifth), Bolivia (fifty-fourth) and Bolivarian Republic of Venezuela (sixty-third). One of sharpest divergences concerned "mineral potential assuming current regulations and land use restrictions", in which 83%, 70% and 78%, respectively, of the replies for Chile, Mexico and Brazil were in the "Encourages investment" and "Not a deterrent to investment" options, whereas 55% and 67%, respectively, of responses for Bolivia and Bolivarian Republic of Venezuela fell into the "Strong deterrent" and "Would not pursue investment due to this factor" categories. For this and other reasons, Chile has become a favourite of Canadian investors and officials (see box IV.8).

Thus, Canadian natural-resource-seeking companies fall into two main categories. Oil and gas companies seem to have better opportunities elsewhere, including in the Alberta oil sands in Canada, and have largely vacated the region (with the partial exception of Colombia and Brazil), whereas mining companies, especially precious metal companies, continue to invest heavily there, although they clearly prefer certain national business environments over others within the region.

Box IV.8
CANADA AND CHILE CONNECT

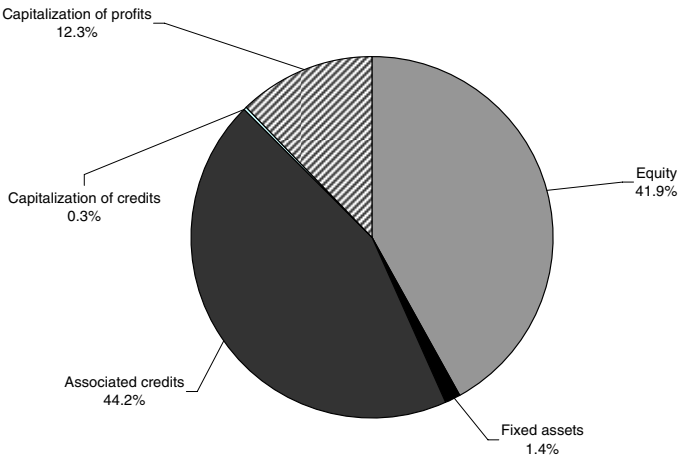
Canada and Chile have struck up a good relationship, in several ways. Investors have been pleased with their treatment in Chile, and not only in the mining sector (Barrick Gold, Teck Cominco, Goldcorp, Kinross Gold, Yamana Gold). Canada has become the source of a significant proportion of Chilean FDI: equivalent to 16.4% of the stock of FDI in Chile during 1974-2007 (to May) and 57.5% of the flow for 2006. Major non-mining investors included Brookfield Asset Management, Scotiabank, Ontario Teachers' Pension Fund, Methanex and PotashCorp of Saskatchewan.

CANADA: FDI IN CHILE, 1974-2007
(Thousands of United States dollars)



[a] Provisional data for 2006 and 2007 correspond to the period January-May.

CANADA: INVESTMENT MECHANISM IN CHILE, 1974-2007
(Percentages)



Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Foreign Investment Committee of Chile.

Box IV.8 (concluded)

A number of companies were so satisfied with their operations in Chile that they made their offices in Chile into subregional offices, as was the case for Barrick Gold, Finning International, and SNC-Lavalin. This last company established its global Center of Excellence for Copper in Chile.

After NAFTA in 1994, the next FTA Canada signed was with Chile in 1997. During the negotiations for that FTA, Canadian and Chilean officials found they had much in common and that, in turn, led to significant cooperation in other settings, both multilateral (WTO work on investment in services) and hemispheric (the nine negotiating groups for the Free Trade Area of the Americas initiative).

Thus, Canadian investors and government officials alike have had very positive experiences in Chile and with Chilean officials, leading to further cooperation in other areas, and this has brought the two countries closer.

Source: Economic Commission for Latin America and the Caribbean (ECLAC).

3. Canadian companies seeking markets (national or subregional)

The principal market-seeking investments by Canadian companies are found in the sectors of finance and asset management, other services directed at mining clusters, telecommunications and legal materials for lawyers, and manufactures.

Along with mining companies, Canadian banks or asset management companies represent the other major group of firms investing in the region in recent years. They have done so in order to offer their financial services in local markets, as is the case for Scotiabank and Royal Bank, or to acquire real estate or infrastructure assets in those markets, as has been the case for Brookfield Asset Management and Ontario Teachers' Pension Plan.

Scotiabank [55] is ranked thirteenth in Canada's top 300 list. It is the most international of the Big Six Canadian banks and has a major presence in several Latin American countries, such as Mexico, Chile, Peru, Bolivarian Republic of Venezuela, Costa Rica and El Salvador, as well as the Caribbean. About 43% of its net income from international activities is generated in the Caribbean Basin and Central America, and almost one third (32%) comes from Mexico. The remaining quarter comes from South America, Asia and other countries taken together.

NAFTA was an important factor in Scotiabank's decision to expand in Mexico by acquiring a minority participation in Inverlat in 1994. The tequila crisis caused it to rethink its Mexico strategy, but the strong financial sector reform implemented there convinced the firm to remain in the country by acquiring a majority participation in Inverlat for US$ 215 million, which established its single largest operation outside of Canada. Scotiabank's presence in Mexico (with 1.4 million clients, 7,400 staff and net income of US$ 500 million in 2007) fitted well with its new strategy to service "middle class" clients there. Its Mexican operations have been expanding at a rate of 100 branches a year, aiming to reach the 800-1000 level in order to compete on a better footing with the principal banks operating in the country.

In the rest of the region, Scotiabank has undertaken opportunistic asset acquisitions during the last decade or so. That strategy was not successful in Argentina, where the purchase of Banco Quilmes in the 1990s led to serious losses during the 2001-2002 crisis and numerous local clients were left stranded by Scotiabank's hasty withdrawal. The new strategy in the region is to reach a minimum market share of 10% in each market, hence Scotiabank's purchase in recent years of Banco del Desarrollo in Chile, Banco

[55] Based on interviews at Scotiabank headquarters in Toronto and Scotiabank (2007c, 2007d, 2007e, 2006).

Wiese in Peru, Corporacion Interfin in Costa Rica, some of the Citicorp and BBVA assets in the Dominican Republic and Dehring Bunting & Holding in Jamaica. Scotiabank feels that it now has a competitive advantage in the region, since it has reached a critical mass of experienced employees and can thus contemplate better integration of its operations there.

Royal Bank of Canada (RBC)[56] is ranked first in Canada's top 300. It is less internationalized than Scotiabank in part because it closed down its large branch network and withdrew from many markets after being hurt by the sovereign and corporate debt crisis in the 1980s. The Bank's main presence in the region has been in the Caribbean where it maintained a retail presence and has its private banking headquarters. RBC has recently redefined Latin America as an important growth pole and is offering "intermediate-wealth" financial services for institutions, corporations and individuals mainly in Brazil, Mexico and Chile.

RBC recently undertook a major initiative to expand its presence in the Caribbean by purchasing its former subsidiary, RBTT, which had been nationalized in Trinidad and Tobago in 1987, for over US$ 2 billion. That acquisition included assets in Jamaica, Netherlands Antilles and Costa Rica, which will help RBC broaden its existing footprint in the Caribbean Basin (Bahamas, Cayman Islands and Barbados). In this fashion, RBC becomes the fourth largest bank in the Caribbean, with over US$ 13 billion in assets there, after Scotiabank (see figure IV.11).

Brookfield Asset Management (BAM) [57]*,* ranked sixty-eighth in Canada's top 300 list, and Ontario Teachers' Pension Plan [58] are both providers of financial services. The major differences between them lie in their corporate strategies, internationalization processes and risk management policies. BAM has possessed a solid base in Brazil since its creation, in the form of Brascan, of which it currently owns 60%. Brascan held assets of over US$ 700 million in real estate (4.8 million leasable square feet), infrastructure (15 hydroelectric generating stations with an installed capacity of 249 MW) and natural resources before its recent acquisitions, which included 15 malls for about US$ 2 billion and a hydroelectric plant, Itiquira Energetica S.A., for US$ 288 million, which increased its renewable energy footprint in Brazil to 451 MW. Brookfield recently established a "Chilean Transmission Fund", with the acquisition of Transelec [59] from HydroQuebec for over US$ 2 billion, which brought assets in the form of over 8,000 kilometres of transmission lines and 51 power stations in Chile. Thus, BAM has a long history in Latin America, where it is among the principal Canadian investors, and its recent acquisitions in Brazil and Chile are among the region's largest registered investments.

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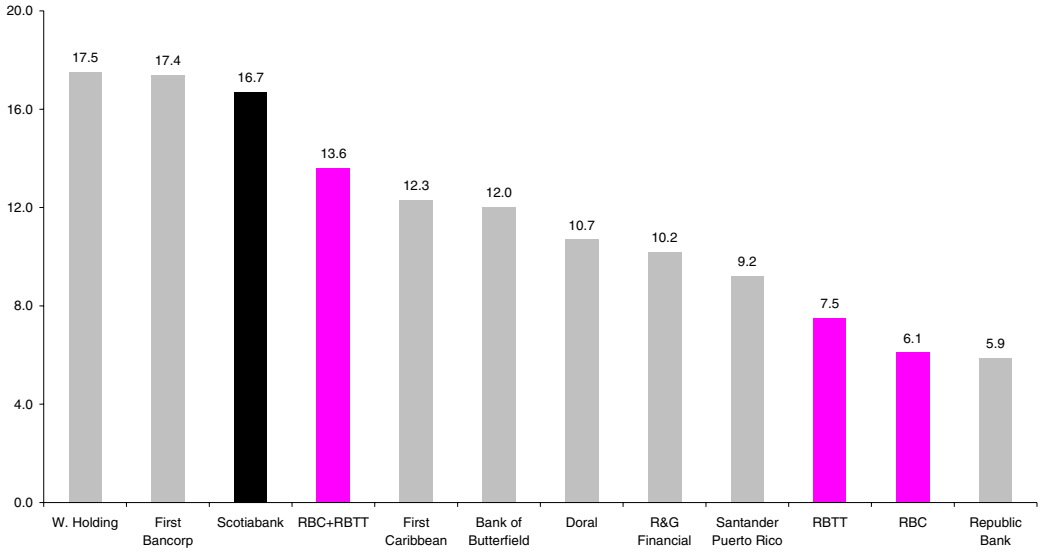
[56] Based on interviews at Royal Bank of Canada headquarters in Toronto and Royal Bank of Canada (2007a, 2007b, 2007c and 2006).

