SM/05/196
Correction 1

June 17, 2005

To: Members of the Executive Board

From: The Acting Secretary

Subject: **Central America—Selected Regional Issues**

The attached corrections to SM/05/196 (6/3/05) have been provided by the staff:

Page 20, Figure 2.1: Source added.

Page 21, Figures 2.2 and 2.3: Sources added.

Page 22, Figure 2.4: Source added.

Page 32, Figure 2.5, Source: for "IMF staff calculations"
read "IMF, *World Economic Outlook*, and IMF staff calculations."

Page 70, first bullet, lines 2 and 3: for "0.2–0.3 percent of GDP for Costa Rica and Nicaragua"
read "0.05 percent of GDP for Nicaragua and 0.3 percent
for Costa Rica."

Page 103, Table 4.2, column 1, lines 2 and 3: for "53.0 read "54.3
44.7"   46.1"

Questions may be referred to Mr. Schipke, WHD (ext. 34569).

This document will shortly be posted on the extranet, a secure website for Executive
Directors and member country authorities.

Att: (1)

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NAFTA period; 1994–2003 is the NAFTA period; and 1996–2003 is the period following Mexico's peso crisis. This demarcation is useful since it helps isolate the impact of Mexico's peso crisis when analyzing Mexico's pre- and post-NAFTA experience.

	Costa Rica	Dominican Republic	El Salvador	Guatemala	Honduras	Nicaragua	Mexico
GDP (billions of U.S. dollars)	18.4	18.4	15.8	26.1	7.4	4.6	676.5
GDP growth (percent) 1/	4.2	2.0	1.5	2.7	4.6	5.2	4.4
PPP GDP per capita	9,886.6	6,761.0	4,378.9	4,008.7	2,682.2	2,677.1	9,666.3
Inflation (percent)	13.1	28.9	5.5	9.2	9.2	9.3	5.2
Current account balance (percent of GDP)	-4.8	5.8	-4.4	-4.3	-5.2	-18.3	-1.3
Human development index (HDI) Rank 2/	45.0	98.0	103.0	121.0	115.0	118.0	53.0

Table 2.2. Selected Economic Indicators: Central America and Mexico, 2004

Sources: IMF, *World Economic Outlook;* and United Nations, *Human Development Report (2004)*.

1/ Average annual percent growth.

2/ HDI is a composite measure (education, income, and life expectancy) of average achievement in human development. A lower ranking is better: e.g., United States (7), Italy (21), and South Korea (30). The 2004 report reflects data for year 2002.

Dynamics of trade flows

12. **The United States is already the most important trading partner for Central America**. In contrast, and counting the European Union as a single market, CAFTA-DR was only the United States' thirteenth-largest export market in 2003. However, within Latin America, Central America is United States' second largest trading partner behind Mexico, as measured by the dollar value of U.S. trade in 2003. Imports from the Central American countries constituted less than 1.4 percent of total U.S. imports in 2003. Therefore, although the impact of CAFTA-DR on Central America could be substantial, its overall effect on the U.S. economy is likely to be limited.[14]

13. **Central America has historically been very open, even more so than Mexico**. Moreover, some of the Central American countries experienced a surge in international trade during the past ten years (Figure 2.1). For example, the average share of trade (merchandise exports and imports) was more than 75 percent of GDP in Central America during 1994–2003, compared to around 55 percent in Mexico. While Central America has been quite open, with an average openness ratio of roughly 60 percent during 1980–2003, there has been some variation across countries. For example, from 1980 to 2003, the average openness ratio was less than 50 percent in El Salvador and Guatemala, but above 75 percent in Honduras and Nicaragua.

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[14] For extensive discussions about the impact of the agreement on the U.S. economy, see Hornbeck (2004). The U.S. International Trade Commission (USITC; 2004; USITC, 2005a) estimates that the impact of the agreement on U.S. GDP will be less than 0.01 percent.

