Unclassified **TAD/TC/WP(2007)6/PART2/A/FINAL**

Organisation de Coopération et de Développement Economiques
Organisation for Economic Co-operation and Development **07-Feb-2008**

English - Or. English

TRADE AND AGRICULTURE DIRECTORATE
TRADE COMMITTEE

TAD/TC/WP(2007)6/PART2/A/FINAL
Unclassified

Working Party of the Trade Committee

TRADE LIBERALISATION AND ECONOMIC PERFORMANCE: EAST-ASIA VERSUS LATIN AMERICA, 1970-2006

OECD Trade Policy Working Paper No. 70

by Jose E. Duran Lima, Nanno Mulder (ECLAC) and Osamu Onodera

Contact: Osamu Onodera; Tel. +33-1-45248937; e-mail: osamu.onodera@oecd.org

JT03239957

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ABSTRACT

This paper, together with four other country case studies, is a part of a broader research programme addressing trade and structural adjustment issues in non-member economies which was conducted as a follow-up to *Trade and Structural Adjustment: Embracing Globalisation* (OECD, 2005) which identified policies for successful trade-related structural adjustment. This paper studies the trade liberalisation and structural adjustment experiences and their outcomes in terms of economic and trade performance in East Asia and Latin America.

The report consists of 5 main sections; After an introduction, Section A first looks at the growth performance and role of trade and FDI. Section B looks at trade related policy trends in the two regions while section C looks at some trade and foreign direct investment indicators. Section D compares the structural adjustment in the two regions and Section E concludes.

Keywords: trade, structural adjustment, liberalisation, liberalization, Latin America, East Asia

ACKNOWLEDGEMENTS

This project was carried out by Jose Duran (ECLAC), Nanno Mulder (ECLAC), and Osamu Onodera under the supervision of Anthony Kleitz of the OECD Trade and Agriculture Directorate. The authors wish to thank Mark Melatos for comments on an earlier draft of the paper.

The Working Party of the OECD Trade Committee discussed this report and agreed to make the findings more widely available through declassification on its responsibility. The study is available on the OECD website in English and in French: http://oecd.org/trade

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EXECUTIVE SUMMARY

East Asia and Latin America provide interesting cases to compare trade liberalisation and structural adjustment experiences and their outcomes in terms of economic and trade performance. Both regions shared common features around 1980: export structures were concentrated in natural resources and related products (roughly 80% in both regions), and trade policies were oriented towards import substitution with high and escalated tariffs and high incidence of non-tariff-barriers (NTBs). In the subsequent decades, both regions shifted from an import-substitution regime to a more market-oriented, export oriented regime, undertaking considerable tariff liberalisation. Unilateral liberalisation has been the main vehicle for reducing trade barriers in both regions, complemented by regional and multilateral trade liberalisation, with the exception of WTO accession countries.

Economic and trade performance have been very different. In East Asia (6 selected countries) and China, annual average GDP per capita growth between 1970 and 2006 was 4.5% and 7.4% compared to 1.5% for Latin America (8 selected countries). Growth in East Asia and China was also less volatile. East Asian economies more successfully integrated into the global economy as measured in trade as a proportion of GDP. The contribution of exports and net-exports to GDP growth are also significantly higher in East Asian countries. East-Asia has also been more successful at diversifying its export structure and creating new dynamic comparative advantages in high value added products. In contrast, Latin America has remained more specialised in commodities and commodity intensive manufactures. Structural change in manufacturing was also more pronounced in East-Asia than Latin America. Increases in exports in medium- and high-tech sectors led to large increases in share in manufacturing value added in the same sectors in East Asia. The changes in share in manufacturing value added in some industries (i.e. electronics) were as high as 10% points in East Asia compared to 2-3% points in Latin America (i.e. food sector). These differences likely reflect the different evolution of comparative advantages in these regions, and the differences in the ability of economies to adjust to trade reform.

The relative success that East Asian countries have achieved in terms of export growth and structural change is a reflection of the greater success of East Asian countries in eliciting **stronger and wider export response**. No doubt there are numerous factors that may have contributed to the ability to adjust to trade reforms such as better institutions, human capital, infrastructure, differences in labour policy, capital market policy, differences in the extent of services liberalisation, among others. From the viewpoint of reviewing the applicability of the "Trade and Structural Adjustment: Recommendations for Good Practice" in OECD(2005) with a specific focus on trade policy and macroeconomic policy related issues, this paper concludes that some possible reasons for overall more successful adjustment of East Asia are 1) the differences in sequencing and content of trade reform; 2) macroeconomic stability; 3)avoidance of over-appreciated exchange rates; and 4) the effective role played by foreign direct investment (FDI) and production networks which are associated with trade flows.

On the **differences in sequencing and content of trade reform**, most Latin American countries cut tariffs rapidly in the mid-1980s to early 1990s earlier than did the East Asian countries. East Asian countries generally took a more gradual approach to trade liberalisation, first by removing anti-export bias through various tariff exemptions for exports, duty drawbacks and other schemes and reducing its tariffs more gradually in the mid- to late-1990s. On the other hand, East Asian countries reduced the coverage ratio of non-tariff barriers to single digit levels as early as the late 1980s while many Latin American

countries' coverage ratios of NTBs continued to be as high as 60% in the early 1990s. This may indicate that in order to facilitate structural adjustment, 1) **trade reforms should be conducted in at a pace and in a manner which facilitates export response** and 2) **NTBs such as quantitative restrictions should be reduced in the first phase of trade reform** in order for tariff reductions to be effective.

On **macroeconomic stability**, economic growth in East-Asian countries was much less volatile than in Latin American countries with relatively low inflation and interest rates. Latin America experienced a "lost decade" in the 1980s due to severe debt crises followed in the 1990s by other crises in several countries in the region. Growth in East Asia, on the other hand, has been more stable except for one crisis in the late 1990s. Crises have often triggered trade reforms, with frequent World Bank/IMF involvement having varying degrees of success. Trade reforms have at times been initiated without crises with generally greater success. While **macroeconomic stability has not been a prerequisite for trade reform**, macroeconomic instability has sometimes led to temporary reversals in trade reforms, showing that **stability is important for sustainability of trade reform.**

Avoidance of an over-appreciated real exchange rate is a key for successful trade reform, and in East Asia, tariff reductions and generally appropriate real exchange rates effectively reduced anti-export bias. In contrast, in Latin America the real exchange rate was overvalued for extended periods, mitigating the potential effects of trade reform to reduce anti-export bias. Early and more effective reduction of anti-export bias together with macroeconomic stability has led to **a deeper and wider export response** in the general economy leading to **export diversification**. Export diversification in turn may have contributed to higher economic growth in East Asia through reduced terms of trade volatility.

On the **role played by FDI,** while both regions received comparable levels of inward FDI, East-Asia has been more successful in attracting **FDI to the manufacturing sector**. A greater proportion of FDI was efficiency seeking and export oriented than in many Latin American countries and has contributed to export growth. As such, East Asian countries, together with Costa Rica and Mexico which are exceptions in Latin America, were more successful in becoming a part of global production networks, which contributed to the upgrading of their exports. While some of the differences of FDI flows may be due to geographical and historical reasons, there may be room for Latin American countries to improve the enabling environment of production networks by focusing policy more on the cost of service links between fragmented production blocks, improving infrastructure and governance relating to services links in the Latin American region.[1]

For a long time natural resources have been considered a curse to Latin America's development. Looking at how manufacturing allowed East Asian countries to profit from higher growth and declining terms of trade in the past do point in such a direction. However, there is growing evidence suggesting that with good policies natural wealth also has a large potential to incorporate value added and knowledge. Developing countries following future trade reform may wish to keep in mind the lessons of past experience above and ensure that the current commodity boom will lead to sustainable development into the future.

[1] See Table 8 of Ando et al. (2006).

Introduction

1. Since the 1970s, China and East Asia have consistently achieved higher and relatively more stable GDP growth rates than Latin America. Although the former region benefited from a larger "catch-up" bonus, as it started from a lower per-capita income base, its performance remains remarkable. In the 1970s, the two regions started from a similar position. Both regions depended for roughly 80% of exports on natural resources and natural resource based manufactures. Prior to trade liberalisation, countries in both regions had followed an import substitution strategy to development which was characterised by high tariffs, tariff escalation, direct or indirect taxation of exports and non-tariff-barriers which led to misallocation of resources and strong anti-export bias. All countries undertook trade reform aiming at the reduction of distortions in resource allocation and removal of anti-export bias. These objectives have typically been realised through the elimination/reduction of quantitative restrictions, tariff liberalisation, and phase out of export taxes.

2. While the general direction of trade reforms has been the same, the content, speed and magnitude of reforms differed greatly between regions and between countries. While several factors contributed to the divergence in growth performance in these two regions (*e.g.* higher rates of fixed investment and savings, among others), this paper studies how trade policy and trade-related structural adjustment in the two regions have contributed to the differences in these outcomes, in order to review the applicability of the "Trade and Structural Adjustment: Recommendations for Good Practice" contained in OECD(2005) with a specific focus on trade policy and macroeconomic policy issues. While there are significant country differences, we consider that there are significant regional tendencies which warrant analysis. For example, trade generally has played a much more dynamic role in the structural adjustment process in East Asia than in Latin America. Exports have grown faster and were more diversified in East Asia compared to Latin America. While both regions received similar amounts of FDI, in China and East Asia FDI was more manufacturing-oriented. As a result Latin America has remained a generally commodity based economy whereas East Asia has succeeded in diversification of its economy. This paper looks at the general differences in trade policy and trade patterns and structural adjustment patterns in the two regions.

3. As a regional comparison paper, the analysis remains broad brushed. This study should thus be considered a complement to the four country case studies on Chile, Ecuador, the Philippines and Thailand which have been undertaken to contribute to the project studying trade-related structural adjustment in non-member economies. The analysis of this regional comparison paper covers both individual countries and regions. Seven countries in East-Asia are analysed—China, Indonesia, Malaysia, Philippines, Singapore, Thailand and Vietnam. Due to its large size, China is separated from the rest of East Asia. Eight Latin American nations are also examined —Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico and Peru.[2] Regional figures are weighted averages of the country results, unless specified otherwise.[3]

4. The paper first presents the economic and trade performance of both regions (part A), followed by a comparison of the liberalisation experience of East-Asia and Latin America (part B). Subsequently, several indicators are presented to shed more light on the comparative trade and investment performance of both regions (part C). Part D looks into the structural adjustment of the domestic economies, including employment. The final section concludes.

[2] Countries were selected by size and data availability.

[3] Although weighted averages better reflect regional tendencies by taking into account differences among countries (e.g. in terms of size of the economy, trade values, etc.), results sometimes may be driven by 1 or 2 countries, for example Mexico and Brazil in Latin America.

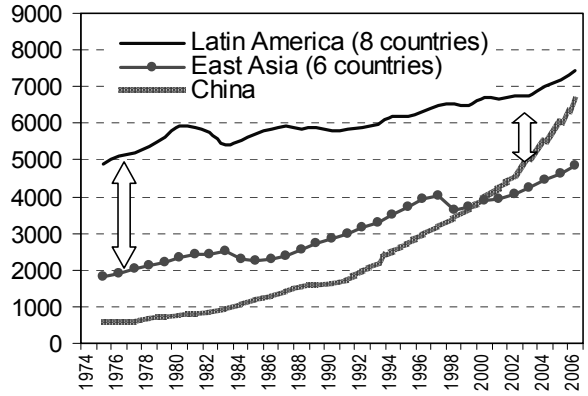
A. Growth performance, macroeconomic context and role of trade and FDI

5. Since the 1970s, the annual growth rates of GDP and GDP-per-capita recorded in East Asia, particularly China, have been significantly greater than Latin America. This partly reflects the fact that China and other East Asian countries, generally started from a lower GDP-per-capita base. In Latin America, total and per capita GDP expanded at an annual rate of 3.4% and 1.5%, respectively over the past 36 years. In contrast, in East-Asia (excluding China) these growth rates were 6.0% and 4.5%, respectively. The growth rates of China were even higher.

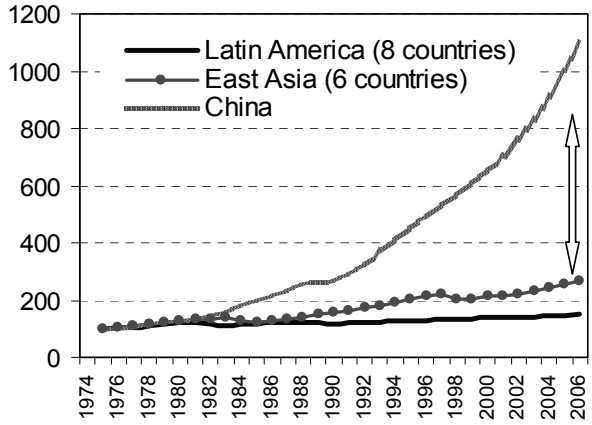
6. East-Asia reduced their per capita income gap through faster growth (Figure 1). In 1975, East-Asian income per capita (excluding China) was only one third of that in Latin America in Purchasing Power Parity (PPP) terms. In 2006, this had increased to 55%. East Asia (excluding China) increased its GDP per capita 2.5 times, while in Latin America it increased only by 40 per cent. China's catch-up was more spectacular, raising its per capita income almost ten times in that period. Latin America is more heterogeneous in terms of country GDP growth rates than East-Asia. Within Latin America, Chile and Costa Rica were the only countries that significantly improved their living standards. In contrast, all of East-Asia, except for the Philippines, showed impressive economic growth rates.

Figure 1. GDP per capita growth, 1975-2006 [a]

GDP per capita, PPP (constant 2000 international $)



Index of GDP per capita (1975=100)



Source: Authors' calculations based on ECLAC and World Bank: *World Development Indicators 2007*.
[a] Regional figures are a weighted average of individual country per capita growth rates, using each country's population as weights.

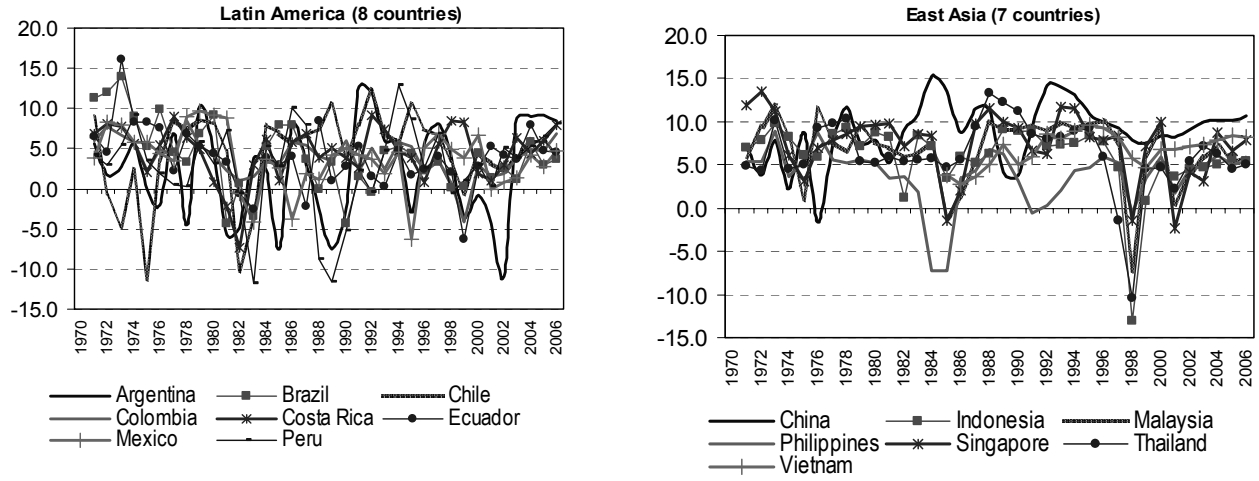
7. China and East-Asia have had not only *faster*, but also *less volatile* economic growth (Figure 2). Whereas East-Asia experienced only a single crisis in 1997-98, Latin America went through several downturns. In Latin America, high growth of the 1970s was followed by a "lost decade" of poor performance in the 1980s due to severe debt crises. Despite a modest recovery in the 1990s, several countries continued to experience crises, such as Mexico (1995), Brazil (1999) and Argentina (1999-2002). From 2003 to 2006, growth rebounded in all countries in the region. Growth in East-Asia, on the other hand, has been more stable except for one short crisis in the late 1990s.[4] De Gregorio and Lee (2003) studying Latin American and Asian countries find that the average output cost per crisis from 1970 to 1999 was about 5.8 percentage points for an average developing country, although subject to considerable variance. Thus macroeconomic instability in part explains the differences in economic performance.

[4] The Philippines is an exception in East Asia, having experienced multiple crises.

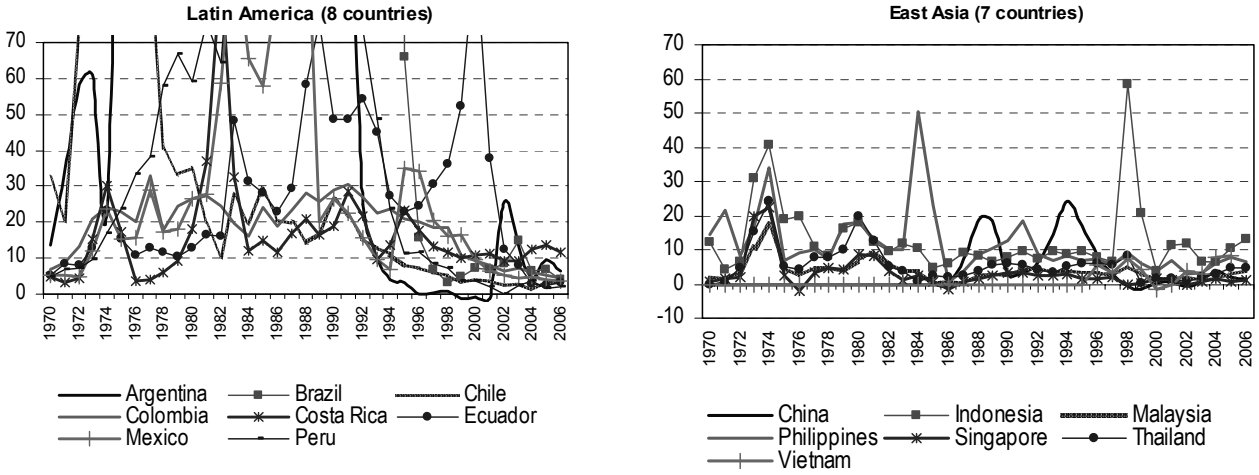
Figure 2. Annual rates of real GDP growth and consumer price inflation, 1971-2006

(in %)

Annual real GDP growth



Annual consumer price inflation



Source: Authors´ calculations based on ECLAC and World Bank, *World Development Indicators 2007*.