[57] Based on interviews in Brookfield Asset Management headquarters in Toronto and Brookfield Asset Management (2007a, 2007b, 2006).

[58] The Ontario Teachers Pension Plan is not found in the Canadian top 300 because it is a public sector entity, nonetheless, it is relevant to consider it because of the manner that it manages risk.

[59] Based on interviews in Transelec (Brookfield Asset Management subsidiary) in Chile as well as Transelec (2007 and 2006).

Figure IV.11
PRINCIPAL COMMERCIAL BANKS IN THE CARIBBEAN, BY TOTAL ASSETS, 2006
(Billions of United States dollars)



Source: Royal Bank of Canada, "RBC and RBTT: a new Caribbean leader", 2 October [online] 2007 http//www.rbc.com; Scotiabank, official site 2007 [online] http//www.scotiabank.com.

Ontario Teachers Pension Plan (OTPP)[60] is involved in a broader base of activities, across more countries and in a more passive but higher-risk manner than BAM, as discussed in box IV.6. Its assets in the region were recently extended with the purchase of sanitary companies in Chile, namely Esval (for US$ 570 million), Essbio (for US$ 340 million) and Aguas Nuevo Sur del Maule (ANSM). Unlike BAM, which invests directly and with partners in the businesses in which it has developed expertise; OTPP prefers to purchase local management along with physical assets.

Canadian financial institutions, be they banks such as Scotiabank or Royal Bank or asset managers like BAM or OTPP, have recently undertaken major investments in Latin America and the Caribbean running into billions of dollars, which has propelled them up the list of the top 10 Canadian investors in the region, along with a number of mining companies.

Other Canadian service companies have also been active market-seeking investors in the region in activities associated with mining clusters, telecommunications and legal materials for lawyers. Some of the best examples are Finning International, SNC-Lavalin, Nortel Networks and Thomson Corp.

[60] This section is based on interviews at Ontario Teacher's Pension Plan headquarters in Toronto as well as Ontario Teacher's Pension Plan (2007a, 2007b, 2007c and 2006).

Box IV.9

PENSION PLAN INTERNATIONALIZATION VIA OFDI: MANAGING RISK IN THE FINANCIAL SERVICES SECTOR

The Ontario Teachers Pension Plan (OTPP)[a] is not found in the Canadian top 300 list because it is a public sector entity; nonetheless, it is relevant for this analysis because of the manner in which it manages risk. OTPP and Brookfield Asset Management (BAM) look similar in structure and risk management policies, but they are not. They both possess property, infrastructure and natural-resources assets; in fact, the property arm of OTPP —Cadillac Fairview— is a rival of the BAM property division. Also, OTPP and BAM are direct competitors for the acquisition of infrastructure assets around the world. Nonetheless, there are important differences in the way that the two companies operate, expand internationally and manage risk.

While both attempt to bring a long-term perspective to their investments, OTPP is under more pressure to obtain results. OTPP is responsible for one of the largest payrolls in Canada: it paid out Cdn$ 3.8 billion in benefits to retired teachers in 2006, which was more than double the amount it received from contributions. It is Canada's largest single-profession pension plan, with Cdn$ 106 billion in net assets as of the end of 2006. OTPP represents 271,000 active and retired teachers in Ontario. The Plan's funding position is based on the present value of the fund's inflows, derived from investment income from its assets and contributions, and its outflows, represented by current and future pension payments (or obligations). It was the perceived shortfall in pension asset returns that drove OTPP to shift to actively managing its own assets in 1997, saving the 3% commission previously paid to intermediaries and upping returns from its direct investment. The maturity outlook of the Plan's risk management will always be conditioned by the pension pay-out profile, which is not the case for BAM.

OTPP has a geographical asset distribution not all that dissimilar to that of BAM, with a focus on Canada (42%), the United States (20%), and Europe (22%). The main difference is in emerging countries where OTPP has a widespread presence based on relatively little previous experience whereas BAM concentrates on the region where it has long-term experience: Latin America, particularly Brazil.

Another big difference is that OTPP tends to regard its direct investments as if they were bonds and expects them to perform as such. It purchases local management while playing down country and other risks, such as regulatory and environmental ones. In contrast, BAM limits its investment to those activities in which it has developed strong expertise and it is directly involved in their management. Moreover, BAM receives both direct returns from the investment and fees from its partners for managing them.

Finally, OTPP tends to take on more very large, high-stakes investments. This is demonstrated by the 2007 purchase of Bell Canada, the national telephone operator, for about Cdn$ 35 billion. In an era in which national telecoms operators are consolidating worldwide due to increased competition and reduced earnings, OTPP seems to be undertaking a notably countercyclical strategy.

In other words, OTPP and BAM demonstrate very different ways of operating, expanding internationally and managing risk.

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of interviews at Ontario Teacher's Pension Plan headquarters, Toronto; Ontario Teacher's Pension Plan (OTPP), official website 2007 [online] http//www.otpp.com; "OTPP to acquire interest in two Chilean water companies", *Press release*, 15 May 2007 [online] http//www.otpp.com; "OTPP completes purchase of interests in Chilean water utilities", *Press release*, 27 August 2007 [online] http//www.otpp.com and *Annual Report, 2006*, Toronto.

Finning International[61] is ranked eighty-first in Canada's top 300 and is a major dealer in Caterpillar equipment for the mining, construction, petroleum and forestry industries. One of its three global operations —Finning International South America (FINSA)— is located in Chile and provided 20% of Finning International's 2006 revenues and 28% of its earnings before interest and taxes (EBIT). This operation began with the acquisition of the machinery division of a local company (Gildemeister) in 1993, to which operations in Argentina, Uruguay and Bolivia were added in 2003. The FINSA operation

[61] Based on interviews at Finning International subsidiary in Chile and Finning International (2007a, 2007b, 2007c, 2007d, 2006a, 2006b and 2000).

now consists of three marketing units (mining, machinery and power systems), three service units and an extensive consumer service network with 24 branches, including 18 on-site branches, two component rebuild centers, two parts distribution centers and 12 CAT rental stores. FINSA has experienced spectacular growth with revenues rising from US$ 445 million in 2002 to over US$ 1 billion in 2006 and the number of employees growing from 1,817 to 3,860 over the same period. In 2006, FINSA revenues came from consumer support services (47%), new equipment (39%), power and energy (7%), used equipment (4%) and rental equipment (3%) demonstrating its strategy to shift toward higher-margin customer support services.

FINSA is very well positioned to take advantage of the commodity boom in the countries in which it has operations. It encompasses 60% of the machinery and power systems market and 95% of mining, where Komatsu is its only rival. Sales in 2005 were concentrated in Chile (71.3%) and Argentina (25.5%) with small contributions from Bolivia (2.6%) and Uruguay (0.6%). Revenues in Chile come mainly from mining (68%) and machinery (22%). In Chile, where there are 50 long-term mining operations, FINSA has long-term contracts with mining majors like BHP Billiton, XStata, Barrick Gold, Phelps Dodge and AngloAmerican, as well as the State mining company, Codelco, and intermediates like Antofagasta Minerals and Kinross Gold. In the other markets, sales come mainly from machinery. Thus, FINSA is one of the three global operations of Finning International and its performance has been impressive.

SNC-Lavalin [62] is ranked severty-ninth in Canada's top 300. It is the Canadian global leader in engineering and construction and has a worldwide presence (with offices in 34 countries and activities in more than 100). Although the revenue generated in Latin America and the Caribbean fell from 9% of total revenue in 2000 to 3% in 2006, that situation is now changing owing to the new interest shown in mining activities. The Mining and Metallurgy Division of SNC-Lavalin followed its clients (Barrick Gold, Noranda, Falconbridge, and so forth) to South America. In 1995, the firm acquired a local company in Chile, BYT Ingenería y Construcción, and merged it with another acquisition in Canada, Kilborn, that same year. The office in Santiago was responsible for Chile, Argentina, Uruguay and Paraguay and it has worked on at least four major projects with clients, such as the State copper company, Codelco, and precious and base metal majors such as Barrick Gold, BHP Billiton, Aur Resources (now part of Teck Cominco) and AngloAmerican. The office in Chile was eventually transformed into SNC-Lavalin's Center of Excellence for Copper, its first such centre outside of Canada, reflecting the rising importance that the firm is giving to mining and to Latin America. Its international copper projects (Egypt, Australia and Spain) are administrated from the Santiago office in its capacity as Center of Excellence for Copper.

In 2006, SNC-Lavalin acquired its associate in Brazil, Minerconsult Engenharia, in order to establish a larger presence there. With that firm, SNC-Lavalin had won a US$ 100 million engineering procurement and construction management (EPCM) contract with AngloAmerican Brasil Ltda for a new ferronickel mine. SNC-Lavalin's increased presence in Brazil also permits closer coordination with CVRD, the Brazilian iron ore major that acquired INCO, a Canadian global leader, in 2006. SNC-Lavalin is even considering establishing its Center of Excellence for Iron Ore in Brazil. Thus, Latin America is playing a more important role in the activities of the Mining and Metallurgy Division of SNC-Lavalin, if not the company as a whole.

[62] Based on a telephone interview with SNC-Lavalin headquarters in Canada, an interview in SNC-Lavalin subsidiary in Chile and SNC-Lavalin (2007a, 2007b, 2007c, 2007d, 2007e, 2006, 2005, 2004 and 2000).

Nortel Networks[63] is ranked thirty-third in Canada's top 300 and is a global leader in telecommunications equipment; however, it has fallen upon hard times since the 'dot.com' meltdown, coupled with increasing competition for manufacturers in the information and communication technology industry. Like others in its industry, it is currently morphing from a telecoms equipment manufacturer into a telecoms solutions provider, whereby it offers combinations of equipment (produced by CM) and services. For that reason, it is analysed as a market-seeker in the region rather than the efficiency-seeker that it used to be.