Figure 2.1. Trade Openness
(Exports + Imports, percent of GDP)

Source: IMF, *World Economic Outlook.*
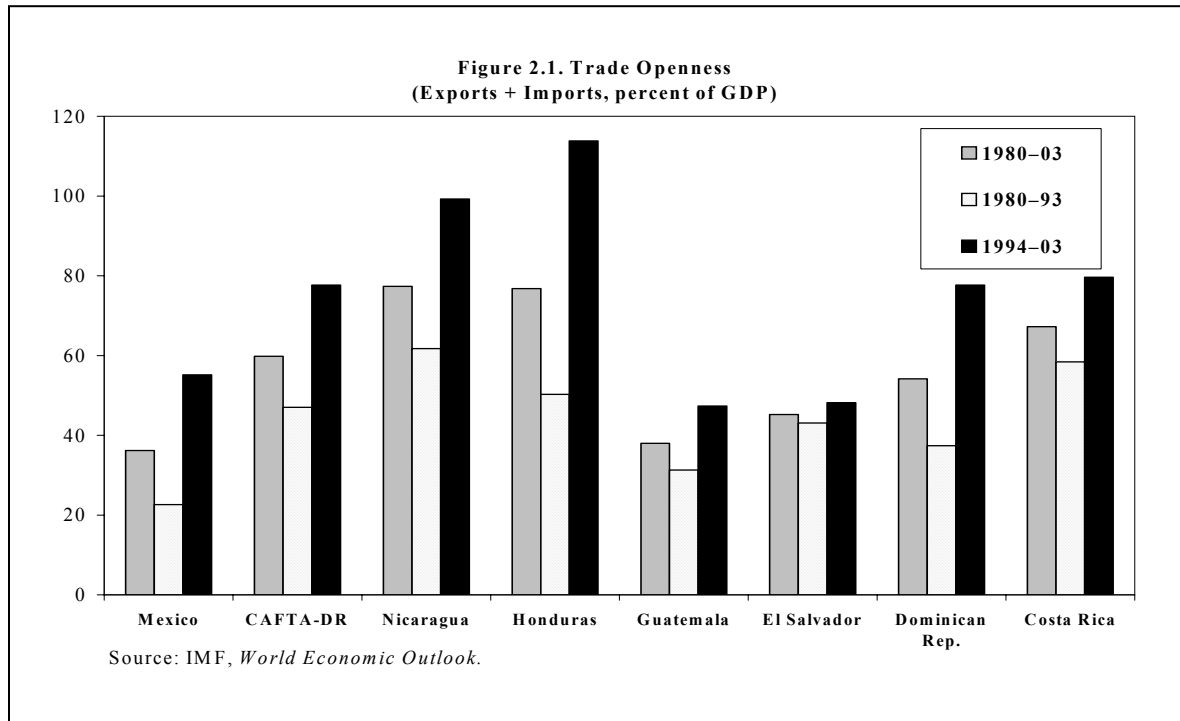
14.   **Since the launching of NAFTA, Mexico's trade with the United States has increased substantially.** For example, Mexico's trade with the United States more than doubled in dollar terms between 1993 and 2003, while the share of trade in Mexico's GDP rose from less than 40 percent in the 1980–93 period to 58 percent during the NAFTA period (Figure 2.2).[15] After the start of NAFTA, exports to (imports from) the United States as a percent of GDP increased to about 23 (21) percent from 14.0 percent during the 1980–93 period (Figures 2.3 and 2.4).

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[15] Following the strong performance in the late 1990s, Mexico's trade with the United States began to fall off during the period 2000–03 (Figure 2.2). This appears to reflect a combination of both cyclical and structural factors. The U.S. economy has grown less rapidly in recent years than in the second half of the 1990s, especially in the industrial sector, which is the destination for most of Mexico's exports. In addition, Mexico has faced increased competition from other emerging market economies. In particular, China has been rapidly expanding its market share in the United States, and some of the lower value-added segments of Mexico's export sector, such as textiles, have shifted production to elsewhere in the region, including Central America. The real appreciation of the peso in the late 1990s may also have affected Mexico's competitiveness, although this effect would be expected to unwind given the subsequent downward adjustment.