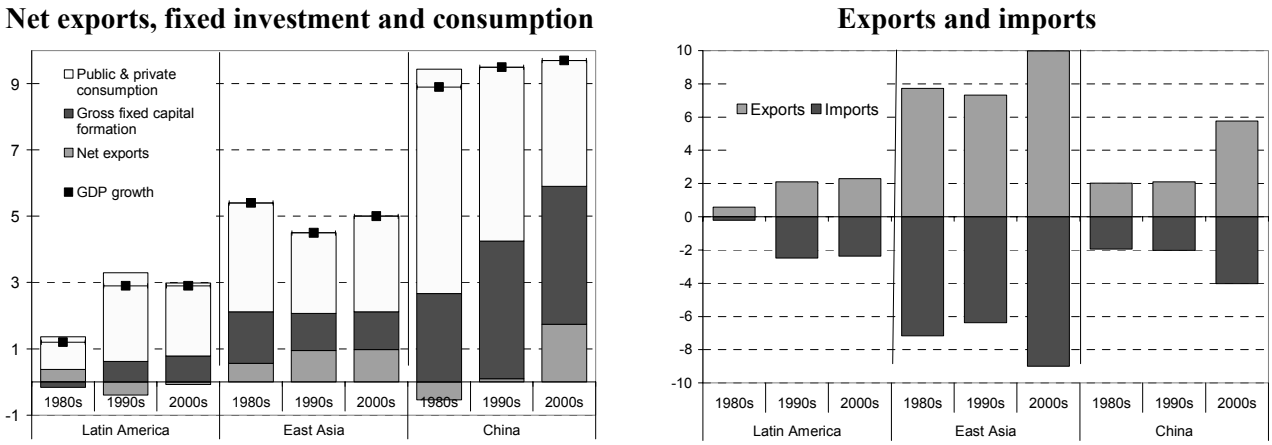
8. The more unstable environment in Latin America compared to East Asia is also illustrated by the volatility of consumer price inflation rates (Figure 2). During the 1970s and 1980s, several Latin American countries experienced high rates or even hyperinflation, exceeding in some cases 1,000 per cent on an annual basis. Substantial improvements in the macro-management (*e.g.* more balanced fiscal accounts) led to a gradual reduction of inflation in the 1990s, except for Ecuador. In the 2000s, most countries in the region converged to single-digit levels of inflation. In East Asia, consumer price inflation was continuously at low levels since the 1970s, except for some exceptional spikes in some countries such as Indonesia in the late 1990s and the first oil crisis in the 1970s.

9. The chronic unstable economic environment in Latin America compared to East Asia took a large toll on the rate of investment in physical capital in the former region (see Figure 3). The contribution of fixed investment to GDP growth was negative in the 1980s and reached only 0.6% in the 1990s. High inflation and simultaneous large variability of relative prices have disturbed long-term corporate decisions, as it raises the complexity of contracts and planning. In a volatile context, firms avoided taking long-term commitments as likely changes in relative prices could hurt their profitability (ECLAC, 2006). As the macroeconomic environment stabilised in the first part of the 2000s, investment rates gradually increased. In East Asia and China, the more stable context contributed to substantial higher rates of investment.

10. A related factor to higher economic growth in East-Asia and China compared to Latin America is the more dynamic role of (net) exports in economic growth (Figure 3). Net exports consistently contributed between 0.5 and 1% of growth in East Asia. In Latin America it ranged from about 0.4% in the 1980s to a negative contribution in the 1990s, and roughly zero in the 2000s. In China contribution of net-exports to GDP went from -0.5% in the 1980s to over 1.5% in the 2000s. The contrast becomes clearer when exports are looked at. In East Asia, the contribution of exports to GDP have been much higher at 8-10% while in Latin America they remain around 2% in the 2000s even after a considerable increase in the preceding decade.

Figure 3. Decomposition of GDP growth by expenditure components, 1980s to 2000s [a]

(*Absolute contributions in % points*)



Source: Authors' calculations based on UN-DESA, *National Accounts Main Aggregates database*.

[a] Latin America refers to 8 countries, and East Asia to 6 countries. Regional figures are a weighted average of individual country rates, using each country's GDP in 1990 PPP as weights.

11. The larger contributions of trade to economic growth in East Asia and China reflect the bigger expansion of trade compared to Latin America (Tables 1 and 2). Between 1975 and 2006, the value of exports was multiplied by a factor 29, 36 and 162 in Latin America, East Asia and China, respectively. The huge expansion in China should be interpreted with care, as this economy was almost closed to the outside world in the 1970s, having a trade to GDP ratio of only 1.6%. Since 1990, Latin American exports have grown above the world average but below the rate of China and East Asia. Growth of Latin American exports was temporarily interrupted by the global economic slowdown in 2001-02. But from 2003 onwards, the region's exports grew again at high rates due to rising commodity prices.

12. Although the FDI stock is at comparable levels in both regions (Table 1), the increase in the stock of FDI as a share of GDP was much bigger in Latin America (Table 1). It increased from 8.8% in 1990 to 29.6% in 2006 in Latin America, while in East Asia excluding China it only increased from 9.2% to 11.8% in the same period.

Table 1. Comparative levels of GDP per capita, exports and FDI stocks, 1975-2006

Indicators	GDP per capita, PPP (constant 2000 international $)			Total exports (billion current USD)			FDI Stocks (billion current USD)		
Years	Latin America (8 countries)	East Asia (6 countries)	China	Latin America (8 countries)	East Asia (6 countries)	China	Latin America (8 countries)	East Asia (6 countries)	China
1975	4 894	367	604	20	21	6	9	5	0
1980	5 944	485	774	62	67	17	27	13	1
1990	5 795	722	1 626	107	144	52	86	63	21
2000	6 704	1 019	3 940	298	433	249	360	253	193
2006	**7 422**	**1 306**	**6 621**	**575**	**750**	**969**	**677**	**401**	**293**

Source: Authors´ calculations based on World Bank, *World Development Indicators 2007,* UNCTAD, and IMF, *Direction of Trade Statistics*, 2007.

Table 2. Trade/GDP and Exports/GDP, 1970-2006

(In %)

Region	Openness	1970	1980	1990	2000	2006
Latin America (8 countries)	Trade/GDP	14.4	21.9	19.6	34.9	42.6
	Exports/GDP	6.9	10.3	10.9	17.4	23.2
East-Asia (6 countries)	Trade/GDP	47.1	71.1	88.2	137.3	154.9
	Exports/GDP	20.9	37.2	43.3	75.1	81.5
China	Trade/GDP	3.2	19.4	26.5	38.7	69.9
	Exports/GDP	1.6	9.1	14.5	20.8	38.5

Source: Authors' calculations based on World Bank, *World Development Indicators* 2007 and IMF, *Direction of Trade Statistics*.

13. A key factor that contributed to the more dynamic net export performance in East Asia compared to Latin America was the more competitive level and lesser volatility of real exchange rates that accompanied the process of trade liberalisation. In East Asia, the central banks and governments succeeded in avoiding the overvaluation and strong fluctuations of domestic currencies through maintaining low levels of inflation, strict fiscal and monetary discipline, and domestic and foreign debt stocks (Kokko, 2002). In Latin America, the opposite situation prevailed until the early 2000s. That is, in various countries in the region the process of trade liberalisation in the 1980s and 1990s, discussed in more detail below, took place in a context of real exchange rate appreciations. Various countries introduced fixed nominal exchange rate anchors which were often accompanied by an effective depreciation in the short run. However, continued inflation eroded such one-time depreciations very quickly and in many cases led to an over appreciation in the mid-term.[5]

B. Trade related policy trends

14. Starting in the 1980s, both regions shifted from an import substitution regime to a more market-oriented, export oriented regime by reducing tariffs and non-tariff barriers as part of three complementary processes: unilateral, multilateral, and regional/bilateral trade liberalisation. In this section, first, we discuss the changing role of trade policy over time–from import substitution policies (ISI) to export oriented

[5] See for example Agosin and Ffrench Davis (1995) and Ffrench Davis (2005).

policies. Second, trends are presented in unilateral and multilateral liberalisation. Third, bilateral and regional initiatives aimed at reducing trade barriers with neighbouring countries and/or main export markets are reviewed. Finally, changes in the overall level of protection are assessed.

I. The shift from import substitution to export promotion

a) Latin America

15. Until the 1980s, Latin America pursued a state-led, inward-looking, import substituting industrialization (ISI) model. Public policies promoted the development of domestic manufacturing through high trade barriers, state-owned enterprises and subsidies. High trade barriers were erected for imports that competed with national production, while barriers were low for certain production inputs. Governments focused on the production of basic consumer goods (footwear, textiles and apparel, food processing), and some intermediate and durable goods (petrochemicals, steel and transport equipment), often through state-owned enterprises. Exports were heavily taxed. The ISI policies had a strong anti-export bias, which took various forms including high tariffs, quotas, import prohibitions, few or no tariff exemptions for export sectors, taxes on exports, price controls, and an overvalued exchange rate. With the availability of cheap credit from petrodollars in the 1970s, governments and the private sector borrowed heavily and pushed the ISI policies to an extreme, generating high but unsustainable industrial and economic growth.

16. The ISI policies led to large economic and external imbalances. When oil prices fell and interest rates increased, the high accumulated debts proved unsustainable, inducing the Mexican debt default in August 1982, which was followed by similar crises in other countries in the region. The debt crisis resulted in a "lost" decade of low growth[6], high unemployment, increased poverty and income inequality, hyperinflation, and a temporary cut-off of external credit. The accumulation of problems of the ISI period, with high levels of debt and many inefficient state-owned industries, induced Latin America to rethink its development strategy to a more market-driven and outward/trade oriented approach (Hofman, 1998).

17. Since the 1990s, improving international integration and boosting exports have become key policy objectives to promote economic growth. This integration depends partly on market access to the export and home markets. Opening markets have been achieved via three routes: unilateral, multilateral, regional/bilateral liberalisation. From the late 1980s to the 1990s, the selected subset of countries substantially reduced their average tariffs unilaterally, and also actively participated in the Uruguay Round making substantial commitments to reduce import barriers and bind practically all tariff lines. More recently, countries in the region have been particularly active in reaching bilateral and plurilateral intra- and extra-regional preferential trade agreements. The rationale for this is that unilateral liberalisation does not guarantee the opening of target markets and multilateral negotiations have made little progress. The current situation reflects the result of countries' strategies to position themselves in major export markets in ways that will give their (value-added) products greater and more reliable access to those markets.

b) East-Asia

18. East-Asia also followed ISI policies to develop their manufacturing base, the transition to an export oriented growth strategy turned out more successful in part because, in contrast to Latin America, some form of export promotion measure such as tariff exemptions for exports, duty drawbacks, export

[6] The 1980s was the decade with the poorest growth record of the post-war period. Five out of the eight selected countries included here had lower per capita incomes in 1990 compared to 1980. Moreover, even in 2000 Colombia and Peru had lower revenue per head than in 1980.

processing zones.[7] Moreover, in the 1980s second-generation East-Asian newly industrializing countries (NICs) (Indonesia, Malaysia and Thailand) benefited from a relocation of transnationals[8] away from first generation NICs (Hong Kong, Korea, Singapore and Chinese Taipei) due to three trends: (1) appreciation of the yen and currencies of first-tier NICs following the Plaza Accord of 1985; (2) withdrawal of Generalised System of Preferences (GSP) for Asian NICs in February 1988; and (3) punitive measures in developed markets against trade originating from these economies and Japan. Quota allocations under the Multi Fibre Agreement were also a factor in the textiles and clothing sector.

19. The development strategies of the first and second generation NICs were different (Rasiah, 2002; Kuwayama and Durán, 2003). The strategy of the second tier NICs was much more dependent on export-oriented FDI compared to the development strategy of the first tier (i.e. Chinese Taipei, Japan, and Korea) who focused on the development of domestic industries, starting from labour-intensive manufactures to subsequent migration into more technologically sophisticated activities. While the former development strategy has limited endogenous industrial and technological capacity building, and lack of suitable policies did not encourage the production and use of local content (Jomo, 2001), FDI has been the driver of export oriented growth. In these countries, foreign-owned firms exported up to 90% of their production as opposed to the typical local firm which exports on average less than 10% of its production (James and Ramstetter, 2005; Ramstetter 1999).

II. Unilateral trade liberalisation complemented by multilateral agreements

20. Unilateral trade liberalisation has been the main vehicle for reducing trade barriers both in East-Asia and Latin America. The unilateral reduction of trade barriers in the 1980s and 1990s was a fundamental part of the comprehensive reform of the ISI policies in both regions, aimed mainly at reducing the anti-export bias created by these policies. The unilateral reforms were often undertaken in times of crises, frequently as part of lending programmes of and/or a policy dialogue with the IMF and World Bank. As a matter of fact, 79% of all adjustment loans of the World Bank with Latin American countries between 1982 and 1989 enforced trade liberalisation, as well as one third of all high-conditionality programmes of the IMF with Latin American countries between 1983 and 1985 (Edwards, 1995). In addition, these two institutions used economic research showing the potential positive impact of trade liberalisation on employment and the economies at large to persuade governments to embark upon trade reforms. One example is Brazil, where as a result of a series of studies, seminars and conferences organised by the World Bank in the late 1980s, the government was in a position to implement trade reforms in 1990.[9]

21. Multilateral trade negotiations have complemented unilateral liberalisation. In Latin America, unilateral reductions in applied tariffs mostly preceded the Uruguay Round negotiations, while in East-Asia, most unilateral tariff cuts were realised after the Round. Multilateral negotiations have played a larger role in trade reform for countries entering the GATT and WTO since the mid-1990s. Ecuador (1996), China (2001) and Vietnam (2006) were required to implement substantial reductions in tariffs and non-tariff trade barriers upon WTO accession. Entry conditions have been more stringent after the 1990s.

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[7] See Bhattacharya and Linn (1988) for details on East Asian countries export promotion measures.

[8] For example, complementary computer industries such as disk-drive manufacturers, relocated major operations to Indonesia, Malaysia and Thailand (Rasiah, 1998).

[9] The IMF and World Bank played an important role in shaping reforms in Latin America, but they were *not* the key drivers of this process, according to Edwards (1995). Instead, the two most important factors were the failure of heterodox policies and the reinterpretation of the Chilean experience. Within this context, these Washington-based institutions influenced the emergence of new views through research, macroeconomic and sectoral analysis, policy dialogue, lending programmes and conditionality.

a) Latin America

22. Most Latin American countries initiated their unilateral liberalisation in the 1980s ahead of the Uruguay Round. Chile started even earlier, reducing its barriers during the 1970s. With prior substantial unilateral tariff cuts, Latin American countries were not pushed to undergo major additional reductions in the Uruguay Round. Credit was given to countries reflecting unilateral trade liberalisation as part of the *informal* guidelines to meet the "equal sacrifice" criterion.[10] This is illustrated by the small cuts "given" in their own market protection compared to the larger reductions "received" by their trading partners (Table 3). Nevertheless, Latin America used the Uruguay Round to consolidate and "lock-in" its unilateral trade reforms by binding almost all of its tariffs. The Round was used as a vehicle to deepen reforms and sustain the reform process.

Table 3. Latin America: Unilateral and multilateral liberalisation

Countries	Unilateral Liberalisation		Multilateral Liberalisation				
	First Liberalisation Program	Unilateral Liberalisation Average Tariff cuts [a]	GATT entry	WTO Entry	Number of Multilateral Rounds participated[b]	Percentage of tariff reduction in Uruguay Round[c]	
						Received	Given
Argentina	1989	39.0 to 10.6	1967	1995	1	0.98	0.00
Brazil	1990	51.0 to12.2	1948	1995	7	1.37	0.00
Chile	1975	94.0 to 4.9	1949	1995	6	0.50	0.00
Colombia	1990	44.0 to 11.4	1981	1995	1	1.25	0.02
Costa Rica	1986	27.0 to 6.5	1990	1995	0	…	…
Ecuador	1988	40.0 to 11.4	…	1996	0	…	…
Mexico	1985	24.0 to 18.1	1986	1995	1	0.16	0.00
Peru	1990	66.0 to 9.0	1951	1995	5	0.57	0.03

Source: Authors' calculations based on Ffrench Davis (1999); Durán (2001); and Finger and Winter (2002)
[a] Changes in tariff average from date of first liberalisation program to 2005. The initial tariffs are weighted by internal production.
[b] Number of Rounds in which each country participated: Geneva (1947); Annecy (1949); Torquay (1951); Geneva (1956); Dillon (1960-1961); Kennedy (1964-67); Tokyo (1973-1979); Uruguay (1986-1994)
c Weighted average of change measured as dT/(1+t)*100, where t is the average of the before and after change rates, calculates across all tariff lines, including those on which was no reduction. For more details, see Finger, Ingco and Reincke (1996).

b) East-Asia

23. In East-Asia, unilateral trade liberalisation was concentrated in the years after the Uruguay Round. East Asian countries were required to concede some tariff reductions in the Uruguay Round (Table 4) and increase the binding rate from less than 10% before the Round to two thirds for most East Asian countries, although at relatively high rates (Bora and Neufeld, 2001). Several East-Asian countries made additional tariff cuts under the Information Technology Agreement in 1997.

[10] While tariff cuts or bindings were usually negotiated on the basis of tariff rates prevailing in 1988, for developing countries the rates prevailing in the early 1980s were applied instead, to reward, in particular, unilateral liberalisation efforts (Finger and Winters, 2002). Unilateral cuts were counted towards the achievement of developing countries' "obligation" to reduce tariffs by one-fourth (Finger, Reincke and Castro, 2002), to the benefit of many Latin American countries.

Table 4. East-Asia: Unilateral and multilateral liberalisation

Countries	Unilateral Liberalisation		Multilateral Liberalisation				
	First Liberalisation Program	Unilateral Liberalisation Average Tariff cuts [a]	GATT Entry	WTO Entry	Number of Multilateral Rounds participated[b]	Percentage of tariff reduction in Uruguay Round[c]	
						Received	Given
China	1990	40.3 to 9.0	2001	2001	0	…	…
Indonesia	1987	31.5 to 4.3	1950	1995	5	0.87	0.25
Malaysia	1988	13.0 to 7.5	1957	1995	4	1.46	1.97
Philippines	1986	27.9 to 5.4	1979	1995	1	2.43	1.29
Singapore	1985	0.0	1973	1995	1	1.96	0.85
Thailand	1982	32.0 to 9.9	1982	1995	1	1.33	5.93
Vietnam	1990	… to 13.4	……	2006	0	…	…

Source: Authors' calculations based on Warwick *et. al* (2000): Finger and Winter (2002); Rose (2002); ECLAC (2004); and Weimann *et al.* (2006).
[a] Changes in tariff average from date of first liberalisation program to 2005
[b] Number of Rounds in which each country participated: Geneva (1947); Annecy (1949); Torquay (1951); Geneva (1956); Dillon (1960-1961); Kennedy (1964-67); Tokyo (1973-1979); Uruguay (1986-1994)
[c] Weighted average of change measured as dT/(1+t)*100, where t is the average of the before and after change rates, calculated across all tariff lines, including those with no reduction. For more details, see Finger *et al.* (1996).

III. Regional and bilateral trade liberalisation

24. Latin America has a longer tradition of FTAs than Asia. In the late 1980s, Latin America began to pioneer preferential trade agreements and regional integration. Moreover, some countries have negotiated multiple extra-regional bilateral trade agreements (e.g. Chile and Mexico). More than 68 intraregional trade agreements and 12 extra-regional FTAs are in place, varying from partial trade to full economic cooperation (ECLAC, 2007) (Table 5). In contrast, in East-Asia free trade agreements and regional integration are a more recent trend. Negotiation of PTAs has recently stepped up in both regions in part due to slow progress in multilateral trade negotiations (Kuwayama, Durán and Silva, 2005).

a) Latin America

25. From 1991 to 2005, the share of Latin American and Caribbean preferential exports rose from 8% to 63%, with evidence of greater trade openness in extra rather than intra-regional PTAs (ECLAC, 2006).[11] Countries most successful in opening export markets through FTAs are Mexico (96% of exports), Costa Rica and Chile (three quarters of exports). If MERCOSUR and the Andean Community were to succeed in signing a FTA with the EU and US, PTAs would cover 72% of total exports.

