March 2006
IMF Country Report No. 06/103

Ecuador: Selected Issues

This Selected Issues paper for **Ecuador** was prepared by a staff team of the International Monetary Fund as background documentation for the periodic consultation with the member country. It is based on the information available at the time it was completed on **January 11, 2006.** The views expressed in this document are those of the staff team and do not necessarily reflect the views of the government of Ecuador or the Executive Board of the IMF.

The policy of publication of staff reports and other documents by the IMF allows for the deletion of market-sensitive information.

To assist the IMF in evaluating the publication policy, reader comments are invited and may be sent by e-mail to publicationpolicy@imf.org.

INTERNATIONAL MONETARY FUND

ECUADOR

Selected Issues

Prepared by Lisandro Abrego, Enrique Flores (all WHD), Alexander Pivovarsky (FAD),
and Bjoern Rother (PDR)

Approved by Western Hemisphere Department

January 11, 2006

Contents   Page

Contents   Page

Contents   Page

I. Economic Performance Under Dollarization[1]

A. Introduction

1.   **Last year marked the fifth anniversary of Ecuador's decision to give up its national currency (the sucre) and adopt the U.S. dollar as legal tender**. Unlike El Salvador (the other Latin American country that recently adopted formal dollarization), Ecuador's decision to formally dollarize was relatively sudden and took place against the backdrop of a deep economic and banking crisis. Following a series of exogenous shocks (e.g., El Niño phenomenon, a sharp decline in oil prices, and the tightening of international credit conditions following the financial crises in Russia and Brazil) that played out in a weak macroeconomic policy framework, GDP contracted by 6.3 percent in 1999; the fiscal deficit exceeded 5 percent of GDP; inflation closed at 61 percent and was rising; public debt exceeded 100 percent of GDP and was in default; and the sucre lost two-thirds of its end-1998 value. Moreover, when formal dollarization was launched in early 2000, banking system deposits were frozen, and 16 financial institutions (accounting for 65 percent of on-shore deposits) had been intervened or closed.

2.   **Against this background, adopting formal dollarization entailed obvious risks**. Although during the crisis the Ecuadoran authorities had used up their room for constructive monetary policy and unsuccessfully tried various exchange rate policy options, the big questions at the time were whether dollarization would succeed in stabilizing the economy and whether it would provide a framework for sustained growth over the longer term. Dollarization has indeed been followed by increased macroeconomic stability (with inflation converging to international levels), but the question about the longer-term implications remains open to debate.

3.   **Although 6 years is not long enough to judge whether Ecuador's decision to adopt dollarization was right, it provides an adequate time to assess how well or poorly this regime is serving Ecuador**. The next section reviews the principal tradeoffs normally associated with official dollarization, and their specific relevance to Ecuador. Section C discusses Ecuador's performance under the dollarization regime, highlighting the country's main achievements and challenges in the macroeconomic and structural areas. Section D draws some conclusions and discusses what dollarization implies for Ecuador's reform agenda in the future.

B. Pros and Cons of Dollarization and their Relevance to Ecuador

4.   **There is no consensus on whether formal dollarization is good for stability and growth over the medium and long term, but there is agreement on the main trade-offs**. Supporters of dollarization have highlighted its benefits in terms of lower and more stable inflation and interest rates, which would lead to higher economy-wide efficiency, private investment, and growth. Its critics have underscored the regime's lack of flexibility and its inability to respond adequately to shocks, which would make it an inferior alternative to a

---

[1] Prepared by Lisandro Abrego, with collaboration from Wes McGrew, who took part in the initial stages of the paper and wrote an earlier version of Section B, and Angelo Alexander, who helped with gathering the data and estimated the econometric model of bond spreads.

system that allows the nominal exchange rate to move in response to changes in expectations, policies or economic fundamentals. The empirical evidence in favor of each point of view is not conclusive.[2]

5.   **The most important potential benefit of dollarization is that a country may adopt the currency of another which has a much better reputation for prudent monetary and exchange rate policy**. This should lead to the convergence of inflation to the other country's rate and generally to a more stable environment for trade and investment, stimulating economic growth. Another benefit is the elimination of currency risk, which should in principle result in lower interest rates—which should converge to the other country's—boosting private investment. Dollarization should also reduce transaction costs, benefiting particularly financial intermediation and international trade, and thereby growth.

6.   **The main disadvantage is the loss of flexibility in macroeconomic policy management.** Fixity of the nominal exchange rate means that the real rate can adjust only through changes in prices or wages. However, in practice, wages and prices may be inflexible downward, and the lack of flexibility could result in lower output and employment growth and higher real volatility. Other disadvantages include: the loss of the latitude to run "optimal" monetary policy (U. S. monetary policy may be better than "bad" Ecuadoran monetary policy but inferior to optimal policy in Ecuador, given the different circumstances of the two economies); the need for Ecuador to absorb global movements in the value of the dollar, which are driven by factors not related to Ecuador; the loss of seignorage; and the reduced scope for lender-of-last-resort activities of the central bank, unless specific arrangement to deal with this are put in place.

7.   **The tradeoffs associated with dollarization are similar to those associated with fixed exchange rates, since both entail a loss of control over monetary policy**. However, there are some key differences: (i) a fixed exchange rate can be revalued or devalued, which on the positive side provides an escape valve from inflexibility, and on the negative side implies a lower degree of commitment to fixity than does dollarization; and (ii) fixed rate regimes retain seignorage.

8.   **Supporters of dollarization argue that the benefits of a national currency and an autonomous monetary policy may be more theoretical than real**. They cite the high correlation between U.S. interest rates and interest rates in emerging market countries with flexible exchange rates, which suggests that the latitude for monetary policy independence from the United States is limited;[3] the high de facto pass-through from exchange rates to prices in many emerging markets, which limits the effectiveness of nominal rate changes in bringing about real exchange rate adjustment; and the high degree of informal dollarization in many countries, which also limits the effectiveness of nominal exchange rate changes and reduces the scope for monetary policy (Calvo, 2001; Dornbusch, 2001).

---

[2] See, for example, Moreno-Villalaz (1999), Bogetic (2000), Edwards (2001), Goldfajn and Olivares (2001), Edwards and Magendzo (2003), and Canova (2005).

[3] Outside the dollarization debate, Canova (2005) has provided empirical evidence in favor of this view for some Latin American countries, including Brazil, Mexico, and Peru.

9.   **With the absence of monetary and exchange rate policy, a strong fiscal policy framework takes added importance in a dollarized system**. The ability to use this tool effectively for countercyclical purposes requires that the public finances be strong, including with a low debt ratio, a sound tax system, and a flexible expenditure structure.

10.   **Ecuador's specific characteristics offer both significant potential benefits and costs from dollarization**.

- On the benefit side, Ecuador has a history of poor monetary policy, with average annual inflation of 40 percent, and a minimum rate of only 23 percent, during 1983–99. Persistent high inflation and an unstable exchange rate (the nominal rate depreciated at an average of 44 percent a year in 1983–89) had made the banking system prone to *de facto* dollarization, which restricted the latitude of the central bank to use monetary policy constructively or act as a lender of last resort. In addition, *de facto* dollarization meant that exchange rate depreciation could impose heavy losses on the banking system, as had occurred during the 1980s and early 1990s.[4] These losses were typically assumed by the government and passed to the rest of society, with negative distributional consequences.[5]

- On the cost side, Ecuador is subject to significant external shocks due to the large share of oil products in export and government receipts (46 percent and 35 percent, respectively, in 2000–04) and the volatility of oil prices. Oil price downturns thus put pressure on the balance of payments and reduce the resources at the disposal of the government. In these circumstances, an autonomous monetary policy and flexible exchange rate could play a valuable role in macroeconomic management. Further, Ecuador has a history of poor fiscal management and significant fiscal rigidities, which also play against official dollarization. Finally, the loss of seignorage has a revenue cost for the government,[6] although this could in principle be offset by lower interest payments.

C. Economic Performance under Dollarization

11.   **The adoption of dollarization in March 2000 was followed by the enactment of a package of structural reforms in the context of a Fund program**. Reforms were wide-ranging, including the financial system, the oil sector, and labor markets (Box 1), while the macroeconomic component of the program included a large fiscal adjustment and substantial international financial support. The program's purpose was to help stabilize the

---

[4] *De facto* dollarization was already significant before the crisis. For example, in the first quarter of 1998, one-third of on-shore deposits were in U.S. dollars. A year later, this ratio had increased to about 45 percent, while two-thirds of the total on-shore credit portfolio was in U.S. dollars. See Chapter III of the 2000 Selected Issues paper for more details.

[5] See Chapter III of the 2000 Selected Issues paper.

[6] Average annual revenues from seignorage for the high-inflation 1990s were estimated at 1.5 percent of GDP. Seignorage for the G7 countries amounts to about 0.3 percent of GDP. See Chapter IV of the 2000 Selected Issues paper.

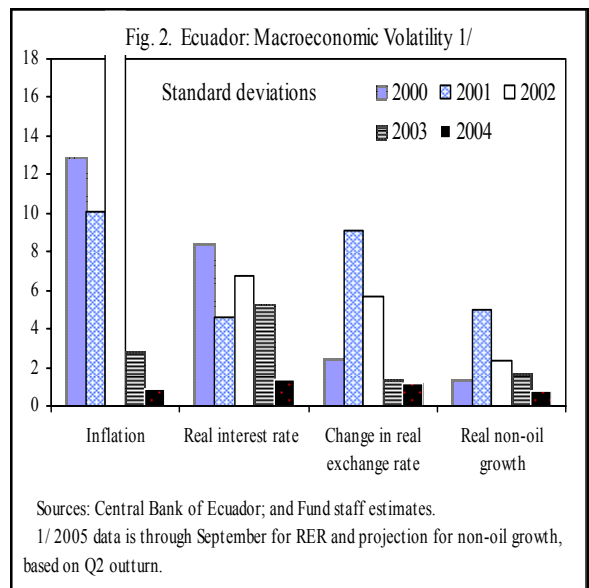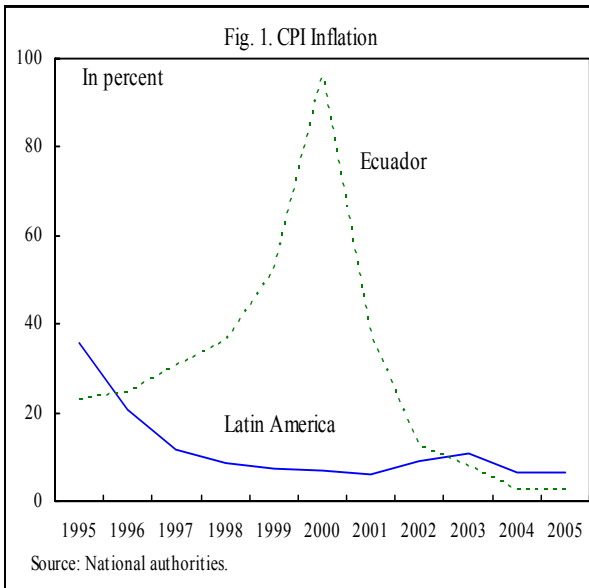## Box 1. Ecuador: Main Structural Reforms Adopted Since 2000

A strong structural reform effort—which took place largely in the context of the 2000 Stand-By Arrangement with the Fund—was made soon after the adoption of dollarization. The reform impetus weakened subsequently, and came to a virtual standstill in 2004, owing mainly to a difficult political environment and a lack of urgency once economic conditions had stabilized. In 2005 some important reform reversals occurred. Key reforms have been adopted in the following areas (the year of adoption in parenthesis):

• O*il sector* (2000). The reform sought to increase private participation by allowing private companies to refine, process, store, and transport oil and gas (previously a state monopoly). The reform made possible the construction of a privately-owned pipeline to transport heavy crude, which led to a doubling of oil transport capacity and allowed a sharp expansion in the private production of crude oil. However, it has not led to private investment in downstream activities.

• *Financial sector* (mainly 2000–01). Reforms have been wide-ranging, and include strengthening the supervision capabilities of the Superintendency of Banks (SB); providing closed banks with access to special foreclosure procedures to collect non-performing loans; establishment of a liquidity recycling facility at the Central Bank (BCE); elimination of the financial transactions tax and the ceiling on banks' fees; and relaxation of the ceiling on the usury interest rate set by the BCE. More recently (2004–05), the SB has adopted regulatory measures to strengthen bank liquidity and soundness indicators, and Congress approved a law to improve the effectiveness of credit bureaus.

• *Labor market* (2000). Legislation dealing with private labor markets was reformed in 2000 to unify the various components of the remuneration package (salary unification), and introduce some flexibility and more modern hiring practices (for example, hourly and temporary contracts) into the labor market. Salary unification implied broadening the base for social security contributions and employment-related taxes based on salary levels. These changes, which have been phased in over a period of 5 years, had the unintended effect of increasing the cost of employment to firms.

• *Social security* (2001 and 2005). The 2001 law increased the minimum retirement age to 60 years, eliminated automatic retirement after 40 years of contributions, and raised contributions to the pension system by capitalizing in individual accounts contributions to the reserve fund (RF), which would be withdrawn only upon retirement, disability, or death. The new law introduced a two-tier structure consisting of a "compulsory solidarity regime" and a "compulsory savings regimen" (CSR). However, aspects of the CSR were legally challenged and eventually declared null by the constitutional court. In 2005 Congress amended the law to allow the triennial return to employees of contributions accumulated in the RF.

• *Fiscal responsibility law* (2002 and 2005). The 2002 law capped real expenditure growth by the central government at 3.5 percent a year, set an annual target of 0.2 percent of GDP for the reduction of the non-oil deficit until its elimination, and set targets on the public debt (including a ceiling of 40 percent of GDP). It also created an off-budget oil fund (the FEIREP) from heavy crude oil revenues (HCOR), with resources allocations for debt buybacks (70 percent), revenue stabilization (20 percent), and social spending (10 percent). The law was modified in 2005 to (i) exclude capital spending from the ceiling on expenditure growth; (ii) eliminate the FEIREP and bring HCOR into the budget; and (iii) reallocate ex-FEIREP funds toward social spending (30 percent), economic reactivation projects (35 percent, which could also be used for optional debt buybacks), and other projects (15 percent). The new law retained the targets on the reduction of the non-oil deficit and public debt, and the 20 percent allocation for revenue stabilization.

• *Civil service* (2003). The reform unified the various components of the remuneration package into one basic wage; realigned wages (over 2004–09) to eliminate large salary discrepancies for similar jobs; and centralized the management of the civil service and the payroll under a new agency. The reform covered 25 percent of public servants, excluding politically powerful groups such as teachers, health-care workers, and the military.

economy (threatened by hyperinflation) and the banking system (in the middle of a deposits freeze) by strengthening the public finances and the financial system while easing structural obstacles to higher economic growth, all of which would also help support the dollarization regime. Additional structural reforms, focused mostly on the fiscal area, were adopted in subsequent years (some of them as part of the 2003 Fund arrangement). However, for the most part, reforms were only partially implemented, and a long structural reform agenda is still outstanding. Moreover, there have been key reform reversals in the past year.

Macroeconomic Performance

12.   **Assessing the role of dollarization in Ecuador's recent macroeconomic performances is a complex exercise**. Economic developments since the adoption of dollarization have been affected by a multiplicity of factors including a favorable external environment, increased oil production and the rebound from the 1998–99 crisis—and it is very difficult to separate the role of dollarization from that of other factors. The main approach we take here consists of comparing Ecuador's macroeconomic performance after the adoption of dollarization with (i) the country's performance during the pre-crisis period of the 1990s and (ii) the performance of other Latin American countries since 2000. At the same time, we try to correct for factors unrelated to dollarization.

Fig. 1. CPI Inflation

Source: National authorities.

Fig. 2. Ecuador: Macroeconomic Volatility 1/

Sources: Central Bank of Ecuador; and Fund staff estimates.
1/ 2005 data is through September for RER and projection for non-oil growth, based on Q2 outturn.

Stability and Growth

13.   **The Ecuadoran economy has become more stable since the adoption of dollarization** (Figures 1–2). As expected, inflation has converged to international levels, and the decline in inflation has been accompanied by a reduction in its volatility, which—combined with a fix nominal exchange rate—contributed to substantially lower variability of

both interest rates and the real exchange rate.[7] In addition, interest rates appear to have become less sensitive to negative political developments in the country, which in the past also tended to be reflected quickly in fluctuations in the exchange rate. These factors should have been a positive influence on the economy at large, including on private investment and efficiency.

14.   **Overall growth during the dollarization period has been led by the oil sector but non-oil growth has been somewhat higher than during the 1990s**. Overall GDP growth in 2004–05 was 4 percent, with the oil sector expanding at an average rate of 8 percent a year and the rest of the economy at 3.5 percent (Figure 3). Underlying non-oil growth (i. e., excluding the rebound effect from the crisis), averaging 3.4 percent a year, has been slightly higher than during the pre-crisis 1990s (by ¼ of a point) and than in the rest of Latin America (by ¾ of a point).