Nortel has been present in Latin America and the Caribbean as a service provider since the 1980s. The company set up offices in several countries in the region, including manufacturing facilities in the larger markets in the mid-1990s to take advantage of the telecommunications boom. Like other companies in its industry (see chapter II), Nortel has gradually shed its manufacturing facilities and started outsourcing to contract manufacturers for the provision of equipment. In parallel, it has established service and client development centres in several countries, as well as R&D facilities. In 2006, Nortel's sales in Latin America and the Caribbean reached US$ 631 million, about 5% of its total revenues of US$ 11.4 billion. Mexico and Brazil are Nortel's largest markets in the region, but the market represented by its Caribbean companies taken together in fact surpasses that of Brazil.

Nortel has been in Brazil since 1990, investing to produce equipment for telecoms networks and corporate telecommunications. Since 2007, as part of the global trend towards outsourcing, Nortel (Brazil) handed production over to contract manufacturers. It now focuses on selling equipment (especially optic network equipment) —both produced locally by contract manufacturers and imported— and providing support and services related to that equipment, under two business models: in the corporate market, Nortel works with partners that sell to corporations; in the network market, it sells directly to the telecommunications operators. The firm considers that regulatory issues have held back further investment in Brazil.

The recent experience of Nortel in Argentina is also worth mentioning. Economic crises and regulatory issues have held back telecoms investment in the country for lengthy periods. Between crises, Nortel has often been able to rapidly modernize its assets on the basis of technology that is more sophisticated even than in parts of Europe and North America, facilitating migration to "fourth generation" (4G) services. Nevertheless, the firm has found that regulatory issues remain in Argentina as well.

Thomson Corp.[64] is ranked sixty-second in Canada's top 300 and is the global leader in information services. Several new divisions were created during the firm's remaking as it shifted from newspapers and the leisure travel business, including Thomson Learning and the Thomson Legal and Regulatory Division. Thomson Learning represented what little presence Thomson had in Latin America and the Caribbean, with offices in Mexico, Brazil and Argentina; however, that division was divested in 2006. Thomson Legal and Regulatory Division consisted of two business groups: North American Legal and International Legal and this maintained Thomson Corp's presence in Latin America by way of the La Ley acquisition made in Argentina over the 1997-2000 period.

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[63] Based on interviews at Nortel subsidiaries in Argentina and Brazil and Nortel Networks (2007a, 2007b, 2007c, 2007d and 2006).

[64] Based on an interview with the Thomson subsidiary in Argentina and Thomson Corporation (2007a, 2007b, 2007c, 2007d, 2006 and 2000).

La Ley was a well-known and prestigious company that had provided legal information and software to lawyers for over 60 years. With the entry of Thomson, La Ley received a technological boost that brought it more firmly into the electronic information age and it enjoyed strong growth until the Argentine crisis of 2001-2002. In fact, Thomson's influence was central to the survival and recovery of La Ley during this troubled period. With Thomson's office in Spain, La Ley became the core of the Iberoamerican segment of the International Legal Division. Even so, the importance of Latin America in Thomson's international assets is relatively minor. That could change dramatically, however, with Thomson's acquisition of Reuters, which possesses a stronger presence in the region.

Lastly, Bombardier's Transportation Division in Brazil does not produce in the country but possesses a service centre where it adapts, updates and refurbishes train and subway wagons. A market for these services exists in Brazil because although the Brazilian train fleet is well-maintained, it is relatively old, requiring the kind of technological updating and refurbishing that Bombardier provides locally. Most of the sales of this Brazilian subsidiary are provided solely to Brazilian clients as the Argentine market is serviced from Bombardier facilities in Europe.

Thus, market-seeking Canadian service companies have become very active in Latin America and the Caribbean over the last decade or so. Because of the magnitude of their recent investments, financial institutions in the form of banks, such as Scotiabank and Royal Bank, or asset managers, such as Brookfield Asset Management and Ontario Teachers' Pension Fund, have shot up the list of Canadian foreign investors in the region. Less dramatic, but of much significance, have been the expanding activities and presence of Canadian market-seeking companies servicing the mining cluster (Finning International and SNC-Lavalin), telecommunications (Nortel Networks) and other activities (Thompson Corp. and Bombardier).

Canadian manufacturers have also been important market-seeking investors in Latin America and the Caribbean. Prime examples include Quebecor World, McCain Foods, Magna International and Agrium.

Quebecor World[65] is ranked seventieth in Canada's top 300 and is a global leader in the publishing and printing industry. It undertook serious restructuring after 2002; nonetheless, it has faced a very difficult crisis in 2007-2008. Its efforts to shift to lower-cost production sites in Mexico in the context of NAFTA did not seem to pay off as expected. In the company as a whole, the number of operating facilities and staff levels declined and Quebecor World was forced to merge its European operations with Roto Smeets De Boer. Usually only 3%-4% of Quebecor World's total revenue is generated in Latin America;[66] nonetheless, those assets have continued to perform relatively well.

In spite of the relatively poor results in Mexico, in the 1990s Quebecor World invested in plants in Argentina and Chile, which were accompanied by operations in Peru, Colombia and Brazil after the 2001-2002 crisis in Argentina. A new greenfield plant was then opened in Mexico. The strategy was to establish a Latin American network to minimize individual country risk. These operations are coordinated from the Argentina office but compete internally. Since books and many published materials (but not paper and other inputs, such as used machinery) enter most Latin American countries tariff- and tax-free, Quebecor World was able to assemble a kind of product-level "free trade agreement" allowing greater flexibility and specialization within its network based on shared production scheduling, communication

[65] Based on interviews at Quebecor World subsidiary in Argentina and Quebecor World (2007a, 2007b, 2007c, 2007d, 2006 and 2002).

[66] That figure has risen to around 8% recently because the non-Latin American revenues are shrinking.

and problem-solving within a context of individual profit centres. One Mexican plant focused on telephone directories, mostly for the North American market, as did the Recife plant in Brazil. The Colombian operation focused on books and the Chilean plant specialized in magazines and flyers. The Argentine and Peruvian facilities maintained mixed production according to the variable demand faced by the company. The relative success of the Latin American operations compared to those in North America and Europe represents a quandary for the plants in the region because the parent company's weak financial situation might oblige it to sell off its Latin American operations to its major competitors in the United States (Donnelly) or Europe (Spanish publishers), both of whom are looking to expand their presence in the region in order to reduce the costs of their Spanish-language products.

McCain Foods [67] is ranked seventy-fifth in Canada's top 300 and is the global leader in frozen French fries. McCain Foods entered South America at the invitation of McDonalds,[68] which was expanding in the region in the early 1990s, although it was internally a difficult decision given the history of instability and economic crisis in the region (Stoffman, 2007, p. 206). McCain used its tried-and-true method of exporting to establish a position in the local market, then following up by demonstrating the advantages of frozen French fries to the local food industry, before building a plant. McDonalds accounted for 90% of sales in the region at first; however, that share had fallen to 30% by 2007 as sales to small chains, independent restaurants and school cafeterias surged. The decision to locate the plant in Argentina rather than Brazil (favoured by McDonalds) was based on the belief that potatoes could not be grown efficiently in Brazil and that Argentina's geographical conditions —more similar to Canada's— were more favourable for local production. McCain Foods set up one of its biggest plants in Balcarce (400,000 metric tons of potato which gives 200,000 metric tons of final product), large enough to export to neighbouring markets, Brazil (70% of production), Uruguay, Paraguay and Chile (and, sometimes, Colombia, Bolivarian Republic of Venezuela and South Africa). As well as contracting local suppliers, McCain Food developed twenty-four sites of fifty hectares each on its farm of 23,000 hectares in the south of Argentina (Rio Negro) and was soon processing about 10% of Argentina's potato production. Demand was so strong that it expanded the plant in 1996, 1997 and 2000, investing a total of US$ 160 million in the operation, including the original US$ 20 million. McCain Foods' success in Argentina led to additional smaller investments in Colombia[69] (US$ 25-US$ 30 million) and Chile (a "flakes" plant) and the company is now contemplating a plant in Brazil close to Sao Paolo to save on transportation costs.

All this is not to say that the Argentine plant has not faced serious problems: the financial crisis and huge devaluation of 2001 caused it to miss its mid-term production targets. More recently, the shortage and cost of natural gas and electricity have disrupted the production process, as have unusual climatic problems Even so, the McCain Foods operation in Argentina has won it market share throughout the region and especially in the Southern Cone.

Agrium [70] is ranked ninety-fourth in Canada's top 300. In 1995 the company decided upon a course of internationalization and set a target of one sixth of its assets outside of North America by 2000. Argentina, with one of the most fertile agricultural bases in the world, was selected for this initiative. In

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[67] McCain Foods is not listed on a stock exchange and the amount of publicly-available information is therefore limited. This analysis is based on interviews at McCain Foods subsidiary in Argentina, McCain Foods (2007) and Stoffman (2007).

[68] McDonalds offered McCain Foods an open price calculation with an agreed return on investment; however, McCain Food insisted on all costs plus a pre-agreed and guaranteed profit margin for a larger-scale plant (Stoffman, 2007, p. 173).

[69] The Colombian plant is smaller (40,000 metric tons) and located close to Bogotá. It was designed to serve the local market using a different potato.

[70] Based on Agrium (2007a, 2007b, 2007c, 2007d, 2006a, 2006b and 2000).

1996, Agrium acquired 18 retail centres there to form Agroservicios Pampeanos S.A. It went ahead with a project to establish a joint venture called Profertil S.A. with Repsol YPF, the Spanish petroleum company with many assets in Argentina, to build an ammonia and urea plant in the Bahia Blanca petrochemical complex. That plant came on stream in 2001 and was the world's largest manufacturing plant for urea granules with production at 1.1 million tons per year. In 2005, Agrium acquired 12 more retail farm centers in Argentina, four in Chile and two in Bolivia. Thus, the firm was putting into practice its internationalization plan with Argentina at the centre of that activity.