**Figure 2.2. Trade with the United States
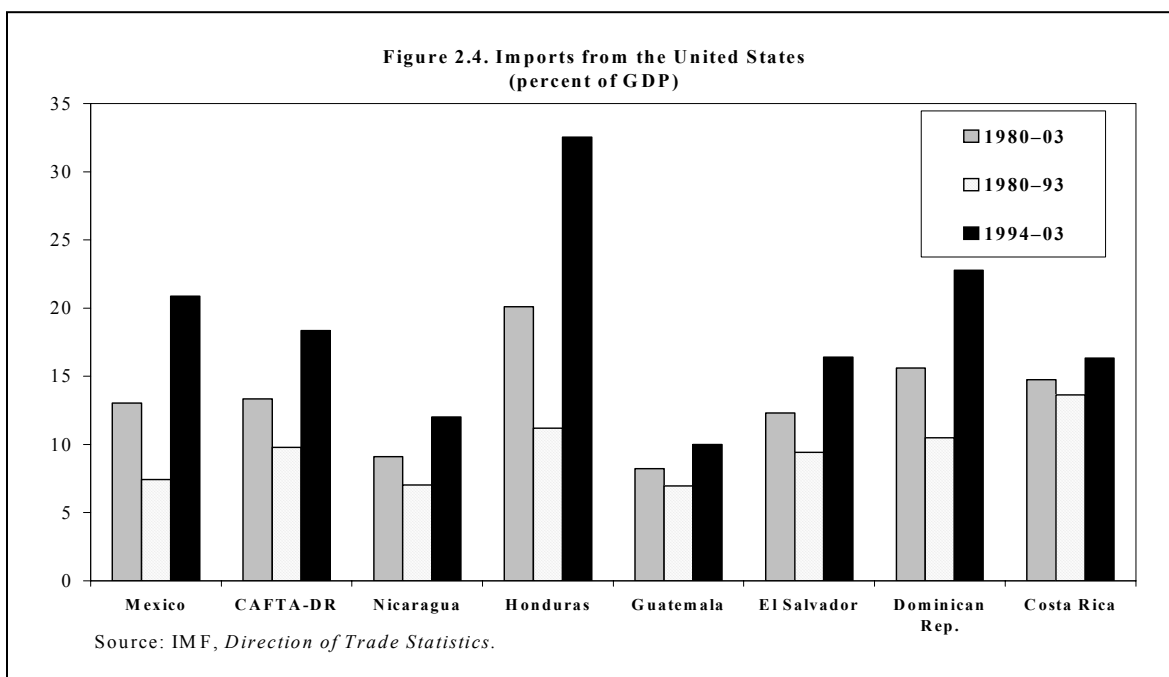(Exports + Imports, Index Numbers, 1980=100)**
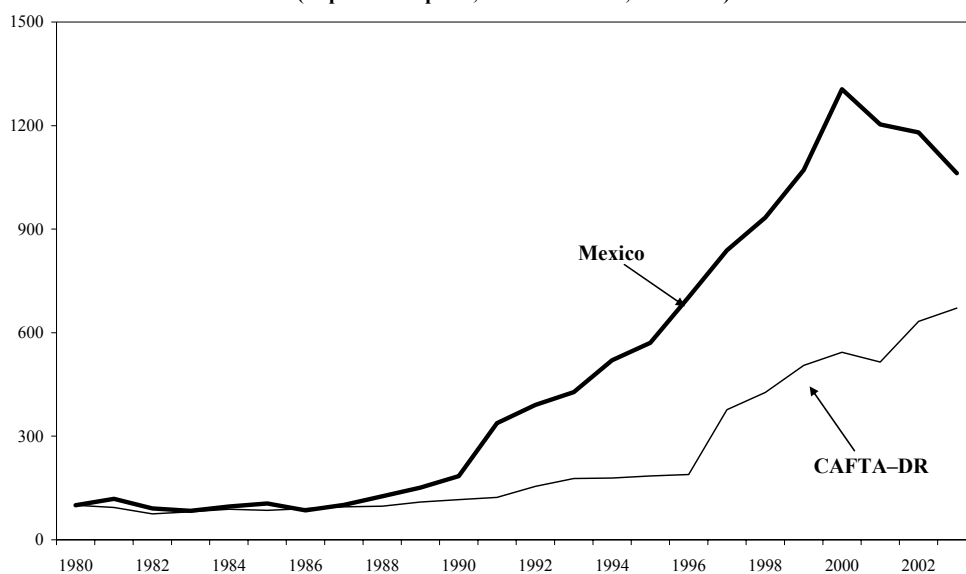
Source: IMF, *Direction of Trade Statistics.*