Fig. 3. Real GDP Growth 1/
Sources: National authorities; and Fund staff projections.
1/ Projection for 2005, based on Q2 outturn.

Fig. 4. Ecuador: Growth Decomposition
Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ Projection for 2005, based on Q2 outturn.
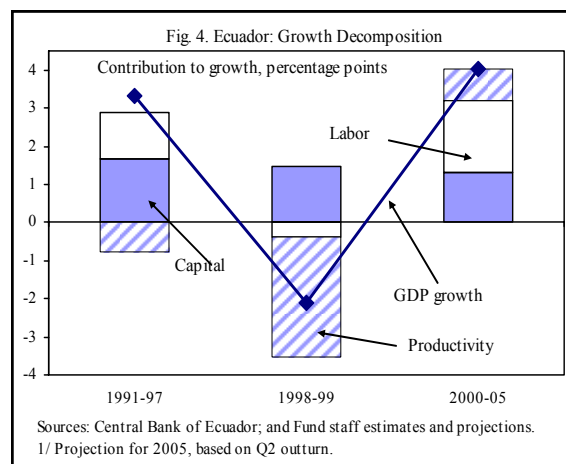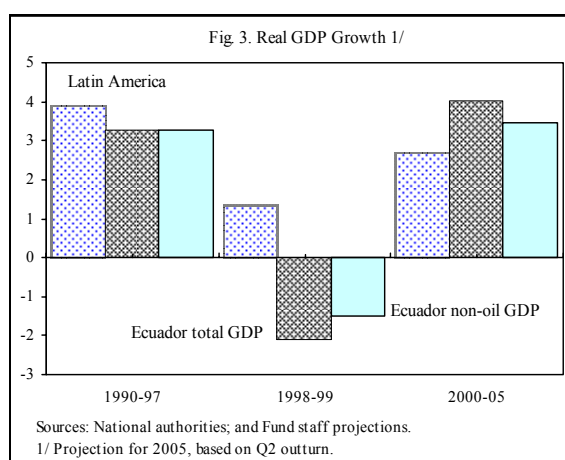
15.   **Productivity growth and investment have both significantly increased.** The contribution of productivity growth to overall GDP growth has risen substantially, accounting for about 20 percent of growth during the last five years, compared to a negative contribution during the 1990s (Figure 4).[8] Fixed-capital investment has increased sharply,

---

[7] It took about 4½ years for inflation to converge to the rate in advanced economies. This somewhat long transition period is explained mainly by the fact that, when dollarization was launched, inflation was close to 100 percent and still rising following the sharp depreciation of the sucre and the large monetary expansion that took place during the crisis. Inflation convergence in Ecuador was, however, slightly faster than in countries that introduced currency board arrangements (CBAs) in the 1990s (e.g. Argentina, Bulgaria, Estonia, and Lithuania). These countries, though, adopted CBAs under conditions of much higher (albeit already declining) inflation.

[8] The methodology and data used for the productivity growth calculations are described in the Appendix.

including in the non-oil sector, where it averaged almost 20 percent of GDP in 2000–05, well above the levels of the 1990s and of overall investment in Latin America (Figure 5).

Fig. 5. Investment Ratio

In percent of GDP

Latin America   Ecuador total   Ecuador non-oil

Sources: National authorities; and Fund staff estimates and projections.
1/ 2000-04 for Latin America. For Ecuador, 2005 is projection. based on Q2 outturn.
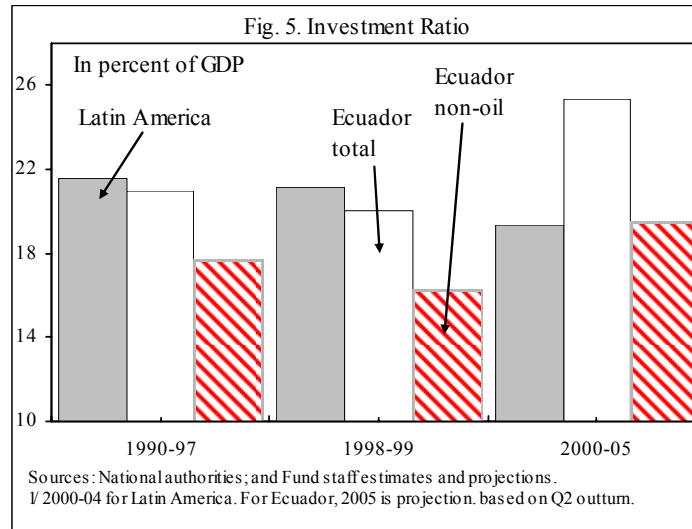
Fiscal performance

16.   It is sometimes argued that the need to maintain sound public finances and the inability to print its own money would force a formally-dollarized economy into stronger fiscal discipline. Ecuador's fiscal performance has indeed strengthened substantially following the adoption of formal dollarization. Compared to 1990–97 the primary surplus of the non-financial public sector (NFPS) has almost doubled to 5.2 percent of GDP in 2000–05, while the non-oil primary deficit has declined by 4 percentage points of GDP (Figures 6–7). However, this seems to be largely associated with factors unrelated to the switch to the new exchange rate regime.

17.   **The strengthening of the fiscal position during the dollarization period reflects mainly strong growth in tax revenue derived from improvements in tax administration that started before the launch of dollarization.** While oil revenue declined by about 1.5 percentage points of GDP in 2000–05 as a result of falling output by PetroEcuador (Figure 6), tax revenue increased by 4½ percentage points compared to the 1990–97 period (Figure 7), driven mainly by the improved performance in tax administration that followed the creation of the internal revenue service in 1997. Fiscal performance has also been aided by the fact that primary spending by the NFPS has, on average, not increased relative to the pre-crisis 1990s, with capital expenditure declining by about 1 percentage point of GDP. This reflects largely liquidity constraints at the level of the central government, derived from the lack of access to private capital markets. Over the last two years, as these constraints have eased following higher oil revenues (see below), primary spending has increased very

rapidly, led by strong growth in current expenditure.[9] Primary spending (in percent of GDP) is currently higher than in any year during the 1990s, although the non-oil deficit has remained lower than throughout the previous decade and is also lower than in other oil exporting countries in the region.

18.   **Large primary surpluses and buoyant GDP growth have contributed to a sharp decline in the public debt ratio.**[10] Public debt stands now at less than half its 1999 level, is significantly lower than at any time during the 1990s, and compares well with that of other net oil exporters in the region (Figure 7).

Fig. 6. Primary balance and Public Debt 1/

Sources: Ministry of Finance, and Fund staff estimates and projections.
1/ Projection for 2005, based on Q3 outturn.

Fig. 7. Ecuador: NFPS Non-oil Deficit 1/

Sources: Ministry of Finance; and Fund staff estimates and projections.
1/ Projection for 2005, based on Q3 outturn.

---
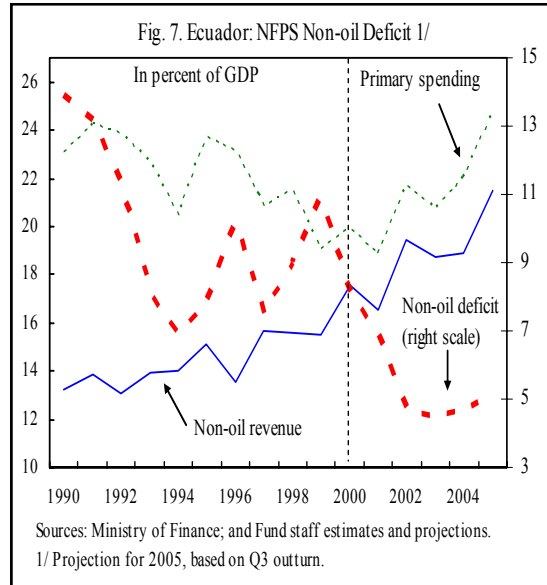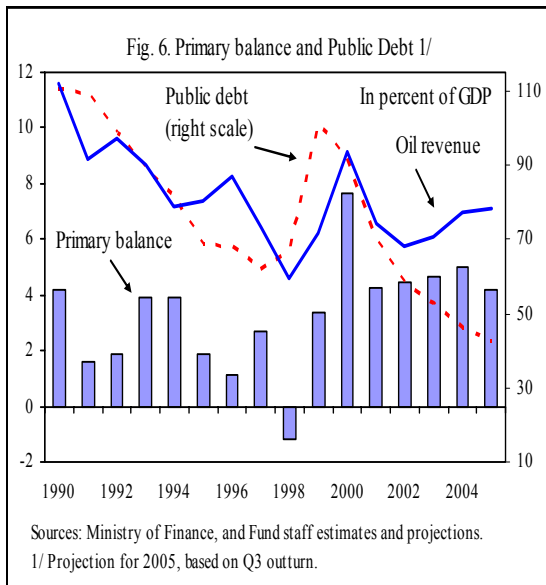
[9] Real primary spending by the NFPS rose by 16 percent and 12 percent in 2004 and 2005, respectively.

[10] Another important contributor to the decline in public debt was the restructuring of Ecuador's Brady bonds (in 2000) at a significant (40 percent) discount.

Fig. 8. NFPS Non-oil Deficit, Average 2002-04

In percent of GDP

Source: National authorities.

Fig. 9. Public Debt

In percent of GDP

2004 median

Source: National authorities.
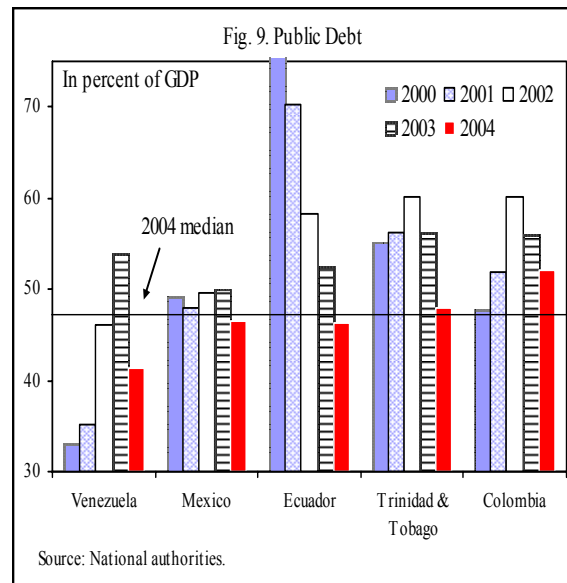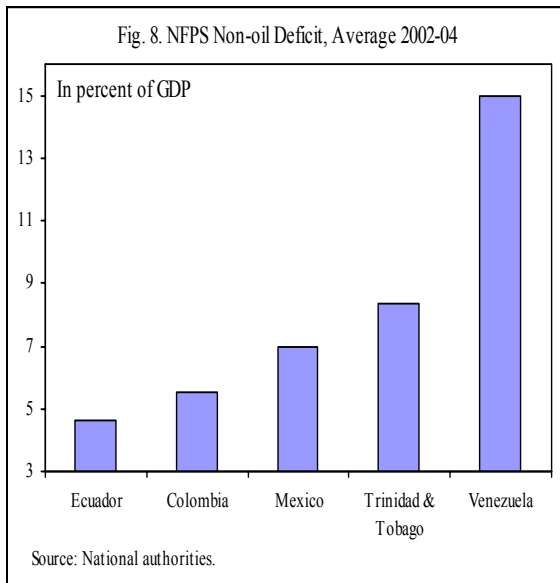
19.   **While performance at the central government level has improved during the dollarization period, the improvement has been modest[11] and, with limited financing options, the central government has faced significant liquidity constraints**. As a result, external and domestic arrears have been a common feature during most of this period, damaging the country's creditworthiness. In particular, there have been prolonged periods of arrears to bilateral official creditors, and, in addition to the debt restructurings associated with the 1999 default, Ecuador has had one rescheduling in the context of the Paris Club after 2000. The central government's liquidity difficulties—which also reflects its inability to control growth in current spending—eased substantially only in the second half of 2004, following the government's decision to use resources saved in the ex-FEIREP oil fund to catalyze higher budget financing,[12] and the subsequent incorporation of such resources into the budget (see para. 20). However, significant short-term debt obligations, limited access to domestic and external markets, the budget's heavy dependence on oil revenues, and the difficulties to control growth in spending mean that the risk of running into liquidity problems remains high.

---

[11] The central government's primary balance increased from 3.5 percent of GDP in 1990–97 to 3.8 percent in 2000–05, while the non-oil deficit declined from 7.7 percent of GDP to 6.6 percent. Primary spending over these periods rose from 13.1 percent of GDP to 15.4 percent.

[12] Since legally FEIREP resources could not be used for direct budget financing, in 2004 the government began to use them to repurchase debt from the Social Security Institute (IESS)—which was allowed by the law—while simultaneously issuing new debt to that agency for an amount equivalent to that repurchased. This allowed the government to formally comply with the fiscal responsibility law (see para. 20) while enabling the IESS to adhere to its investment rules, which cap investment in government paper at 50 percent of the portfolio.

20.   **Some reforms have been adopted since 2000 to strengthen the fiscal policy framework**. As discussed above, without the flexibility of having its own monetary and exchange rate policy, a strong and flexible fiscal policy framework takes added importance in a dollarized economy. Ecuador has made some progress on this front since adopting dollarization (see Box 1), but important reforms are still pending. The introduction of a fiscal responsibility law (FRL) in 2002 was a key reform aimed at strengthening the fiscal policy framework. The FRL set limits on the growth of primary spending and created the FEIREP oil fund as an off-budget vehicle to save the receipts from heavy crude oil and use them for debt repurchases and revenue stabilization. However, while the law may have had a disciplining effect on the public finances, this has not been strong enough and has not avoided rapid expenditure growth by the central government and the worsening of the non-oil balance in 2004–05 (Figure 7). So far, the FRL's above-the-line rules have been adhered to only in 2003, the year in which it came into effect. The 2005 reform weakened the law by removing capital spending from the ceiling on primary expenditure growth, bringing into the budget ex-FEIREP revenues, and earmarking the bulk of those revenues for expenditure (Box 1). Moreover, there still exists extensive revenue earmarking, which introduces a strong pro-cyclical element to fiscal policy.

External sector and international price competitiveness

21.   **Formal dollarization is supposed to help stimulate international trade through improved macroeconomic stability and lower transaction costs**. In the case of Ecuador, since inflation was high when dollarization was launched, and was not expected to converge quickly to international levels, there was also the fear that—regardless of its effect on the size of trade—dollarization would lead to a significant loss in price competitiveness. As expected, trade openness has increased following the adoption of dollarization (Figure 10), reflecting strong import growth. Non-oil exports have declined relative to GDP, but as explained in more detail below, this reflects mainly exogenous factors, and does not appear to be related to a deterioration of price competitiveness, which seems to have remained largely unaffected by dollarization.

Fig. 10. Ecuador: Non-oil Sector Trade Openness 1/

Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ Projection for 2005, based on Q3 outturn.

Fig. 11. Ecuador: Current Account Balances 1/

Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ Projection for 2005, based Q2 outturn.
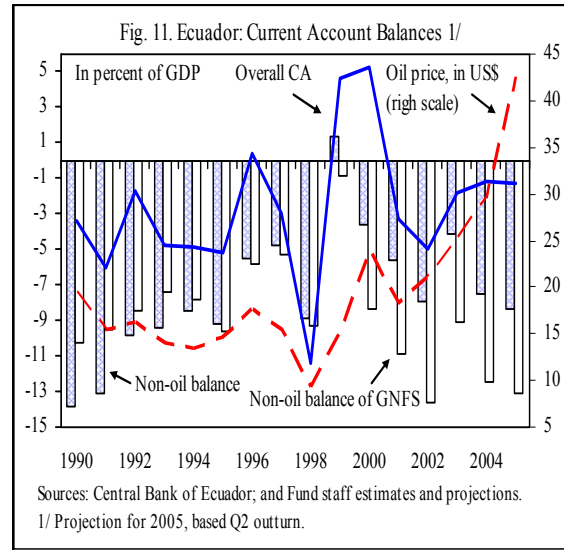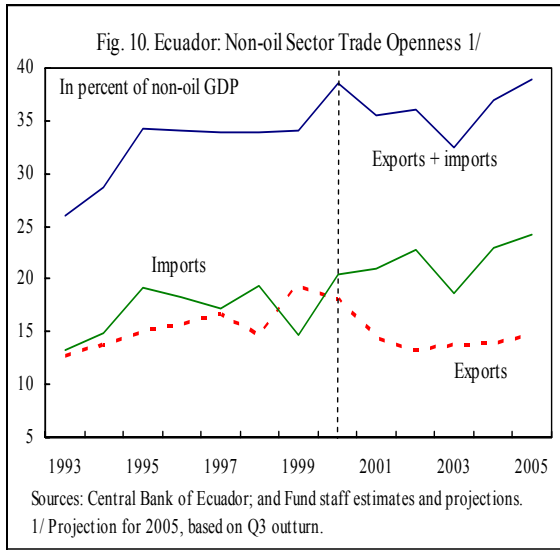
22.   **The external current account has improved since the adoption of dollarization, but this reflects mainly higher oil prices and production, and lower interest payments** (Figure 11)**.** The current account deficit averaged about 1 percent of GDP in 2000–05, a large improvement from the deficit of 3.6 percent of GDP recorded in 1990–97, aided by strong growth in oil exports from high international prices and increased private output. This improvement has been accompanied by a substantial decline in the non-oil current account deficit (3 percentage points of GDP over the same period) resulting mainly from a large reduction in interest payments following the decline in external debt and lower international interest rates. An alternative measure of the non-oil balance that in principle better reflects changes in competitiveness is the balance of goods and non-factor services (GNFS). This shows a deterioration of about 3 percentage points in the dollarization period relative to the pre-crisis 1990s, driven by poor performance of traditional non-oil exports (which include bananas, cocoa, coffee, and shrimp), owing largely to a deterioration of the terms of trade and natural phenomena that hit Ecuadoran agriculture in the late 1990s (e.g., the white spot disease in the case of shrimp, and the El Niño weather phenomenon in the case of bananas).[13] Total traditional non-oil exports declined from 11 percent of GDP in 1997 to 6 percent in 2004, exceeding the deterioration of the non-oil balance of GNFS by 2 percentage points.