The Agrium operations have encountered certain difficulties. First, the 2001-2002 economic crisis and subsequent devaluation in Argentina caused some distress to those assets, mainly with regard to foreign trade. Second, the gas shortages in Argentina as of 2005 resulted in the stoppage of urea production for a time as national regulators gave priority to residential consumption. Nevertheless, these operations seem to have weathered the storm and Agrium's retail activities continue to expand outside of Argentina to neighboring markets in the Southern Cone. These operations are central to Agrium's internationalization outside of North America.

Magna International [71] is ranked tenth in Canada's top 300 and is one of the country's main efficiency-seeking manufacturers. Its largest international investments go increasingly to establish export platforms in low-cost countries for the automotive industry. That part of its operations will be examined in the next section on efficiency-seeking activities; this part looks at Magna International's two independent plants in Brazil, Magna Closures do Brazil, and Litens, part of its Tesma Division, which are more properly viewed as market-seeking operations. Both companies were set up at the end of the 1990s and are located in the State of Sao Paulo, close to their main clients (automobile producers or system providers).[72] Magna Closures' operations in Brazil focus almost exclusively on the local market, with minor exports limited to neighbouring Argentina and, sporadically, to Italy. Unlike Mexico, where NAFTA has facilitated the establishment of low-cost export platforms to supply the North American automobile industry, Brazil's higher-cost automobile industry is primarily for local consumption, so local suppliers have basically market-seeking operations.

Celestica [73] is ranked forty-fifth in Canada's top 300 and is another efficiency-seeking company with a market-seeking investment in Brazil. Like other manufacturers in Brazil, production is mostly for sale on the local market and, only in a secondary manner, for regional exports. The company plant is located in the State of Sao Paulo, close to airports that bring in imported components and to the facilities of some of the major Original Equipment Manufacturers (OEMs): Celestica also undertakes the surface-mounting stages of production for OEMs requiring to take advantage of Brazilian fiscal incentives for local production (see chapter II).

In sum, Canadian market-seeking investors have become very active in Latin America and the Caribbean. Services, more than manufactures, have been the focus of the recent boom in market-seeking investments. Major investments by banks, such as Scotiabank in Mexico and South America and Royal Bank in the Caribbean, and asset managers, like Brookfield Asset Management in Brazil and Chile and Ontario Teachers' Pension Plan in Chile, have led the way. Market-seeking service providers, such as

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[71] Based on Magna (2007, 2006) and interview at its officies in Brazil.

[72] Another plant, belonging to the Decoma division (bumpers, front ends, and so on) was set up in Minas Gerais, linked to Mercedes' Class A product line. This line was unsuccessful, however, so when Mercedes closed it down in 2005, Decoma also left.

[73] Based on interviews at Celestica subsidiary in Mexico and Celestica (2008, 2007a and 2007b) and Onex (2007a and 2007b).

Finning International in the Southern Cone, SNC-Lavalin in Chile and Brazil, Nortel in Brazil and Argentina, Bombardier in Brazil, and Thomson in Argentina, have a notable presence. Market-seeking manufacturers are represented by Quebecor World in the large and mid-sized markets, McCain Foods and Agrium in Argentina and Magna International and Celestica in Brazil. After natural-resource-seeking (mining), market-seeking OFDI thus constitutes a second dynamic focal point for the internationalization of Canadian companies.

4. Canadian companies seeking efficiency through export platforms

Efficiency-seeking OFDI by Canadian manufacturing companies in Latin America and the Caribbean took off with the signing of NAFTA in 1994, five years after Canada entered into a free trade agreement with the United States. Those two agreements revolutionized manufacturing activities in Canada, eliminating the need for "branch plants" by United States investors in Canada and opening up the Canadian manufacturing sector to more international competition. This was particularly true for the automotive and transportation equipment industries, as well as electronics and apparel, among others, in which lower-cost operations in Mexico and, in some cases, Caribbean Basin countries were used to heighten the efficiency of Canadian manufacturers' operations.

Magna International [74] is ranked tenth in Canada's top 300. It is a global leader in auto parts, having succeeded in breaking into North American supply chains before expanding globally. As well as producing a wide array of auto parts, it assembles complete vehicles for OEMs. In Latin America, Magna International possesses 15 efficiency-seeking plants in Mexico and two market-seeking plants in Brazil (see above). The Mexican operations account for 14% of Magna's total employees but only 6.6% of sales. The firm was obliged to set up efficiency-seeking operations in Mexico, not only to reduce its own costs but also to accompany many of its traditional United States automobile TNCs (such as DaimlerChrysler, GM and Ford), which established assembly plants in the country to lower production costs and thus compete better against Asian companies in the North American market. Even so, the principal Asian auto TNCs, such as Toyota, Honda and Hyundai, continued to gain market share in North America, which hurt the United States auto TNCs and their main suppliers, of which Magna International is one. Fortunately, the firm was able to stay viable on its global operations. This case of another Canadian auto parts manufacturer, Linamar, was rather different, however.

Linamar [75] is ranked 145th in Canada's top 300. Though a global leader, it is much less internationalized than Magna International, since 73% of its sales come from its Canadian operations. Its five plants in Mexico accounted for 8.1% of sales and its sales volume there rose from US$ 92 million in 2001 to US$ 186 million in 2006. Linamar has made acquisitions in Mexico, such as Federal Mogul's camshaft plant in Saltillo in 2002, and some of Ford's assets more recently, and has set up new greenfield operations. Linamar is expanding its operations in Europe and Asia in an attempt to attain a global presence in order to compete better in the industry.

Bombardier [76] is ranked twenty-sixth in Canada's top 300 and is a global leader in the manufacture of vehicles for air and rail transportation. Even though Bombardier's principal products are usually considered mid- to high-technology and public safety is a major consideration, the company has

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[74] Based on Magna (2007, 2006).
[75] Based on Linamar (2007, 2006a, 2006b and 2002).
[76] Based on Bombardier (2007a, 2007b, 2007c and 2002), *Los Angeles Times* (2007) and *The Wall Street Journal* (2007b).

established efficiency-seeking operations in Queretaro, Mexico in order to reduce the cost of the components that it assembles. Bombardier's subsidiary, Bombardier Recreational Products (ranked 137th in Canada's top 300) has also established an efficiency-seeking operation in Juarez, Mexico.

Thus, Mexico has been selected by numerous efficiency-seeking Canadian companies looking to establish export platforms to feed the North American market with their auto parts and transportation equipment.

The electronics industry is also undergoing a strong globalization process in which Canadian companies have attempted to compete better by establishing export platforms in Mexico. In fact, the competition is so strong that some have been obliged to leave manufacturing to focus on services (Nortel Networks) or to specialize in electronic manufacturing services (Celestica).

Nortel Networks,[77] ranked thirty-third in the top 300, no longer assembles its telecoms equipment in its own efficiency-seeking plants in Mexico; rather, it contracts out this work, mostly to Flextronics. Thus, Nortel Networks' operations in Mexico have shifted from efficiency-seeking plants to the provision of telecommunications services. Mexico does, however, host one of Nortel's four global R&D centres. The company had another of these centres in Brazil, but closed it during the streamlining of its global R&D network from ten down to four facilities, finding costs in Brazil uncompetitive.

Celestica,[78] which is ranked forty-fourth in the top 300, was a global leader in electronics manufacturing services and has faced increasingly difficult times, as noted earlier. Celestica is a highly internationalized electronics manufacturing services (EMS) company whose centre of gravity has shifted firmly towards Asia, as its North American and European sales have weakened. While 15% of its sales and 11% of its assets are still in Mexico, the firm's export platform there appears not to have improved efficiency to the extent expected.

Thus, a number of efficiency-seeking Canadian companies chose Mexico to establish export platforms to feed the North American market with their electronic products, especially telecommunications equipment; however, the competitive advantages they found there were not enough to provide the injection of vigour they were looking for.

Lastly, in sharp contrast to the efficiency-seeking Canadian companies mentioned in the auto parts, transportation equipment and electronics industries, is *Gildan Activewear*, an apparel manufacturer.[79] It does not rank in the top 300 (although it is the largest Canadian apparel firm by revenue); however, it is considered a global leader in apparel. Created in 1984, *Gildan Activewear (GA)* initially manufactured textiles and produced and sold finished fabric as a principal product line. In 1992 its strategy was reconfigured to focus exclusively on the manufacture and sale of activewear for the wholesale imprinted sportswear market. At present, it specializes in the large-scale marketing and manufacturing of basic, non-fashion apparel products for customers requiring an efficient supply chain and consistent product quality for high-volume, automatic replenishment programmes. In 2005, GA implemented a retail market initiative to sell its existing activewear products to United States and

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[77] Based on interviews at Nortel subsidiaries in Argentina and Brazil and Nortel Networks (2007a, 2007b, 2007c, 2007d and 2006).

[78] Based on interviews at Celestica subsidiary in Mexico and Celestica (2008, 2007a and 2007b) and Onex (2007a and 2007b).

[79] Based on Gildan (2007, 2006a, 2006b, 2006c, 2005, 2004, 2003, 2001).

Canadian regional retailers without logos or decoration and to expand its product line into underwear and basic athletic socks.

GA has yielded a strong performance: its sales rose from Cdn$ 329 million to Cdn$ 773 million between 2001 and 2006 and its total assets rose to Cdn$ 723 million over the same period. By 2006 revenue, the firm's main products are T-shirts (77%), fleece products (14%), sport shirts (6%) and underwear and socks (3%); and its principal markets were the United States (88%), Canada (6.5%) and Europe (5.5%). Notably, GA possessed 49% of the market for T-shirts and 44% for fleece in the United States screen printer sales channel.