**Figure 2.3. Exports to the United States
(share of GDP, percent)**

Source: IMF, *Direction of Trade Statistics.*

Figure 2.4. Imports from the United States
(percent of GDP)
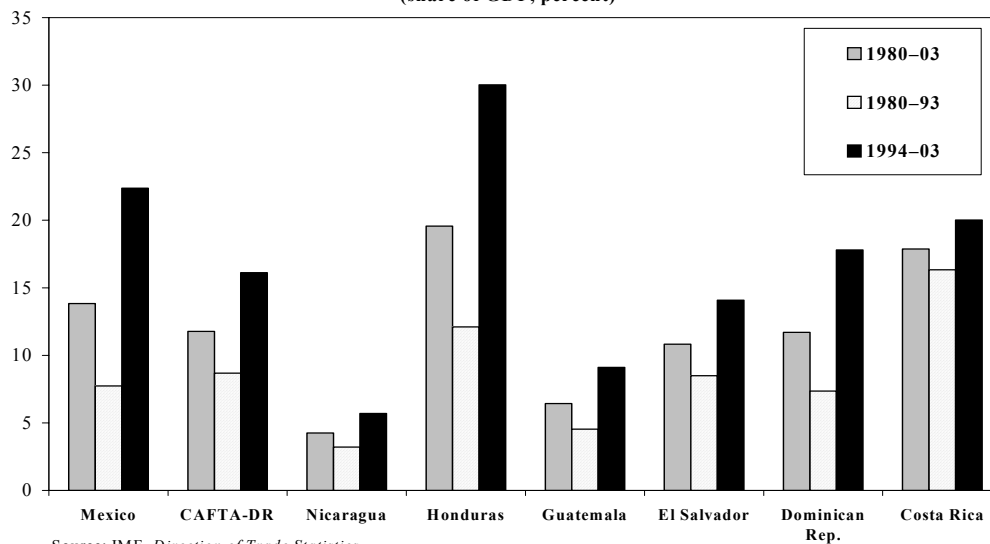
Source: IMF, *Direction of Trade Statistics.*

15.   **Several studies find that NAFTA contributed to the impressive growth of trade between Mexico and the United States**. Some of these studies employ gravity models (Krueger, 1999 and 2000) while others use export and import demand equations (CBO, 2003) to analyze the impact of NAFTA on trade dynamics using aggregate trade data.[16] These studies conclude that the effect of NAFTA on trade linkages was substantial. Some other studies using sectoral data series also find a significant impact of NAFTA on trade flows (Romalis, 2002) than those employing aggregate trade data.[17]

16.   **Trade linkages between the United States and Central America have grown rapidly over the past decade**. As a group, Central American countries' trade with the United States increased fivefold in dollar terms in the period 1994–2003. However, the extent of trade linkages with the United States differed substantially across the respective countries. Between 1994 and 2003, Honduras sent more than 55 percent of its total exports to the United States, while the corresponding figure for Costa Rica was 27 percent. The Dominican Republic commanded the largest share of the region's exports to the United States, accounting for more than 25 percent of the dollar value of exports in 2003;

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[16] Krueger (1999 and 2000) points out that NAFTA was not trade diverting, since the categories in which Mexican exports to the United States registered the largest increase for the period 1990–96 overlapped with those in which they rose most rapidly with the rest of the world.