[11] This calculation assumes that all exports to countries with a preferential trade agreement are preferential exports. As typically not all trade will be eligible for preferential tariffs, this likely is an overestimation.

Table 5. Latin America: Regional and Plurilateral Preferences

(PTAs concluded as of November 2007)

Countries	Intra-regional PTAs	Extra-regional PTAs	Agreements[c]	Countries[c]
Argentina	Mercosur (3)+Andean Community (5)+Chile (1)=9	Mercosur – European Union[a]	4	9
Brazil	Mercosur (3)+Andean Community (5)+Chile (1)=9	Mercosur – European Union[a]	4	9
Chile	Mercosur (4) + Andean Community (5) + CACM (5) + Cuba (1) + Mexico (1) = 16	EU (25) + EFTA (4) + United States (1) + Canada (1) + Korea (1) + New Zealand (1), Singapore (1) + Brunei Darussalam (1) + China (1) + India (1) + Japan (1) = 38 Negotiating FTA with: Thailand, Malaysia and Australia	18	54
Colombia	Andean Community (4) + Mercosur (4) + CARICOM (14) + Chile (1) + Mexico (1) = 24	United States[b]	5	25
Costa Rica	CACM (4) + Chile (1) + Mexico (1) + Dominican Republic (1) + Panama (1) + Trinidad & Tobago (1) = 9	United States (CAFTA) (1) + Canada (1) = 2	8	11
Ecuador	Andean Community (4) + Mercosur (4) + Cuba (1) + Chile (1)	United States[b] (1)	5	11
México	NAFTA (3) + Costa Rica (1) + Nicaragua (1) + Chile (1) + Bolivia (1) + Uruguay (1) + Colombia (1) = 9	European Union (25)+EFTA (4) + NAFTA (2) + Israel (1) + Japan (1) =33	12	42
Nicaragua	CACM (4) + Dominican Republic (1) + Panama (1) + Mexico (1) + Chile (1) = 8	United States (CAFTA) (1) + Chinese Taipei (1) = 2	7	10
Peru	Andean Com. (4)+Mercosur (4)+Chile (1) = 9	United States[b] (1) + Thailand (1) = 2	5	11

Source: Kuwayama, *et al.*, 2005., based on legal instruments signed by countries or trading blocs: MERCOSUR —Argentina, Brazil, Uruguay and Paraguay; Andean Community —Bolivia, Colombia, Ecuador and Peru; CACM (Central American Common Market) —Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua; Caribbean Community (CARICOM) —Antigua and Barbuda, Barbados, Belize, Dominica, Grenada, Guyana, Haiti, Jamaica, Montserrat, St. Kitts and Nevis, St. Lucia, St. Vincent and the Grenadines, Suriname and Trinidad and Tobago;, and Latin American Integration Association (LAIA) (www.aladi.org)

[a] Since 1999, MERCOSUR has been negotiating an Interregional Cooperation Agreement with the European Union.
[b] Colombia and Peru signed an FTA with USA in 2006. Peru agreement was ratified in November 2007. Colombia is awaiting ratification.
[c] México, Colombia and Venezuela was a trilateral FTA called G-3 Group. In 2006, Venezuela abandoned the agreement.

b) East-Asia

26. Recently, East-Asian countries have shown an increasing interest in free trade agreements (FTAs) and economic partnership agreements (EPAs).[12] The six East-Asian countries discussed here, excluding China, are members of AFTA, founded in 1992[13]. Its main objectives were to make the region more competitive and attractive for FDI. On the outset members agreed to converge to a low Common Effective Preferential Tariff by 2008. The original five ASEAN members have already introduced a 0-5% common internal tariff by 2002 although with a considerable number of exceptions. Other members are to join later,[14] but by 2010 the free trade area is to encompass all ASEAN.

27. After AFTA, no FTAs or EPAs were negotiated until 2002, when Japan and Singapore signed an EPA. Since then, other economies in the region have become increasingly active in FTA negotiations (e.g. China, Thailand and Singapore). (See Table 6). One of the characteristics of regional integration in the East Asian region is that the reality has preceded any legal framework. Despite AFTA, less than 5 percent of intra-ASEAN trade makes use of the AFTA preferences (Haddad, 2007). East-Asian countries have signed

[12] An EPA is broader than a normal free trade agreement, which is restricted to trade in goods and services and investment. While the content depends on the agreement, it can include cooperative clauses like development assistance, movement of labour, intellectual property rights and so on.

[13] Indonesia, Malaysia, Philippines, and Singapore are part of the founding members, while Vietnam joined later this group. Other members of the group are Laos, Myanmar and Cambodia

[14] Vietnam entered AFTA in 2003, Laos and Myanmar in 2005, and Cambodia probably in 2007.

over 14 intra-regional agreements, and 6 extra regional FTAs. More than 20 agreements are currently under negotiation.

Table 6. East-Asia: Regional and plurilateral preferences

(PTAs concluded and under negotiation, as of January 2008)

Countries	Partners: Asia	Partners: Rest of the world	N° Agreements[c]	N° Countries[c]
China – Signed	ASEAN (10) + Pakistan (1) + Hong Kong SAR (1) + Macao SAR (1) = 13	Chile (1)	5	14
China – Negotiating	Australia (1) + Singapore (1) + New Zealand (1) = 3	Gulf Cooperation Council[a] (6) + Peru (1) = 7	5	10
Indonesia – Signed	ASEAN (9) + China[b] (1) + Republic of Korea[b] (1) + Japan (1) = 12	None	4	12
Indonesia – Negotiating	India[c] (1) + Australia[c] (1) + New Zealand[c](1) + Pakistan (1) = 4	European Union[c] (27)	5	31
Malaysia – Signed	ASEAN (9) + China (1)[b] + Japan (1) + Republic of Korea[b] (1) = 12	None	4	12
Malaysia – Negotiating	Australia (1) + New Zealand (1) + Pakistan (1) + India[c] (1) = 4	United States (1) + Chile (1) + European Union[c] (27) = 29	7	33
Philippines – Signed	ASEAN (9) + China[b] (1) + Republic of Korea[b] (1) + Japan (1) =12	None	4	12
Philippines - Negotiating	Australia[c] (1) + New Zealand[c](1) + India[c] (1) = 3	European Union[c] (27)	4	30
Singapore – Signed	ASEAN(9) + China[b] (1) + Republic of Korea[b] (1) + Australia (1) + New Zealand[d] (1) + Japan (1) = 14	United States (1) + EFTA (4) + Jordan (1) + Panama (1) + Chile[d] (1) = 8	10	22
Singapore - Negotiating	India[c] (1) + Pakistan (1) = 2	GCC (6) + Canada (1) + European Union[c] (27) + Mexico (1) + Sri Lanka (1) + Perú (1) + Egypt (1) + Ukranie (1) = 39	10	41
Thailand – Signed	ASEAN (9) + China[b] (1) + Republic of Korea[b] (1)+ India (1) + Bahrain (1) + Australia (1) + New Zealand (1) + Japan (1) = 16	None	8	16
Thailand - Negotiating	Bay of Bengal Initiative of Multisectoral, Technical and Economic Cooperation (BIMSTEC) [a](6) + India[c] (1) = 7	Peru (1) +United States (1) + EFTA (4) + European Union[c] (27) = 33	6	40
Vietnam – Signed	ASEAN (9) + China[b] (1) + Republic of Korea[b] (1)= 11	None	3	11
Vietnam - Negotiating	Japan[c] (1) + Australia[c] (1) + New Zealand[c](1) + India[c] (1) = 4	Chile (1) + European Union[c] (27) = (28)	6	32

Sources: based on ECLAC (2007), *Latin America and the Caribbean in the World Economy 2006, 2007 Trends;* Indian Export Import portal (2007), *—http://exim.indiamart.com/free-trade-agreement/—;* Office of the United States Trade Representative (2008) *— http://www.ustr.gov/Trade_Agreements/Bilateral/Section_Index.html—; Kawai and Wignaraja (2007), ASEAN+3 or ASEAN (6): Which Way Forward? ADB Institute Discussion Paper No. 77; and ADB http://aric.adb.org .*

[a] GCC members are: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and The United Arab Emirates. BIMSTEC Members are Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand.
[b] As part of plurilateral FTA (ASEAN-China); (ASEAN – Republic of Korea)
[c] As part of plurilateral FTA being negotiated with Australia, India, Japan, New Zealand, and European Union.
[d] As part of P4 FTA between Singapore, New Zealand, Brunei and Chile, which is counted as one agreement.

Note: When one country (e.g. Japan) has an FTA with another country (e.g. Malaysia), both on a bilateral basis and as a part of a region (e.g. ASEAN), it is counted only once.

IV. Overall tariff and non-tariff protection

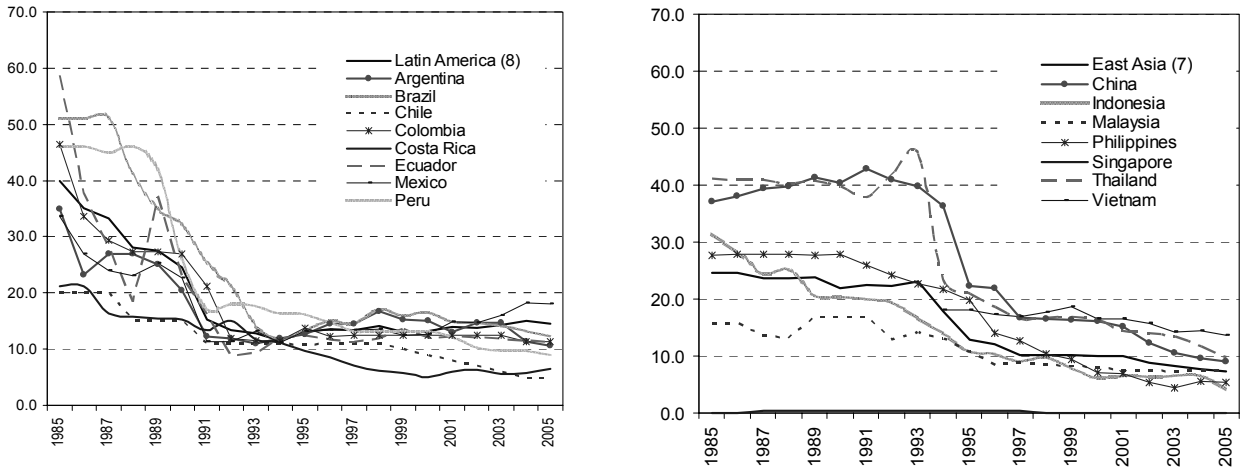
28. Both Latin America and East-Asia have made considerable progress in reducing tariffs and NTBs. The average applied tariff (unweighted) in Latin America fell from 40% in 1985 to 24% in 1990 and 14% in 2005, and in East-Asia from 35% to 7.4% (Figure 4). In 2005, countries with the lowest MFN tariffs in Latin America are Chile and Costa Rica, and in East-Asia, Singapore and Indonesia. Countries

with the highest MFN tariffs were Mexico and Vietnam. Tariffs are even lower when preferential tariffs from regional and bilateral and plurilateral free trade agreements (FTAs) are taken into account, assuming (for simplicity) that an FTA leads to immediate tariff elimination among its members.[15]

Figure 4. Average and applied tariffs by country and regional average

(Unweighted in %)

Latin America (8 countries) **East-Asia (7 countries)**



Source: Authors' calculations based on World Bank (http://econ.worldbank.org/), UNCTAD (TRAINS).

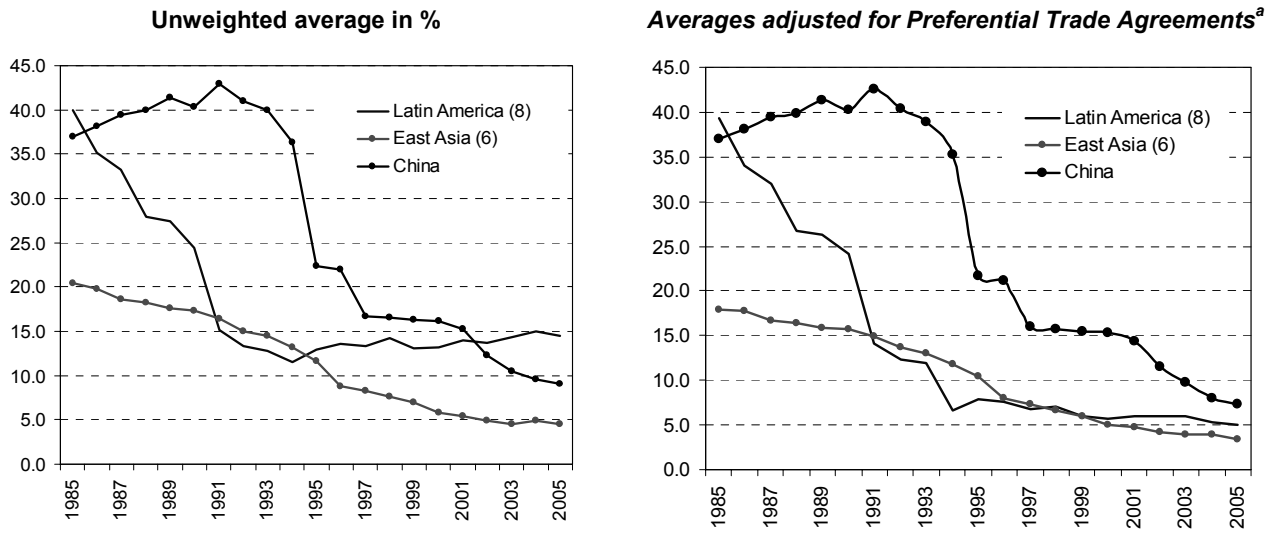
[a] The regional figure is the weighted average of national tariffs, using each country's current year imports in total regional imports as weights.

[b] This tariff was calculated using the percentage of total imports with FTAs or regional agreements weighted by the average tariff. Formally $t^* = t^*(1-\%PTA)$, where t^* =proxy for effective tariff; t = average tariff and $\%PTA$ the share of total imports coming from partners with a preferential trade agreement. It is assumed that from the year of signature of a trade agreement and onwards, trade among the members is tariff free.

29. Tariffs were initially lower in East-Asia than in Latin America in the mid-1980s. This was reversed in the late 1980s as tariffs were cut more slowly in the former than in the latter. In the mid-1990s, this was turned around once again as MFN tariffs were raised in some countries in Latin America (e.g. Argentina and Mexico). However, when FTAs are taken into account, tariffs in Latin America continue to fall after the mid 1990s showing that tariff protection has converged to low levels (Figure 5).

[15] This simple calculation assumes that all intra-FTA trade is tariff free for all products immediately, that intra- and extra-FTAs have the same trade structure and that all FTA preferences are used. As such, it should be regarded as a "lower bound" of the applied rate for several reasons. First, all FTAs have a phase-in period during which tariffs are reduced in steps over several years. Second, intra- and extra-FTAs trade have different structures. Third, it does not take into account that some FTA preferences are not fully used because of difficulties in fulfilling rules of origin etc.

Figure 5. Average applied tariffs in Latin America and East-Asia.[a]



Source: Authors' calculations based on World Bank (http://econ.worldbank.org/) and UNCTAD (TRAINS).

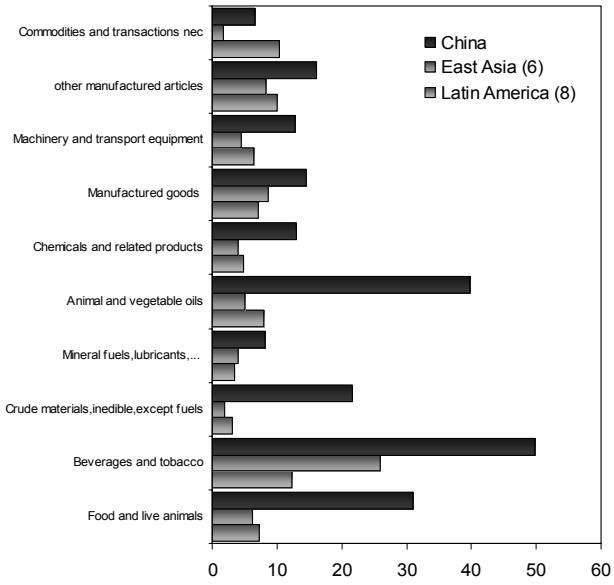
30. A breakdown by one digit SITC (Rev.2) shows that in 2005 tariffs are far from homogeneous by sector both in Latin America and in East-Asia. Some East-Asian countries apply tariffs as high as 70% (beverages), while for Latin American countries tariffs are higher across the board and no particular product group stands out (Table 7).

Table 7. Average applied tariffs in Latin America and East-Asia by country, 2005

(Unweighted in %)

Regions	Latin America (8 countries)								East-Asia(7 countries)						
Sectors	Argentina	Brazil	Chile	Colombia	Costa Rica	Ecuador	Mexico	Peru	China	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
0 Food and live animals	3.9	3.2	1.8	**12.3**	**12.5**	**11.3**	4.5	7.9	**11.4**	5.0	3.0	6.2	0.0	**8.6**	**14.2**
1 Beverages and tobacco	9.8	**16.6**	3.5	**13.1**	**18.1**	**17.3**	7.0	**12.7**	**12.2**	**18.2**	**19.8**	8.5	0.0	**39.6**	**70.1**
2 Crude materials	1.0	2.9	1.3	5.8	1.5	4.2	0.6	7.7	3.5	1.5	1.1	3.0	0.0	4.1	1.7
3 Mineral fuels etc	0.6	0.2	3.4	6.7	3.7	1.0	1.1	**11.4**	1.6	2.4	1.2	4.6	0.0	0.6	**15.5**
4 Animal and vegetable oils and fats	6.2	7.6	1.9	**16.7**	9.0	**15.5**	4.0	3.2	**12.3**	3.4	2.1	4.1	0.0	**10.9**	9.6
5 Chemicals	5.2	6.2	3.7	6.8	2.8	6.1	1.2	6.3	7.3	6.1	4.9	4.3	0.0	5.9	3.3
6 Manufacturess class. by material	6.2	**10.2**	3.7	**10.6**	4.8	9.5	2.9	8.3	6.4	8.2	**15.5**	5.7	0.0	5.1	**17.1**
7 Machinery and transport equip.	5.2	9.9	4.6	9.9	1.9	**10.1**	3.1	7.0	4.0	5.8	2.8	1.5	0.0	5.4	**11.7**
8 Miscellaneous manufactures	9.7	**13.1**	5.2	**12.4**	8.8	**14.5**	5.5	**11.2**	7.6	9.4	4.8	5.3	0.0	9.6	**20.4**
9 Commod. & transacts. not class.	6.3	**17.3**	4.7	**18.3**	5.3	**18.4**	0.7	**11.9**	4.8	0.7	0.1	2.6	0.0	0.2	6.6

Latin America (8 countries), East Asia (6 countries) and China, simple average applied tariffs by sectors: 2005



Source: Authors´ calculations based on UN— COMTRADE and TRAINS.

31. Non tariff barriers have also been reduced quite significantly through unilateral action and regional integration commitments, i.e. several custom unions in Latin America and the 1994 Bogor Declaration for APEC [16] countries. The incidence of NTBs has fallen over the years converging to lower levels although countries with higher tariffs tend to have higher incidence of NTBs. The trajectory of reducing NTBs has been different from that of the tariff cuts, i.e. the lowering of NTBs seem to have been generally more rapid in East Asia than in Latin America although with substantial country differences (Table 8). Brazil, China and Thailand show relatively high incidence of NTBs. A breakdown by sector shows the highest frequency ratio in the case of China, Malaysia, Thailand and Vietnam, especially in manufactures (Table 9).