---

[13] In 2004 exports of shrimp and bananas were, respectively, 63 percent and 23 percent lower than in 1997.

Fig. 12. Ecuador: Indicators of Non-oil Trade 1/

Indices of values in US$
1995=100

Non-traditional exports

Imports

Traditional exports

Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ Projection for 2005, based on Q3 outturn.

Fig. 13. Ecuador: Real Effective Exchange Rate 1/

Index, 1990=100

Crisis outbreak

Dollarization

1985-1997 average

Source: IMF, Information Notice System.
1/ September data for 2005.

23.   **While overall non-oil export growth has been modest during the dollarization period, non-traditional exports have grown strongly (Figure 12)**. Non-oil exports exceeded their pre-crisis peak only in 2005, but non-traditional exports (which include mainly flowers, seafood products, processed food, and metal products, and in 2005 accounted for one-half of non-oil exports, compared with 30 percent in 1997) grew at an average rate of over 10 percent in 2000–05, driven mainly by a strong expansion in volumes. Some Ecuadoran exporters are of the view that the recent strong non-oil export performance has indeed benefited from the improved macroeconomic stability by making planning easier and

helping improved decision making, even if the real exchange rate appreciation that followed the launch of dollarization may have meant a cost disadvantage.

24.   **From available evidence, it is not clear that Ecuador's price competitiveness has been significantly affected one way or another by dollarization.**

- While the real effective exchange rate appreciated substantially following the launch of dollarization, the sharp depreciation in the context of the crisis looks excessive by historical standards and most likely overshot the equilibrium rate (Figure 13). In addition, the equilibrium rate may have increased following improved terms of trade (by 25 percent between 1998 and 2005), lower international interest rates, and higher remittances (which increased by 2.5 percentage points of GDP between 1998 and 2005).

- Non-oil trade developments after dollarization do not reflect a clear picture on the evolution of competitiveness. Non-traditional exports continued to grow at double digits in 2004–05, but imports also expanded at a similar pace, with strong growth in volumes in each case. In this context, it appears that the impact of the real appreciation that followed dollarization has been less important than other factors. In particular, the expansion of non-traditional exports has been aided by healthy global growth—and possibly by increased macroeconomic stability from dollarization— while continued rapid import growth has been driven mainly by the recovery of domestic growth, the rebound in financial intermediation (see Figure 14 below), and what appears to be a decline in the domestic price of importables in the last couple of years as inflation converged to international levels.[14] As discussed above, the worsening of the non-oil balance of GNFS during the dollarization period can be explained by exogenous factors affecting traditional non-oil exports.

- Within the non-oil sector, the share of tradable activities in 2004–05 was virtually unchanged (at around 27 percent) compared to the pre-crisis 1990s, which does not point to the development of a Dutch-disease problem.

Bank intermediation and interest rates

25.   Dollarization is supposed to lead to higher financial intermediation by improving macroeconomic stability and reducing transaction costs. The evidence in favor of this in Ecuador is not clear, although dollarization appears to have had a positive influence on the banking system. Bankers in Ecuador are strongly in favor of dollarization, which they tend to view as an anchor for macroeconomic and banking system stability. Bank intermediation has grown quickly in recent years following the rebound from the crisis, but it remains well

---

[14] The CPI shows deflation for tradeable goods from mid-2003 to mid-2005.

below pre-crisis levels (Figure 14) despite the recovery of national income (real GDP in 2005 was about 20 percent higher than its pre-crisis peak). Moreover, bank intermediation in Ecuador remains substantially lower than in other Latin American countries with a similar level of financial-system development (Figure 15). A possible shift of intermediation to non-bank institutions—which have expanded rapidly in recent years—is, at best, a minor factor in the explanation of the lack of full recovery of intermediation.[15] A more plausible explanation is that, despite a positive influence of dollarization (see below), public confidence in the banking system has not fully recovered from the crisis. This is also consistent with the fact that deposit maturities remain low and below pre-crisis levels.[16]

Fig. 14. Ecuador: Bank Private Deposits and Credit 1/

Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ November data for 2005.

Fig. 15: Bank Credit to the Private Sector (2004)

Source: National authorities.
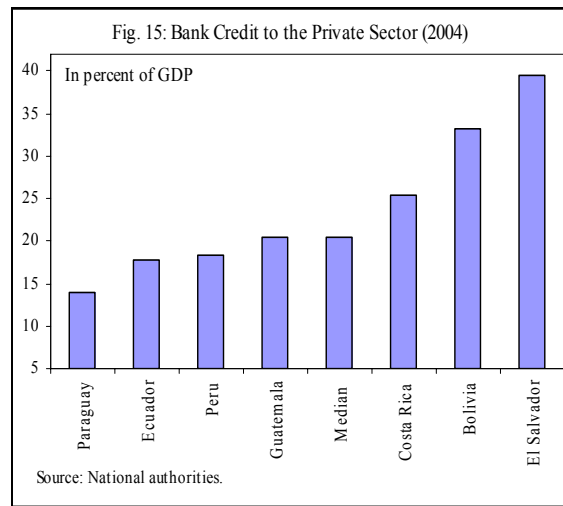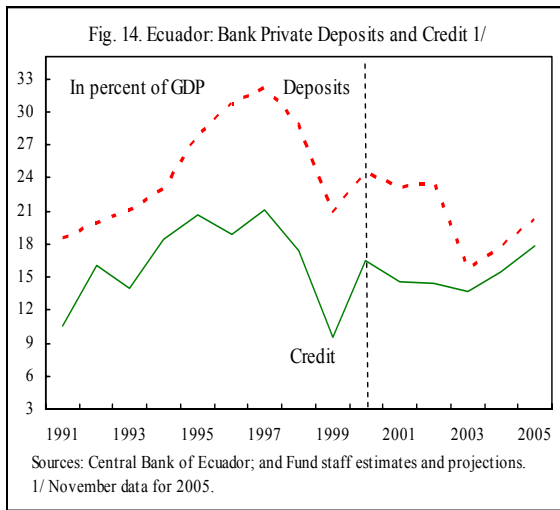
26.   **The adoption of dollarization had an immediate confidence effect on the banking system, allowing the rapid unfreezing of the bulk of deposits without negatively affecting bank liquidity.** Subsequently, dollarization has contributed to bolster confidence in the system, including by helping isolate it from frequent bouts of high political instability, which in the past would be often reflected in deposit and interest-rate changes. However, the system appears to still be suffering from the experience of the late 1990s, as well as from various structural and institutional problems (for example, high credit risk, absence of a credible lender of last resort, lack of an adequate deposit guarantee; weak creditor rights; and bankruptcy procedures that do not facilitate the recovery of assets by banks) whose solution lies well beyond Ecuador's exchange rate regime and macroeconomic policies.

27.   **By eliminating exchange rate risk, dollarization is supposed to result in a significant decline in domestic interest rates, but this does not appear to have occurred**

---

[15] Deposits in non-bank financial institutions amounted to about 3.5 percent of GDP in 2005, while the decline in bank deposits between 1997 and 2005 was equivalent to 12 percentage points of GDP.

[16] As of November 2005, over 90 percent of deposits in the banking system were short term (with maturity of less than 91 days).

in Ecuador. Real interest rates declined following the adoption of dollarization but this seems to have reflected higher-than-anticipated inflation—real rates started to increase as inflation began falling (Figures 16–17). While headline marginal lending rates have come down significantly, this reflects the existence of administrative ceilings that were imposed following the launch of dollarization in 2000. Although substantially relaxed since then, these ceilings appear to be generally binding, and banks appear to have successfully avoided them by increasing lending fees and commissions, which are not capped. Effective lending rates (headline interest rates plus fees and commissions) are thus substantially higher than the headline interest rate suggests, and seem to be approaching pre-crisis levels. In this context, even though Ecuador's interest rates are now more correlated with rates in the United States, real lending rates have not converged to international levels and are higher than in other dollarized economies in the region (Figure 18).[17]

28.   **Interest-rate spreads have declined compared to the pre-crisis period** (See Figures 17). However, they are high compared to other Latin American countries, including dollarized Panama and El Salvador, reflecting mainly the persistence of significant credit risk, relatively high (albeit declining) levels of non-performing loans, high operational costs, and substantial liquidity holdings by banks (see Chapter III). Moreover, because of the existence of substantial lending fees and commissions, spreads in Ecuador do not fully reflect the difference between lending costs and deposits rates. In fact, intermediation margins (which also include commissions and fees) have declined less than spreads, have generally increased during the dollarization period, and seem to be approaching pre-crisis levels (Figure 16).

---

[17] Estimations by Canova (2005) for 1990–2002 show that the correlation of Ecuadoran interest rates with U. S. rates has been historically weak compared to that of other Latin American countries such as Mexico, Peru, Brazil, and Panama, suggesting that the role of domestic factors in interest rate determination has been traditionally higher in Ecuador. This is consistent with the existence of important structural and institutional problems that affect the Ecuadoran banking system, as pointed out in paragraph 26.

Fig. 16. Ecuador: Average Effective Interest rates

Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ Ex-post rates. Includes interest charges, commissions and other fees.
2/ Ex-post rate. Includes interest charges only.

Fig. 17. Ecuador: Real Marginal Interest Rates 1/

Sources: Central Bank of Ecuador; and Fund staff estimates and projections.
1/ Ex-post rates. Includes interest charges only (84-91 days).

Fig. 18. Real Lending Rates 1/

Source: National authorities.
1/ Ex-post marginal rates for one-year loans, excluding fees and commissions.

Sovereign-bond spreads

29.   **Ecuador's sovereign-bond spreads have tightened substantially since 1998–99 crisis, but have not declined compared to the pre-crisis period and are the highest in Latin America (Figures 19–20).** Spreads reached a peak of 4,500 basis points in mid-2000 but fell sharply following the debt exchange and the accompanying reduction in Ecuador's public debt. During 2001–05, spreads have been on average similar to those in 1996–98, but have increased slightly relative to the Latin American average. Despite generally superior fiscal indicators (Figures 8–9), they are the highest in the region, exceeding the Latin

American average by about 350 basis points and the spreads of other formally-dollarized economies by about 400 bps.[18]

30.   **The persistence of high spreads seems to reflect Ecuador's credit history, the quality of policies, and a high degree of political instability and policy uncertainty**. A history of periodic defaults and frequent recourse to reschedulings and arrears to external creditors;[19] a heavy reliance on inherently volatile oil revenues; significant weaknesses in the fiscal policy framework, and a general perception that prospects for addressing them are not strong; high political instability;[20] and frequent and unpredictable changes in economic policies are all factors that make Ecuadoran sovereign debt unusually risky. These factors appear to dominate the positive effect from others, including a public debt that compares well with that of other Latin American countries (see Figures 8–9), and good prospects for high oil prices over the medium term.

Fig. 19. EMBI Spread

Fig. 20. Public Debt and EMBI Spreads (2004)

---
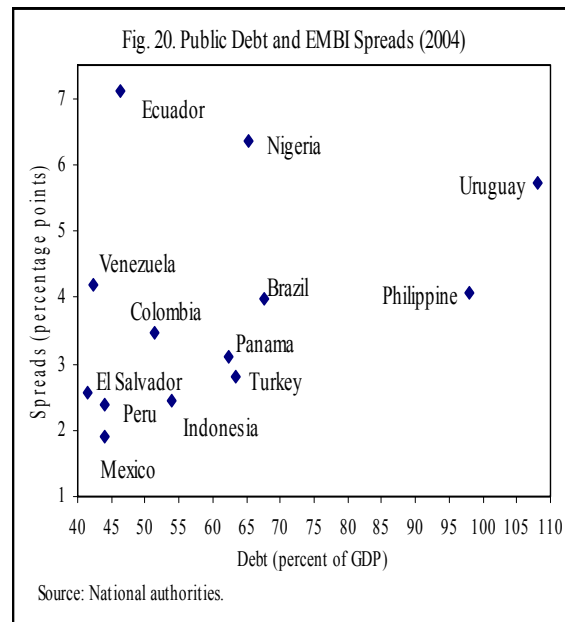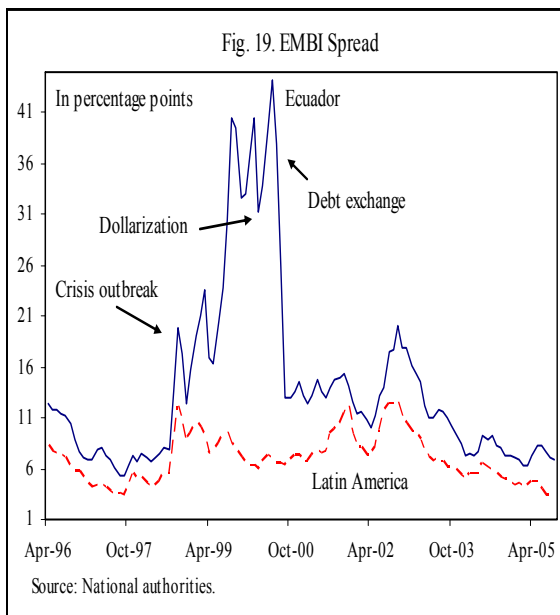
[18] Ecuador's international credit rating remains one of the lowest in Latin America, with Ecuadoran government debt rated CCC+ by Standard and Poors, Caa1 by Moody's and B- by Fitch (January 2006).

[19] Since the early 1980s, Ecuador has not been able to honor scheduled obligations on debt to private creditors on at least three occasions. In addition, it had eight Paris Club reschedulings, the highest number of such reschedulings among Latin American countries after Bolivia.

[20] Ecuador has had 6 presidents in the last 8 years (3 of them ousted by Congress before completing their terms), with some of the government successions followed by a significant change in the direction of economic policies.

31.   **Against this background, dollarization does not seem to have contributed to lowering country risk**. Although dollarization has helped reduce macroeconomic instability and formally eliminated exchange rate risk, the factors mentioned in the preceding paragraph have changed little compared to the pre-dollarization period. If anything, political instability has increased, while the 1999 default and the recent prolonged periods of arrears have hurt creditworthiness.

32.   **Estimates from an econometric model of the Ecuador bond spreads do not show a statistically significant effect of dollarization on spreads**. The model, whose dependent variable is estimated in first differences, uses monthly data for 1996–2005 and includes as explanatory variables the average bond spread in Latin America (L), the rate of interest for 10-year U.S. bonds (U), and dummy variables for periods of particularly high political instability (P), dollarization (D), the economic crisis (C), and the 2000 debt restructurings (R).[21] Except for the dollarization dummy, all variables are statistically significant, with the interest rate on U.S. bonds playing the most important role among the non-dummy variables (the numbers in parentheses are the p-values):

$$S = 11.9 + 0.59 \, S_{t-1} + 0.72 \, L + 75.3 \, U_{t-1} + 71.1 \, P - 16.3 \, D + 95.7 \, C - 376.1 \, R$$

$$(0.33) \quad (0.00) \quad\quad (0.00) \quad (0.03) \quad (0.02) \quad (0.29) \quad (0.03) \quad\quad (0.00)$$

$$\text{Adj. } R^2 = 0.83. \; DW = 1.90.$$

33.   **Ecuador recently regained access to international markets, taking advantage of highly-favorable overall market conditions**. While this appears to reflect some improvement of confidence in Ecuadoran debt, spreads are still very high and not consistent with sustainable market access for regular financing purposes (i. e., other than retiring existing expensive or very short-term debt).

Structural Changes

Banking system

34.   **The banking system consolidated significantly following the 1998–99 crisis**. The number of active commercial banks was reduced from 39 at end-1998 to 25 in 2005, with the number of foreign banks falling from four to two. At present, the four largest banks account for about 60 percent of assets and deposits in the banking system. Commercial banks account for over 70 percent of total financial assets.