GA built its success on efficiency-seeking internationalization of its production system. In order to be globally cost-competitive, it expanded its textiles operations in the Caribbean Basin, using its Canadian operations to produce shorter-run, higher-value product lines. That implied restructuring its Canadian and United States manufacturing operations and establishing a lower-cost production system in the Caribbean Basin. In 2005, the yarn-spinning plants at Long Sault, Ontario and Montreal, Quebec, were closed and that activity transferred to the United States. As of end-2006, GA closed its textile manufacturing facility in Valleyfield, Quebec and reduced the operations of its knitting facility in Montreal, Quebec and cutting facility in Bombay, New York. GA announced the closure and downsizing of its sock manufacturing capacity in North Carolina and Virginia.

In the Caribbean Basin, GA established an integrated production system which consisted of 40 directly or indirectly wholly-owned subsidiaries. Furthermore, it constructed an integrated knitting, bleaching, dyeing, finishing and cutting facility in the Dominican Republic to complement its established plant in Honduras and one planned for Nicaragua. It is also building two integrated world-scale facilities for fleece and athletic socks beside its Honduran plant. GA added three new sewing operations at Choloma and Villanueva, Honduras; Rivas, Nicaragua and Port-au-Prince, Haiti. The firm supplements this production system by using third-party contractors in the Dominican Republic and Haiti. Altogether, during 2004-2006, GA invested Cdn$ 220 million in its manufacturing and distribution operations.

In sum, GA radically revised its strategy in order to survive and prosper in the extremely competitive apparel industry. Vertically-integrated manufacturing operations allowed it to provide a combination of competitive prices and premium quality products and to deliver superior value to customers. The firm was able to price its products competitively thanks to the reduction of operating costs. This was accomplished in three ways: (i) investing in modern, automated equipment and facilities; (ii) increasing capacity through the development of integrated regional hubs in the Caribbean Basin, where it benefited from strategic locations and favourable international trade agreements; and (iii) focusing on producing a narrow range of basic, high-volume product lines in order to maximize production efficiencies. Notably, this was achieved in a manner quite uncommon for apparel operations in the Caribbean Basin: GA was the only vertically integrated basic activewear apparel manufacturer —and one of only eight apparel companies worldwide— to receive accreditation from the Fair Labor Association.

Thus, efficiency-seeking OFDI in Latin America and the Caribbean by Canadian companies became more relevant with NAFTA and other measures freeing trade in apparel in the Caribbean Basin. The experience of some of the major Canadian electronics companies, such as Nortel Networks and Celestica, suggests that the NAFTA benefits did not compensate for the hyper-competitiveness of Asian firms in the North American market. Something similar seems to be taking place in the automotive industry, in which Canadian auto parts suppliers are still largely dependent on United States auto TNCs, such as GM, Ford and Chrysler, which are losing market share to Asian competitors, such as Toyota, Honda and Hyundai. While the apparel industry is usually considered to be even more dislocated by

Asian competition, one Canadian company —Gildan Activewear— has proved an exception, by successfully establishing efficiency-seeking activities in the Caribbean Basin in order to compete better in the North American market.

Briefly then, Canadian companies have implemented different strategies in Latin America and the Caribbean in their efforts to seek natural resources, markets, or efficiency. Mining companies have traditionally led the way in the region with huge investments in base metals (Teck Cominco) and more recently, precious metals (Goldcorp, Barrick Gold, Yamana Gold, Kinross Gold and IAM Gold), taking advantage of the commodity boom. Huge acquisitions by mining TNCs seem to be replacing exploration as a means of obtaining the quality projects needed to feed their project pipelines, although exploration by Canadian juniors is at an all-time high. Banks (Scotiabank and Royal Bank) seeking markets for their financial services and asset management companies (Brookfield Asset Management and Ontario Teachers' Pension Plan) looking for markets for their infrastructural and real estate activities have undertaken very large investments in the region in the last few years. There are other market-seeking investments in services (Finning International, SNC-Lavalin, Nortel Networks, Thomson and Bombardier), but of a smaller magnitude. Relatively little new investment has come from Canadian oil and gas companies, which seem to focus on investment opportunities in North America. In manufacturing, natural-resource-based activities (Methanex and Agrium) and market-seeking investments (McCain Foods and Quebecor World,) seem to have adapted well, although there have been no major new investments in the most recent period. With the exception of Gildan Activewear, efficiency-seeking manufacturers (Magna International, Linamar, Bombardier, Nortel, and Celestica) have not done particularly well in their Mexican or Caribbean Basin operations. No evidence of strategic-asset-seeking investments was encountered in the region.

Generally speaking, however, although the Latin American and Caribbean region is an increasingly important destination for Canadian OFDI, this investment has not been of an integrating type that could draw Canada and the region closer. Little of the market-seeking OFDI has been for the purpose of integrating operations in the region (Scotiabank and Quebecor World might be exceptions) and few of the Canadian firms' holdings in the region represent an important part of their overall assets (mining companies are the exception here, as is GA). Efficiency-seeking investments involve mostly Mexico and a few Caribbean Basin countries and focus solely on the North American market. Canada and Chile developed a special relationship on the basis of shared interests, as is evident in their FTA and cooperation in multilateral (WTO) and hemispheric (FTAA) forums; however, this has been more of an exception than a rule for Canada in Latin America and the Caribbean. In other words, Canadian OFDI in Latin America and the Caribbean tends to be sporadic and opportunistic and the Canadian government has not been able to sustain particularly close bilateral or hemispheric relations with the majority of the countries. Even so, Canadian companies and their business practices generally enjoy a favourable reputation in the region, especially as regards the strong tendency of Canadian companies to hire local managers and provide them with opportunities to advance within the corporate framework.

5. Final reflections

Latin America and the Caribbean became more important for Canada when it became clear that the Canadian development trajectory needed to expand beyond the North American market. In recognition of that fact, a new Secretariat for the Americas was created in 2007 within the Canadian Department of External Affairs and International Trade. The question that remains is: "What exactly is Canada currently pursuing in the region?"

In the 1970s Canadian officials gave much thought to the decision of whether to join the Organization of American States (OAS) and thereby give greater priority to Latin America and the Caribbean. They wanted to avoid being caught in the middle in any confrontations between the United States and Latin American and Caribbean countries or being seen as promoting an essentially United States agenda in the region. In spite of the risks, Canada took the decision to join the OAS.

It was not until 20 years later, however, that Canada began to seriously implement more active policies in the region. These new policies were coherent with Canada's multilateral trade and investment initiatives at the time in WTO and OECD and its bilateral initiatives in terms of bilateral investment treaties (BITs) and FTAs. As in the world at large, those initiatives in Latin America and the Caribbean found both eager and less eager partners. Willing partners were found for BITs (Argentina, Trinidad and Tobago, Barbados, Ecuador, Bolivarian Republic of Venezuela, Panama, Uruguay and Costa Rica) and FTAs (Mexico, Chile and Costa Rica). The Free Trade Area of the Americas (FTAA) initiative expressed Canada's interest in playing a major role in redefining the integration of the Latin American and the Caribbean region into the Americas, basically in a NAFTA-style framework. The FTAA negotiations were suspended in 2005 in part because as some partners pulled out over what they considered overly generous rules to protect and promote foreign investment.[80] To a certain extent, Canada found itself in the very situation that it had wanted to avoid when it joined OAS, as it was viewed in some quarters as promoting an essentially United States agenda in the region.

Although FTAA has ground to a halt, there are new possibilities for Canada in the region since it softened its stance on investment protection. The Canadian government has apparently re-evaluated its previous position on investment in light of its own experiences with Chapter 11 of NAFTA and as a result the failure of the MAI initiative of OECD, among others. After a hiatus of eight years, Canada signed its first Foreign Investment Protection and Promotion Agreement (FIPA), with Peru, in 2006 and is negotiating others with India and China. The FIPA modality has been interpreted as diluting some of the previous protection modalities and avoiding some of the controversies that have arisen in existing BITs, and therefore as offering a more acceptable package for major developing country recipients of FDI.

Canada would do well to pursue a genuinely Canadian agenda in the region. As well as following its normal trade and investment interests and priorities, the Canadian government might consider sharing some of its experiences with the Latin American and Caribbean countries so that they can learn from them. Canada's FTA experience with the United States is directly relevant to the actions or intentions of several of the region's countries. Canada's national debate on the mining industry has had global repercussions which are also pertinent to the region (Government of Canada, 2007c; Canadian Intergovernmental Working Group on the Mineral Industry, 2006) and the country's debate on the future of the manufacturing industry is similarly useful (Canadian Manufacturers and Exporters Association, 2005). The new process of the Competition Policy Review Panel created by the Ministries of Industry and Finance, which will report on June 30 2008, is also illustrative (Government of Canada, 2007b). Lastly, the way the Canadian government's thinking has evolved with regard to both FDI and OFDI is relevant, especially now that Latin American and Caribbean FDI in Canada is growing considerably (Government of Canada, 2007a and Ste-Marie, 2007). These areas, among others, could form the basis for new dialogue and two-way cooperation between Canada and more of the region's countries in the context of the new policies being implemented by the Secretariat of the Americas of the Canadian Department of Foreign Affairs and International Trade.

[80] Brazil had negotiated 14 BITs, but the Brazilian Congress did not ratify them. Argentina became embroiled in a host of investor-State dispute settlement proceedings as a result of its severe economic crisis, which cooled the environment. Subsequently, the Bolivarian Republic of Venezuela, Bolivia and Ecuador disowned all or parts of the investor-State dispute settlement mechanisms provided in their BITs.