[16] The Bogor Declaration of APEC calls for full liberalisation of trade and FDI by 2010 for developed members and by 2020 for developing members. Each member prepares and implements an annual individual action plan (IAP), i.e. a record of actions taken towards free and open trade and investment, to achieve this commitment. Members set their own timelines and goals, and undertake these actions on a voluntary and non-binding basis. Reporting is done in 15 areas: tariffs, NTBs, services, investment, standards and conformity, customs procedures, intellectual property, competition policy, public procurement, deregulation/regulatory review, WTO Obligations (inc. Rules of Origin), dispute settlement, mobility of business people, and information gathering and analysis. Each year, several members volunteer to have their IAPs reviewed by experts and the APEC Business Advisory Council (ABAC), an independent private sector body.

Table 8. Coverage ratio of non trade barriers, 1984-2001

	1984-1987	1988-1990	1991-1993	2001
Selected LAC:				
Argentina	31.9	16.1	0.2	n.a.
Brazil	35.3	3.2	1.5	3.9
Chile	10.1	10.6	0.1	0.4
Colombia	73.2	73.8	1.7	n.a.
Costa Rica	0.8	n.a.	n.a.	n.a.
Ecuador	59.3	63.6	n.a.	n.a.
Mexico	12.7	6.3	3.9	1.2
Peru	53.4	n.a.	n.a.	0.2
Selected East-Asia:				
China	10.6	23.2	11.3	7.6
Indonesia	94.7	9.4	2.7	1.8
Malaysia	3.7	2.8	2.1	2.5
Philippines	44.9	n.a.	n.a.	1.7
Singapore	14.7	1.0	0.3	0.2
Thailand	12.4	8.8	5.5	4.0
Vietnam	n.a.	n.a.	n.a.	n.a.

Source: Authors´ calculations based on Bijit Bora, Aki Kuwahara and Sam Laird (2002).

Note: n.a. is not available.

Table 9. Non-tariff barriers (NTB) Frequency Coverage Ratio by Product in Selected Countries, 2001

(simple averages in %)

Product Category (SITC)	Brazil	Chile	Mexico	Peru	China	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam
Primary Products (0-4,68)	**3.5**	1.2	2.4	0.9	**6.5**	4.4	3.0	0.7	0.6	6.3	0.4
Agriculture (0-2,4)	**3.8**	1.4	2.5	1.0	**7.3**	3.4	3.5	0.8	0.7	**6.7**	0.4
Mining (3,68)	2.5	n.a.	1.7	n.a.	1.5	**10.8**	n.a.	0.6	n.a.	**4.2**	0.5
Manufactures (5-8,less 68)	3.9	0.2	0.8	n.a.	**8.0**	1.1	2.4	1.9	0.1	3.3	1.2
Iron and Steel (67)	0.5	n.a.	n.a.	n.a.	**44.9**	1.9	**8.0**	n.a.	n.a.	n.a.	**21.7**
Chemicals (5)	0.9	n.a.	0.1	n.a.	3.9	1.6	0.8	**4.7**	n.a.	0.2	0.1
Other Semi-manufactures (61-64,66,69)	2.2	n.a.	0.1	n.a.	1.4	1.2	0.9	0.6	n.a.	1.5	0.4
Machinery & Transport Equipment (7)	**8.1**	0.7	2.3	0.1	**14.0**	1.9	**4.3**	1.9	0.6	1.4	n.a.
Textiles and Clothing (65,84)	5.4	n.a.	n.a.	0.1	2.9	n.a.	0.3	n.a.	n.a.	**13.5**	n.a.
Other Consumer Goods (81-83,85,87-89)	6.9	n.a.	1.6	n.a.	**5.1**	n.a.	**4.3**	2.7	n.a.	n.a.	n.a.
Other Products (9)	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	**8.3**	n.a.	n.a.	n.a.
All Products (0-9)	3.9	0.4	1.2	0.2	**7.6**	1.8	2.5	1.7	0.2	4.0	1.0

Source: Bijit Bora, Aki Kuwahara and Sam Laird (2002).

Note: n.a. is not available.

C. Trade and foreign direct investment indicators

32. The trade reforms outlined above had a significant impact on international trade and inflows of foreign direct investment (FDI). In many aspects, the contribution of trade to economic growth has been bigger in China and East Asia compared to Latin America, due to its more dynamic character, more diversified nature and faster technological upgrading. Amongst other reasons, this difference between the

two regions stems from the greater degree of export orientation of East Asian economies in the ISI period, the key role of FDI in creating new comparative advantages in medium and high tech products, and a persistent anti-export bias in Latin America despite profound trade reforms.

I. Export diversification

33. East Asia's exports have become more diversified than those of Latin America, and as such contributed more to economic growth and the reduction of its volatility. Export diversification spurs economic growth through two channels (Agosin, 2007). The first is the portfolio effect: when exports are more diversified, their earnings are less volatile and as a consequence the variance of economic growth is also lower. Second, there are dynamic effects associated to diversification, referring to increases in productivity when countries diversify their exports and output base. This process is associated with the accumulation of skills, learning by doing and externalities linked to the production of non-traded inputs. Together with higher rates of fixed investment, Agosin shows that more diversified exports explain most of the difference in economic growth between East Asia and Latin America. Export diversification or concentration is measured here using the Herfindahl Hisrchman index (HHI)[17], and is calculated using a 5 digit breakdown of the Standard International Trade Classification (SITC, Rev.2). The lower the HHI, the less concentrated or more diversified exports are.

34. Broadly, exports are more diversified in East-Asia compared to Latin America, although there are several exceptions. Levels of export diversification differ strongly among countries, and should be understood in the context of different characteristics of nations that reduce export concentration (*e.g.* per capita income, country size, share of manufactures in exports and trade opening) and others that have the opposite effect (*e.g.* natural resource endowments). [18] These factors seem to explain relatively well the positions of countries at the low-end and high-end of export concentration (Figure 6). That is, the largest economies in the two regions, China and Brazil, are also the most diversified. In contrast, countries with large natural resource endowments, Ecuador and Chile, have relatively concentrated exports. In these two Latin American countries, few products represent more than 90% of exports (40 and 75 products out of more than 1 000 groupings of SITC, respectively). The relative position of the countries in between is more difficult to understand. For example, large industrial bases may have contributed to the diversification of Thailand, Mexico, Malaysia and Costa Rica, whereas the small share of manufactures in exports may explain the position of Colombia and Thailand.

35. In 9 out of 15 countries exports have become more diversified between 1980 and 2006, in line with increases in per capita income, trade liberalisation and an increasing role of manufactures in exports. The most important drop in concentration levels occurred during the 1980s, when many countries started to liberalise trade. The drops were particularly important in Indonesia, Mexico and Colombia. In contrast, in

[17] Export diversification is measured by the Herfindahl-Hirschman Index (HHI), in which the share of each product in a country's total exports is weighted, to make sure that a small export value has a minor influence on outcome of the indicator. This can be seen by taking the square of the product shares of each country. Formally the HHI is calculated as follows: $HH = \frac{\left(\sum_{j=1}^{n} p_j^2 - \frac{1}{n}\right)}{1 - \frac{1}{n}}$ *where* $p_{j=X_{IJ}/XT_I}$ indicates the market share of product j in the exports of country *i* out of its total world exports *XTi.* The closer the HHI is to 1, the more concentrated the export basket is. More than 0.18 is considered "moderately concentrated".

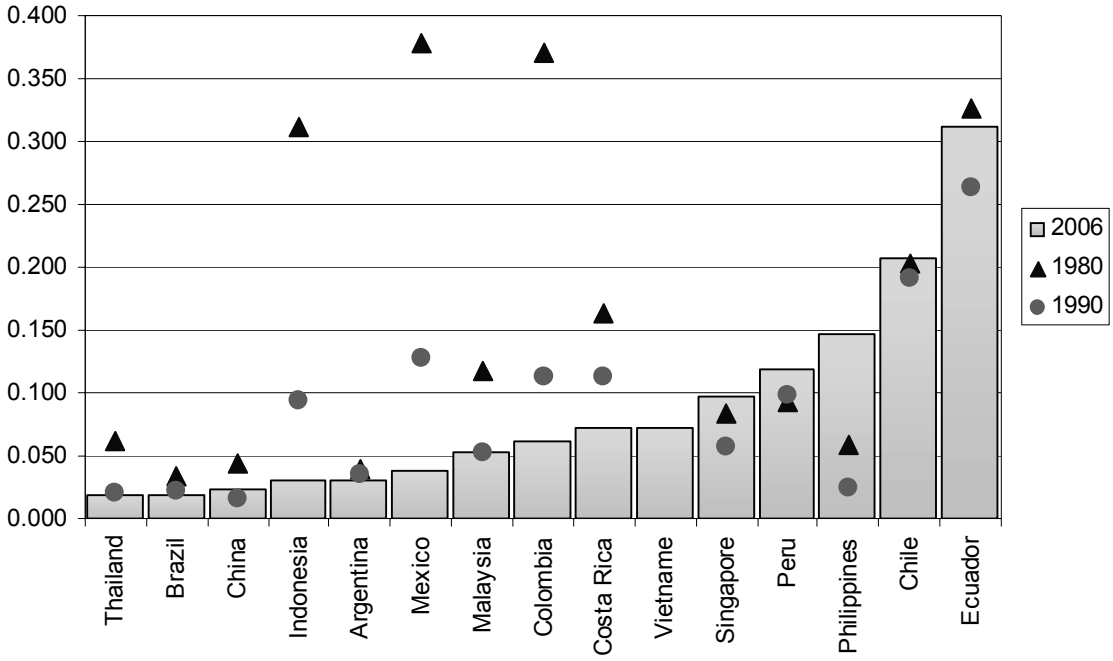
[18] Export concentration falls with increases in per capita income until a threshold is reached of around (20,000 international PPP $ in 1995 prices), after which the level of concentration increases again. This U-shaped pattern was confirmed by Klinger and Lederman (2006).

the Philippines, Singapore, and Peru exports became more concentrated over time. In Singapore, the increase originates from a re-concentration of the country in particular areas of comparative advantage.

36. The less concentrated exports in East-Asia compared to Latin America also result in part from the more favourable context to develop new types of exports in the former region. Before trade liberalisation, the ISI policies in Latin America had a much stronger export bias (see above), as in East-Asia protection of the domestic market was linked to incentives for exports. Other aspects of the more favourable context in East Asia include: better access to inputs for export production at world prices, a more competitive real exchange rate, and easier access to subsidised credit (Weiss, 2005).

Figure 6. Export diversification, 1990-2005

(Hirschman Herfindahl indices)



Source: Authors´ calculations based on COMTRADE.

37. Among aforementioned factors, the more competitive exchange rate in East Asia compared to Latin America is probably the key reason for more successful export diversification in the former region. In Latin America, there is a clear negative relationship between the level and volatility of the real exchange rate and the growth of the ratio of durables and diffusers of technical progress over total exports for the period 1970-2003 (ECLAC, 2006*b*). In addition, imports of capital goods had a positive effect on this ratio. The latter ratio is supposed to represents the diversification process from commodities to manufactures with a medium or high technology content.

II. Role of medium- and high-tech manufacturing exports

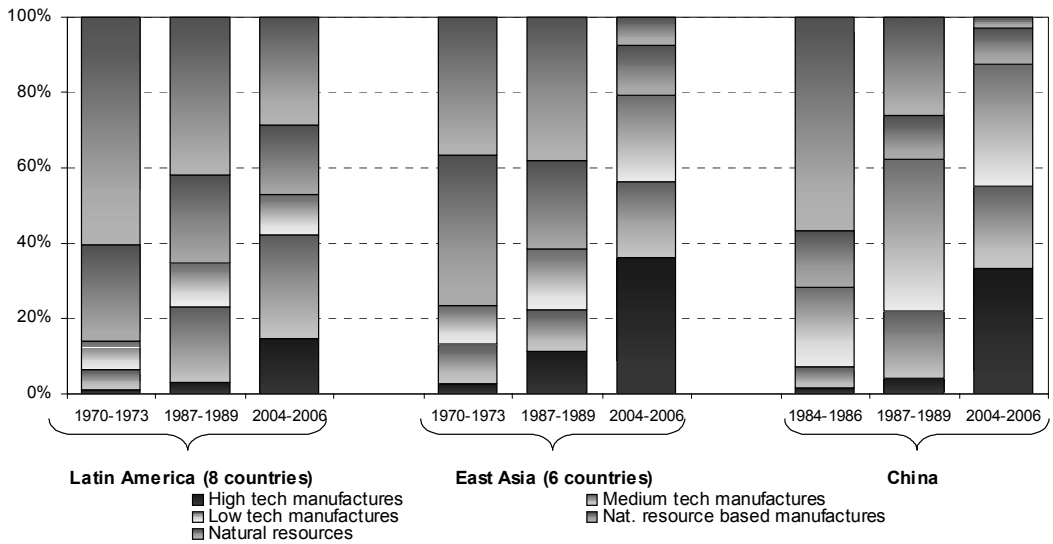
38. Within manufactures, medium- and high-tech (MHT) products have the largest potential to increase growth and productivity. MHT products raise economic growth because they grow faster in international trade being highly income elastic, create new demand, and substitute faster for older products. They also offer more scope for incorporating new scientific knowledge, particularly product design. The

production of many MTH products require sophisticated technology infrastructures, high levels of specialized technical skills and close interactions between firms, and between enterprises and universities. However, in some cases such as electronics, goods are produced in international integrated production systems, in which different processes are separated and located according to differences in wage costs, the presence of skilled labor and local R&D infrastructure. When only the final assembly takes place in low wage countries, the effect of exports of MHT products on economic growth may be more limited.

39. Both regions started off in the 1970s with roughly 80% of exports in natural resources and natural resource based manufactures. Over the last three decades, both regions reduced the proportion of commodities in exports and increased the share of high-tech products (Figure 7). However, this structural change was more profound in East Asia and China compared to Latin America. By 2004-06, the share of MHT products was about 10 percentage points higher in East Asia and China compared to Latin America. A regional breakdown by countries shows that the rise of the MHT share was most impressive in Costa Rica and the Philippines (Figure 8).

Figure 7. Export composition by technology contents, 1970s-2000s

(In % of total exports)

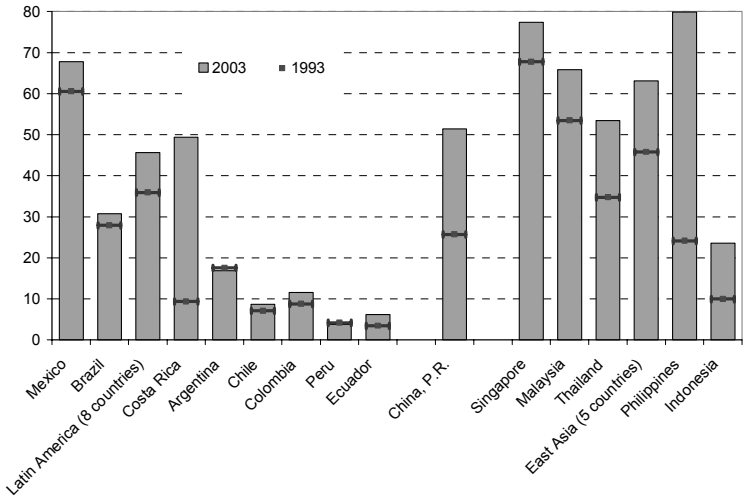


Source: Authors´ calculations based on COMTRADE.

Figure 8. Share of medium- and high-tech products in exports, 1993 and 2003

(in %)

Exports



Source: Authors' calculations based on UNIDO, *Industrial Scoreboard 2007*.

40. This change in the composition of exports has also been reflected in the evolution of trade balances by product category (Table 10). In the late 1980s, both Asia and Latin America had a trade surplus in commodities, and a deficit in high tech products. Over time, China and East Asia changed from being net exporters to net importers of commodities, and from being net importers to net exporters of high tech products. In contrast, Latin America accentuated its traditional trade balances despite the substantial technological upgrading of exports: its trade surplus in commodities and natural resource based manufacture increased and its deficits in medium and high tech manufactures worsened.

41. A country breakdown shows that each region continues to be quite heterogeneous. In Latin America, Mexico and Costa Rica, and to a lesser extent Brazil, stand out in terms of their upgrading of exports over time (Table 11). Today almost two-thirds of Mexican exports consist of medium- or high-tech products. In contrast, the other countries in the region remain heavily dependent on commodities or manufactures intensive in commodities for their exports. In East-Asia, there has been considerable upgrading across the board although Indonesia and Vietnam partly maintained their specialisation in natural resources (Table 12).

Table 10. Exports, imports and trade balance by technology-intensity, 1987-89 and 2003-05

(billion USD)

Periods	Regions (selected countries) / Periods and Products	Latin American (8 countries)			East-Asia (5 countries) (excludes Vietnam)			China		
		Exports	Imports	Balance	Exports	Imports	Balance	Exports	Imports	Balance
1987-1989	Commodities	32.9	12.4	20.6	24.0	15.4	8.6	11.6	5.3	6.3
	NR based manufactures	18.5	10.9	7.6	24.6	17.1	7.5	5.2	7.3	-2.0
	Low tech	9.3	5.1	4.2	11.4	11.9	-0.4	18.0	10.7	7.3
	Mid tech	15.6	19.8	-4.2	13.1	33.2	-20.1	7.9	23.5	-15.6
	High tech	2.5	7.7	-5.2	18.8	20.9	-2.1	1.9	6.3	-4.4
	Total	**78.8**	**55.8**	**22.9**	**92.0**	**98.5**	**-6.5**	**44.6**	**53.1**	**-8.4**
2004-2006	Commodities	132.8	45.1	87.7	64.8	71.6	-6.8	23.8	109.2	-85.3
	NR based manufactures	86.3	65.7	20.6	112.4	87.5	24.9	73.3	86.5	-13.2
	Low tech	49.0	55.1	-6.1	62.9	44.6	18.2	249.1	52.2	196.9
	Mid tech	126.5	151.6	-25.2	115.0	127.1	-12.1	170.6	182.4	-11.8
	High tech	68.4	90.0	-21.6	245.4	198.8	46.6	257.6	239.1	18.5
	Total	**462.9**	**407.5**	**55.4**	**600.6**	**529.6**	**70.9**	**774.5**	**669.4**	**105.1**

Source: Authors´ calculations based on UN— COMTRADE and International Trade and Integration Division on line set up. SIGSI System. (http://www.eclac.cl/comercio/)

[a] Trade classification in five groups according to Lall (2000): *Group 1.- Commodities* (include products like fresh fruit, meat, rice, cocoa, tea, coffee, wood, coal, crude petroleum, gas, base metals); *Group 2.- Natural resource based manufactures* (include agricultural, forest and other natural resource based products like: ore concentrates, petroleum/rubber products, cement, cut gems, glass): *Group 3.- Low tech* include textiles and clothing, pottery, simple metal parts/structures, furniture, jewellery, toys, plastic products; *Group 4.- Mid tech* include automotive products, medium tech process (synthetic fibres, chemicals and paints, fertilizers, plastics, iron, pipes/tubes), and medium technology engineering industries like engines, motors, industrial machinery, pumps, switchgear, ships, watches; and *Group 5.- High tech* include electronics and electrical products (Office/data processing/telecom equip, TVs, transistors, turbines, power generation equipment) and others high technology as: pharmaceuticals, aircraft, optical/measuring instruments, cameras. Groups are classified according to SITC, Rev. 2, 3 digit basis.