35.   **Bank soundness indicators have improved since the adoption of dollarization** (Figure 21). Non-performing loans have declined, and the system's capital base has

---

[21] A version of this model included also the oil price, which had the right sign, but was statistically insignificant.

strengthened. However, current indicators compare generally unfavorably to those of other Latin American countries, including those with formal dollarization regimes (see Chapter III). Bank liquidity in Ecuador has increased under dollarization, partly because, in the absence of adequate lender-of-last-resort arrangements, banks need to maintain higher liquidity levels for precautionary reasons. Liquidity holdings by Ecuadoran banks are on the high side compared to other countries in the region (see Chapter III).

Fig. 21. Ecuador: Selected Banking Indicators 1/

Sources: Superintendency of Banks of Ecuador; and Fund staff estimates.
1/ November data for 2005.
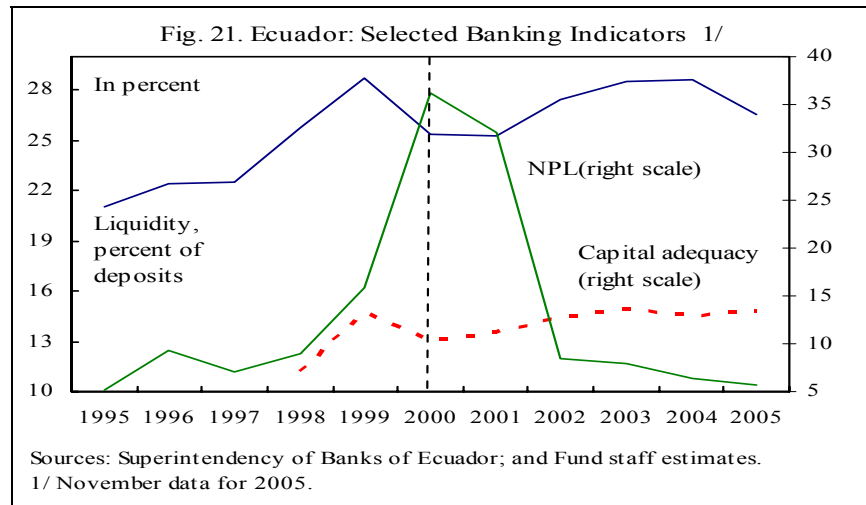
36.   **The banking system's safety net remains weak, rendering the system vulnerable to changes in confidence and to macroeconomic shocks**. While the central bank established a liquidity-recycling facility following the adoption of dollarization, this is very small (2 percent of deposits) and does not constitute credible lender-of-last-resort (LOLR) arrangements. Initiatives to establish an adequate LOLR facility (financed with resources from contingency credit line from the Latin American Reserve Fund (FLAR) and individual bank contributions) have not materialized, partly because of legal obstacles involving both the FLAR and the central bank. The system also lacks adequate deposit insurance. Although banks contribute (about 0.65 percent of their deposits) to a deposit insurance fund, these resources have been largely used to pay remaining frozen deposits rather than to build a guarantee fund for future needs.

Labor markets

37.   **Reforms adopted in 2000 brought some flexibility to labor markets (See Box 1), but these continue to be rigid, while the setting of wages remains inefficient**. Although termination costs in Ecuador are similar to those in other Andean countries, they are among the highest in the region (including Argentina and Uruguay) and higher than those in most European countries and the United States (Rinne and Sánchez-Páramo, 2003). Wage setting in Ecuador is complex—involving many parties at different levels and times—and rigid, enabling the increase in minimum wages to be automatically transmitted to the whole of the salary structure and leaving little room to differentiate salaries based on productivity (Rinne and Sánchez-Páramo, 2003). At the same time, generous profit-sharing rules (the law

mandates that 15 percent of profits go to employees) increase costs to firms and discourage employment creation in the formal sector.

38.   **Following the bounce-back from the crisis, unemployment has fallen significantly since the late 1990s but remains high**. The unemployment rate reached a peak of 16.9 percent in mid-1999 and has been in the 9–12 percent range over the last two years.[22] Recent unemployment levels are slightly lower than in Panama but higher than in El Salvador.[23]

39.   **The persistence of high unemployment rates seems to reflect a combination of a growing labor force, market inflexibility, and modest non-oil growth**. Ecuador's labor force is estimated to have expanded at an annual rate of 2.3 percent during 2000–04, while the non-oil economy grew at an average 3.5 percent. Since the adoption of dollarization, minimum wages in the private sector have grown generally well above inflation and faster than warranted by productivity growth (Figure 22). Although real minimum wages remain below their peak pre-crisis level, they had increased strongly before the crisis, expanding at an average real rate of over 6 percent in 1990–97, a period of negative productivity growth. Moreover, minimum wages in Ecuador (as a percent of per capita income) are among the highest in Latin America (Figure 23).

Fig. 22. Ecuador: Real Minimum Wage in the Private Sector

Index, 1990=100

Sources: Central Bank of Ecuador; and Fund staff estimates.

Fig. 23. Minimum Wages (2004)

In percent of per capita GDP

Source: National authorities.

---
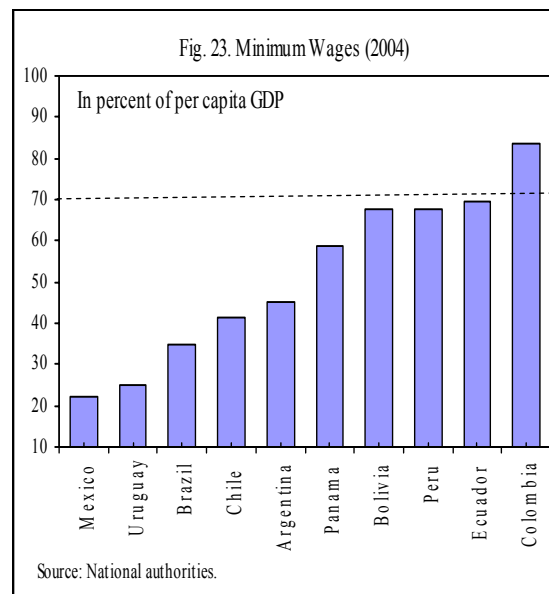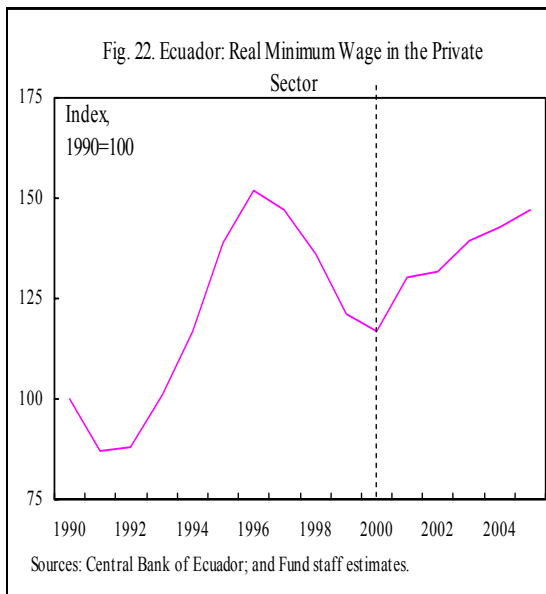
[22] A number of breaks in the series do not allow for an adequate comparison of unemployment rates before and after dollarization.

[23] Unemployment in 2004 was 11 percent in Ecuador, 11.8 percent in Panama, and 6.8 percent in El Salvador.

D. Conclusion

40.   **So far, dollarization appears to have served Ecuador relatively well**. Inflation has converged to international levels and other measures of macroeconomic stability (including real exchange volatility) have improved, which should have had a positive impact on efficiency and private investment. At the same time, the dollarization regime seems to have helped insulate the economy, notably domestic financial markets, from the destabilizing effects of frequent bouts of political instability. Increased macroeconomic and financial stability have helped maintain moderate economic growth. At the same time, public debt has declined sharply and the underlying fiscal position has improved significantly.

41.   **Recent macroeconomic performance has been strongly aided by a highly favorable external environment**. For much of the dollarization period, Ecuador has benefited from very high oil prices, low international interest rates, and strong global growth, and has not suffered any major adverse shocks. In this sense, the dollarization regime has not been tested, and how it will stand up in the face of negative exogenous developments remains to be seen.

42.   **Ecuador has not fully reaped the potential benefits of dollarization**. The formal elimination of currency risk has so far produced lower benefits than in other dollarized economies in terms of interest-rate reductions. Financial intermediation and confidence in the banking system have improved, but not fully recovered from the effects of the crisis. While the non-oil economy has grown steadily over the last five years, growth has been relatively modest. At the same time, country risk is the highest in Latin America, which severely limits Ecuador's financing options at a cost consistent with the domestic rate of return, and contributes to significant liquidity risk.

43.   **This performance reflects largely a low level of implementation of structural reforms and an unfavorable domestic business climate.** The reform momentum that followed the crisis and the adoption of dollarization waned quickly and reforms have largely stalled, while there have been important reversals recently. At the same time, a domestic business environment characterized by poor governance, high political instability and policy uncertainty, and poorly-managed public enterprises in key sectors of the economy (including electricity and telecommunications) significantly increase the cost and risk of doing business in Ecuador, discouraging private investment.[24]

44.   **Ecuador needs to put in place reforms to support the sustainability of the dollarization regime by increasing the economy's resilience to shocks and raising productivity**. As the experience of the late 1990s showed, Ecuador is vulnerable to exogenous shocks that can have a devastating impact on the economy. The country needs

---

[24] Non-oil foreign direct investment (FDI) seems to be particularly affected by these deficiencies. Despite a formally liberal regime (including investment-protection treaties with a large number of OECD countries), non-oil FDI remains one of the lowest in Latin America (see Chapter IV).

policies that would enable it to respond adequately to shocks, even more so now that it has less macroeconomic policy instruments at its disposal. In particular, the public finances need to become more flexible and less dependent on oil revenues, including through a lower debt ratio, substantial reductions in subsidies and revenue earmarking, and broadening of the tax base. In the financial sector, there is a need to strengthen the safety net through a credible lender-of-last-resort facility and an adequate deposit insurance system, while taking measures to reduce credit risk and further strengthen bank supervision. The lack of control over its nominal exchange rate has also made it more urgent to advance reforms to increase productivity as a means to improve international competitiveness. A more resilient and efficient economy should allow Ecuador to capitalize more fully on the potential benefits of dollarization discussed in Section B.

REFERENCES

Bogetic, Z. (2000), "Official Dollarization: Current Experiences and Issues." *Cato Journal* 20: 179–213.

Canova, F. (2005), "The Transmission of U.S. Shocks to Latin America." *Journal of Applied Econometrics* 20: 229–51.

Calvo, G. (2001), "Capital Markets and the Exchange Rate with Special Reference to the Dollarization Debate in Latin America." *Journal of Money, Credit, and Banking* 33: 312–34.

Dornbusch, R. (2001), "Fewer Moneys, Better Moneys." *American Economic Review* 91: 238–42.

Edwards, S. (2001), "Dollarization Myths and Realities." *Journal of Policy Modeling* 23: 249–65.

Edwards, S. and I. Magendzo (2003), "A Currency of One's Own? An Empirical Investigation on Dollarization and Independent Currency Unions." National Bureau of Economic Research Working Paper No. 9514.

Moreno-Villalaz, L. (1999), "Lessons from the Monetary Experience of Panama: A Dollar Economy with Financial Integration." *Cato Journal* 18: 421–39.

Goldfajn, I. and G. Olivares (2001), "Full Dollarization: The Case of Panama." *Journal of the Latin American and Caribbean Economic Association* 1: 101–40.

Rinne, J. and C. Sánchez-Páramo (2003), "The Labor Market and Civil Service in Ecuador." In Fretes-Cibils, V., M. M. Giugale, and J. R. López-Cálix, *Ecuador: An Economic and Social Agenda in the New Millennium*. Washington: The World Bank.

Methodology and Data for the Calculations on the Sources of Growth

The calculations on Ecuador's sources of growth are based on an aggregate Cobb-Douglas production function:

(1) $Y = AK^{\sigma}S^{(1-\sigma)}$

where Y denotes output, K is capital, S is labor, A reflects economy-wide efficiency, and σ is the input elasticity of substitution.

The productivity growth calculations are based on a rate-of-growth version of equation (1). Using lower-case letters to denote the rate of growth of the variables in (1), total factor productivity growth can be expressed as:

(2) $a = y - \sigma k - (1 - \sigma)s$

The data on capital used in the calculations comes mainly from Chapter III of the 2003 Selected Issues paper, which presents estimations of Ecuador's capital stock for the 1970–2002 period based on the perpetual inventory method and assumptions on depreciation. These calculations have been extended through 2005 using the same methodology. Capital is not adjusted for its rate of utilization.

Labor is measured as the number of people employed. Employment is calculated using data on population, labor force and unemployment from the Ecuadoran Bureau of National Statistics and the Central Bank of Ecuador. It is not adjusted by hours worked because of data unavailability

Finally, the input elasticity of substitution is given by the share of each production factor in value added, which is obtained from Ecuador's 1997 input-output matrix. It is assumed that these shares remain unchanged for the period of our calculations.

Sensitivity analysis on plausible alternative values for the factor shares for the remainder of the period do not qualitatively alter the calculations on productivity growth, which remains significantly negative and positive for the 1990s and 2000–05, respectively.

II. ASSESSING FISCAL PERFORMANCE UNDER DOLLARIZATION AND POLICY CHALLENGES OF SECURING LONG-RUN FISCAL SUSTAINABILITY[1]

A. Introduction

1.   Since full dollarization the non-financial public sector (NFPS) has maintained primary surpluses consistently above 4 percent of GDP. As a result, the debt to GDP ratio has been cut in half. Nevertheless, achievement of long-term fiscal sustainability remains an important policy challenge in Ecuador. The country's fragmented political system generates continuing pressure on the fiscal authorities to redistribute oil rents. Meanwhile, the central government's budget has little flexibility, given extensive revenue earmarking and a large share of non-discretionary spending.

2.   The objective of this paper is to assess sustainability of Ecuador's fiscal policy and explore criteria that could guide the setting of fiscal policy in the future. Section B examines fiscal performance since the dollarization and evaluates sustainability of the government's fiscal policy. Section C analyzes how the government has been utilizing its oil wealth during the recent years, explores alternative fiscal policy rules that could enable the government to optimize its use of the oil wealth over the long-run and discusses medium-term debt sustainability implications of the proposed fiscal rules. Section D concludes.

B. Assessing Sustainability of Fiscal Policy

3.   Three different approaches are used to assess fiscal policy sustainability in Ecuador. First, we measure the debt stabilizing primary balance to reflect on the evolution of Ecuador's debt since the 1998–99 crisis and evaluate implications of the projected medium-term fiscal policy. Second, we examine debt sustainability projections generated by the IMF's standard debt sustainability framework. Finally, we consider results of a risk-based analysis of sustainability.

Debt-Stabilizing Primary Balance

4.   A comparison of the actual and debt stabilizing primary balances is the most common and straightforward method of assessing sustainability of public debt (IMF, 2003). The debt stabilizing primary balance is defined as the level of primary balance that stabilizes debt as a share of GDP at the level of the previous year and can be expressed as:

$$\frac{PS_t^*}{GDP_t} = \left(\frac{r_t - g_t}{1 + g_t}\right)\frac{D_{t-1}}{GDP_{t-1}},$$

---

[1] Prepared by Alexander Pivovarsky (FAD).

where D_t is the debt level in period t, r_t is the nominal interest rate in period t, PS_t is the primary surplus in period t, and g_t is nominal growth rate of GDP in period t.[2] If the actual primary balance is above what would be required to stabilize the debt-to-GDP ratio at the previous year's level, current fiscal policy would be viewed as sustainable because it implies a decreasing debt-to-GDP ratio. The difference between the actual and debt-stabilizing primary balance would imply a degree of adjustment required to achieve a constant debt-to-GDP ratio. Table 1 presents the debt stabilizing primary balances for Ecuador's NFPS.