ANNEX

Table IV-A-1
CANADA'S TOP 300 COMPANIES, BY REVENUE, 2006
(Thousands of Canadian dollars)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
1	36 045 000	Royal Bank of Canada (Oc06)	NATIONAL	YES	Banks
2	34 194 000	Manulife Financial (De06)	NATIONAL	YES	Life insurance
3	33 340 112	General Motors of Canada (De06)	FOREIGN	NO	Automotive
4	32 301 000	George Weston (De06)	NATIONAL	YES	Food stores
5	30 767 000	Power Corp. (De06)	NATIONAL	YES	Management companies
6	30 273 000	Power Financial (De06)	NATIONAL	YES	Finance and leasing
7	28 651 000	Loblaw Companies (De06)	NATIONAL	YES	Food stores
8	27 334 000	Great-West Lifeco (De06)	NATIONAL	YES	Life insurance
9	24 277 000	Sun Life Financial (De06)	NATIONAL	YES	Life insurance
10	24 257 000	Magna International (De06) [a]	NATIONAL	YES	Automotive
11	23 641 000	Alcan Inc. (De06) [a]	NATIONAL	YES	Integrated mines
12	23 514 000	Imperial Oil (De06)	FOREIGN	YES	Integrated oils
13	22 482 000	Bank of Nova Scotia (Oc06)	NATIONAL	YES	Banks
14	22 302 000	Toronto-Dominion Bank (Oc06)	NATIONAL	YES	Banks
15	22 227 000	Manufacturers Life Insurance (De06)	NATIONAL	YES	Life insurance
16	21 317 000	Great-West Life Assurance (De06)	NATIONAL	YES	Life insurance
17	20 166 000	CIBC (Oc06)	NATIONAL	YES	Banks
18	20 097 000	Onex Corp. (De06)	NATIONAL	YES	Management companies
19	18 670 000	Petro-Canada (De06)	NATIONAL	YES	Integrated oils
20	18 153 000	Bank of Montreal (Oc06)	NATIONAL	YES	Banks
21	17 771 000	BCE Inc. (De06)	NATIONAL	YES	Telephone utilities
22	17 348 000	Bell Canada (De06)	NATIONAL	NO	Telephone utilities
23	16 768 000	EnCana Corp. (De06) [a]	NATIONAL	YES	Oil and gas producers
24	15 830 000	Suncor Energy (De06)	NATIONAL	YES	Integrated oils
25	15 226 000	DaimlerChrysler Canada (De06) [f]	FOREIGN	NO	Automotive
26	14 973 000	Bombardier Inc. (Ja07) [a]	NATIONAL	YES	Transportation equipment and components
27	14 806 000	Shell Canada (De06)	FOREIGN	NO	Integrated oils
28	13 192 900	Empire Company (My06)	NATIONAL	YES	Food stores
29	12 900 000	Honda Canada (Ma06)	FOREIGN	NO	Automotive
30	12 853 300	Sobeys Inc. (My06)	NATIONAL	YES	Food stores
31	12 698 000	Husky Energy (De06)	FOREIGN	YES	Integrated oils
32	11 643 000	Cdn. Natural Resources (De06)	NATIONAL	YES	Oil and gas producers
33	11 602 000	Nortel Networks (De06) [a]	NATIONAL	YES	Telecommunications
34	11 152 800	Jean Coutu Group (PJC) (My06) [a]	NATIONAL	YES	Specialty stores
35	10 945 900	Metro Inc. (Se06)	NATIONAL	YES	Food stores
36	10 932 600	Enbridge Inc. (De06)	NATIONAL	YES	Oil pipelines
37	10 687 000	ACE Aviation Holdings (De06) [e]	FOREIGN	YES	Management companies
38	10 168 800	Alimentation Couche-Tard (Ap06) [a]	NATIONAL	YES	Food stores
39	10 164 000	Air Canada (De06)	FOREIGN	YES	Transportation
40	9 862 000	Novelis Inc. (De06) [a]	NATIONAL	YES	Metal fabricators
41	9 838 900	Quebecor Inc. (De06)	NATIONAL	YES	Publishing and printing
42	9 547 000	Talisman Energy (De06)	NATIONAL	YES	Oil and gas producers
43	9 049 005	Costco Wholesale Canada (Se06)	FOREIGN	NO	Department stores
44	8 850 000	Rogers Communications (De06)	NATIONAL	YES	Telecommunications
45	8 817 100	Celestica Inc. (De06) [a]	NATIONAL	YES	Electrical and electronic
46	8 693 300	Telus Corp. (De06)	NATIONAL	YES	Telephone utilities
47	8 567 000	Imperial Oil Resources (De06)	FOREIGN	NO	Oil and gas producers
48	8 379 000	Canada Life Financial (De06)	NATIONAL	YES	Life insurance

Table IV-A-1 (continued)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
49	8 269 100	Canadian Tire (De06)	NATIONAL	YES	Specialty stores
50	8 123 000	London Life Insurance (De06)	NATIONAL	NO	Life insurance
51	8 075 000	Ford Motor Co. of Canada (De06) [a]	FOREIGN	NO	Automotive
52	7 786 436	Shoppers Drug Mart (De06)	NATIONAL	YES	Specialty stores
53	7 727 000	Canadian National Railway (De06)	NATIONAL	YES	Transportation
54	7 699 000	TransCanada Pipelines (De06)	NATIONAL	YES	Gas pipelines
55	7 699 000	TransCanada Corp. (De06)	NATIONAL	YES	Management companies
56	7 529 000	Syncrude Canada (De06)	NATIONAL	NO	Oil and gas producers
57	7 336 502	McKesson Canada (De06)	FOREIGN	NO	Wholesaler
58	7 275 000	Ultramar Ltd. (De06) [a]	FOREIGN	NO	Integrated oils
59	6 974 000	Teck Cominco (De06)	NATIONAL	YES	Integrated mines
60	6 964 331	Hudson's Bay Co. (Ja06)	FOREIGN	NO	Department stores
61	6 803 700	Fairfax Financial Holdings (De06) [a]	NATIONAL	YES	Property and casualty insurance
62	6 665 000	Thomson Corp. (De06) [a]	NATIONAL	YES	Miscellaneous services
63	6 524 000	Nova Chemicals (De06) [a]	NATIONAL	YES	Chemicals
64	6 500 000	Katz Group (Ja06)	NATIONAL	NO	Specialty stores
65	6 475 000	National Bank of Canada (Oc06)	NATIONAL	YES	Banks
66	6 300 000	Jim Pattison Group (De06)	NATIONAL	NO	Management companies
67	6 267 000	IBM Canada (De06)	FOREIGN	NO	Electrical and electronic
68	6 261 000	Brookfield Asset Management (De06) [a]	NATIONAL	YES	Management companies
69	6 100 000	Home Depot Canada (Ja07)	FOREIGN	NO	Specialty stores
70	6 096 000	Quebecor World (De06) [a]	NATIONAL	YES	Publishing and printing
71	5 950 300	Sears Canada (De06)	FOREIGN	YES	Department stores
72	5 898 244	Maple Leaf Foods (De06)	NATIONAL	YES	Food processing
73	5 873 000	Barrick Gold (De06) [a]	NATIONAL	YES	Precious metals
74	5 677 400	Dofasco Inc. (De06)	FOREIGN	NO	Steel
75	5 552 962	McCain Foods (Ju06)	NATIONAL	NO	Food processing
76	5 463 900	Canada Safeway (De06) [a]	FOREIGN	NO	Food stores
77	5 458 000	Nexen Inc. (De06)	NATIONAL	YES	Oil and gas producers
78	5 361 000	CVRD Inco (De06) [a]	FOREIGN	NO	Integrated mines
79	5 190 814	SNC-Lavalin Group (De06)	NATIONAL	YES	Contractors
80	5 067 000	Abitibi-Consolidated Inc. (De06)	NATIONAL	YES	East coast forestry
81	5 047 649	Finning International (De06)	NATIONAL	YES	Wholesaler
82	4 944 528	Best Buy Canada (Ma07)	FOREIGN	NO	Specialty stores
83	4 937 900	Industrial Alliance Ins. & Fin. Svs. (De06)	NATIONAL	YES	Life insurance
84	4 693 000	RBC Capital Markets (Oc06)	NATIONAL	NO	Investment houses
85	4 670 000	Rogers Wireless (De06)	NATIONAL	NO	Telecommunications
86	4 600 000	Home Hardware Stores (De06)	NATIONAL	NO	Specialty stores
87	4 589 200	Canadian Pacific Railway (De06)	NATIONAL	YES	Transportation
88	4 582 700	Canfor Corp. (De06)	NATIONAL	YES	West coast forestry
89	4 579 809	Gerdau Ameristeel (De06) [a]	FOREIGN	YES	Steel
90	4 551 936	Rona Inc. (De06)	NATIONAL	YES	Specialty stores
91	4 473 094	Cargill Ltd. (My06)	FOREIGN	NO	Wholesaler
92	4 406 376	ING Canada (De06)	FOREIGN	YES	Property and casualty insurance
93	4 226 199	Zellers Inc. (Ja06)	NATIONAL	NO	Department stores
94	4 209 000	Agrium Inc. (De06) [a]	NATIONAL	YES	Chemicals
95	4 191 202	PCL Construction Group (Oc06)	NATIONAL	NO	Contractors
96	4 025 028	Saputo Inc. (Ma06)	NATIONAL	YES	Food processing
97	4 017 000	Domtar (Canada) Paper (De06)	NATIONAL	YES	East coast forestry
98	4 000 000	Dow Chemical Canada (De05)	FOREIGN	NO	Chemicals