[17] Other studies use general equilibrium models to analyze the impact of NAFTA on the dynamics of trade and economic growth. Studies employing static computable general equilibrium (CGE) models estimate NAFTA's long-run impact on Mexico's exports to the United States at between 3 and 16 percent (CBO, 2003). In dynamic versions of these models, the impact of NAFTA on trade flows is found to be larger. For example, using a dynamic CGE model, Kouparitsas (1997) finds that the increase in Mexico's trade flows associated with NAFTA is around 20 percent.

investment growth, Costa Rica and Honduras witnessed a significant decline over the 1994–2003 period.

36.	**Mexico's experience under NAFTA suggests that CAFTA-DR could change the dynamics of economic growth in the Central American countries.** The effects of exports and investment on growth in Mexico have changed after NAFTA as their contributions to GDP growth have more than doubled following the introduction of the agreement (Table 2.10). For example, while the contribution of investment (exports) was about 0.4 (1.1) percentage points before NAFTA, it went up to 1.4 (2.6) percentage points during the period 1996–2003. A similar change in the roles of investment and exports took place in Central America over the period 1994–2003, although their contribution to growth is still lower in the Central American countries than in Mexico.

Table 2.10. Contributions to GDP Growth
(Average, in percent)

	Mexico	CAFTA-DR Average	Costa Rica	Dominican Republic	El Salvador	Guatemala	Honduras	Nicaragua
Investment								
1980–03	0.39	0.75	1.23	1.01	0.61	0.71	0.70	0.76
1980–93	0.16	0.58	1.68	0.92	0.55	0.67	1.12	-0.40
1994–03	0.69	0.98	0.87	1.12	0.70	0.74	0.14	2.28
1996–03	1.37	1.03	0.97	1.64	0.25	0.83	0.69	1.79
Consumption								
1980–03	1.74	2.21	2.90	2.69	2.55	2.73	2.60	1.08
1980–93	1.63	1.56	3.49	1.42	2.02	2.26	3.33	-0.77
1994–03	1.87	3.06	2.42	4.35	3.24	3.19	1.64	3.49
1996–03	2.78	2.56	2.11	4.17	2.25	2.92	1.63	2.25
Exports								
1980–03	1.87	1.15	3.41	1.35	0.82	0.59	0.37	1.59
1980–93	1.09	0.39	3.73	0.83	-0.45	0.53	-0.27	0.22
1994–03	2.88	2.15	3.16	2.02	2.47	0.65	1.20	3.38
1996–03	2.63	1.94	3.29	1.76	2.51	0.45	1.01	2.64

Sources: IMF, *World Economic Outlook;* and Fund staff calculations.

37.	**CAFTA-DR could generate various growth benefits to the Central American countries as NAFTA did in the case of Mexico**. Hilaire and Yang (2003) use a CGE model to examine the growth benefits of CAFTA-DR and conclude that GDP of the Central

Figure 2.5. Growth Rate and Volatility of Macroeconomic Aggregates
(average, percent)