Table 1. Debt-Stabilizing Primary Balance for NFPS

	1999	2000	2001	2002	2003	2004	2005 Proj.	2006 Proj.	2007 Proj.	2008 Proj.	2009 Proj.	2010 Proj.
Net debt (in percent of GDP) 1/	97.8	83.7	64.2	52.8	45.0	38.2	34.0	29.2	26.2	25.7	25.1	24.6
Nominal GDP growth (in percent)	-15.5	-4.4	31.9	15.6	11.9	11.3	7.9	8.2	6.6	5.6	5.8	5.8
Interest rate (in percent) 2/	...	6.5	7.4	6.2	6.4	6.5	7.0	8.8	10.1	10.7	10.7	11.2
Actual/projected primary balance (in percent of GDP)	3.4	7.7	4.3	4.5	4.7	5.0	4.2	4.9	4.0	1.8	1.8	1.9
Debt-stabilizing primary balance (in percent of GDP)	...	11.2	-15.5	-5.2	-2.6	-1.9	-0.3	0.2	1.0	1.3	1.2	1.3
Memorandum items												
Identified debt-creating flows	...	3.5	-19.8	-9.7	-7.3	-6.9	-4.5	-4.7	-3.0	-0.5	-0.5	-0.6
Primary deficit	...	-7.7	-4.3	-4.5	-4.7	-5.0	-4.2	-4.9	-4.0	-1.8	-1.8	-1.9
Contribution from interest rate/growth differential 3/	...	11.2	-15.5	-5.2	-2.6	-1.9	-0.3	0.2	1.0	1.3	1.2	1.3
Residual, including asset changes 4/	...	-17.6	0.4	-1.8	-0.5	0.2	0.2	0.0	0.0	0.0	0.0	0.0

1/ NFPS gross debt adjusted for net change in the NFPS bank deposits.
2/ Average implicit nominal interest rate on the stock of net debt at the end of the previous year.
3/ Derived as (r - g)/(1 + g) multiplied by net debt to GDP ratio in the previous year, where r is the nominal interest rate and g is the nominal growth rate of GDP in the year under consideration.
4/ Defined as a difference between the year on year change in the net debt stock and the value of identified debt creating flows.

5.   Since dollarization in 2000 actual primary balances have been above their debt-stabilizing levels, thus allowing the ratio of debt to GDP to decline.[3] Thus, between 2001 and 2005 the debt to GDP ratio declined by 50 percentage points. Primary surpluses contributed some 45 percent of this reduction, with most of the remaining decline is explained by the fact that the nominal GDP growth was substantially higher than nominal interest rates (with real interest rates on the public debt remaining negative over much of this period).

6.   Under the staff's baseline scenario, debt is projected to continue to decline in the medium term although more slowly than over the past five years. The ratio of the net NFPS debt to GDP is projected to fall by 13.6 percentage points compared to its level at the

---

[2] Derivation of a debt-stabilizing balance is presented in Appendix 1.

[3] The decline of the debt-to-GDP ratio in 2000 despite the fact that the actual primary balance was below its debt stabilizing level is due to a debt restructuring that took place in July-August 2000. The impact of the debt restructuring on the net debt stock is captured in the residual item included among the memorandum items in Table 1.

end of 2004 as the public sector is projected to continue maintaining primary balances above their debt stabilizing level, in large part because of the central government's continued limited access to financing.

Results of the IMF's Standard Debt Sustainability Analysis

7. **While the analysis of the debt stabilizing primary balance is a useful tool for analyzing past debt dynamics, it has to be augmented with an analysis that takes into account exogenous shocks that could affect fiscal performance in the future.** Moreover, it would be important to compare public debt ratios to the threshold debt levels considered to be detrimental to growth and overall macroeconomic stability.

8. **Recent research suggests that the effect of debt on growth and borrowing costs increases at an accelerating rate once the overall debt reaches certain levels.** While the economic literature is not conclusive on the critical threshold of public debt, external debt level ratios in the order of 30-40 percent of GDP have been found to be associated with worsening growth conditions (Patillo et al. 2002) and defaults (Reinhart et al. 2003).

9. **The IMF's standard debt sustainability is one tool for projecting debt levels under a variety of standard shocks, which could then be used to evaluate the debt projections against the above mentioned thresholds.** In the standard debt sustainability template, the baseline medium-term projections are subjected to a series of macroeconomic shocks and alternative fiscal policy assumptions. The standard debt sustainability template provides medium-term debt paths corresponding to several standard scenarios, including: (i) the baseline scenario; (ii) scenarios with adverse economic shocks (equivalent to one half of a standard deviation from historical averages) to the interest rate, real GDP, and the primary balance; (iii) a combination shock to the aforementioned three variables (equivalent to one fourth of a standard deviation applied to each of the variables); and (iv) a shock to the debt stock of 10 percent of GDP (e.g., due to a recognition of contingent liabilities by the government). In the case of Ecuador, to recognize the important role played by oil prices, a scenario assuming a permanent decline of the world oil price is also included. The outcome of this exercise for Ecuador is illustrated in Figure 1.

10. **The results of the standard bound tests under the different scenarios suggest moderate to high risks to public debt sustainability over the medium term.** Under the baseline scenario, gross NFPS debt is projected to decline to 32.8 percent of GDP by 2010, but still remain above the critical threshold debt level. Under the bound tests, the debt is projected to be between 37 and 47 percent of GDP. Of particular note, the combined shock and the oil price shock would yield debt-to-GDP ratios of 45 and 37 percent of GDP by 2010, respectively.

Figure 1. Ecuador: Public Debt Sustainability: Bound Tests 1/
(Public debt in percent of GDP)

Baseline and historical scenarios

Gross financing need under baseline (right scale)

Historical

Baseline

33

Interest rate shock (in percent)

Baseline:	3.7
Scenario:	10.5
Historical:	3.1

i-rate shock

Baseline

47

33

Growth shock (in percent per year)

Baseline:	2.3
Scenario:	0.6
Historical:	2.5

Growth shock

Baseline

43

33

Primary balance shock (in percent of GDP) and
no policy change scenario (constant primary balance)

Baseline:	2.9
Scenario:	1.6
Historical:	3.4

PB shock

Baseline

No policy change

39

33

Combined shock 2/

Combined shock

Baseline

45

33

Oil price and contingent liabilities shocks 3/

contingent liabilities shock

Oil Shock

Baseline

44

37

33

Sources: International Monetary Fund, Country desk data, and staff estimates.

1/ Shaded areas represent actual data.Individual shocks are permanent one-half standard deviation shocks.
Figures in the boxes represent average projections for the respective variables in the baseline and scenario being
presented. Ten-year historical average for the variable is also shown.

2/ Permanent 1/4 standard deviation shocks applied to real interest rate, growth rate, and primary balance.

3/ A permanent decline of the oil prices (WTI) to 40 dollars and 10 percent of GDP shock to contingent
liabilities occur in 2006. The standard scenario assuming 30 percent real depreciation is excluded because
Ecuador uses dollar as its legal tender.

Value at Risk Analysis

11.   A shortcoming of the standard DSA is that it provides little information about the probability of a particular scenario in a particular country case. Recent risk-based approaches to the analysis of debt sustainability have sought to address this shortcoming. Thus, Barnhill and Kopits (2003) used a value-at-risk (VaR) approach to analyze countries' fiscal accounts, using Ecuador as a case study. The objective of their study was to compute a probability distribution of the public sector balance sheet.[4] More recently, Adrogue (2005) used a simplified version of the Barnhill and Kopits approach for the analysis of debt sustainability in a cross-section of Central American countries, while Celasun, et al. (2005) produced a VaR model that nested inside it a policy response function. For the present analysis, a modified version of Adrogue (2005) is used.

12.   Several features differentiate the VaR approach from the IMF's standard approach to debt sustainability analysis. While it is based largely on the same risk variables (including GDP growth, inflation, primary fiscal spending, interest rates, the sovereign spread, and the price of oil), it uses historic information to predict the future debt dynamics. A correlation matrix of the risk factors during 1995-2005 is included in the calculation of the future path of the debt-to-GDP ratio. Based on the correlation matrix, 10,000 alternative debt paths are generated, thus enabling calculation of the risk-based measures of vulnerability.

13.   Several different vulnerability measures are calculated based on the distribution of debt paths generated by the simulation exercise. These include: (i) the expected debt-to-GDP ratio (defined as the average value of the simulated debt-to-GDP ratios); (ii) value-at-risk of the debt-to-GDP ratio (defined as a level of the debt-to-GDP ratio that should not be surpassed at a 5 percent level of confidence); and (iii) the probability that various debt-to-GDP ratio threshold levels could be surpassed. All these variables are estimated as of the end of the year 2010 (and summarized in Table 2).

---

[4] Barnhill and Kopits find that, on a risk-adjusted basis, the net worth of Ecuador's public sector in 2000, was estimated as a negative value of 21 billion US dollars (or 132 percent pf GDP in 2000) with 5 percent probability.

Table 2. Ecuador: Vulnerability Measures

Vulnerability measure	Simulation I	Simulation II
Debt/GDP at end-2004	46.5%	46.5%
Expected debt/GDP at end-2010	38.9%	32.3%
VaR 1/	81.1%	83.0%
Probability that debt/GDP at end-2010 will surpass:		
30%	61.8%	46.8%
40%	42.1%	32.7%
60%	15.9%	14.1%

Sources: Staff calculations.

1/ Defined as a level of the debt-to-GDP ratio that should not be surpassed at 5 percent level of confidence.

14.   Based on this analysis, the debt-to-GDP ratio is expected to decline in the medium term but by less than projected in the staff's baseline scenario (see "Simulation I" column in Table 2). Thus, the expected debt-to-GDP ratio in 2010 of 38.9 percent of GDP would be within the 30–40 percent of GDP critical threshold debt range described in the economic literature. The probability that the debt-to-GDP ratio would exceed 40 percent is 42 percent. The VaR estimating the highest debt-to-GDP ratio by 2010 at a 95 percent confidence interval is 81.1 percent of GDP.

15.   The risk profile of Ecuador's public debt compares relatively favorably to that of the Central American countries (Table 3). Among the five Central American countries included in the study of Adrogue (2005), only Guatemala seems to have a more favorable risk profile.

Table 3. Central America: Main Vulnerability Measures

	Initial Debt/GDP	E (D) 1/	VaR 2/	>60% 3/
Costa Rica	54.5	65.5	94.1	60.1
Dominican Republic	53.0	64.5	81.5	66.9
El Salvador	44.7	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: Adrogue (2005).

1/ Exected 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.   Real growth of primary expenditures is one of the key risk factors. While in general, due to high correlation between the risk factors, it is difficult to differentiate the individual effects of the risk variables on debt dynamics, the real growth of primary expenditures stands out as an important risk factor with a positive affect on the debt. To

demonstrate the importance of primary expenditure growth as a risk factor, we undertook the simulation exercise under the assumption that the authorities would set real growth of primary expenditures at 3.5 percent per year, i.e., as specified in the original Fiscal Responsibility Law (FRL), starting in 2006. Under this assumption, the risk profile of the debt falls substantially, thus providing a strong justification for the spending growth limit in the FRL (see "Simulation II" column in Table 2).[5]

17.   The overall findings of the exercise demonstrate that there is little room for complacency. This risk-based approach to debt sustainability suggests that Ecuador's debt is not likely to fall below the reasonable threshold levels and thus reinforces the importance of further fiscal consolidation in the medium term.

C.   Optimizing the Use of Oil Wealth

18.   In addition to the standard analysis of fiscal policy that focuses on macroeconomic stability and medium-term debt sustainability, a government in an economy dependent on non-renewable resources should also focus on inter-generational equity of the natural resource use. The basic argument is that the government should treat the natural resource, such as oil, as an asset, belonging not only to the current generations but to the future ones as well. Moreover, government revenues from the sale of these assets should not be treated as current revenues, but more akin to financing. The implications of this approach is that fiscal policy in a resource-rich economy would target the primary non-oil fiscal deficit based on sustainable financing from the oil wealth, with short-term adjustments due to cyclical considerations. Detailed discussion of this view is presented in Barnett and Ossowski (2003).

19.   This section explores the question of how the Ecuadoran government adjusted its fiscal policy in response to changes in international oil prices and explores alternative fiscal policy rules that could enable the government to optimize its use of the oil wealth over the long-run. First, we study government's fiscal response to the oil windfalls. Second, we present results of an analytical exercise of applying a permanent income hypothesis to Ecuador's long-term fiscal policy.

Fiscal Policy Response to the Oil Windfall

20.   To examine the fiscal policy reaction to a change in international oil prices, one first needs a measure for oil "windfall" revenues. For simplification, in this study it is assumed that the oil export revenues of the previous year are the best predictor of the current year's revenue.[6] Therefore, this section uses year-on-year changes in oil export revenues as a measure of the windfall.

---

[5] The increase in this variable captures the fact that historically expenditures have been somewhat pro-cyclical in the downturns (i.e., real expenditures contracted under adverse economic conditions).
[6] Cashin et al. (2002) show that oil prices tend to follow a random walk pattern.

21.   The fiscal policy reaction to changes in oil revenues can be determined by the following simple accounting identity:

$$\Delta(budget\ balance) = \Delta(oil\ export\ revenues) + \Delta(domestic\ petroleum\ sale\ revenues)\ ^7\ + \\ \Delta(non\text{-}oil\ revenues) - \Delta(expenditure).$$

After rearranging, the response to the change in oil export revenues can be presented as follows:

$$\Delta(oil\ export\ revenues) = \Delta(budget\ balance) - \Delta(domestic\ petroleum\ sale\ revenues) - \Delta(non\text{-}oil\ revenues) + \Delta(expenditure).$$

Table 4. Fiscal Response to Oil Revenue Shocks
(in percent of GDP)

	1999	2000	2001	2002	2003	2004	2005
Oil export revenue shock 1/	3.2	3.7	-3.5	-0.5	0.0	1.4	1.3
Primary fiscal response	1.4	0.6	0.1	0.8	0.2	-1.1	-2.1
of which:							
Domestic petroleum sales reaction 2/	-1.5	-0.7	0.8	-0.2	0.4	-0.5	-1.6
Tax and other revenue reaction 3/	-1.3	2.1	-0.2	2.0	-1.0	0.7	1.3
Non-interest expenditures reaction	-4.3	0.8	0.5	1.1	-0.8	1.3	1.8
Change in the interest bill	3.1	-1.5	-1.9	-1.2	-0.4	-0.4	-0.2
Overall savings 4/	1.5	5.7	-1.5	1.5	0.7	0.7	-0.6

1/ Oil shock is defined as a variation in the NFPS revenues from oil exports.

2/ Defined as a variation in the transfers by PetroEcuador to the central government generated from the domestic sales of petroleum derivatives.

3/ Defined as a change in non-oil related revenues.

4/ Defined as a change in the overall fiscal balance.

22.   Between 2000 and 2003, fiscal policy was oriented towards increasing public savings independent of the oil export revenue shocks (Table 4). In 2000, overall savings increased by 2.0 percent of GDP more than oil export revenues reflecting a tightening of fiscal policy that included a large increase in tax revenues. In 2001–02, the oil revenue shock turned negative, but did not translate one for one in lower public savings because of stronger tax revenues and lower interest payments (as a result of the 2000 debt restructuring and lower global interest rates).

---

[7] In the case of Ecuador, in addition to the other three variables, it is useful to integrate in the analysis the reaction of the revenues from the domestic petroleum sales, defined as a variation in the transfers by Petroecuador to the central government generated from the domestic sales of petroleum derivatives. As domestic petroleum prices are set administratively, price adjustments are part of the government's policy function.

23.   However, the trend of increasing public savings reversed starting in 2004. In 2004, overall savings were equivalent to one half of the oil export revenue shock while in 2005, the public sector is projected to have reduced savings despite a large positive shock to oil export revenue. Over the past two years, the contribution of the domestic petroleum sales to overall savings has been negative as domestic petroleum derivative prices remained frozen in the nominal terms since 2003 even as import prices have soared. Thus, in 2005, the oil revenue windfall was more than offset by the reduction in the net transfers from the domestic petroleum sales.

Optimal Fiscal Policy in an Oil-Rich Economy

24.   As discussed in the introduction to this section, optimal fiscal policy in an oil-rich country should take into account the sustainable use of the non-renewable natural resource wealth. One approach to limiting dependence of the public sector on oil export revenues is adopted in Ecuador's fiscal responsibility legislation. This approach ensures fiscal sustainability by gradually eliminating the dependence on revenues and financing from a resource that will eventually be depleted. To achieve this objective, the FRL requires a reduction in the non-oil deficit of the central government (i.e., excluding oil export revenues) by at least 0.2 percent of GDP a year until the non-oil balance reaches zero. However, whereas this approach addresses the issue of the exhaustibility of oil resources, it does not explicitly seek to optimize the use of these resources across generations.

25.   One approach to achieving the intergenerational equity involves the application of the permanent income hypothesis to fiscal policy. This approach involves smoothing government consumption out of oil wealth by limiting the non-oil primary deficit (i.e., excluding interest earned on the stock of the net financial assets) in the long run to a level equivalent to the long-run return on the present value of the oil revenue stream. A choice of a specific policy rule depends on how much weight is assigned to future generations' consumption.

26.   The remainder of this section presents simulations of the fiscal policy under the permanent income hypothesis. Two fiscal policy rules to be explored below are: (i) keeping net oil wealth constant in real terms, and (ii) keeping oil wealth constant in real per capita terms over the projection period. For the derivation of the fiscal rules see Baunsgaard (2003). In the base scenario, it is assumed that the authorities keep domestic petroleum derivative prices frozen. An alternative scenario assuming an increase in oil wealth (from additional investment in exploration), as well as an increase in the domestic petroleum prices (and reduction in the petroleum subsidies) is also presented. Detailed assumptions behind both scenarios are outlined in Appendix 2.