Table IV-A-1 (continued)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
99	3 892 500	PotashCorp. of Saskatchewan (De06) [a]	NATIONAL	YES	Chemicals
100	3 808 758	Ipsco Inc. (De06) [a]	NATIONAL	YES	Steel
101	3 719 664	West Fraser Timber (De06)	NATIONAL	YES	West coast forestry
102	3 667 000	Westcoast Energy (De06)	FOREIGN	YES	Gas pipelines
103	3 566 490	TD Mortgage (Oc06)	NATIONAL	NO	Trust savings and loan
104	3 484 875	CGI Group (Se06)	NATIONAL	YES	Consulting
105	3 411 000	Tembec Inc. (Se06)	NATIONAL	YES	East coast forestry
106	3 403 000	Cascades Inc. (De06)	NATIONAL	YES	East coast forestry
107	3 402 000	Tembec Industries (Se06)	NATIONAL	NO	East coast forestry
108	3 307 416	AVIVA Canada (De06)	FOREIGN	NO	Property and casualty insurance
109	3 227 700	Desjardins Fin. Scty. Life Assurance (De06)	NATIONAL	NO	Life insurance
110	3 215 000	HSBC Bank Canada (De06)	FOREIGN	YES	Banks
111	3 202 000	Rogers Cable (De06)	NATIONAL	NO	Cable
112	3 089 220	Research In Motion (Ma07) [a]	NATIONAL	YES	Telecommunications
113	3 078 800	Enbridge Gas Distribution (De06) [e]	NATIONAL	NO	Gas utilities
114	3 012 400	Quebecor Media (De06)	NATIONAL	NO	Cable
115	3 000 000	Pratt & Whitney Canada (De06)	FOREIGN	NO	Transportation equip. and components
116	2 998 469	Agricore United (Oc06)	NATIONAL	YES	Agriculture
117	2 941 300	Epcor Utilities (De06)	NATIONAL	NO	Electrical utilities
118	2 925 600	Atco Ltd. (De06)	NATIONAL	YES	Management companies
119	2 896 785	GMAC of Canada (De06)	FOREIGN	NO	Finance and leasing
120	2 792 800	TransAlta Corp. (De06)	NATIONAL	YES	Electrical utilities
121	2 780 000	BMO Capital Markets (Oc06)	NATIONAL	NO	Investment houses
122	2 748 900	Bell Aliant Regional Comm. (De06)	NATIONAL	NO	Telephone utilities
123	2 743 414	CanWest Global Communications (Au06)	NATIONAL	YES	Broadcasting
124	2 701 000	Canadian Oil Sands Trust (De06)	NATIONAL	YES	Oil and gas producers
125	2 700 600	Russel Metals (De06)	NATIONAL	YES	Wholesaler
126	2 690 680	McDonald's Restaurants of Cda. (De06)	FOREIGN	NO	Food services
127	2 685 814	Standard Life Assurance of Cda. (De06)	FOREIGN	NO	Life insurance
128	2 623 989	Transat A.T. (Oc06)	NATIONAL	YES	Transportation
129	2 660 000	CIBC World Markets (Oc06)	NATIONAL	NO	Investment houses
130	2 614 134	Shaw Communications (Au06)	NATIONAL	YES	Cable
131	2 604 598	IGM Financial (De06)	NATIONAL	YES	Investment companies
132	2 600 000	Kruger Inc. (De06)	NATIONAL	NO	East coast forestry
133	2 500 779	BMMC (Oc06)	NATIONAL	NO	Trust savings and loan
134	2 488 900	Canadian Utilities (De06)	NATIONAL	YES	Electrical utilities
135	2 430 626	Mitsui & Co. (Canada) (Ma07) [e]	FOREIGN	NO	Wholesaler
136	2 388 000	Scotia Capital (Oc06)	NATIONAL	NO	Investment houses
137	2 361 200	Bombardier Recreational Prod. (Ja06)	NATIONAL	NO	Misc. consumer products
138	2 320 794	E-L Financial (De06)	NATIONAL	YES	Property and casualty insurance
139	2 300 000	Nissan Canada (Ma06)	FOREIGN	NO	Wholesaler
140	2 300 000	Siemens Canada (Se06)	FOREIGN	NO	Electrical and electronic
141	2 292 186	Nestle Canada (De06)	FOREIGN	NO	Food processing
142	2 288 112	Provident Energy Trust (De06)	NATIONAL	YES	Oil and gas producers
143	2 271 000	TD Securities (Oc06)	NATIONAL	NO	Investment houses
144	2 264 823	Toronto Hydro (De06)	NATIONAL	NO	Electrical utilities
145	2 264 795	Linamar Corp. (De06)	NATIONAL	YES	Transportation equip. and components
146	2 264 300	Superior Plus Income Fund (De06)	NATIONAL	YES	Wholesaler

Table IV-A-1 (continued)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
147	2 237 444	ATI Technologies (Au05) [a]	FOREIGN	NO	Electrical and electronic
148	2 196 000	Transcontinental Inc. (Oc06)	NATIONAL	YES	Publishing and printing
149	2 149 500	Penn West Energy Trust (De06)	NATIONAL	YES	Oil and gas producers
150	2 117 848	Methanex Corp. (De06) [a]	NATIONAL	YES	Chemicals
151	2 081 000	Union Gas (De06)	FOREIGN	YES	Gas utilities
152	2 044 416	Co-operators General Insurance (De06)	NATIONAL	YES	Property and casualty insurance
153	2 042 161	Addax Petroleum (De06) [a]	FOREIGN	YES	Oil and gas producers
154	2 027 700	Terasen Inc. (De06)	FOREIGN	NO	Gas utilities
155	2 025 872	Gaz Métro Limited Partnership (Se06)	NATIONAL	YES	Gas pipelines
156	2 007 869	Gaz Métro (Se06)	NATIONAL	NO	Gas utilities
157	1 955 918	Economical Mutual Insurance (De06)	NATIONAL	NO	Property and casualty insurance
158	1 955 900	Algoma Steel (De06)	NATIONAL	YES	Steel
159	1 949 608	CTVglobemedia (No06) [c]	NATIONAL	NO	Broadcasting
160	1 944 850	Cinram International I.F. (De06) [a]	NATIONAL	YES	Misc. industrial products
161	1 942 000	Brookfield Properties (De06) [a]	NATIONAL	YES	Property management and investment
162	1 931 900	Manitoba Telecom Services (De06)	NATIONAL	YES	Telephone utilities
163	1 916 355	Kingsway Financial Services (De06) [a]	NATIONAL	YES	Property and casualty insurance
164	1 914 524	GlaxoSmithKline Inc. (De06)	FOREIGN	NO	Biotechnology and pharmaceuticals
165	1 914 013	Wawanesa Mutual Insurance (De06)	NATIONAL	NO	Property and casualty insurance
166	1 900 000	Tolko Industries (De06)	NATIONAL	NO	West coast forestry
167	1 885 600	Catalyst Paper (De06)	FOREIGN	YES	West coast forestry
168	1 879 404	Cameco Corp. (De06)	NATIONAL	YES	Integrated mines
169	1 849 900	Fording Canadian Coal Trust (De06)	NATIONAL	YES	Misc. mines
170	1 831 000	Stelco Inc. (De06) [c]	FOREIGN	YES	Steel
171	1 817 807	TD Meloche Monnex (Oc06)	NATIONAL	NO	Property and casualty insurance
172	1 807 230	Ensign Energy Services (De06)	NATIONAL	YES	Oil and gas field services
173	1 794 847	TransForce Income Fund (De06)	NATIONAL	YES	Transportation
174	1 788 300	Goldcorp Inc. (De06) [a]	NATIONAL	YES	Precious metals
175	1 773 718	WestJet Airlines (De06)	NATIONAL	YES	Transportation
176	1 772 900	Cott Corp. (De06) [a]	NATIONAL	YES	Food processing
177	1 771 936	Aliant Telecom (De05)	NATIONAL	NO	Telephone utilities
178	1 771 168	Dorel Industries (De06) [a]	NATIONAL	YES	Misc. consumer products
179	1 768 622	Toromont Industries (De06)	NATIONAL	YES	Wholesaler
180	1 745 472	Extendicare Inc. (De06)	NATIONAL	YES	Medical services
181	1 724 349	Great A&P Tea Co. (Canada) (Fe06)[ac]	FOREIGN	NO	Food stores
182	1 719 565	AXA Canada (De06)	FOREIGN	NO	Property and casualty insurance
183	1 701 800	Bowater Cdn. Forest Products (De06)	FOREIGN	NO	East coast forestry
184	1 700 629	Royal Group Technologies (De05) [d]	FOREIGN	NO	Misc. industrial products
185	1 676 096	CCS Income Trust (De06)	NATIONAL	YES	Oil and gas field services
186	1 670 000	Mazda Canada (Ma05)	FOREIGN	NO	Wholesaler
187	1 650 452	Nordic Insurance Co. of Canada (De06)	NATIONAL	NO	Property and casualty insurance
188	1 610 433	Intrawest ULC (Ju06) [a]	FOREIGN	NO	Lodging
189	1 595 091	Enerplus Resources Fund (De06)	NATIONAL	YES	Oil and gas producers
190	1 588 305	Harvest Energy Trust (De06)	NATIONAL	YES	Oil and gas producers
191	1 580 237	Saskatchewan Wheat Pool (Jl06) [e]	NATIONAL	YES	Agriculture