a. Mexico, growth rate

b. Central America, growth rate

c. Mexico, volatility

d. Central America, volatility
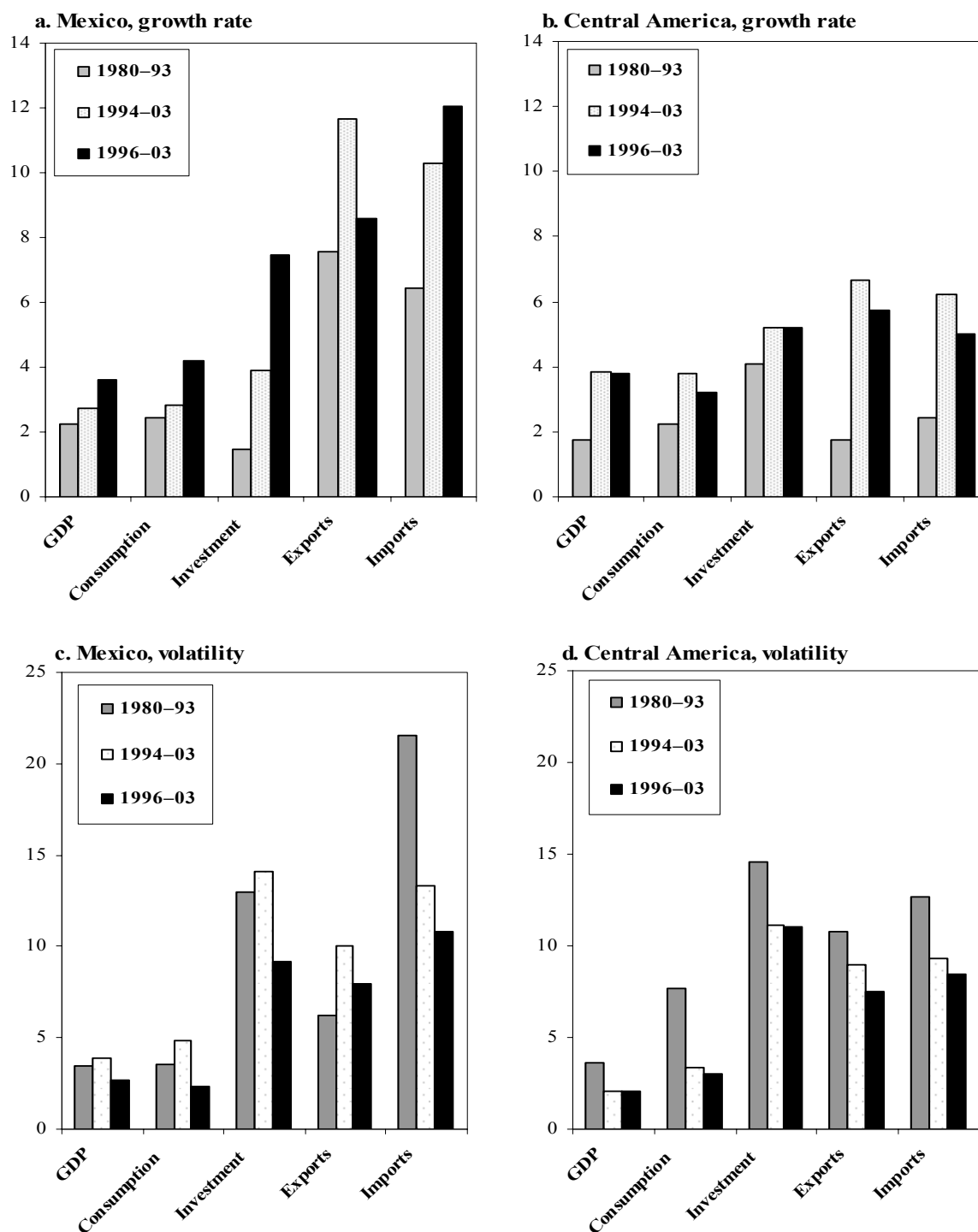
Sources: IMF, *World Economic Outlook,* and IMF staff calculations.

Wei, Shang-Jin and Yi Wu, 2002, "The Life-and-Death Implications of Globalization" (unpublished; Washington: International Monetary Fund).

Whalley, John, 1998, "Why Do Countries Seek Regional Trade Agreements?" in *The Regionalization of the World Economy*, ed. by Jeffrey A. Frenkel (Chicago: University of Chicago Press).

Winters, L. Alan, 2004, "Trade Liberalization and Economic Performance: An Overview," *Economic Journal*, Vol. 114 (February), pp. 4–21.

———, Neil McCulloch, and Andrew McKay, 2004, "Trade Liberalization and Poverty: The Evidence So Far," *Journal of Economic Literature*, Vol. 42 (March), pp. 72–115.

World Bank, 2000, *Trade Blocs* (Oxford: Oxford University Press).

III. TRADE LIBERALIZATION AND TAX COORDINATION[1]

This chapter analyzes the revenue impact of CAFTA-DR and possible compensating measures. It also assesses CAFTA-DR's broader implications for tax policy and the case for coordination in the region. Its key conclusions are:

- Potential direct revenue losses from CAFTA-DR vary in size and timing for each country. For example, direct revenue losses in the first year are estimated at 0.05 percent of GDP for Nicaragua and 0.3 percent of GDP for Costa Rica.
- The direct impact could be partly offset by the indirect effect on revenues from higher growth and trade volumes.
- Raising indirect taxes, especially by reducing VAT exemptions, would be the best way to compensate for lost revenues. VAT bases across the region should be coordinated to avoid distorting trade in the region.
- There are other important benefits to coordinating tax policies, including by exchanging information among customs and tax administration in the region.