27.   Under the first rule—mandating the government to hold the stock of wealth derived from oil constant in real terms over the long run—a non-oil primary deficit of

0.8 percent of non-oil GDP could be maintained by the central government (Table 5).[8]
This translates into annual real per capita government spending of US$25.2 out of the
projected average per capita oil revenue of US$59.4 (in constant 2004 prices). In the medium
term (2005–10), the non-oil primary deficit of the central government could be maintained at
an average of 1.4 percent of non-oil GDP. Under this scenario, in 2032, the central
government's net financial assets will be equivalent to 27.3 percent of non-oil GDP.

28.   **Under the second rule—of maintaining constant wealth per capita—a non-oil
deficit of 0.5 percent of non-oil GDP could be maintained in the long run.** In real per
capita terms this translates into an average expenditure of US$17.5 (in constant 2004 prices).
In the medium term, this would imply the average non-oil primary deficit of 0.8 percent of
non-oil GDP. Under this scenario, by 2032, the central government's net financial assets will
be equivalent to 39.8 percent of non-oil GDP.

29.   **The estimate of the sustainable oil wealth consumption rule is sensitive to
changes in key parameters (in particular, oil prices and real interest rate).** Thus, should
the oil price decline by 5 dollars (in 2004 prices) starting in 2006, the sustainable non-oil
primary deficit of the central government over the medium term would decline to 1.2 percent
of non-oil GDP under the constant real wealth rule and to 0.7 percent of non-oil GDP under
the constant real wealth per capita. On the other hand, if a 1 percentage point higher real
interest rate is assumed, in the medium-term, a non-oil primary deficit of 1.6 percent of non-
oil GDP could be consistent with the constant real wealth rule and 1.2 percent of non-oil
GDP consistent with the constant real wealth per capita rule.

---

[8] For this exercise, the central government oil revenues are assumed to include oil export revenues
and transfers from the domestic sales of petroleum received from the Petroecuador.

Table 5. Ecuador: Long Run Fiscal Policy Simulations (including net debt stock at end-2005)

	Constant real wealth	Constant wealth per capita
Base case		
Oil revenue (net) per capita (in constant US$)	59.4	59.4
Oil consumption per capita (in constant US$)	25.2	17.5
Savings rate (in percent of per capita oil revenue)	57.5	70.5
Maximum consumption of oil revenue (in percent of non-oil GDP)	0.8	0.5
In period 2005 - 2025	1.1	0.7
with higher real interest rate	1.2	1.1
with lower oil price	0.9	0.6
with higher real oil price	1.1	0.8
In period 2005 - 2010	1.4	0.8
with higher real interest rate	1.6	1.2
with lower oil price	1.2	0.7
with higher real oil price	1.6	0.9
Annual change in real wealth (in percent)	0.0	1.4
Net debt of the central government at end-2010 (in percent of GDP)	17.1	14.0
High production, low subsidy case		
Oil revenue (net) per capita (in constant US$)	171.9	171.9
Oil consumption per capita (in constant US$)	101.9	73.4
Savings rate (in percent of per capita oil revenue)	40.7	57.3
Maximum consumption of oil revenue (in percent of non-oil GDP)	3.3	2.3
In period 2005 - 2025	4.5	2.8
with higher real interest rate	5.3	3.9
In period 2005 - 2010	5.8	3.3
with higher real interest rate	6.8	4.6
Net debt of the central government at end-2010 (in percent of GDP)	26.7	16.0

Source: Staff simulations

30.   A limitation of this framework is that it classifies all government spending as consumption. This simplifying assumption partially reflects difficulties of distinguishing between government consumption and investment (in human and physical capital). However, a skeptic could argue that this conservative assumption is justified when analyzing fiscal policy in resource-rich economies that have had a low (and sometimes negative) social return on public investment. Nevertheless, the rules could be modified to accommodate public investment projects with rates of return (in terms of future tax revenues) exceeding the rate of return on the present value of the oil revenue stream. This would imply larger sustainable long-run non-oil primary deficits.

31.   In recent years, central government spending of the oil wealth exceeded by a substantial margin the levels consistent with the proposed rules discussed above. In 2000-04, the average non-oil primary deficit of the central government was 3.8 percent of non-oil GDP, more than twice the level that would be consistent with the less stringent of the two rules. Moreover, under the staff's baseline medium term projections, the non-oil primary deficit of the central government would be expected to reach an average of 4.5 percent of non-oil GDP in 2005-10, more than three times the level consistent with compliance with the less stringent of the two rules.

32.   Significant room for central government expenditures could open up should the authorities pursue reforms affecting petroleum production and subsidies. Assuming that the auctioning of exploration and mining licenses for new fields resumes (and assuming a 20 percent increase in the proven oil reserves) and that implicit petroleum subsidies are eliminated by 2011 (see the "high production, low subsidy scenario" in Table 6), the central government would be able to maintain a long run non-oil primary deficit of 4.5 percent of non-oil GDP under the constant wealth rule and 2.8 percent of non-oil GDP under the constant wealth per capita rule. Over the medium term, these ratios would be at 5.8 and 3.3 percent of non-oil GDP, respectively. By 2032, the central government's net financial assets would reach an equivalent of 86 percent of non-oil GDP under the first rule and 130 percent of non-oil GDP under the second rule.

33.   Adoption of either of the proposed rules would result in a sharp decline in the debt to GDP ratios over the medium term. Thus, while under the staff's baseline scenario the ratio of the central government's net debt to GDP will reach 34.4 percent in 2010, a policy of maintaining the oil wealth constant in real terms would yield a reduction in the net debt of the central government to 17.1 percent of GDP (see base case scenario in Table 6). The debt would decline even further (to 14 percent of GDP) should fiscal policy aim at maintaining oil wealth constant in per capita terms. Under the high production and low subsidy scenario, the ratio of net debt of the central government to GDP of 26.7 percent of GDP in 2010 would be consistent with the constant real wealth rule and of 16.0 percent of GDP—with the constant per capita wealth rule. So in both scenarios (base case and high production, low subsidy case) and under either of the fiscal rules, the net debt-to-GDP ratio of the central government would be below the critical thresholds discussed in the economic literature.

D. Conclusions

34. **The uncertainty about sustainability of Ecuador's public debt remains high.** The results of the IMF's standard debt sustainability exercise indicate that Ecuador faces moderate to high risks to its debt sustainability over the medium term. Similarly, the VaR exercise finds that there is a high likelihood that Ecuador's debt levels will remain above the threshold levels discussed in the economic literature as critical in terms of potential worsening of growth conditions and probability of default. However, the adoption of fiscal rules that take into account expenditure restraint (such as limiting the growth of spending) and the intergenerational equity of oil consumption would help to substantially strengthen public finances and improve the prospects for fiscal sustainability.

REFERENCES

Adrogue, Ricardo, 2005, "Fiscal Sustainability: A Value-at-Risk Approach," *Central America: Global Integration and Regional Cooperation*, edited by M. Rodlauer and A. Schipke, Occasional Paper 243 (Washington: International Monetary Fund).

Barnett, Steven, and Rolando Ossowski, 2003, "Operational Aspects of Fiscal Policy in Oil-Producing Countries," *Fiscal Policy Formulation and Implementation in Oil-Producing Countries*, edited by M. Davis, R. Ossowski, and A. Fedelino (Washington: International Monetary Fund).

Baunsgaard, Thomas, 2003, "Fiscal Policy in Nigeria: Any Role for Rules?" IMF Working Paper 03/155 (Washington: International Monetary Fund).

Cashin, Paul, Hong Liang, and John C. McDermott, 2002, "How Persistent Are Shocks to World Commodity Prices?" *IMF Staff Papers*, Vol. 47 (No. 2), pp. 177-217.

IMF, World Economic Outlook, September 2003.

Pattillo, Catherine, Helene Poirson, and Luca Ricci, "External Debt and Growth," IMF Working Paper 02/69 (Washington: International Monetary Fund).

Reinhart, Carmen, Kenneth Rogoff, and Miguel A. Sevastano, 2003, "Debt Intolerance," NBER Working Paper 9908 (Cambridge, Massachusetts: National Bureau of Economic Research, Inc.).

DERIVATION OF EQUATION FOR DEBT-STABILIZING PRIMARY SURPLUS

The dynamics of the debt stock are described by the following equation:

$$D_t = D_{t-1} + r_t D_{t-1} - PS_t,$$

where D_t is the debt level in period t, r_t is the nominal interest rate in period t, and PS_t is the primary surplus in period t. Debt as a share of GDP is constant if and only if

$$\frac{D_t}{GPD_t} = \frac{D_{t-1}}{GDP_{t-1}}, \text{ for all t.}$$

Substituting the definition of constant debt in the equation for debt dynamics, it is possible to obtain the debt-stabilizing primary surplus:

$$PS_t^* = \left(1 + r_t - \frac{GDP_t}{GDP_{t-1}}\right) D_{t-1}.$$

After reorganizing, in terms of a share of GDP, this can be expressed as:

$$\frac{PS_t^*}{GDP_t} = \left(\frac{r_t - g_t}{1 + g_t}\right) \frac{D_{t-1}}{GDP_{t-1}},$$

where g_t is nominal growth rate of GDP in period t.

ASSUMPTIONS FOR THE CALCULATION OF THE PERMANENT OIL CONSUMPTION LEVELS IN ECUADOR

The following assumptions are made for the calculation of the permanent oil consumption level for Ecuador (summarized in Table A1 below):

- *Oil prices* In the base case scenario, the price of the Ecuador mix is assumed to be in line with the November 2005 WEO projections for 2005–10 and US$35.7 per barrel in constant dollars starting in 2011. The low price scenario assumes that Ecuadoran mix prices are US$5 per barrel below those of the base case in 2004 constant prices starting in 2006 (i.e., the long term price of US$30.7 per barrel in constant dollars). The high price scenario assumes that Ecuadorian mix prices are US$5 per barrel above those of the base case in 2004 constant prices starting in 2006 (i.e., the long term price of US$40.7 per barrel in constant dollars).

- *Central government oil revenues.* In the base scenario, it is assumed that domestic derivative prices remain fixed in the nominal terms over the long run. In the high production, low subsidy scenario, it is assumed that domestic subsidies are reduced substantially through the medium-term (in line with the staff projections of the active policy scenario) and prices are fully liberalized in 2011.

- *Oil reserves* The end-2004 stock of proven reserves is estimated at 5.1 billion barrels. In the high production low subsidy scenario, it is assumed that 1 billion barrels of additional reserves is discovered during the period between 2007–26.

- *Real interest rate* The baseline projection is based on the convergence of the interest rates to 3 percent in the real terms, which is consistent with the average real return on the U.S. government long term bonds over the past 10 years. A sensitivity analysis is run with a real interest rate 1 percent higher than the baseline.

- *Production* In the baseline scenario, the rate of extraction by the Petroecuador and private companies is assumed to stabilize at the level of 2004 by 2010 (in line with the staff's medium-term projections) and remain at that level over the long run, until the deposits are depleted in 2031. In the high output low subsidy scenario, the rate of extraction is projected to increase by 18.3 percent by 2010 compared to the level of 2004 and stay at that level until the deposits are depleted in 2032.

- *Non-oil GDP growth* A growth of non-oil GDP is assumed at an average rate of 2.8 percent through 2010, declining to 2.5 percent afterwards.

- *Population* Ecuador's population is estimated at 13.03 million in 2004 and projected to grow at a constant rate of 1.4 percent per year.

Table A1. Ecuador: Assumptions for Long Run Fiscal Policy Simulations

	2005-10	2011-20	2021-30	2031-45	2005-20	2021-45	2005-45
Oil price (Ecuador mix, in 2004 US$ per barrel)							
Base case oil price	40.5	35.7	35.7	35.7	37.5	35.7	36.4
Low case oil price	36.4	30.7	30.7	30.7	32.8	30.7	31.5
High case oil price	44.7	40.7	40.7	40.7	42.2	40.7	41.3
Population growth rate (in percent)	1.4	1.4	1.4	1.4	1.4	1.4	1.4
Non-oil GDP (annual real growth)	2.8	2.5	2.5	2.5	2.6	2.5	2.5
Real interest rate (in percentage points)							
Baseline	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Alternative	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Oil reserves (million of barrels, end of period)							
Baseline	3,936	2013.0	89.9	0	2013.0	0.0	0
High case	4,057	2281.5	306.4	0	2281.5	0.0	0
Annual crude production (mill. barrels)							
Base case	194.0	192.3	192.3	9.0	192.9	80.5	124.4
High case	207.2	227.5	227.5	20.4	219.9	103.3	148.8

Source: Fund staff estimates.

III. THE COST OF BANKING SECTOR INTERMEDIATION[1]

1.   **This paper reviews the cost of financial intermediation in the Ecuadoran banking system.** In the last few years the political debate over intermediation margins has increased. This paper (i) reviews the developments that have sparked this debate and summarizes some of the recent policy proposals, (ii) reviews the theoretical determinants of intermediation margins, (iii) compares intermediation margins and costs over time and in a cross-country context, and (vi) analyzes the importance of market power in determining Ecuador's intermediation spreads. The evidence supports the need for policies that help to reduce the high credit risk and operational costs, rather than placing caps on intermediation spreads.

A.   What Sparked the Debate?

2.   **Ecuador lacks financial deepening and has a poor record of economic growth.**[2] In the last decade, real growth in the Ecuadoran non-oil sector has averaged less than 1 percent a year, while the ratio of commercial banks assets to GDP declined from 46 percent to 27 percent. The access and cost of financing are considered a major obstacle for doing business in Ecuador.[3]

3.   **Public opinion has questioned the role of the banking system.**[4] Bank clients consider that lending rates are too high, and are discontented with the plethora of fees and commissions. Moreover, this is occurring at the same time when the banking system is growing at a fast pace, bank profits have increased substantially,[5] and there is rising concentration.

4.   **A heated debate has ensued over the reasons behind the seemingly high cost of financial intermediation.**[6] Policymakers and analysts debate over the extent to which intermediation margins reflect: (i) higher liquidity costs associated with the lack of lender of

---

[1] Prepared by Enrique Flores.

[2] The link between financial deepening and growth has been analyzed extensively. Early studies establishing a positive correlation include Gurley and Shaw (1960), Goldsmith (1969), and McKinnon (1973); later studies establishing precedence include King and Levine (1993); and more recent studies focused on the specific links between the two in order to strengthen the causal relation include Demirguc-Kunt and Maksimovic (1996), and Rajan and Zingales (1998).

[3] According to the World Bank Economic Survey, high interest rates and lack of access to long term credit were considered a major obstacle by 82 percent and 66 percent of Ecuadoran firms, respectively.

[4] The debate has focused on commercial banks because they are the largest segment of the financial system, accounting for about three-fourths of total assets.

[5] See Weekly Analysis (2005).

[6] See Weekly Analysis (2004).

last resort; (ii) high credit risks associated with weaknesses in the legal framework and poor credit culture; (iii) increased cost of regulations; (iv) high operating costs; and (v) market power from collusive behavior in a more concentrated system.[7]

5.   **Recent reforms and policy proposals have not provided a clear sense of the overall strategy to reduce intermediation costs.** Some reforms are steps in the right direction, such as the credit bureau law and regulations requiring more transparency on the cost of loans to the consumer. In addition, the superintendency of banks is preparing measures to improve the soundness and efficiency of the system by, *inter alia*, strengthening creditor rights and bankruptcy procedures, and fostering better risk management practices. On the other hand, other recent reforms are unorthodox, and raise concerns, such as the prohibition of fees on savings accounts and the expansion of the role of public banks—with a poor performance record—in retail lending; while a bill, currently being discussed in Congress, which proposes directed lending to the productive sectors, and caps on interest rate spreads and commissions, is potentially very dangerous.

B.   The Theoretical Determinants of Banking Spreads

6.   **Banking spreads can provide relevant information to the policymakers.[8]** Rising banking spreads as bank concentration increases could raise issues of anti-trust. Monetary policy makers are challenged by pro-cyclical spreads and their impact on the transmission of monetary policy, and supervisors worry about higher spreads during financial crisis and their impact on the credit portfolio.

7.   **The cost of providing liquidity is one of the determinants of spreads.** Early explanations focused on bid-ask spreads in securities markets. Demsetz (1968) argued that dealers provide the liquidity that allows market participants to buy and sell securities.[9] Banks provide liquidity too, and need to be compensated for their operating costs by charging a spread between the selling and buying price. Therefore, banking spreads are influenced by the operational cost, the cost of holding an inventory (stock) of liquid assets, and adverse selection costs (insuring against informed market participants). The market structure may also affect the spread.

8.   **Bank spreads also reflect additional services that banks provide**. They provide asset transformation under uncertainty including through (i) a mismatch on maturity by holding short-term deposits in their liabilities and longer-term loans in their assets, which, in addition to liquidity risk, results in interest rate risk; and (ii) a mismatch on currency, leading

---

[7] The financial crisis of the late 1990s led to the closure and merger of several commercial banks. As a result, the total number of banks declined from 39 in 1998 to 25 in 2005, after reaching its lowest point in 2002 with only 22 banks operating.