Table IV-A-1 (continued)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
192	1 545 300	Cdn. Tire Petroleum (De06)	NATIONAL	NO	Specialty stores
193	1 536 850	Lloyd's Underwriters (Canada) (De06)	FOREIGN	NO	Property and casualty insurance
194	1 531 774	Unilever Canada (De06)	FOREIGN	NO	Misc. consumer products
195	1 528 340	Torstar Corp. (De06)	NATIONAL	YES	Publishing and printing
196	1 525 300	Terasen Gas (De06)	FOREIGN	NO	Gas utilities
197	1 500 000	Canpotex Ltd. (De06)	NATIONAL	NO	Wholesaler
198	1 481 691	Royal & Sun Alliance Canada Grp. (De06)	FOREIGN	NO	Property and casualty insurance
199	1 476 954	Fortis Inc. (De06)	NATIONAL	YES	Electrical utilities
200	1 457 509	Flint Energy Services (De06)	NATIONAL	YES	Oil and gas field services
201	1 444 000	Desjardins General Ins. Grp. (De06)	NATIONAL	NO	Property and casualty insurance
202	1 442 488	Cara Operations (Ap06)	NATIONAL	NO	Food services
203	1 439 287	Precision Drilling Trust (De06)	NATIONAL	YES	Oil and gas field services
204	1 436 855	Aviva Insurance Co. of Canada (De06)	FOREIGN	NO	Property and casualty insurance
205	1 425 000	Direct Energy Marketing (De06) [b]	FOREIGN	NO	Gas utilities
206	1 423 700	CU Inc. (De06)	NATIONAL	YES	Gas utilities
207	1 411 059	Uniprix Group (De06)	NATIONAL	NO	Specialty stores
208	1 408 416	Northbridge Financial (De06)	NATIONAL	YES	Property and casualty insurance
209	1 407 754	Canetic Resources Trust (De06)	NATIONAL	YES	Oil and gas producers
210	1 401 000	Cascades Boxboard Group (De06)	NATIONAL	NO	Packaging and containers
211	1 393 779	Mittal Canada (De06)	FOREIGN	NO	Steel
212	1 386 743	Jazz Air LP (De06)	NATIONAL	NO	Transportation
213	1 384 400	St. Lawrence Cement Group (De06)	FOREIGN	YES	Cement and concrete
214	1 381 250	Parmalat Canada (De06) [f]	FOREIGN	NO	Food processing
215	1 380 989	Yellow Pages Income Fund (De06) [e]	NATIONAL	YES	Publishing and printing
216	1 375 318	Highland Valley Copper (Ja06)	NATIONAL	NO	Metal mines
217	1 375 300	Lear Canada (De06) [a]	FOREIGN	NO	Automotive
218	1 368 523	Keyera Facilities Income Fund (De06) [e]	NATIONAL	YES	Oil and gas producers
219	1 362 604	AltaGas Income Trust (De06)	NATIONAL	YES	Oil and gas producers
220	1 347 000	Purolator Courier (De06)	NATIONAL	NO	Misc. services
221	1 335 351	Canada Bread (De06)	NATIONAL	YES	Food processing
222	1 330 082	Brick Group Income Fund (De06) [e]	NATIONAL	YES	Specialty stores
223	1 329 515	Wolseley Canada (Jl06)	FOREIGN	NO	Wholesaler
224	1 309 500	Videotron Ltee (De06)	NATIONAL	NO	Cable
225	1 264 847	SSQ Financial Group (De06)	NATIONAL	NO	Life insurance
226	1 263 955	Forzani Group (Ja07)	NATIONAL	YES	Specialty stores
227	1 261 390	RBC Life Insurance (De06)	NATIONAL	NO	Life insurance
228	1 259 800	ARC Energy Trust (De06)	NATIONAL	YES	Oil and gas producers
229	1 255 000	Norbord Inc. (De06) [a]	NATIONAL	YES	East coast forestry
230	1 253 225	CitiGroup Finance Canada (De06)	FOREIGN	NO	Finance and leasing
231	1 250 750	National Bank Financial (Oc06) [d]	NATIONAL	NO	Investment houses
232	1 232 861	Pengrowth Energy Trust (De06)	NATIONAL	YES	Oil and gas producers
233	1 231 000	Mercedes-Benz Canada (De05)	FOREIGN	NO	Wholesaler
234	1 222 000	Univar Canada (De06)	FOREIGN	NO	Wholesaler
235	1 216 435	CCL Industries (De06)	NATIONAL	YES	Packaging and containers
236	1 216 000	Rogers Media (De06)	NATIONAL	NO	Broadcasting
237	1 212 314	Energy Savings Income Fund (Ma06)	NATIONAL	YES	Gas utilities
238	1 206 524	Wajax Income Fund (De06)	NATIONAL	YES	Wholesaler
239	1 206 055	Dundee Corp. (De06)	NATIONAL	YES	Finance and leasing

Table IV-A-1 (continued)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
240	1 202 200	Alliance Atlantis Communications (De06) [e]	NATIONAL	YES	Broadcasting
241	1 202 000	Iron Ore Co. of Canada (De06)	FOREIGN	NO	Steel
242	1 200 000	Norampac Inc. (De06)	NATIONAL	NO	Packaging and containers
243	1 199 866	Parkland Income Fund (De06)	NATIONAL	YES	Specialty stores
244	1 195 000	Sony of Canada (Ma07)	FOREIGN	NO	Wholesaler
245	1 185 600	Emera Inc. (De06)	NATIONAL	YES	Management companies
246	1 185 045	HudBay Minerals (De06)	NATIONAL	YES	Integrated mines
247	1 179 789	Taiga Building Products (Ma06)	NATIONAL	YES	Wholesaler
248	1 178 968	NAV Canada (Au06)	NATIONAL	NO	Transportation
249	1 178 037	Dominion of Cda. Gen. Ins. (De06)	NATIONAL	NO	Property and casualty insurance
250	1 172 559	Xerox Canada (De06)	FOREIGN	YES	Electrical and electronic
251	1 167 000	Hyundai Auto Canada (De05)	FOREIGN	NO	Automotive
252	1 152 000	MDS Inc. (Oc06)	NATIONAL	YES	Medical services
253	1 150 000	Bell ExpressVu (De06)	NATIONAL	NO	Broadcasting
254	1 149 500	Sherritt International (De06)	NATIONAL	YES	Integrated mines
255	1 129 135	LionOre Mining International (De06) [a]	NATIONAL	YES	Metal mines
256	1 125 417	Uni-Sélect Inc. (De06)	NATIONAL	YES	Wholesaler
257	1 125 206	Security National Insurance (De06)	NATIONAL	NO	Property and casualty insurance
258	1 115 774	Aecon Group (De06)	NATIONAL	YES	Contractors
259	1 114 100	CAE Inc. (Ma06)	NATIONAL	YES	Transportation equip. and components
260	1 111 607	Inmet Mining (De06)	NATIONAL	YES	Integrated mines
261	1 103 269	First Quantum Minerals (De06) [a]	NATIONAL	YES	Metal mines
262	1 099 728	Biovail Corp. (De06) [a]	NATIONAL	YES	Biotechnology and pharmaceutical
263	1 090 000	Fluor Canada (De06) [a]	FOREIGN	NO	Contractors
264	1 071 141	Retirement Residences REIT (De05)	NATIONAL	NO	Medical services
265	1 070 833	FirstService Corp. (Ma06) [a]	NATIONAL	YES	Miscellaneous services
266	1 069 604	KCP Income Fund (De06) [a]	NATIONAL	YES	Misc. consumer products
267	1 069 185	ShawCor Ltd. (De06)	NATIONAL	YES	Oil and gas field services
268	1 067 618	Canada Trust (De06)	NATIONAL	NO	Trust savings and loan
269	1 056 100	ING Bank of Canada (De06)	FOREIGN	NO	Banks
270	1 055 223	Noranda Income Fund (De06)	FOREIGN	YES	Mining services
271	1 055 065	Reitmans (Canada) (Fe07)	NATIONAL	YES	Clothing stores
272	1 054 170	EllisDon Inc. (Fe05)	NATIONAL	NO	Contractors
273	1 052 506	MDA Ltd. (De06)	NATIONAL	YES	Computer software and proc.
274	1 052 100	TransAlta Utilities (De06)	NATIONAL	NO	Electrical utilities
275	1 051 900	Allstream Inc. (De06) [e]	NATIONAL	NO	Telecommunications
276	1 051 335	BASF Canada (De06)	FOREIGN	NO	Chemicals
277	1 031 000	AstraZeneca Canada (De06) [a]	FOREIGN	NO	Biotech. and pharmaceutical
278	1 016 352	CHC Helicopter (Ap06)	NATIONAL	YES	Transportation
279	1 013 197	Harris Steel Group (De05)	FOREIGN	NO	Metal fabricators
280	1 013 000	Compass Group Canada (Au06)	FOREIGN	NO	Food services
281	1 011 038	Inter Pipeline Fund (De06)	NATIONAL	YES	Oil pipelines
282	1 011 000	Western Forest Products (De06) [e]	NATIONAL	YES	West coast forestry
283	1 010 644	Laurentian Bank of Canada (Oc06)	NATIONAL	YES	Banks
284	1 008 800	Ivanhoe Cambridge (De06)	NATIONAL	NO	Property management and investment
285	1 004 445	Amex Bank of Canada (De06)	FOREIGN	NO	Banks

Table IV-A-1 (concluded)

Rank	Revenue	Company and year-end	Ownership	Listed on stock market	Industry
286	1 004 167	Cognos Inc. (Fe07) [a]	NATIONAL	YES	Computer software and proc.
287	1 003 287	Mullen Group Income Fund (De06)	NATIONAL	YES	Transportation
288	990 942	Pharmasave Drugs (National) (De05)	NATIONAL	NO	Specialty stores
289	979 100	Nova Scotia Power (De06)	NATIONAL	YES	Electrical utilities
290	961 200	Mackenzie Financial (De06)	NATIONAL	NO	Investment companies
291	960 404	Lions Gate Entertainment (Ma06) [a]	NATIONAL	YES	Entertainment services
292	958 785	International Forest Products (De06)	NATIONAL	YES	West coast forestry
293	944 924	North West Co. Fund (Ja07)	NATIONAL	YES	Department stores
294	939 107	Connors Bros. Income Fund (De06) [a]	NATIONAL	YES	Food processing
295	937 060	Husky Injection Molding Sys. (Jl06) [a]	NATIONAL	YES	Misc. industrial products
296	930 881	Green Shield Canada (De05)	NATIONAL	NO	Property and casualty insurance
297	928 176	Sun Media (De06)	NATIONAL	NO	Publishing and printing
298	923 201	Empire Life Insurance (De06)	NATIONAL	NO	Life insurance
299	914 127	UAP Inc. (De06)	FOREIGN	NO	Wholesaler
300	911 491	Western Oil Sands (De06)	NATIONAL	YES	Oil and gas producers

Source: Economic Commission for Latin America and the Caribbean (ECLAC), on the basis of Globe and Mail, "2007 Top 1000 companies. The Report on Business Magazine's The Top 1000 Canada's Power Book" [online database] 2007; "2007 Top 350 Private Companies. The Report on Business Magazine's The Top 350 Private Companies".

Notes: For ranking purposes, figures from companies that report in foreign currencies have been converted to Canadian dollars and partial-year results have been annualized.
Foreign currencies are converted into Canadian dollars at the end of the relevant period for balance sheet items and at the average exchange rate for the relevant period for earnings items.
Earnings per share figures are presented in Canadian dollars (unless all periods were reported in another currency) and annualized to 12 months.
Share-price calculations are based on closing share prices on the companies' balance sheet dates.

[a] Company reports in United States dollars.
[b] Company reports in pounds Sterling.
[c] Figures have been annualized in latest year.
[d] Figures have been annualized in previous year.
[e] Figures have been annualized in previous three through five years.
[f] Company reports in Euros.

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