Table 11. Latin America (8 countries): Changes in export composition, 1987-2006

(Percentages of total exports)

Periods	Countries / Periods & products	Argentina	Brazil	Chile	Colombia	Costa Rica	Ecuador	Mexico	Peru	Latin America (8 countries)
1987-1989	Commodities	45.0	29.9	35.3	68.9	67.3	89.3	46.3	49.9	**41.8**
	NR.based manufactures	25.5	23.7	60.0	12.9	9.9	9.0	14.9	33.1	**23.4**
	Low tech	15.9	15.7	1.8	10.6	13.8	1.0	8.6	13.4	**11.8**
	Medium tech	11.6	26.6	2.8	7.1	5.7	0.6	25.9	3.2	**19.8**
	High tech	2.0	4.1	0.2	0.5	3.3	0.2	4.3	0.5	**3.1**
	Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**
2004-2006	Commodities	46.2	31.2	39.2	48.4	25.3	78.9	16.8	47.5	**28.7**
	NR based. manufactures	26.0	23.0	53.3	18.9	13.9	14.3	7.5	38.4	**18.6**
	Low tech	7.4	10.3	1.8	13.1	13.7	2.5	13.0	11.3	**10.6**
	Medium tech	18.4	27.6	5.3	17.2	17.4	3.6	36.9	2.4	**27.3**
	High tech	2.2	7.8	0.4	2.4	29.7	0.8	25.8	0.4	**14.8**
	Total	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Authors' calculations based on information from The United Nations International Commodity Trade Data Base (COMTRADE) and International Trade and Integration Division on line database. SIGSI System. (http://www.eclac.cl/comercio/)

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Table 12. East-Asia (7 countries): Changes in export composition, 1987-2006

(Percentages of total exports)

Periods & products	Countries	China	Indonesia	Malaysia	Philippines	Singapore	Thailand	Vietnam	East Asia (excluding China))
1987-1989	Commodities	26.0	57.3	28.2	23.9	7.1	31.3	…	26.1
	NR.based manufactures	11.7	28.4	30.2	32.6	25.1	19.6	…	26.8
	Low tech	40.4	9.8	8.5	22.3	10.0	29.2	…	12.4
	Medium tech	17.7	3.9	11.3	9.0	23.8	8.7	…	14.3
	High tech	4.2	0.5	21.7	12.3	34.0	11.3	…	20.4
	Total	100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**…**	**100.0**
2004-2006	Commodities	3.1	36.1	12.8	3.8	1.1	11.4	0.5	10.8
	NR based. manufactures	9.5	24.6	15.2	9.8	20.9	17.7	5.9	18.7
	Low tech	32.2	17.5	9.3	9.2	6.1	15.9	6.5	10.5
	Medium tech	22.0	13.2	17.6	12.0	19.0	28.6	47.8	19.2
	High tech	33.3	8.5	45.0	65.1	52.9	26.4	39.3	40.9
	Total	100.0	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**	**100.0**

Source: Authors' calculations based on information from The United Nations International Commodity Trade Database (COMTRADE) and ECLAC's on line SIGSI database. (http://www.eclac.cl/comercio/)

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42. East-Asia has also been more successful than Latin America in creating new dynamic comparative advantages for its exports over time, with considerable spill-overs to economic growth (Table 13). This can be studied using the revealed comparative advantage (RCA) analysis framework proposed by Balassa[19]. A number exceeding one shows that a country's share in world exports of a product is larger than its overall share in world exports. In the 1960s and 70s, both Latin America and Asia had comparative advantages in products such as food, crude materials and animal and vegetable oils. Over time, Latin America has remained highly specialised in commodities and commodity intensive manufactures, as expected for a region with abundant natural resources, including petroleum, minerals and land. Some state that natural resources may have acted as a "curse" for the development of the region, as the high profitability of their exploitation, requiring little technology, hindered the upgrading of its exports (Kuwayama and Durán, 2003). The story of East-Asia is different, particularly since 2000: the region reduced its comparative advantage in foodstuffs and raw materials,[20] while increasing substantially its advantages in manufactures (categories 5, 6 and 7 of SITC, Rev.1).

[19] The Balassa Index is calculates as follow: $IB = \frac{X_{ij} / X_{iw}}{x_{iw} / x_w}$ where x_{ij} correspond to export of product i to the country j; X_{iw} is total world export of product i ; and $X_{w\ total}$ world exports. If the index is greater than 1, then a country have a relative comparative advantage in the product i.

[20] Animal and vegetable oils and fats is the only segment in which it maintained an advantage.

Table 13. Revealed comparative advantage: 1962-2005

(based on exports values)

Regions / Sectors	Latin America (8)						East-Asia(5)					
	1962	1970	1980	1990	2000	2005	1962[a]	1970[a]	1980	1990	2000	2005
0 Food and live animals	**3.9**	**4.4**	**3.9**	**3.1**	**2.5**	**2.8**	**1.1**	**1.5**	**1.2**	**1.3**	**0.9**	0.7
1 Beverages and tobacco	0.5	0.5	1.0	**1.1**	**1.3**	**1.5**	0.9	0.7	0.4	0.6	0.5	0.3
2 Crude materials, inedible	**1.7**	**1.9**	**2.1**	**2.5**	**2.4**	**3.3**	**4.1**	**4.6**	**2.6**	**1.5**	**0.8**	0.7
3 Mineral fuels, lubricants	0.3	0.2	0.7	**2.0**	0.9	**1.2**	**1.7**	**1.8**	**1.7**	**2.0**	**0.8**	0.7
4 Animal and vegetable oils and fats	**3.5**	**2.8**	**3.9**	**4.8**	**3.0**	**3.4**	**2.3**	**6.3**	**5.3**	**4.3**	**3.0**	**2.6**
5 Chemicals	0.3	0.3	0.5	0.6	0.5	0.5	0.2	0.1	0.4	0.5	0.5	0.5
6 Manufactured goods	0.5	1.0	0.9	**1.3**	**1.0**	**1.0**	0.5	0.5	0.6	**0.8**	**0.8**	**0.9**
7 Machinery and transport equipment	0.0	0.1	0.3	0.4	**0.9**	**0.8**	0.1	0.1	0.3	0.7	**1.1**	**1.2**
8 Miscellaneous manufactured articles	0.0	0.2	0.4	0.4	**0.8**	**0.7**	0.2	0.2	0.9	**1.4**	**1.7**	**1.7**
9 Commod. & transacts. not class. acc	0.2	0.3	0.3	0.4	0.3	0.1	1.0	**1.2**	**2.7**	**1.2**	0.3	0.3

Source: Authors´ calculations based on COMTRADE.
[a] Excluding China and Vietnam

Source: Authors´ calculations based on COMTRADE.
[a] Excluding China and Vietnam

43. Again, country details reveal heterogeneous patterns. Within Latin America, only Mexico and to a lesser extent Costa Rica succeeded in moving the centre of gravity of their specialisation from commodities to manufactures (particularly groups 7 and 8). Within East Asia, Indonesia, Thailand and Vietnam continue to have revealed comparative advantages in groups 0, 2 and 3, and Indonesia and Malaysia in group 4, similar to Latin America (Table 14).

Table 14. Revealed Comparative Advantage: 1980 to 2005

Calculated on the basis of exports values using SITC Rev 1

Codes	Product Names/Regions & Countries	Latin America (8 countries)								East Asian (7 countries)						
		Argentina	Brazil	Chile	Colombia	Costa Rica	Ecuador	Mexico	Peru	China	Indonesia	Malaysia	Philippines	Singapure	Thailand	Vietnam
	1980															
0	Food and live animals	5.3	4.1	1.4	7.5	6.7	3.4	1.2	1.6	1.3	0.6	0.4	2.6	0.5	4.7	…
1	Beverages and tobacco	0.5	1.5	0.5	0.7	0.1	0.1	0.8	0.0	0.4	0.3	0.1	0.5	0.4	1.0	…
2	Crude materials, inedible	2.4	2.4	3.5	0.8	0.2	0.2	0.9	3.7	1.6	2.6	5.2	4.0	1.8	2.3	…
3	Mineral fuels, lubricants	0.2	0.1	0.1	0.1	0.0	3.2	3.4	1.0	1.6	3.6	1.3	0.0	1.3	0.0	…
4	Animal and vegetable oils	10.3	5.6	1.3	0.0	0.0	0.2	0.1	0.3	0.7	2.1	18.1	16.2	4.3	0.3	…
5	Chemicals	0.6	0.5	0.5	0.3	0.9	0.0	0.4	0.3	0.6	0.0	0.1	0.2	0.9	0.1	…
6	Manufact goods classified	0.6	0.8	3.2	0.5	0.7	0.1	0.3	1.8	1.2	0.2	0.8	0.5	0.5	1.3	…
7	Machinery-transport eq.	0.2	0.6	0.1	0.1	0.2	0.0	0.2	0.1	0.2	0.0	0.4	0.1	1.0	0.2	…
8	Other manufactures	0.4	0.5	0.0	0.7	0.7	0.0	0.2	0.6	1.8	0.1	0.3	1.3	0.8	0.8	…
9	Commodities-other trans.	0.0	0.6	0.3	0.3	2.6	0.0	0.0	0.0	2.6	0.1	0.1	6.9	3.2	1.7	…
	1990															
0	Food and live animals	5.2	2.8	3.0	4.3	7.7	5.8	1.4	2.8	1.4	1.2	0.6	1.7	0.4	3.8	…
1	Beverages and tobacco	0.9	1.8	0.6	0.4	0.1	0.2	0.9	0.0	0.5	0.4	0.1	0.6	1.2	0.3	…
2	Crude materials, inedible	2.5	3.4	4.4	1.0	1.3	0.3	0.9	5.4	1.3	1.7	3.2	1.5	0.7	1.3	…
3	Mineral fuels, lubricants	1.0	0.3	0.1	4.7	0.1	6.6	4.8	1.3	1.1	5.6	2.3	0.3	2.3	0.1	…
4	Animal and vegetable oils	23.1	3.9	0.5	0.0	1.1	0.2	0.1	1.3	0.6	4.1	17.7	11.4	2.0	0.1	…
5	Chemicals	0.7	0.7	0.4	0.4	0.5	0.0	0.7	0.2	0.7	0.3	0.2	0.3	0.7	0.2	…
6	Manufact goods classified	1.0	1.5	2.9	0.6	0.6	0.1	0.6	2.1	1.2	1.3	0.5	0.6	0.4	0.8	…
7	Machinery-transport eq.	0.2	0.5	0.0	0.0	0.1	0.0	0.7	0.0	0.5	0.0	0.9	0.3	1.3	0.5	…
8	Other manufactures	0.2	0.4	0.1	0.8	0.7	0.1	0.3	0.4	2.1	0.8	0.9	1.2	0.9	2.1	…
9	Commodities-other trans.	0.1	0.6	0.7	0.4	4.0	0.0	0.0	0.0	1.0	0.0	0.2	16.4	0.7	0.6	…
	2000															
0	Food and live animals	6.1	3.2	4.0	3.4	5.5	6.7	0.7	5.4	0.9	1.1	0.3	0.6	0.2	2.6	4.6
1	Beverages and tobacco	1.4	1.9	3.8	0.4	0.2	0.2	1.1	0.3	0.3	0.4	0.4	0.2	0.9	0.3	0.1
2	Crude materials, inedible	2.5	5.2	9.1	1.7	1.1	1.4	0.4	5.7	0.6	2.4	0.9	0.5	0.2	1.3	0.9
3	Mineral fuels, lubricants	1.8	0.2	0.1	4.3	0.1	5.0	1.0	0.7	0.3	2.5	1.0	0.1	1.0	0.3	2.7
4	Animal and vegetable oils	20.4	2.8	0.2	1.2	2.6	1.3	0.1	4.8	0.2	9.4	11.3	4.1	0.5	0.4	1.4
5	Chemicals	0.8	0.7	0.6	1.1	0.6	0.3	0.3	0.3	0.5	0.5	0.4	0.1	0.7	0.7	0.1
6	Manufact goods classified	0.7	1.5	2.5	0.8	0.5	0.3	0.6	2.2	1.2	1.4	0.5	0.3	0.3	0.8	0.4
7	Machinery-transport eq.	0.3	0.7	0.1	0.1	0.9	0.0	1.4	0.0	0.7	0.4	1.4	1.8	1.6	1.0	0.2
8	Other manufactures	0.2	0.5	0.1	0.6	1.1	0.1	1.1	0.8	2.8	1.4	0.8	0.9	0.7	1.2	2.1
9	Commodities-other trans.	0.5	0.8	0.9	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.3	0.0	0.3	1.1	1.3
	2005															
0	Food and live animals	6.4	3.9	3.5	3.4	5.8	5.6	0.9	4.0	0.6	1.1	0.4	0.8	0.2	2.3	4.8
1	Beverages and tobacco	1.6	1.7	2.7	0.5	0.4	0.3	1.3	0.1	0.2	0.4	0.4	0.5	0.6	0.3	0.6
2	Crude materials, inedible	3.3	5.5	10.9	1.9	1.2	1.5	0.5	10.1	0.3	3.6	0.9	0.6	0.2	1.7	1.0
3	Mineral fuels, lubricants	1.6	0.6	0.2	4.0	0.0	5.8	1.5	1.1	0.2	2.7	1.3	0.2	1.2	0.4	2.1
4	Animal and vegetable oils	22.3	3.6	0.3	1.7	3.2	2.0	0.1	3.2	0.1	16.3	12.9	4.7	0.3	0.4	0.3
5	Chemicals	0.7	0.6	0.5	0.7	0.7	0.2	0.3	0.3	0.4	0.5	0.5	0.1	1.0	0.7	0.1
6	Manufact goods classified	0.7	1.3	2.6	0.9	0.7	0.2	0.6	1.8	1.2	1.2	0.5	0.3	0.3	0.9	0.5
7	Machinery-transport eq.	0.3	0.7	0.0	0.2	0.8	0.1	1.3	0.0	1.1	0.4	1.3	1.9	1.5	1.1	0.2
8	Other manufactures	0.2	0.3	0.1	0.7	1.5	0.1	1.1	0.8	2.4	1.1	0.8	0.9	0.6	1.1	2.8
9	Commodities-other trans.	0.5	0.0	0.6	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.4	0.0	1.1	0.5	0.2

Source: Authors' calculations based on UN - COMTRADE.

Revealed comparative advantage increasing from < 1 to > 1 relative to previous period.
Revealed comparative advantage falling from > 1 to < 1 relative to previous period.

III. Role of FDI and regional production networks

44. In the past couple of decades, inward foreign direct investment has increased both into Latin America and East Asia (Table 15). The stock of FDI as a share of GDP has increased much more in Latin America. Nevertheless, there is a large heterogeneity among countries within each region, with Singapore and Chile having the largest proportionate inflows, and China and Indonesia the smallest.

Table 15. Trends in FDI, 1970-2006

(Annual averages in million USD and % of GDP)

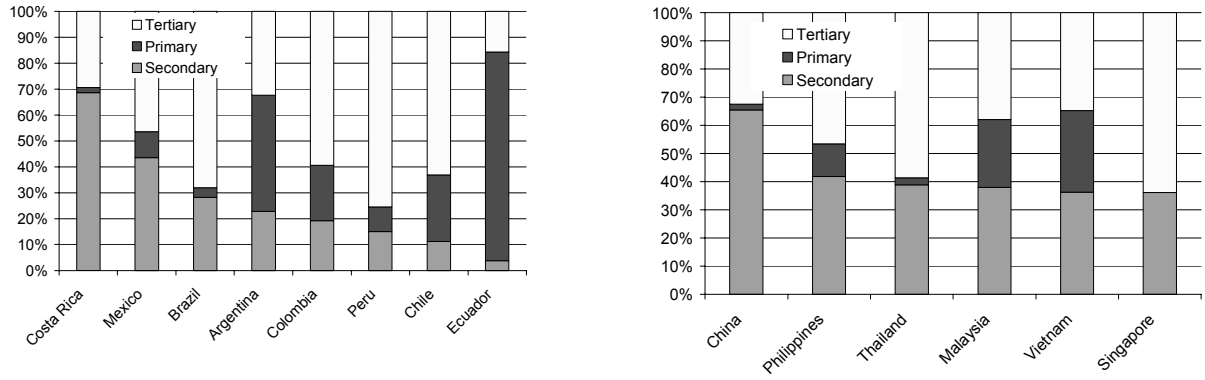
	Flows				Stock	
	1970-1979	1980-1989	1991-1999	2000-2006	Stock 1990	Stock 2006
	Millions of USD				*% of GDP*	
Latin America (8 countries)	**2 272**	**5 806**	**32 557**	**55 817**	**8.8**	**29.6**
Argentina	131	584	6 629	4 203	6.2	30.4
Brazil	1 270	1 721	9 823	19 138	8.1	25.7
Chile	59	438	3 181	5 334	31.9	65.1
Colombia	53	479	1 757	4 061	8.7	33.8
Costa Rica	44	70	335	746	23.2	32.0
Ecuador	68	85	459	1 396	15.7	40.8
Mexico	602	2 387	8 801	19 066	8.5	27.2
Peru	45	41	1 572	1 873	5.1	23.1
East-Asia (6 countries)	**984**	**3 929**	**19 932**	**27 903**	**9.2**	**11.8**
Indonesia	196	326	2 048	1 116	7.7	7.4
Malaysia	326	965	4 555	3 524	23.4	36.7
Philippines	80	214	1 255	1 357	7.4	14.3
Singapore	301	1 907	7 841	15 343	82.6	160.1
Thailand	80	510	2 925	4 966	9.7	32.0
Vietnam	1	7	1 307	1 598	25.5	59.4
China	**0**	**1 619**	**28 694**	**56 621**	**5.8**	**14.3**

Source: Authors´ calculations based on UNCTAD.

45. The target sectors of FDI in the two regions were very different: in East-Asia most FDI went into manufacturing, whereas in Latin America the main targets were (infrastructure) services and to a lesser extent the natural resource sectors (Figure 9). In East Asia, the share of the secondary sector in FDI is around or above 40%. In China, this ratio exceeds 60%. With the exception of Mexico and Costa Rica and to a lesser extent Brazil, the share of the secondary sector in FDI remains at around 20% in Latin America. Most multinationals in this region supply local markets with end-products and services and follow a more traditional strategy of natural resource seeking, or national (or regional) market access seeking. Most FDI has been in the mining (*e.g.* copper in Peru and Chile, oil in Ecuador) and services sectors such as banking, electricity, and telecommunications and much less in manufacturing. A large share of the FDI was the result of privatizations and mergers-acquisitions of state enterprises, which in many cases was a one-off phenomenon.

Figure 9: Composition of FDI stock by sector, 2005

(% of total, ranking by share of the secondary sector)



Source: Authors´ calculations based on www.investmentmap.org and UNCTAD.