[8] Credit rationing and the use of collateral break the link between the expected loan return and the interest rate at which a loan is contracted, complicating inference.

[9] See Ho and Sounders (1981) and Stoll (1978).

to exchange rate risk. They also take on credit risk which is affected by, among others things, the legal framework, the economic environment, and their risk management practices.
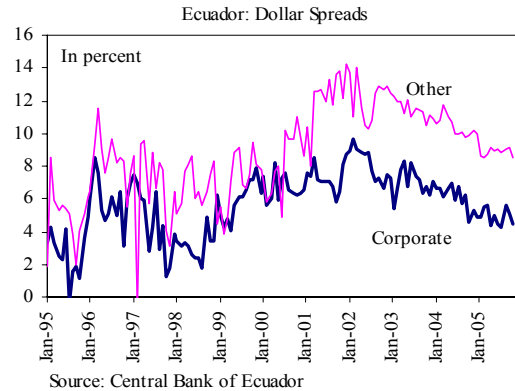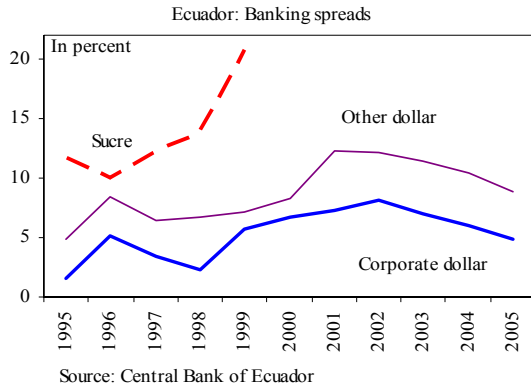
9.   **Prudential regulations also have an impact on bank spreads**. The banking industry is usually subject to regulations not commonly found in other industries. Freixas and Rochet (1997) classify the most common regulations into six categories: (i) ceilings on deposit interest rates; (ii) entry, branching, network or merger restrictions; (iii) portfolio restrictions—which include reserve requirements; (iv) capital requirements; (v) deposit insurance; and (vi) regulatory monitoring—including closures policy. While entry and merger restrictions are usual in other industries, the rest try to deal with issues particular to the banking industry, such as free-riding on the monitoring of banks—as deposits tend to be diffused, and the conflict of interest between managers, shareholders and depositors. While these regulations should help improve soundness and foster prudent behavior, they could also end up increasing operational costs and lowering earnings associated with less than optimal risk taking—which would put pressure on bank spreads.[10]

10.   **Directed lending and other regulations that provide preferential access to financial services could also affect the spreads**. These types of regulations can lead to significant costs, weaker systems, and larger intermediation costs for the rest of the agents.

C. Empirical Evidence on Banking Spreads

11.   **The high sucre interest spreads are gone but dollar spreads remain high.** The abolition of the sucre after the formal dollarization of the economy implied the elimination of the relatively high sucre banking spreads. Dollar spreads rose after the crisis and though they have declined since 2002, are still higher than dollar spreads before the crisis. However, the two periods might not be directly comparable as currency might have been used as a screening tool during pre-dollarization times. In any event, the decline in interest rate spreads for the system as a whole since 2002 has been largely offset by higher commission charges and fees, so that the average cost of intermediation in 2005 was not significantly different from that in 2002.

---

[10] There is no consensus on the extent to which these policies should rely on direct government regulation and supervision, as opposed to policies that foster private sector involvement. Barth *et al*. (2004) suggest the latter is more effective.

Ecuador: Banking spreads

Source: Central Bank of Ecuador

Ecuador: Dollar Spreads

Source: Central Bank of Ecuador

12.   **Commissions and fees account for a larger share of revenues than before.** The banks' revenue from commissions accounted for 18¾ percent of revenue in 2005, compared to about 13 percent in 2003. Income from service fees rose even more dramatically from 5.1 percent of revenues in 2003, to 14.9 percent in 2005. These shifts are explained mainly by two factors: (i) the sharp decline in the legal ceiling on interest rates from about 17½ percent at end-2003 to 13½ percent in 2005,[11] and (ii) the increased share of consumption and micro-credit loans.

Ecuador: Intermediation Margins on Bank's operations (in percent)

Source: Bank Superintendence and staff calculations.
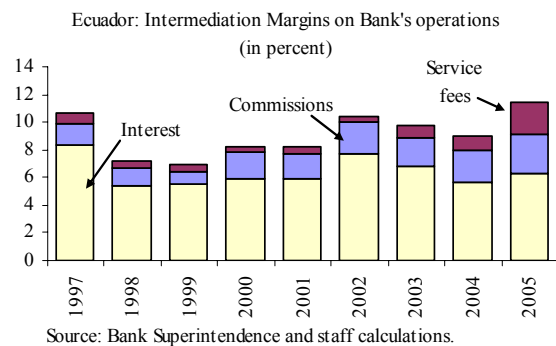
13.   **The margin of financial intermediation is relatively high compared to the region**. Although the net interest margin—calculated as the ratio of net interest income to earning assets—is below the average for Latin America,[12] this reflects a higher dependence on fees and commissions in Ecuador compared with the region. Interest income accounts for only half of the total income of Ecuadoran banks, while it accounts for roughly two-thirds of the total income of Latin American banks. The lower reliance on interest income makes the implicit gross financial margin—calculated as the ratio of financial income to productive assets minus the ratio of financial costs to liabilities[13]—a more relevant measure of the cost of financial intermediation. Although Panama and El Salvador, the other dollarized economies in the region, have relatively lower cost of financial intermediation, the cost in Ecuador is similar to that in other Andean countries, and not overly high compared with the average for Latin America. But what is behind this larger margin?

---

[11] The spread between the maximum legal rate and the reference deposit rate declined by about 3¾ percentage points.

[12] Latin America estimated with data for the largest 500 banks in the region.

[13] Data on costly liabilities was not available from Bankscope. The use of total liabilities results in an overestimation of the gross financing margin.

Commercial Banks: Gross Financial Margin, 2004
(In percent)

Source: Bankscope

Commercial Banks: Revenue, 2004
(In percent of average assets)
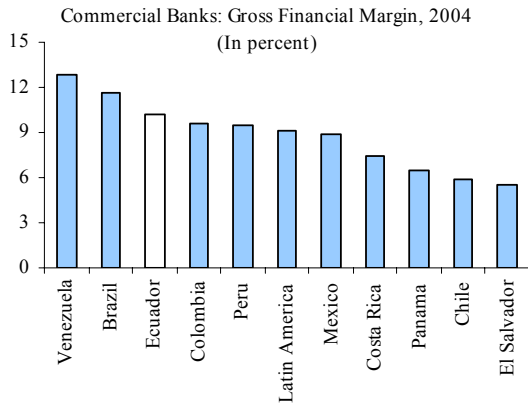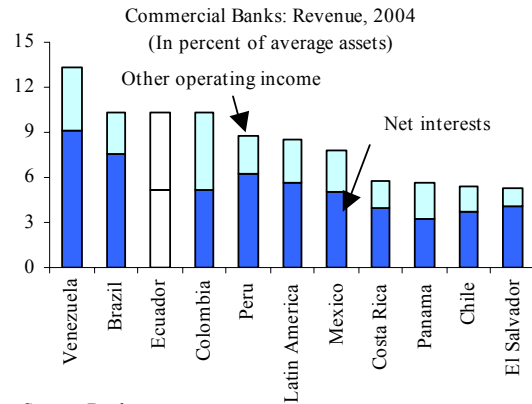
Source: Bankscope

14.   **The relatively high operating costs is one of the main factors**. The cost structure of the financial industry has a significant impact in the cost of financial intermediation. Operating costs in Ecuador make up half of the gross financial margin, compared to about 40 percent for Latin America as a whole. Operating costs[14] are twice as large as in Panama and El Salvador, which largely explains the differences in gross intermediation margins. Nevertheless, banks have reduced their operating costs from 6.6 percent of assets in 2003 to an estimated 5.8 percent in 2005.[15] This follows mainly from the sharp increase in assets—more than 40 percent in nominal terms—while operating cost have increase about 24 percent, with payroll increasing by 22 percent.[16]
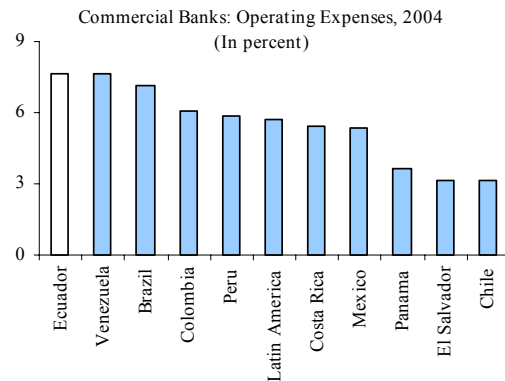
Commercial Banks: Operating Expenses, 2004
(In percent)

Source: Bankscope

---

[14] All measures in these sections are in percent of the average of productive assets and total liabilities unless otherwise specified.

[15] This excludes taxes, fines and contributions to regulatory agencies, which have declined slightly and currently amounts to 0.8 percent of assets.

[16] These are in sharp contrast with the 6 percent increase in the consumer price index during 2004–2005.

15. **The costs of enforcing loan contracts impacts operating cost.** In Latin America, protection of creditor rights is poor.[17] Indicators developed by the World Bank suggest that the cost of enforcing a contract in Ecuador is closed to the median for the region. Moreover, the relative high level of NPLs results in a greater need to seek legal enforcement, and therefore higher operating costs.

Time to enforce a contract
(in months)
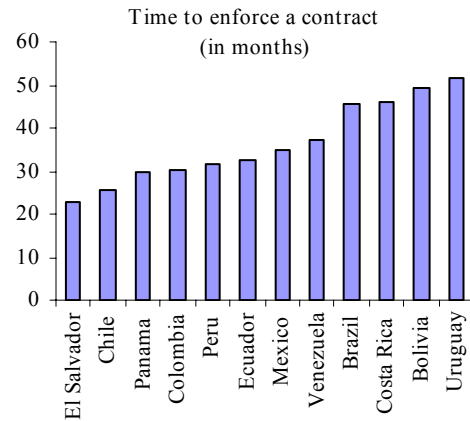
Source: World Bank 2005. Doing Business database.

16. **The deposit insurance system acts as a tax**. Banks are required to contribute 0.54 percent of deposits plus a risk-based premium for a deposit insurance scheme with a limit of 4 times per capita GDP (US$9,300 dollars), covering about 38 percent of banking system deposits. This is higher than the flat 0.5 percent of deposits in Colombia, or the 0.65 percent of insured deposits in Peru plus a risk-based premium.[18] Moreover, these resources have been used to pay the cost of the previous banking crisis, instead of capitalizing the deposit insurance fund, making the deposit insurance scheme non-operative.

17. **Reserve requirements do not have a large impact on intermediation costs.** Banks are required to hold non-remunerated reserves at the central bank in the equivalent to 4 percent of deposits. Since current deposit rates stand at about 4 percent, this cost represents about 0.16 percent of the intermediation margin.

18. **Ecuadoran banks rely more heavily on branches than ATMs**. The number of loans and deposits per branch is relatively low compared to the region, as well as the number of ATMs. There are only two ATMs for every three bank branches. In contrast, in El Salvador, where the size of the banking system is broadly the same (about US$9 billion in assets) as in Ecuador, the number of loans and deposits per branch are twice as high and there is a much heavier reliance on ATMs.

---

[17] Galindo and Micco (2004) studied the link between the shallow financial markets and poor protection of creditor rights in Latin America.
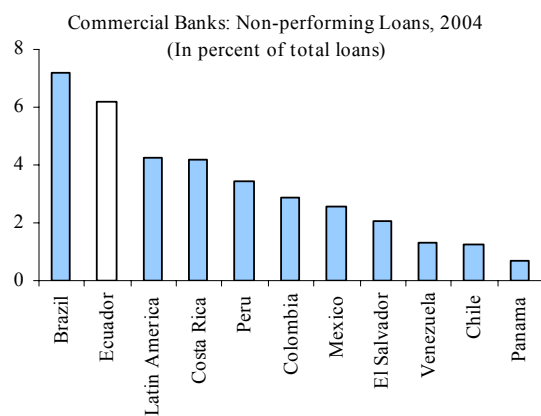
[18] The comparison with Peru is not straight forward as the base is different. Ecuador's basic contribution represents 1.4 percent of insured deposits.

Table. Comparison of Branches and ATMs: Selected Countries

	Branches per 100,000 people	ATMs per 100,000 people	Number of Loans per branch	Loans in US millions per branch	Number of deposit per branch	Deposits in US million per branch	ATM to Branches ratio
Brazil	14.6	17.8	340	5.9	4324	4.9	1.2
Colombia	8.7	9.6	...	4.2	7006	5.2	1.1
Dominican Republic	6.0	15.1	836	10.2	12000	18.3	2.5
Ecuador	9.3	6.3	829	4.5	4510	5.8	0.7
El Salvador	4.6	11.1	2745	2.3	9879	2.5	2.4
Guatemala	10.1	20.2	452	2.9	3986	4.4	2.0
Mexico	7.6	16.6	...	11.5	4057	11.4	2.2
Panama	12.9	16.2	2314	53.3	...	64.4	1.3
Peru	4.2	5.8	1867	10.3	7576	12.6	1.4
Venezuela	4.4	16.6	2109	7.1	11034	17.5	3.8

Source: World Bank

19.   **Credit risk appears to be exceptionally high.** The inherent risks in each particular market and a bank's credit policies influence the probability of credit default. The level of non-performing loans, despite the significant improvement since the banking crisis, remains relatively high. Poor portfolio quality results in the need to build up provisions for loan losses, with a higher gross financial margin needed to compensate for this cost.

Commercial Banks: Non-performing Loans, 2004
(In percent of total loans)

Source: Bankscope

Commercial Banks: Provision Expenses, 2004
(In percent)
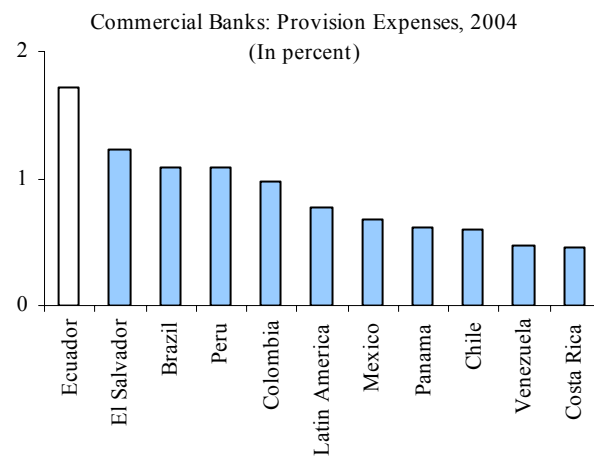
Source: Bankscope

20.   **Blaming dollarization for the high cost to banks of holding liquidity might be somewhat overplayed**. While Ecuadoran banks do hold significant liquid funds compared to the region, the lack of a lender of last resort is not the only explanatory factor. While the weight of the loan portfolio in total assets is broadly similar to the rest of the region, Ecuadoran banks' holdings of investment securities are significantly lower. The poor ratings of Ecuadoran sovereign debt and the lack of a deep private capital market limits the alternatives for liquid investments at better yields. Therefore, banks tend to hold large amounts of low-yield foreign securities – about 11½ percent of total assets. [19] If banks were

---

[19] Banks holdings of domestic sovereign debt have declined from an average of 4⅔ percent of total assets during 2003 to about 2 percent in October 2005.

to reduce their cash holdings and use them to increase their investment in low-yield securities, the impact would not be large, as the spread between the two is only about 3 percent. A back of the envelope calculation using the simple average asset composition of 9 Latin American countries and the 2005 implicit return on the different assets[20] suggests an impact of only ¼ percent point on the gross financial margin.[21]

21.   **Profits do not explain a large share of the gross financing margin**. Bank profits look similar to those in the rest of the region—while the 1.4 percent return on assets is slightly below the Latin American average, the 17.8 percent return on average equity is slightly higher. However, the banking sector's 14.8 percent return on equity[22] overshadows the 9 percent return for Ecuador's non-energy sector.[23] The impact of these relatively higher profits implies about ½ percentage point in the gross financial margin. However, a more relevant issue is to determine whether the return they receive is high in relation to the risk they bear.

Commercial Banks: Liquid funds to Total Assets, 2004 (In percent)
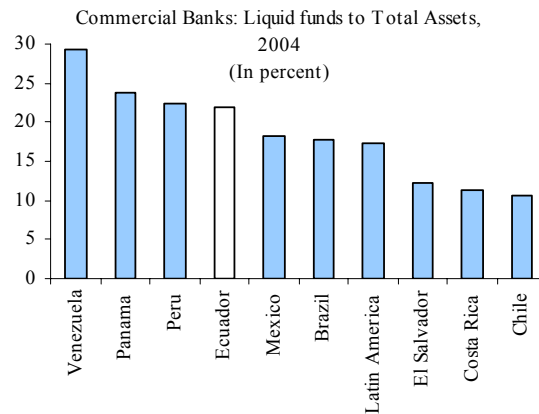
Source: Bankscope

---

[20] Based on 2004, the average return on liquid funds, investment securities and loan portfolio were 0.9, 3.8, and 13.8 percent, respectively.