A. Introduction

1.   **The free trade agreements between the Central American countries, the Dominican Republic, and the United States (CAFTA-DR) are expected to have a significant impact in many areas of the region's economies, including the public finances.**[2] Given the importance of the United States as a major trading partner, and the continued reliance on trade taxes as a source of revenue, CAFTA-DR is likely to have a notable—albeit varying—impact on Central American budgets.

2.   **This chapter considers the revenue consequences of CAFTA-DR for each of the Central American countries,[3] providing estimates based on highly disaggregated customs data and on each country's calendar for trade liberalization.** The revenue impact of CAFTA-DR has been recently analyzed in Barreix et al. (2004) and in Paunovic and Martínez (2003), but with a lesser degree of custom data disaggregation than in this chapter.[4] Moreover, the trade liberalization schedule (agreed in 2004) was not known at the time these studies were completed. Based on 2002 tariff data, Barriex, et al. estimated a total

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[1]Prepared by Chiara Bronchi and Dale Chua.

[2] For a broad review of the economic impact of CAFTA-DR, see Chapter 2. Trade within Central America is already largely liberalized. Key documents pertaining to Central America integration, including the Protocol to the General Treaty of Central American Economic Integration (Guatemala Protocol) of October 29, 1993, are available at www.sgsica.org, site of the General Secretariat, Central America Integration System (SG-SICA).

[3] Costa Rica, El Salvador, Guatemala, Honduras and Nicaragua.

[4] Barreix, et al. (2003) estimate the tax revenue consequences of trade liberalization initiatives for the whole Western Hemisphere including the Central American countries.

•   The relative contribution of the risks to the debt dynamics for each country.[24]

In addition, a possible extension of the current framework for the analysis of policy options is exemplified by the simulation of an alternative debt structure.

15.   **The following table summarizes the first three vulnerability measures**. A comparison between columns two and three in Table 4.2 highlights an important vulnerability of the Central American countries, namely, the expected increase in debt-to-GDP ratio under current trends. The expected increase in the debt ratio differs among the other countries. El Salvador's debt ratio deteriorates the most, followed by Guatemala, the Dominican Republic, and Costa Rica. The need for policy action to prevent an escalation of the debt ratios is consistent with the recommendations obtained from the traditional approach (Figure 4.1).

Table 4.2. Central America: Main Vulnerability Measures

	Debt/GDP	$E(D)^1$	VaR^2	> 60 percent^3
Costa Rica	54.5	65.5	94.1	60.1
Dominican Republic	54.3	64.5	81.5	66.9
El Salvador	46.1	64.1	94.8	54.3
Guatemala	20.1	36.7	50.6	0.5
Panama	63.3	70.4	95.2	76.2

Source: IMF staff calculations.