46. Within Latin America, Costa Rica and Mexico are exceptions as manufacturing (e.g. automobiles-parts, electronics and textiles-clothing) was also a main target sector for FDI. However, the spillovers were limited because most FDI into Costa Rica and Mexico remained in export processing zones (EPZ or maquila), with few links to the rest of the economy, importing the vast majority of capital and intermediate inputs and subcontracting very little in the host country. East Asia also has had EPZ regimes, but several countries (*e.g.* Singapore and China) better succeeded in creating linkages with the rest of the economy.[21]

47. According to Zhang (2001), FDI had a more positive impact on economic growth in East Asia than in Latin America, because of East Asia's export-promotion strategy, improvements in human capital and macroeconomic stability. Poon and Thompson (1998) find that the effect of Japanese manufacturing FDI on Asian countries' growth rates was positive[22], and argues that the hypothesis that manufacturing FDI which exploits a host country's comparative advantage enhances growth is confirmed for East Asia.

48. Manufacturing FDI in East Asia and Latin America differ because in the former region multinationals built regional production networks whereas in the latter this trend was almost absent except for Mexico and Costa Rica where bilateral production sharing takes place with the United States. FDI in East Asia has been mostly motivated by efficiency-seeking arguments, creating regional export platforms. In this region, these regional platforms were enhanced because of the governments' efforts to enhance domestic technological capabilities (Narula, 2002).

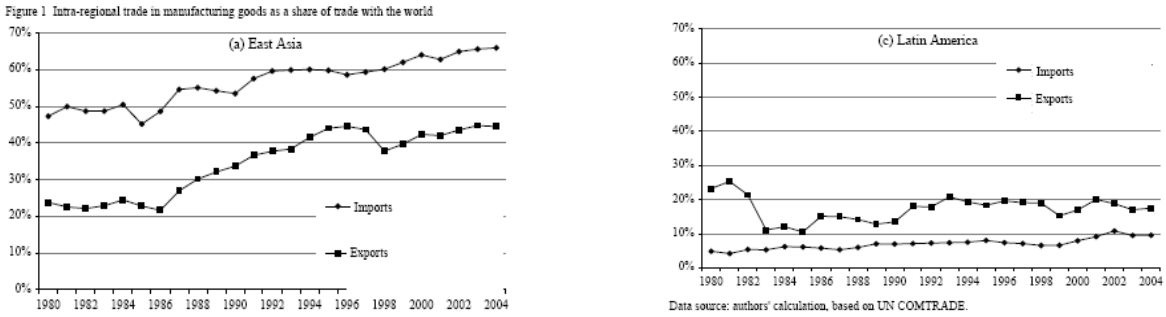
[21] This success critically depends on the effectiveness of key public and private players. In Singapore, the Economic Development in Singapore created incentives for transnational companies to invest in local providers, which helped them to meet international standards like ISO, increase productivity and value added (Nagel, 2005). According to Lall (2004), Singapore's FDI attracting policy can be described by "aggressive targeting and screening of TNCs into high value added activities". In China, most FDI is oriented toward the export sector. The authorities promote FDI through joint ventures of two types. These ventures represent only 3% of the total number of firms, but almost 30% of value added and one fifth of tax revenues (Rosales and Kuwayama, 2007). See also Engman et al. (2007).

[22] The same study finds that this is not the case for Japanese FDI to Latin America. The fact that similar results are not found for the Latin American countries seriously limits the potential generalization that Japanese manufacturing is necessarily "superior" in terms of growth stimulation.

49. Regional production sharing played a key role in the technological upgrading of exports in East Asia. Ando *et al.* (2006) find that intra-regional trade in manufacturing goods as a share of total trade has increased considerably in the East Asian region. In this region, these goods increased their share in imports from 50% to 70% of imports, whereas in Latin America their share has been relatively stable at around 10% (Figure 10). Another tendency is the increasing importance of trade in parts and components compared to trade in final goods (Figure 11). This trend reflects the larger role of international production networks. For example, in East Asia the increase of intraregional trade in machinery parts and components explains half of the total intraregional export growth between 1990 and 2003.

Figure 10. Intra-regional trade in manufactured goods as a share of trade with the world

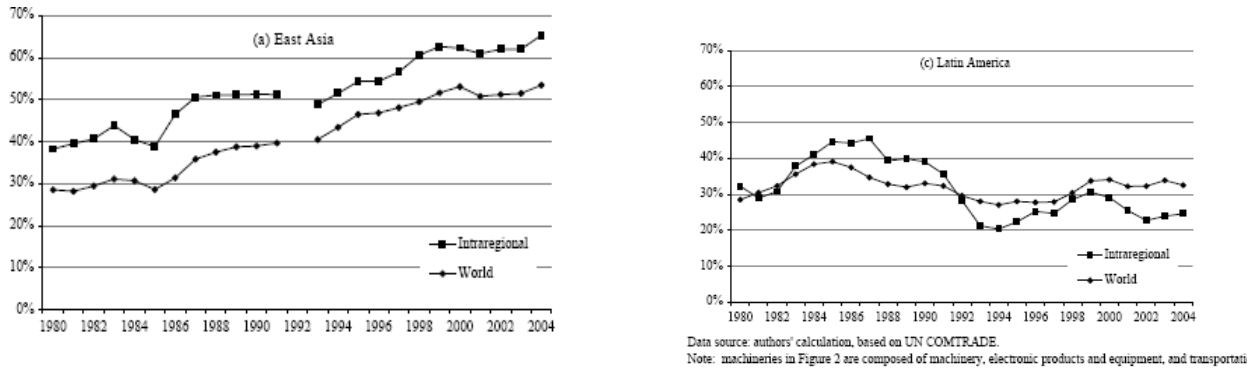
(in %)



Source : Ando et al. (2006)

Figure 11. Machinery parts and components as a share of total machinery trade: intra-regional trade and trade with the world

(in %)



Source : Ando et al. (2006)

50. Although overall and intra-regional trade liberalisation has played some role in boosting regional trade (see above), other developments have also greatly contributed to this process. That is, in East Asia *de facto* regional integration, as witnessed by trade flows, advanced at much higher speed that *de jure* regional integration through trade agreements. One major factor that contributed to the development of production networks was the FDI flows from Japan and Asian newly industrialised economies (NIEs) to other East Asian countries which picked up substantially after the dollar and dollar linked currencies' depreciation after the 1985 Plaza Accord. Introduction of more pro- FDI policy in many East Asian countries and major

technological advances in transport and information and communication technologies (ICT), which strongly reduced the cost of shipping goods and transmitting information, also facilitated this process.

D. Structural adjustment in the two regions

This section reviews various aspects of the structural adjustment in production and employment in China, East Asia and Latin America, which are partly linked to changes in trade and foreign direct investment with a view to studying how these contributed to the growth performance.

I. Role of manufacturing in GDP

51. In both regions the sectoral composition of GDP has changed considerably: the share of agriculture has fallen and the share of services has risen. However, only East Asia succeeded in increasing the role of its manufacturing sector in its economy over time (Table 16), whereas in China and Latin America, the share of manufacturing in GDP has fallen. This trend for China has to be interpreted with caution as in the 1980s many (state-owned) manufacturing firms performed many services (including schools and hospitals), which were later on out-sourced. In Latin America, deindustrialisation can be attributed in part to endogenous factors (*e.g.*, a structural change towards service industries when economies become advanced due to changes in the composition of demand and lower productivity growth). However, exogenous factors seem to have been even more important, particularly the reversal of ISI policies that centered on industrial development. Some state that the abandonment of the industrialisation agenda pushed the region back to its traditional comparative advantages linked to its traditional resource base (Palma, 2004).

Table 16. Sectoral shares in GDP, 1980-2006
(weighted averages, %)

	1980	1990	2006
	Latin America (8 countries)		
Agriculture	10.3	8.9	6.0
Industry	38.9	35.0	31.7
Manufacturing	28.1	24.2	18.4
Services	50.8	56.1	62.3
	China		
Agriculture	30.1	27.0	11.9
Industry	48.5	41.6	47.0
Manufacturing	40.5	32.9	30.9
Services	21.4	31.3	41.1
	East Asia (6 countries)		
Agriculture	24.8	18.5	11.7
Industry	37.0	36.7	41.8
Manufacturing	20.3	23.0	28.1
Services	38.1	44.8	46.5

Source: Authors' calculations based on World Bank, *World Economic Indicators*.
Note: Regional figures are a weighted average of individual country shares, using each country's sectoral GDP at PPP as weights.

52. The declining (Latin America) versus increasing (East Asia) manufacturing share in GDP may explain part of the difference in growth performance between the two regions, as manufacturing can produce significant spill-overs in terms of human and physical capital across to economic and productivity growth being more knowledge, human and physical capital intensive (Nagel, 2005).

II. Changes in structure of manufacturing value added and employment

53. We now take a closer look at sectoral changes in value added and employment in manufacturing. This sector is one of the main drivers of economic growth, as it is most intensive in innovation and spill-overs to the rest of the economy, and the most export oriented in most countries.

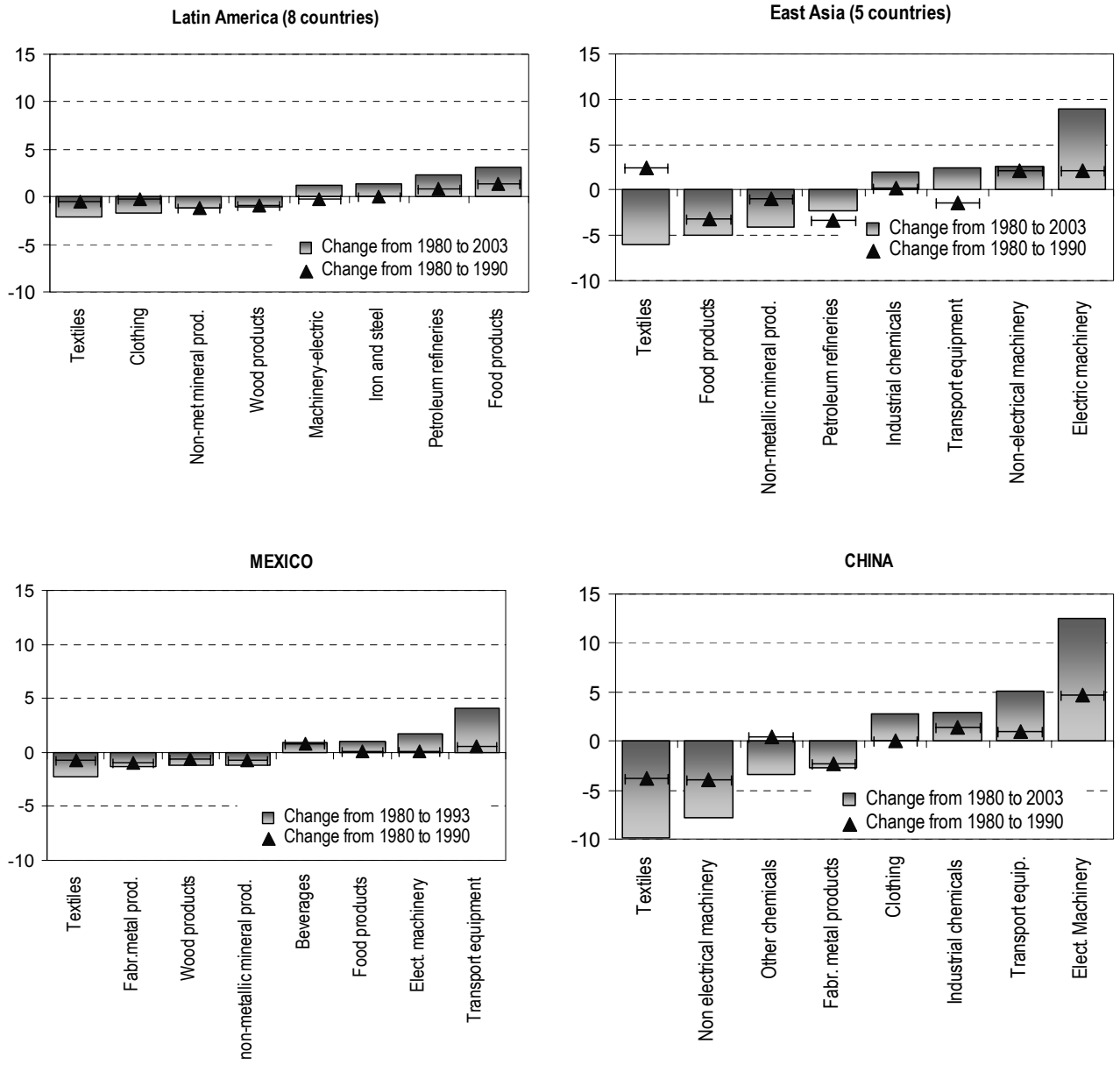
a) Value added

54. Compared to Latin America, changes in the value added structure of manufacturing have been much bigger in East Asia and China and more in line with the technological upgrading of exports (Figure 12). In East Asia and China, some industries such as electrical machinery (textiles) gained (lost) more than 10% points, whereas in Latin America the largest gainer (loser), the food sector (textiles), only gained (lost) two to three percentage points. The difference in the magnitude of the effects of trade on patterns of production as seen in value-added may reflect the deeper regional integration in Asia, as a result of the dismantling of previous national production processes towards a regional production network where production is spread to lowest-cost locations across the region.[23] The most important absolute changes in shares took place in the second sub-period (1990 to 2003) in East Asia and China. In Latin America, the changes were small both in the 1980s and 1990s.

[23] This process was facilitated by the unilateral liberalization of trade in parts and components, which are the main category of East Asia's intra-regional trade. Although the tariff reductions were non-discriminatory, their effect was regional because of the networks of multinationals from Korea, Japan and Chinese Taipei (ECLAC, 2007).

Figure 12. Changes in value added manufacture structure, 2003 vs. 1980 and 1990 vs 1980[a]

(% points change in total value added) [b]

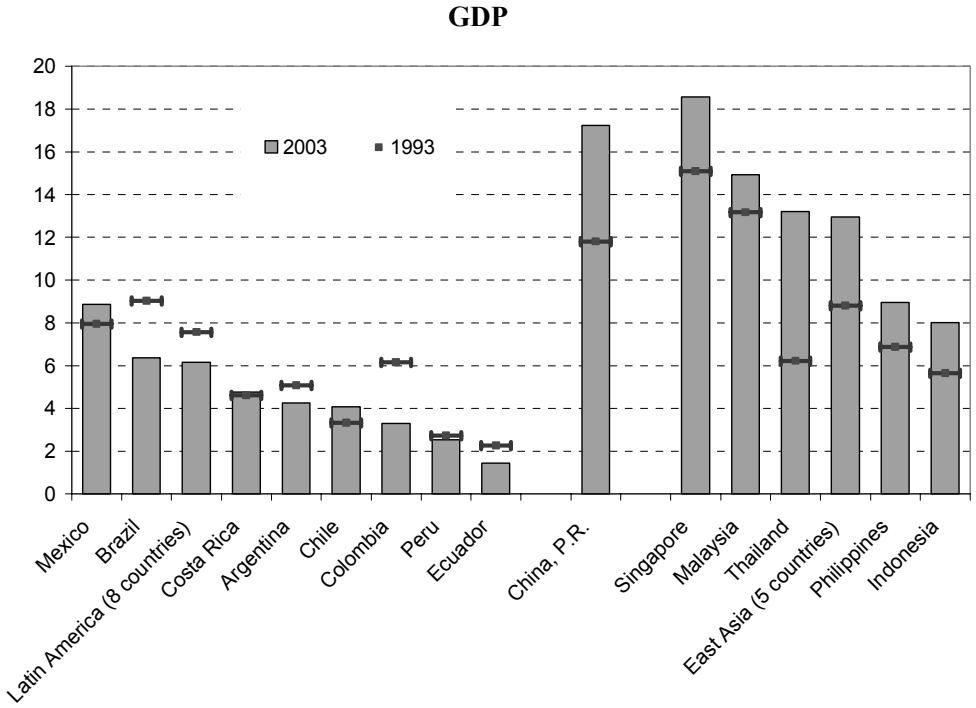


Source: Authors' calculations based on UNIDO and ECLAC-PADI Databases.
Notes: these Figures represent those sectors that gained or lost most in terms of their participation in total manufacturing value added. The % points are the absolute difference between the 2003 and 1980 and 1990 and 1980 shares.
[a] Regional change in structure is the weighted averages of individual countries results, using sectoral value added in current USD as weights.

[b] East-Asia: excludes Vietnam.

55. Trends within the regions are quite heterogeneous. In Latin America, the industrial structure changed towards natural resource based sectors in 6 out of 8 countries in the region. In Mexico, the industrial structure changed towards medium and high tech sectors — chemical products including plastics; electrical machinery, transport equipment—. Labour intensive industries like leather and footwear reduced share in value added (See Annex). In Asia, the major trend is the shift toward medium and high technology sectors. This becomes clear when we look at the share of medium- and high-tech manufacturing as a proportion of GDP (Figure 13). Despite an increase in export shares of medium- and high-tech goods in both regions (Figure 8), Latin America has been less successful in expanding the share of MHT sectors in the economy reflecting its continued dependence on natural resources and natural resource based industries.

Figure 13. Share of medium- and high tech sectors in GDP, 1993 and 2003



Source: Authors' calculations based on UNIDO, *Industrial Scoreboard.*

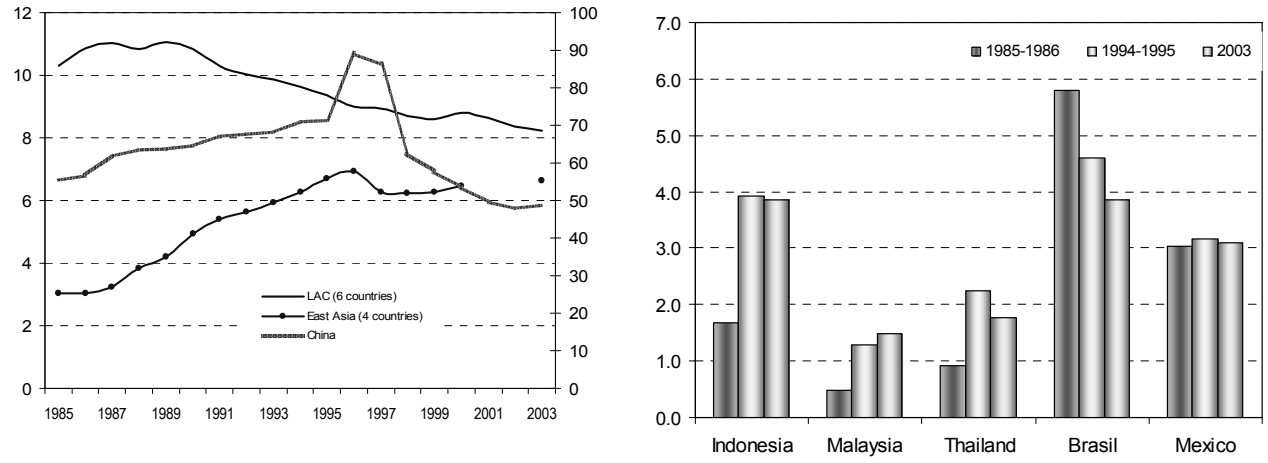
b) Employment

56. Trends in manufacturing employment differ substantially between the two regions (Figure 14a). In East-Asia, manufacturing employment increased between the mid-1980s and mid-1990s, but suffered a temporary setback in the context of the Asian crisis, only to recover the pre-crisis level in 2003. In Latin America, manufacturing employment has fallen almost continuously since the mid 1980s, due to the exogenous and endogenous trends outlined above.

57. Trends among countries in Latin America are more heterogeneous then those in East Asia (Annex Figure 2). Medium sized countries such as Indonesia, Malaysia and Thailand, increased their manufacturing employment over the long run, whereas employment in this sector fell in Brazil but stabilised in Mexico.