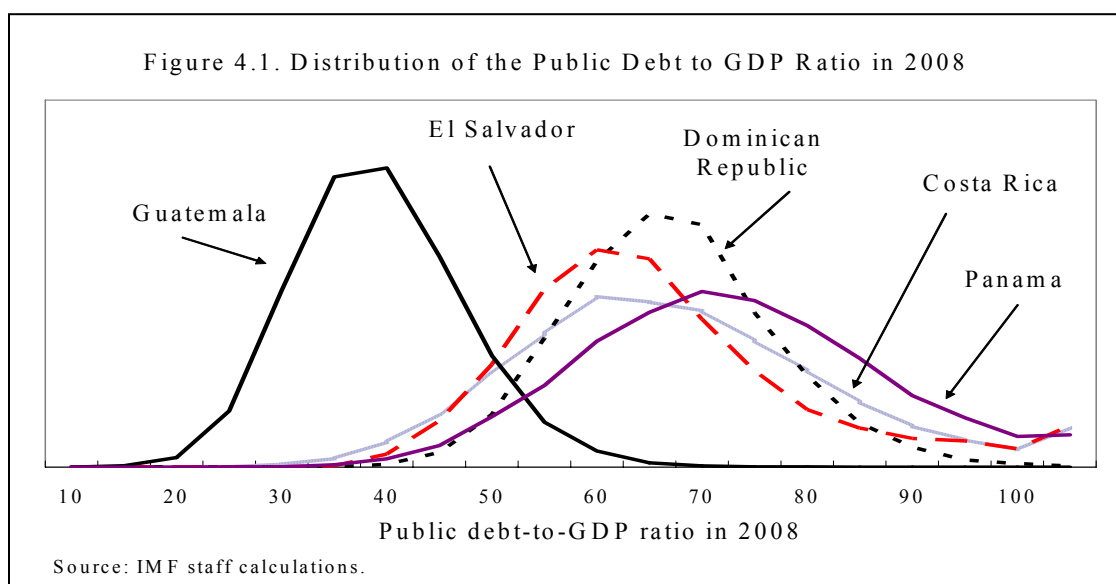[1] Expected debt-to-GDP ratio by end 2008.

[2] Debt-to-GDP ratio four years out measured at 5 percent confidence level.

[3] Probability, in percent, that the debt-to-GDP ratio will surpass 60 percent by 2008.

16.   **Relying purely on historical data negatively biases the results against the more active reformers**. The effect of recent reforms, while probably important for debt sustainability, have not been incorporated into the vulnerability measures calculated above. This bias appears to be particularly relevant for El Salvador, which has been one of the most active reformers in recent years.[25]

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[24] Though not a stress test of the results per se, it is a better approximation to the relative risk exposure of the different countries than the traditional stress tests.

[25] In particular, the results presented for El Salvador reflect a history of very volatile exchange rates (the variable used a 50-year time span), and the fiscal cost of reconstruction in the late 1990s (a 10-year time span was used for this variable). It ignores the effects of the ambitious tax reform approved only a few months ago.

Figure 4.1. Distribution of the Public Debt to GDP Ratio in 2008

El Salvador

Dominican
Republic

Costa Rica

Guatemala

Panama

Public debt-to-GDP ratio in 2008

Source: IMF staff calculations.

17.   **The need for policy action, however, should be associated with the risk profile of the debt**. The worse the risk profile the greater the urgency to act. The *VaR* (column three of Table 4.2) explicitly measures such risk by calculating the highest debt-to-GDP ratio by 2008 with a 95 percent confidence level. Based on this measure, Panama is the country in need of most urgent action. Its *VaR* (95.2) is the highest of the five Central American countries considered. That is, there is a 95 percent probability that Panama's debt-to-GDP ratio will not exceed 95.2 percent by 2008. The other countries do not follow very far behind though. The *VaR* for El Salvador is 94.8 percent of GDP, Costa Rica's is 94 percent, and Dominican Republic comes in fourth at 81½ percent. The only country with a reasonably low *VaR* figure is Guatemala, which is slightly above 50 percent.[26]

18.   **Using the projected change to the primary fiscal balance of the traditional approach as an indicator of urgency of adjustment leads to different conclusions than the ones just discussed.** Table 4.3 ranks the seven countries reported in Table 4.1 according to the projected fiscal effort measured for the baseline/"current-policy" scenario as the difference between column four and column three of that table. The Dominican Republic comes in first with an effort of 3.8 percent of GDP, followed by Honduras, Nicaragua, El Salvador,

Table 4.3. Projected Change in Primary Balance

	Change
	(In percent of GDP)
Dominican Republic	3.8
Honduras	3.0
Nicaragua	2.8
El Salvador	1.7
Guatemala	1.1
Costa Rica	1.0
Panama	0.4

Sources: IMF staff reports and debt sustainability assessments.

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[26] These *VaR* result from the interaction of the seven risk factors reported above. For an analysis of the relative importance of the different risks please refer to Table 4.4.