Figure 14a. Trends in employment in the manufacturing sector, 1985 to 2003

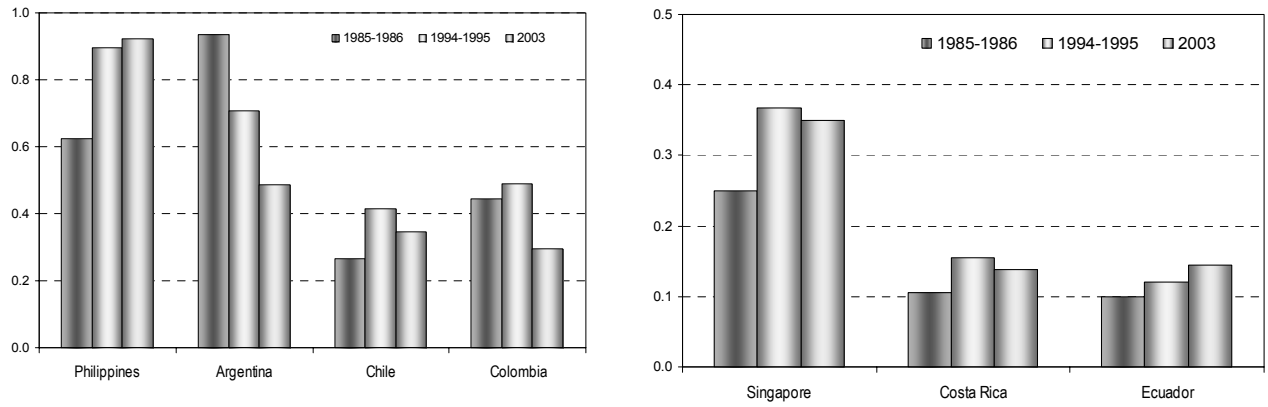
(million persons engaged)



Source: Authors' calculations based on UNIDO, ECLAC-PADI Databases, and Szirmai et al (2005).

Figure 14b. Changes in employment levels in manufacturing, 1985 to 2003

(Millions persons engaged)

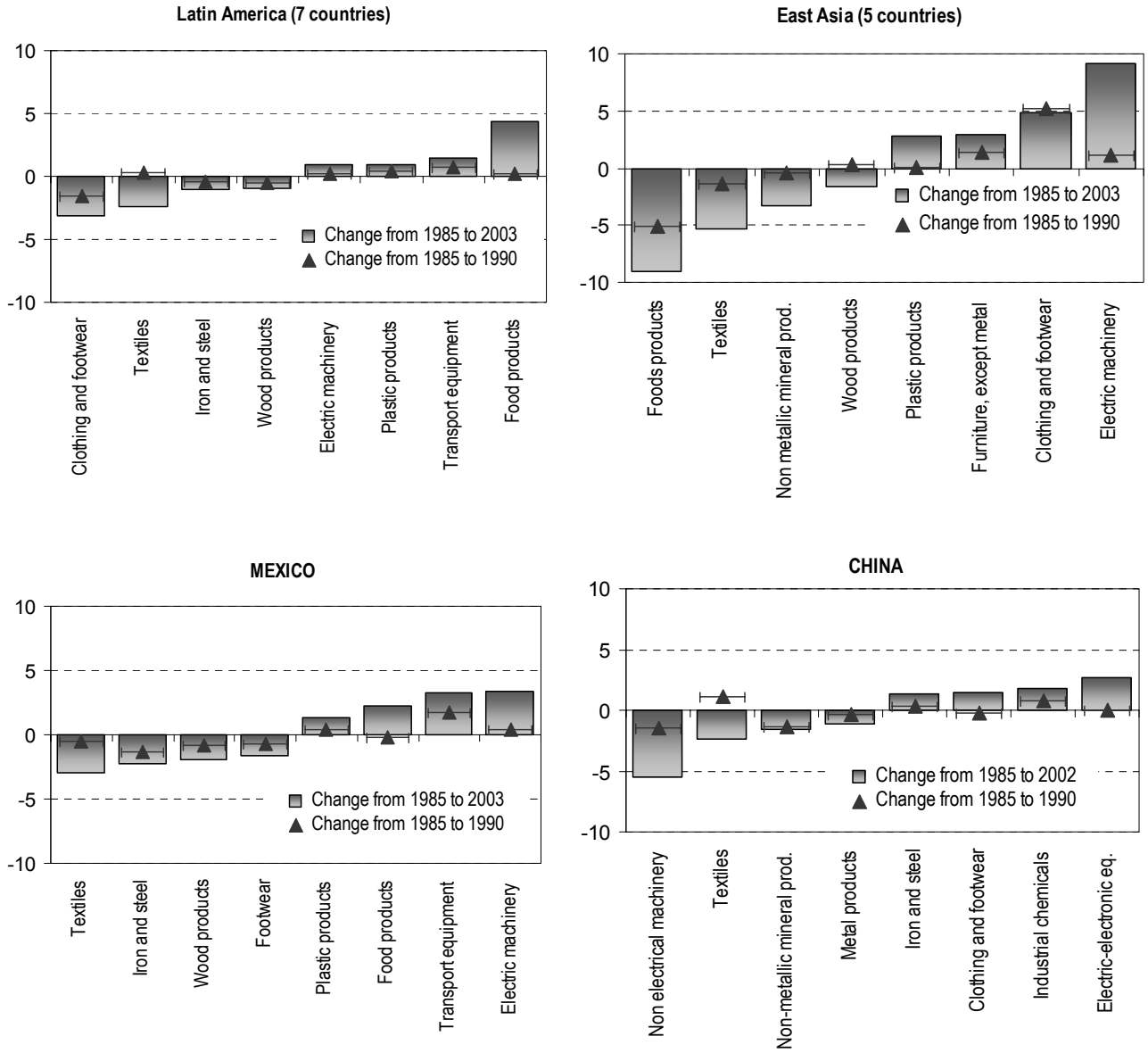


Source: Authors' calculations based on UNIDO, ECLAC-PADI Databases, and Szirmai et al (2005).

58. Some of the changes in the employment structures followed those in the composition of value added and exports. Particularly, in East Asia the employment share of electrical machinery grew in line with gains of the same sector in value added and exports. In Latin America, food products experienced a similar expansion in the three structures. In terms of commonalities, both regions experienced a declining share of the textile industry (Figure 15). However, there are important differences that reflect the different evolution of the comparative advantages in each region. There are considerable variations among the countries in East-Asia and Latin America (Annex Table 2). A breakdown into two sub-periods illustrates that most of the employment adjustment took place after 1990.

Figure 15. Changes in employment structure of manufacturing, 2003 (or most recent year) vs. 1985; 1990 vs 1985 [a]

(% points changes in total employment share) [b]



Source: Authors' calculations based on UNIDO, ECLAC-PADI Databases and Szimai *et al.* (2005) for China.
Notes: these Figures represent those sectors that gained or lost most in terms of their participation in total manufacturing employment. The % points are the absolute difference between the 2003 and 1985, and 1990 and 1985 shares.
[a] Regional changes in structure are a weighted average of individual countries results, using sectoral employment as weights. [b] East-Asia: excludes Vietnam and China; Latin America 7 exclude Peru.

E. Conclusions

59. The selected countries in Latin America and East-Asia shared common features around 1980: export structures were concentrated in natural resources and labour intensive products, and trade policies were oriented towards import substitution with high and escalated tariffs and high incidence of non-tariff barriers (NTBs). In the subsequent decades, both regions shifted from an import-substitution regime to a

more market-oriented, export oriented regime. East-Asia has been more successful both in terms of integration with the global economy and growth. The rapid and less volatile growth in GDP per capita has allowed East Asia to largely reduce its income gap with Latin America. Looking back at some of the salient commonalities and differences between the two regions:

- Both Latin America and East Asia reduced tariffs and NTBs in the past quarter century achieving comparable levels of protection as measured in applied tariffs and NTBs.

- Most of the tariff liberalisation has been on a unilateral basis. Multilateral trade liberalisation through the Uruguay Round has mainly played a complementary role, serving to lock-in trade liberalisation that had been achieved in the case of Latin America and increasing predictability through higher binding rates in the case of East Asia. In East Asia, the 1997 Information Technology Agreement gave an additional impetus to cut barriers. Regional and bilateral free trade agreements are playing an increasingly important role in trade reforms in part due to slow progress in multilateral trade negotiations.

- Despite higher tariffs, East Asian economies have more successfully integrated into the global economy than Latin American economies as measured in trade as a proportion of GDP. Both the contribution of exports and net-exports to growth are significantly higher in East Asian countries than in Latin American countries.

- East-Asia has been more successful in diversifying its exports and creating new dynamic comparative advantages in high value added products. In contrast, Latin America has remained highly specialised in commodities and commodity intensive manufactures.

- Structural change in manufacturing was more pronounced in East-Asia than Latin America. Increases in exports in medium- and high-tech sectors led to large increases in share in manufacturing value added in the same sectors in East Asia. The changes in share were as high as 10% points compared to 2-3% points in Latin America. These differences likely reflect the different evolution of comparative advantages in these regions, and the differences in the ability of industries to adjust to trade reform.

60. The relative success that East Asian countries have achieved in terms of export growth and structural change is a reflection of the greater success of East Asian countries in eliciting stronger and wider export response, which has allowed East Asian countries to further increase integration with the global economy through increased imports. The underlying reasons for East-Asia's superior trade and economic performance continue to be widely studied. No doubt there are numerous factors that may have contributed to the greater ability of East Asia to adjust to trade reforms than Latin America such as better institutions, human capital, infrastructure, differences in labour policy, capital market policy, differences in the extent of services liberalisation, among others. From the viewpoint of trade and investment liberalisation, export patterns and structural adjustment, this paper concludes that some possible reasons for successful adjustment of East Asia are:

- the differences in sequencing of trade reform (tariff vs NTBs) and content of trade reform (the multitude of tariff exemptions, duty drawbacks and other schemes which lowered effective tariffs and corrected anti-export bias)

- macroeconomic stability

- avoidance of over-appreciated exchange rates; and

- role of FDI and production networks

61. While Latin America embarked upon tariff liberalisation at an earlier stage than East-Asia, **reductions in NTBs were faster in East Asia than in Latin American countries**. Most Latin American countries cut tariffs in the mid-1980s to early 1990s while the East Asian countries did so in the mid- to late-1990s. On the other hand, East Asian countries reduced the coverage ratio of non-tariff barriers to single digit levels as early as the late 1980s while many Latin American countries' non-tariff barriers continued to be as high as 60% in the early 1990s. This may indicate the delay in reductions in NTBs reduced the effects of trade reform, leading to less structural adjustment.

62. The **macroeconomic environment in East Asia was much more conducive to the development of new export activities than Latin America**. East-Asia succeeded in achieving high and stable economic growth with a competitive real exchange rate and relatively low inflation and interest rates. In contrast, in Latin America growth was low and volatile, the exchange rate overvalued during long periods, and inflation and interest rates high. **Overvalued exchange rates may have reduced the effects of trade reform** and contributed to the maintenance of an anti-export bias despite trade reforms. Diversification of exports in turn may have contributed to higher economic growth in East Asia through reduced volatility.

63. While both regions received comparable levels of inward FDI, **East-Asia has been more successful in attracting FDI to the manufacturing sector**. A greater proportion of FDI was efficiency seeking and export oriented than in many Latin American countries and has contributed to export growth. As such, East Asia, together with Costa Rica and Mexico which are exceptions in Latin America, was more successful in becoming a part of global production networks, which contributed to the upgrading of their exports. While some of the differences of FDI flows may be due to geographical and historical reasons, there may be room for Latin American countries to improve the enabling environment of production networks by focusing policy more on the cost of service links between fragmented production blocks, improving infrastructure and governance relating to services links in the Latin American region.[24]

64. For a long time resources have been considered a curse to Latin America's development. Looking at how manufacturing allowed East Asian countries to profit from higher growth in the past do point in such a direction. However, there is increasing evidence suggesting that with good policies natural wealth also has a large potential to incorporate value added and knowledge (see Lederman and Maloney, 2007 and World Bank, 2007). Developing countries following future trade reform may wish to keep in mind the lessons of past experience above and ensure that the current commodity boom will lead to sustainable development into the future.

[24] See Table 8 of Ando et al. (2006).

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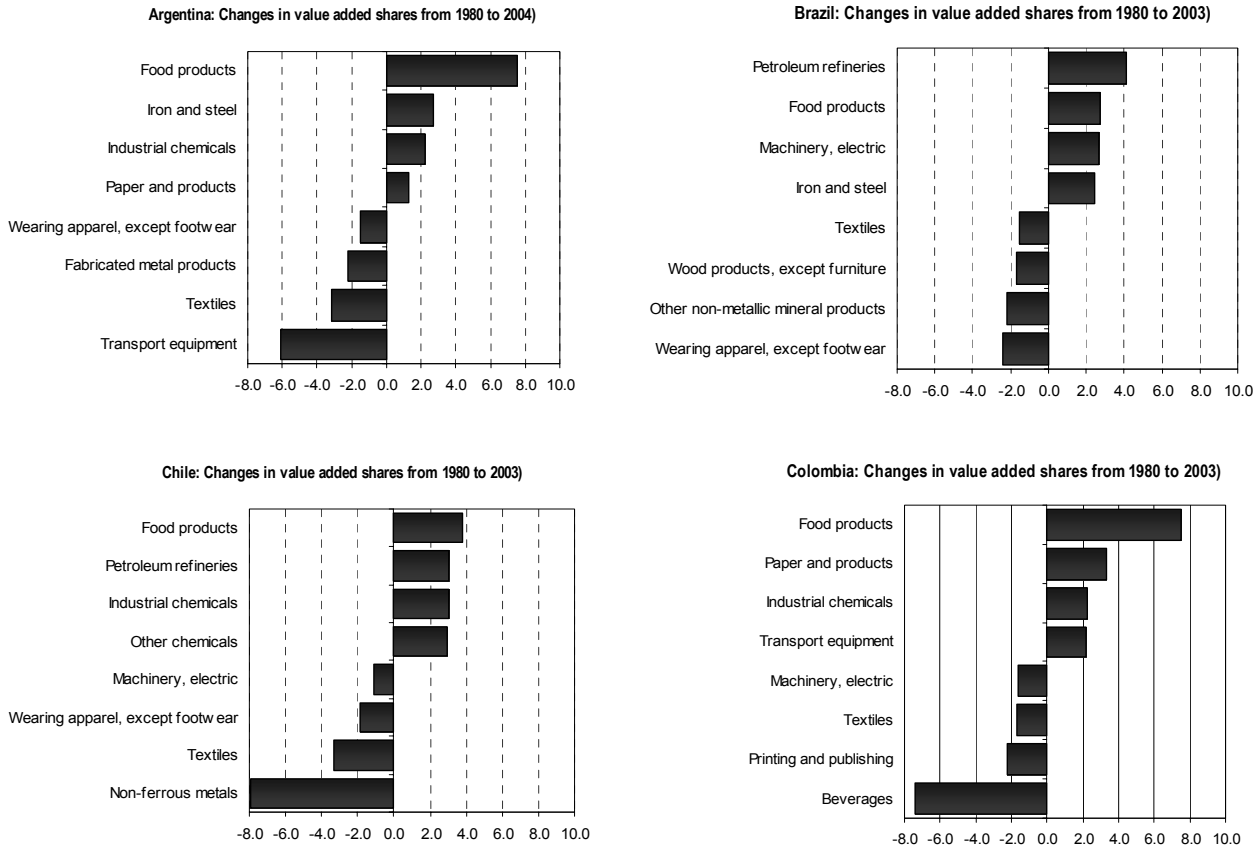
Annex: Structural change in manufacturing, results by country, value added and employment

Annex Figure 1a. Latin America: Changes in production structure of manufacturing, 2003 (or most recent year) vs. 1980

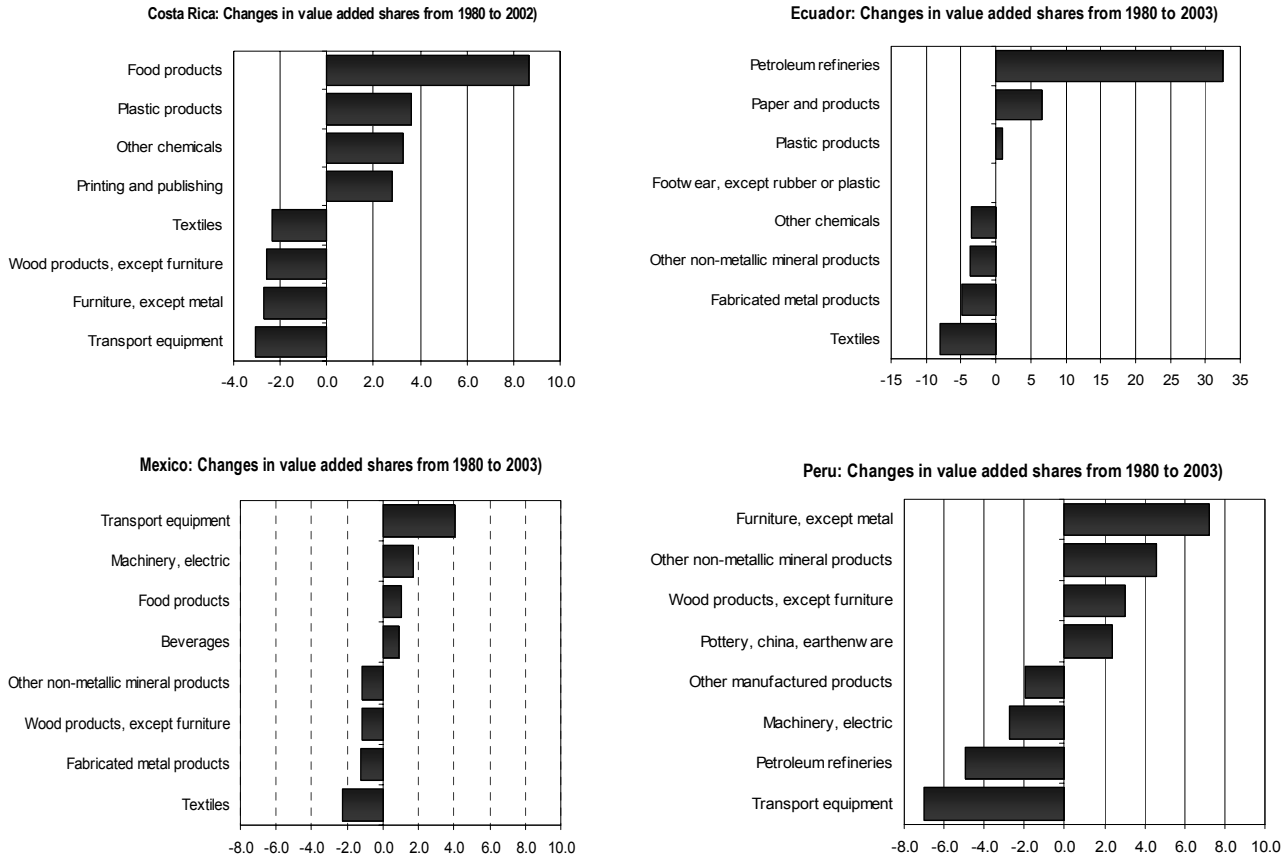
(in % points)



Source: Authors' calculations based on PADI Data base and UNIDO for the case of Ecuador & Costa Rica.

Annex Figure 1a (cont.). Latin America: Changes in production structure of manufacturing, 2003 (or most recent year) vs. 1980

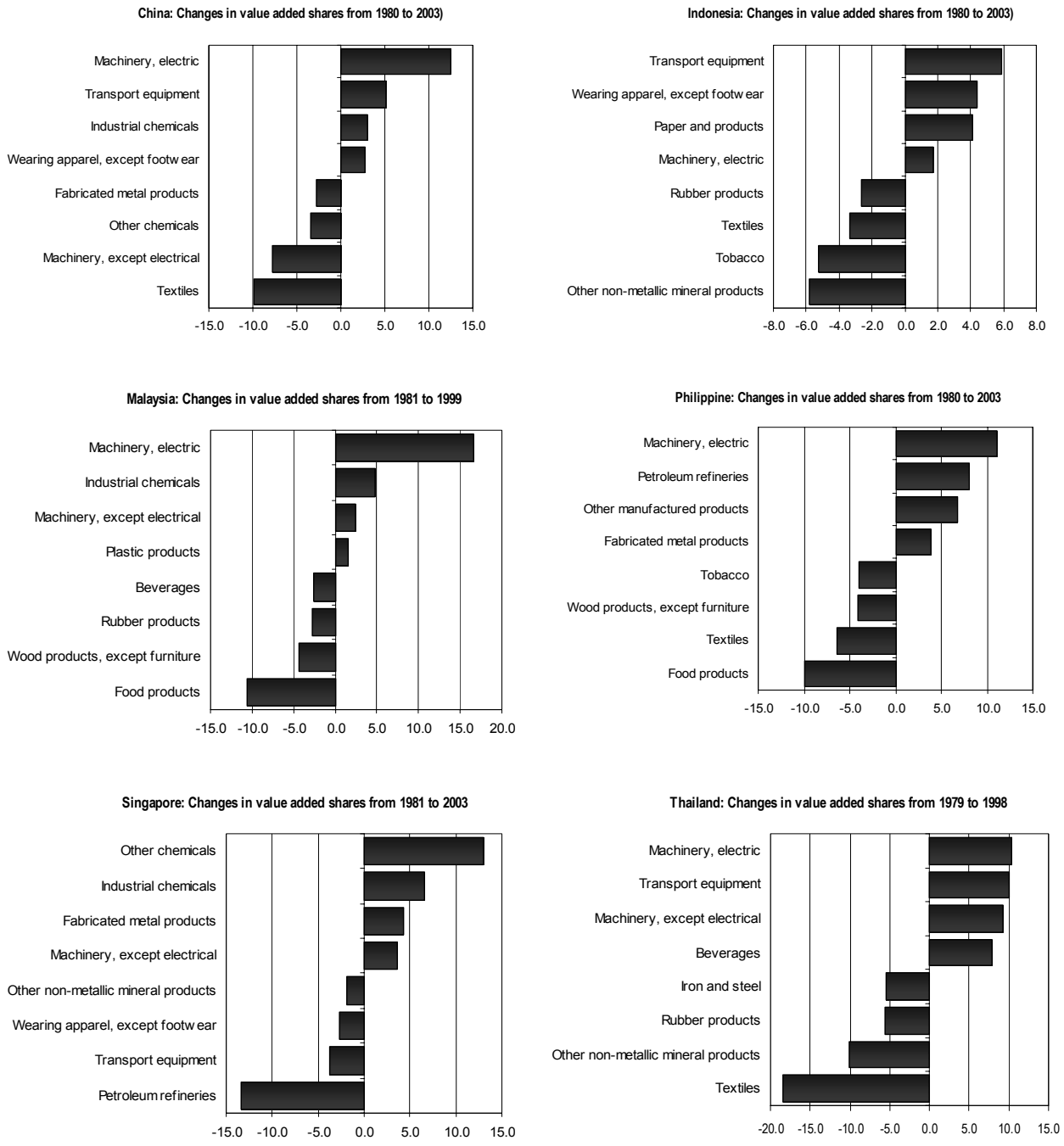
(in % points)



Source: Authors' calculations based on UNIDO and PADI Data base

Annex Figure 1b. East-Asia: Changes in production structure of manufacturing, 2003 (or most recent year) vs. 1980

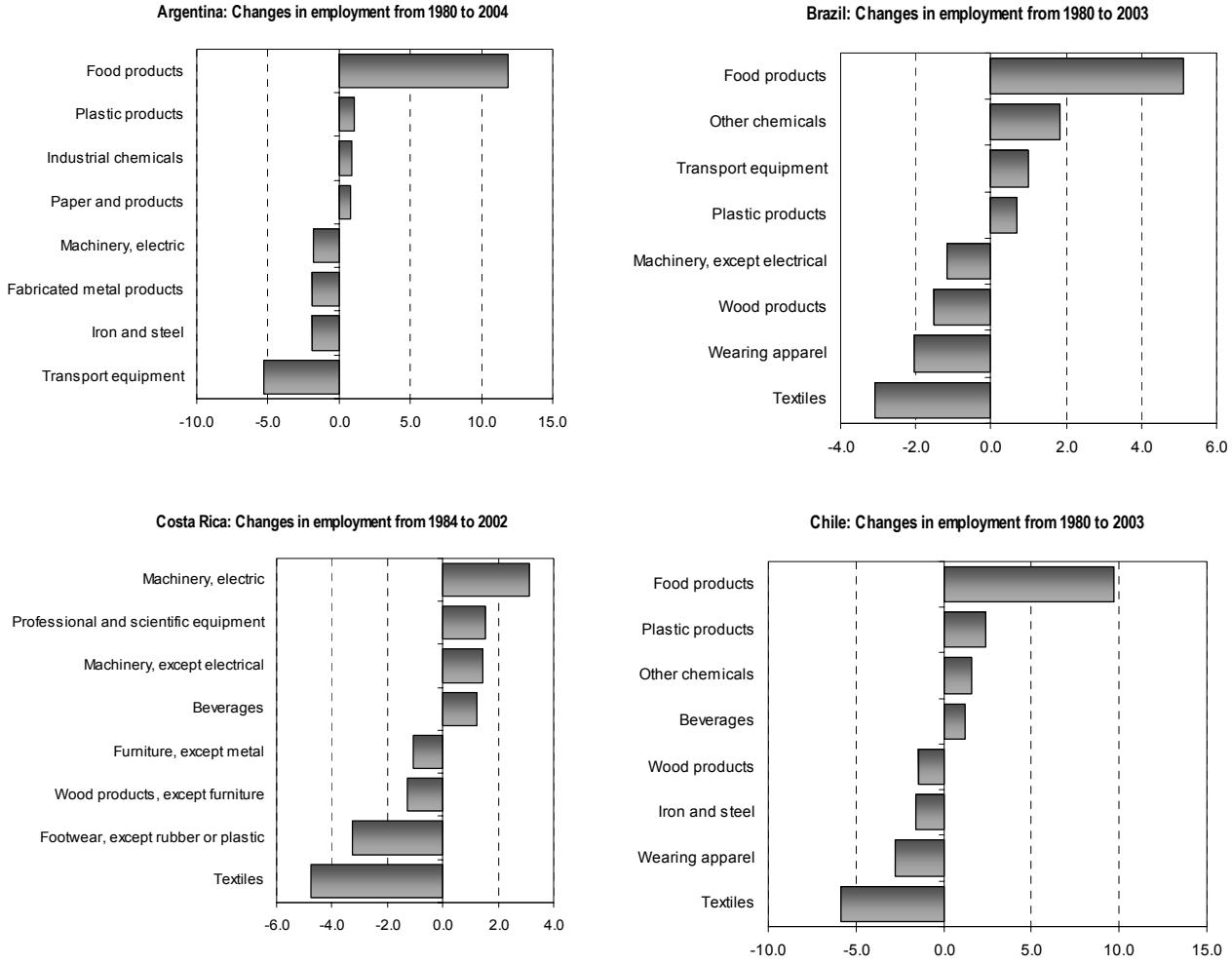
(in % points)



Source: Authors' calculations based on World Bank and UNIDO.

Annex Figure 2a. Latin America: Changes in employment structure of manufacturing, 2003 (or most recent year) vs. 1980

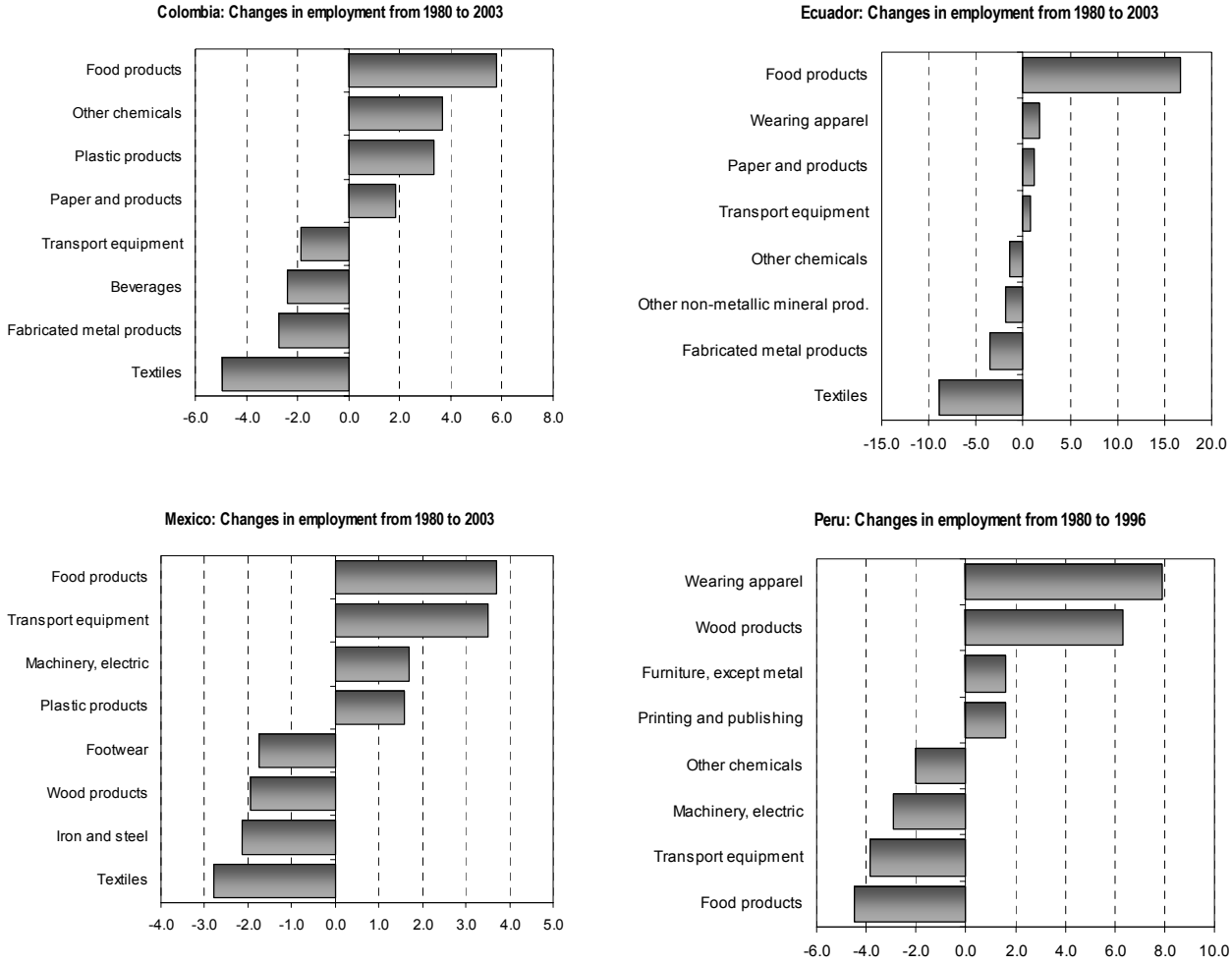
(in % points)



Source: Authors' calculations based on PADI Data base and UNIDO for the case of Costa Rica.

Annex Figure 2a (cont.). Latin America: Changes in employment structure of manufacturing, 2003 (or most recent year) vs. 1980

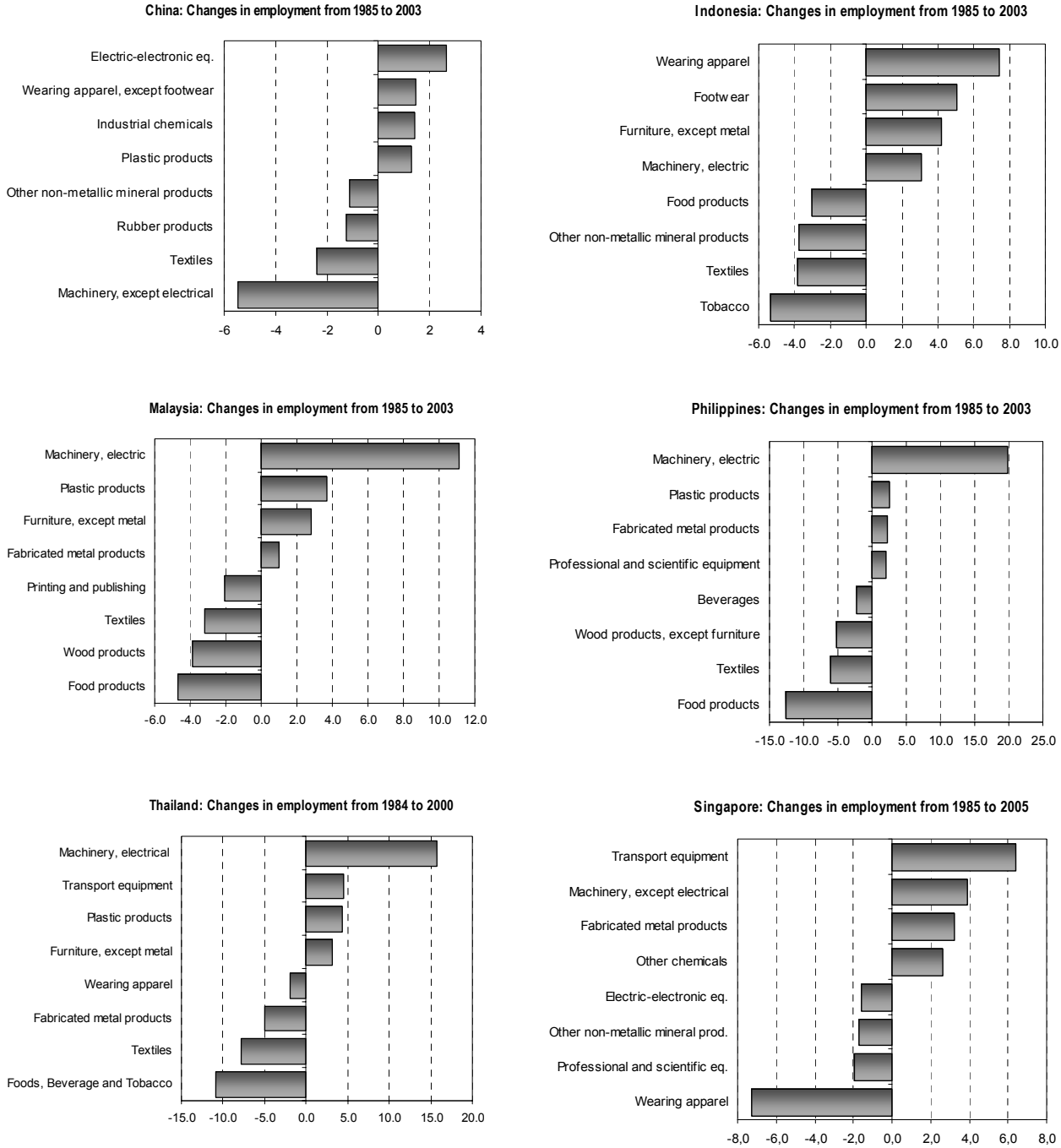
(in % points)



Source: Authors' calculations based on UNIDO and PADI Data base

Annex Figure 2b. East-Asia: Changes in employment structure of manufacturing, 2003 (or most recent year) vs. 1985

(in % points)



Source: Authors' calculations based on UNIDO Statistics, ILO, and Szirmai *et al.* (2005).

Annex Table 1
Latin America (7 countries) and East Asia (5 countries): Employment changes in manufactures from 1985 to 2003

(Percentages of total and % points)

ISIC Rev.2	Sector description	Latin America (6 countries)			East Asia (5 countries)			China		
		1985	2003	Chan-ges	1985	2003	Chan-Ges	1985	2003	Chan-ges
311+313+314	Foods, Beverage and Tobacco	18.8	23.5	4.8	25.5	16.5	-9.0	8.0	8.2	0.2
321	Textiles	7.2	4.8	-2.4	15.4	10.2	-5.3	13.0	10.4	-2.6
322+324	Wearing apparrel and footwear	10.4	7.2	-3.2	8.7	13.6	4.9	3.7	6.0	2.3
323	Leather	0.9	0.9	0.0	0.3	0.8	0.4	1.5	3.4	1.9
331	Wood products, except furniture	3.8	2.9	-0.9	7.3	5.7	-1.6	1.4	1.3	-0.1
332	Furniture, except metal	2.6	2.2	-0.5	1.4	4.4	3.0	1.3	0.9	-0.4
341	Paper and products	2.2	2.5	0.2	1.7	2.4	0.7	2.1	2.4	0.2
342	Printing and publishing	3.3	3.7	0.4	2.4	1.7	-0.7	1.8	1.2	-0.6
351+352	Industrial chemicals	6.3	6.6	0.3	5.1	4.4	-0.8	7.7	9.6	1.9
353+354	Petroleum	1.0	0.9	-0.1	0.3	0.2	-0.1	0.8	1.2	0.4
355	Rubber products	1.3	1.2	-0.1	4.8	3.8	-1.0	2.3	1.3	-1.0
356	Plastic products	2.7	3.6	1.0	2.6	5.5	2.9	1.2	2.9	1.8
361+362+369	Pottery, Glass & other non metallic mineral prod.	6.1	5.6	-0.5	5.0	1.7	-3.3	12.0	8.3	-3.7
371	Iron and steel	3.6	2.6	-1.1	1.8	1.4	-0.4	5.0	5.3	0.4
372	Non-ferrous metals	1.0	1.1	0.0	0.2	0.2	0.0	1.1	2.2	1.1
381	Fabricated metal products	5.7	5.7	0.0	4.0	3.1	-0.9	4.7	3.6	-1.1
382	Machinery, except electrical	7.3	6.6	-0.7	1.7	1.7	0.0	16.2	10.2	-6.0
383	Machinery, electric	6.2	7.1	0.9	6.5	15.7	9.2	6.6	11.2	4.7
384	Transport equipment	7.0	8.4	1.4	3.3	4.8	1.5	5.1	6.5	1.4
385	Professional and scientific equipment	0.6	1.0	0.4	0.5	1.4	0.9	1.4	1.5	0.1
390	Other manufactured products	1.7	1.8	0.0	1.4	1.0	-0.3	3.0	2.2	-0.8
	Totals	100.0	100.0	0.0	100.0	100.0	0.0	100.0	100.0	0.0

Source: Authors' calculations based on UNIDO, ECLAC-PADI Databases and Szirmai *et al.* (2005) for the case of China.

[a] Regional changes in structure are calculated as a weighted averages of individual countries results, using sectoral employment as weights.
Latin America: Argentina, Brazil, Chile, Colombia, Ecuador and Mexico.
East-Asia 5: Indonesia, Malaysia, Philippines, Singapore and Thailand.