[21] This reflects mainly a shift from liquid funds to investments, with only a minor impact on the loan portfolio. The impact would be about ¾ percentage points if the decline in liquid funds were used only for loans.

[22] The return on equity is used for comparability with data for other sectors.

[23] This is a consolidated measure. Banks usually have a higher return on equity than the rest of the economy due to their higher leverage.

Commercial Banks: Return on Average Equity, 2004
(In percent)

Source: Bankscope

Commercial Banks: Return on Average Assets, 2004
(In percent)
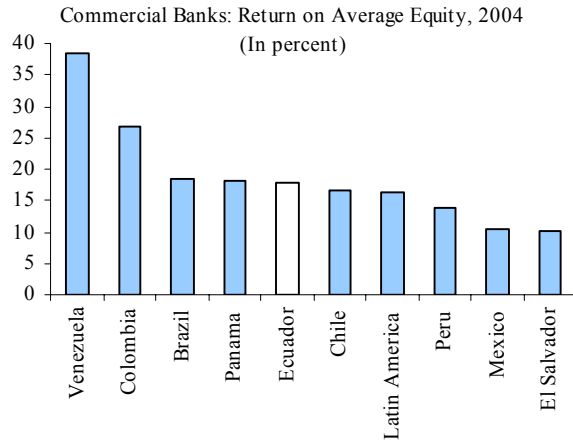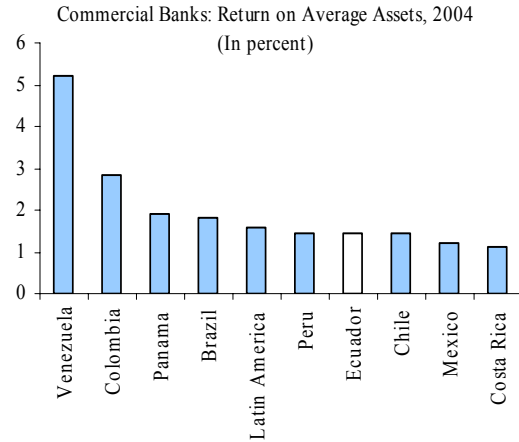
Source: Bankscope

22.   **The impact of direct taxes is similar to the region, but consumers face large indirect taxes**. Taxes paid by banks impact the intermediation margin by about 0.3 percentage points. However, banks withheld taxes on sight accounts amounting to about ¾ percent of average sight deposits in 2004. These taxes include (i) a 4 cent tax per check; (ii) a smaller specific tax linked to the minimum wage; (iii) a $1 dollar quarterly tax on current accounts in banks operating in the province of Guayas, and (iv) a 10 percent tax on unfunded checks. In addition, credit and discount operations are taxed at a 1 percent rate.

Commercial Banks: Direct Taxes, 2004
(In percent)
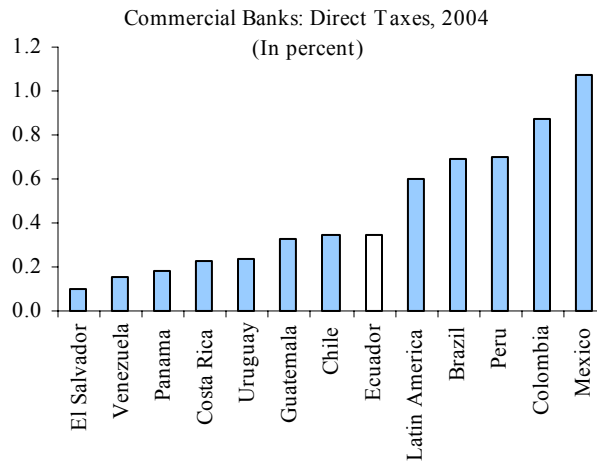
Source: Bankscope

D.   Taking a Closer Look at the Issue of Competition

23.   **There is no consensus over the optimal degree of competition for efficient credit allocation**.[24] The standard industrial organization model applied to the banking system calls for perfect competition in order to deliver the most efficient allocation of credit.[25] This view

---

[24] There is also no consensus on which market structures promote more prudent behavior and enhance financial stability.

[25] Feixas and Rochet (1997).

is challenged by some theoretical models, which argue that some degree of market power enhances a bank's resilience to shocks to its balance sheet and its willingness to engage in costly activities—such as relationship lending and screening—in order to ameliorate information asymmetries. Without such market power the final outcome would be a decrease in overall lending, or lower than optimal risk taking.[26] Empirical evidence is not conclusive.[27]

24.   **Higher concentration and profits do not necessarily imply market power.** The standard industrial organization theory has long argued that high concentration does not necessarily imply market power (i.e., a strong entry threat could lead to price taking behavior in a market with a small number of firms). Moreover, intra-industry studies show that large firms in more concentrated industries tend to record higher profits than small firms, and that this tendency is strongest in the most concentrated industries.[28] These profit differences arise from differences in efficiency, rather than the sole impact of market power, which would benefit small and large firms equally. Early empirical work with U.S. banking sector data finds a positive relationship between concentration and profits,[29] but those results are not robust after controlling for differences in efficiency.[30]

25.   **In Ecuador, concentration has increased but remains low compared to the region.** The six largest banks in Ecuador hold 71 percent of the loans, which is similar to the 70 percent of the six largest banks in Brazil, and smaller than the 86 percent in Mexico. In Ecuador, concentration measures increased following the system's consolidation. The Herfindahl-Hirschman index[31] for loans increased from 0.070 in 1998 to 0.116 in November 2005, while that on deposits from 0.082 to 0.117.

Commercial Banks Herfindahl Indices, 2005

	Deposit	Credit
Brazil	0.110	0.103
Chile	0.105	0.114
Colombia	0.111	0.086
Ecuador	0.117	0.116
El Salvador	0.185	0.194
Mexico	0.162	0.154
Peru	0.226	0.190

Source: Supervisors of respective countries

---

[26] Petersen and Rajan (1995) argued that market power could foster relationship lending, as banks would be more willing to keep rates low despite adverse selection and moral hazard, since they perceive they can gain a share of the future profit stream of the firm.

[27] Northchott (2004) provides a recent review of the literature.

[28] See Demsetz (1989).

[29] Berger and Hannan (1989).

[30] Berger (1995) presents mixed results with U.S. data, while Punt and Van Rooj (2001) showed mixed results with European data.

[31] The Herfindahl index was calculated as the sum of the squared market shares of all banks.

26. **Simple measures suggest that profits during 2003 were commensurate to the risk level.** A visual analysis of a simple scatter plot of the mean and standard deviation of return on equity for more than 9000 companies grouped into 74 sectors suggests that the return of financial services is not out-of-line with that of other sectors with similar risk levels. Moreover, the simple average return

Ecuador: Return and risk in 74 sectors, 2003

Source: Superintendencia de Companias
Note: Excludes sectors with less than 20 firms and outliers.

on equity across sectors was 17½ percent, which is higher than the 13¼ percent of the banking system.
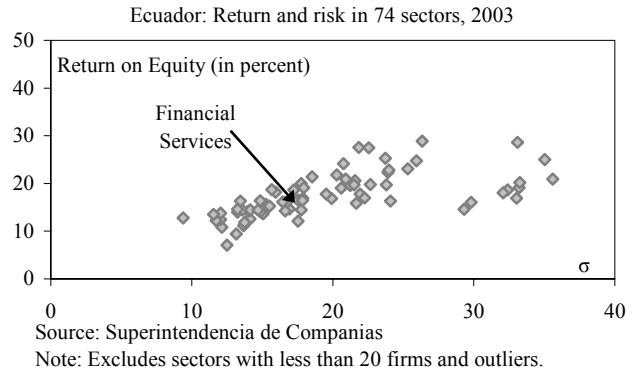
27. **A standard approach to assess competitiveness is the Panzar-Rosse measure.** The extent to which changes in factor prices are reflected in revenues is a way to measure the degree of market power. Under perfect competition an increase in costs would be reflected in a proportional increase in revenues, while changes are less than proportional under monopolistic competition and non-positive under perfect monopoly. Panzar and Rosse (1987) proposed to compute the sum of the elasticities of revenue to unit factor costs in a reduced form revenue equation as a test of competitiveness—which is called the H-Statistic.

28. **This measure provides a mixed assessment of the degree of competition in the Ecuadoran banking system**. Jaramillo *et al.* (2004) estimated fixed effect on a panel of quarterly data from March 2000 to March 2003 and rejected the hypothesis of perfect competition, but also that of a monopolist. Their point estimate for the H-statistic was 0.66; similar to the results of Claessens and Laeven (2004),

H-Statistic: Selected Countries

Source: Claessens and Laeven (2004)

which averaged result from different specifications of two-way error component models using panels with yearly data from 1996–2001. Their estimates suggest that competition in Ecuador is not much different from that in the rest of the region.[64]

29. **Our estimates with more recent data provide a similar assessment**. A one-way fixed effects panel estimation using quarterly data from September 2002 to September 2005 estimates the H-statistic at 0.41, thus rejecting the hypothesis that the banking system behaves like a monopoly. The hypothesis that the H-statistic is the same as in the two

---

[64] Shaffer (2004) summarizes caveats on the use of H-statistic as an indicator of competition.

previous papers could not be rejected.[33] An array of alternative specifications provided similar results.

30.   **Larger participation of foreign banks could help reduce spreads**. Recent cross-country studies have focused on the role of foreign banks. Levine (2003) found that denying foreign bank entry tends to be associated with higher banking spreads. Evidence from Martinez Pereia and Mody (2004) suggests that foreign banks are able to charge lower spreads due to lower operating costs. While there are no legal entrance restrictions, foreign banks account for only 3½ percent of the banking system assets. Improving the overall business environment could help attract foreign banks.[34]

E. Conclusions

31.   **There is no strong evidence of bank collusion in Ecuador.** A regional comparison does not suggest a relatively high degree of concentration or profit levels. In addition, the Panzar and Rosse tests reject the hypothesis that banks behave like a monopoly, and suggest that the degree of competition is similar to that in other countries in the region. Therefore, the draft legislation which seeks to regulate the pricing of financial services does not seem justified.

32.   **Policies should address high operating costs and credit risk**. Cross country comparisons suggest that the high operating costs and credit risk are behind large intermediation margins. Therefore, efforts should be aimed at strengthening credit rights and bankruptcy procedures, fostering improved risk management procedures, revamping the deposit insurance agency, and improving the overall business environment.

REFERENCES

Barth, J., Caprio, G. and R. Levine. "Bank regulation and supervision: what works best." *Journal of Financial Intermediation* 13 (2004) 2005–248.

Berger, A. and T. Hannan. 1989 "The Price-Concentration Relationship in Banking." *Review of Economics and Statistics* 71:291–99.

Berger, A. 1995. "The Profit-Structure Relationship in Banking—Test of Market Power and Efficient-Structure Hypothesis." *Journal of Money, Credit and Banking*, Vol. 27, pp. 404–431.

Claessens, S. and L. Laeven. 2004. "What Drives Bank Competition? Some International Evidence." *Journal of Money, Credit and Banking*, Vol. 36, pp. 563–84.

---

[33] The hypothesis of H=0 and H=1 were both rejected at 1 percent confidence level. The specification was similar to Jaramillo *et al*. (2004), but dependent variable included all financial revenue instead of just interest revenue.

[34] This issue is not exclusive of the banking system. Foreign direct investment in Ecuador's non-oil sector is also very low.

Demsetz, H. 1968. "The Cost of Transacting." *Quarterly Journal of Economics*, 82(1) 33–53.

Demsetz, H. 1989. *Efficiency, Competition and Policy. Vol. 2 of the Organization of Economic Activity*. Oxford, Basil Blackwell.

Demirguc-Kunt, A. and V. Maksimovic. 1996. "Financial Constraints, Uses of Funds and Firm Growth: An International Comparison." World Bank Policy Research Paper No. 1671.

Feixas, X. and J. Rochet. 1997. Microeconomics of Banking. Cambridge: MIT Press.

Galindo, A. and A. Micco. 2004. "Creditor Protection and Financial Markets: Empirical Evidence and Implications for Latin America." Federal Reserve Bank of Atlanta Economic Review. Second quarter, pp. 29–37.

Goldsmith, R. 1969. Financial Structure and Development. New Heaven, Yale University Press.

Gurley, J. and E. Shaw. 1960. Money in a Theory of Finance. Washington, D.C. The Brookings Institution.

Ho, T. and A. Sounders. 1981. The determinants of banking interest margins: Theory and Empirical Evidence. *Journal of Financial and Quantitative Analysis* 16(4):581–600.

International Monetary Fund (IMF), 2005, Chile—Selected Issues, IMF Country Report No. 05/316 (Washington, DC).

Jacome, Luis 2005. "The late 1990s Financial Crisis in Ecuador: Institutional Weaknesses, Fiscal Rigidities, and Financial Dollarization at Work." IMF Working Paper No. 04/12.

Jaramillo, F. Morillo, D. and Morillo J. 2004. "Margen Financiero y competencia: el caso de Ecuador." Perspectivas. Vol. 2, No. 2. Corporacion Andina de Fomento.

King, R. and R. Levine. 1993. "Finance and Growth: Shumpeter Might be Right." *Quarterly Journal of Economics* 108: 717–37.

Levine, R. 2003. "Denying Foreign Bank Entry: Implications for Bank Interest Margins." Central Bank of Chile, Working Paper. No. 222.

Martinez Peria, M. and A. Mody. 2004 "How Foreign Participation and Market Concentration Impact Bank Spreads: Evidence from Latin America." *Journal of Money, Credit and Banking*. Vol. 36, pp. 511–38.

McKinnon, R. 1973. Money and Capital in Economic Development. Washington, D.C. The Brookings Institution.

Northchott, C. 2004. "Competition in Banking: A Review of the Literature." Bank of Canada Working Paper 2004-24.

Panzar, J. C. and J.N. Rosse 1987. "Testing for 'Monopoly' Equilibrium." *The Journal of Industrial Economics* 35(4):443–56.

Petersen, M. and R.G. Rajan. 1995. "The Effect of Credit Market Competition on Lending Relationships." *The Quarterly Journal of Economics* 110:407–43.

Punt L.W. and M.C.J. Van Rooj. 2001. "The Profit-Structure Relationship and Merger in the European Banking Industry: An Empirical Assessment". De Nederlandshe Bank Staff Reports No. 58.

Rajan, R. and L. Zingales. 1998. "Financial Dependence and Growth." *American Economic Review*, 88(3), 559-86.

Stoll, H. 1978. "The Pricing of Security Dealer Services: An Empirical Study of NASDAQ Stocks." *Journal of Finance*, 33 (4), 1153–72.

Weekly Analysis, 2004. "Are Banks Profits Excessive," *Weekly Analysis of Ecuadoran Issues* No. 7.

Weekly Analysis, 2005. "Banking in Boom," *Weekly Analysis of Ecuadoran Issues* No. 42.

ESTIMATING THE H-STATISTIC

The H-Statistic is estimated using quarterly individual bank data from September 2002 to September 2005. Following Jaramillo *et al*. (2004), a log-linear function is used to estimate the reduced form revenue equation:

$$\ln(R) = c + b_l \ln(w_l) + b_f \ln(w_f) + b_k \ln(w_k) + b_a \ln(a) + \sum b_z Z$$

where R is the ratio of financial revenue – interest, commissions, fees and financial gains— to total assets; the unit cost of labor w_l is approximated with the ratio of wages and salaries to total assets; the unit cost of capital w_k is approximated with the ratio of depreciation and amortization to fixed assets; the unit cost of funds w_f with the ratio of financial expenses to total liabilities; and total assets *a* control for size. A set of control variables *Z* includes the ratio of non-performing loans to total loans, which controls for credit quality; the ratio of liabilities to the public to total liabilities controls for type of funding; and the ratio of investment to total assets controls for type of assets hold.

Panel Estimation for Reduced Revenue Equation

	OLS	Between	Fixed Effects (FE)	Random Effects
Cost of labor	0.2403 **	0.3267	0.0092	0.0074
Cost of funding	0.3960 **	0.3572 **	0.2937 **	0.3102 **
Cost of capital	0.1017 **	0.0644	0.1038 *	0.1249 **
Size	0.0483 **	0.0710	0.0938	0.0585
Credit quality	0.4236	0.1781	0.1412	0.1455
Type of funding	0.4566 **	0.2995	-0.6476 **	-0.4816 **
Type of assets	-0.3418	-0.4607	-0.5949	-0.7189 *
Constant	-1.0741 **	-1.0653	-2.1652 **	-1.7544 **
R-squared				
Within	...	0.3545	0.5447	0.5408
Between	...	0.6621	0.4248	0.5102
Overall	0.6296	0.6196	0.4121	0.4941
Significance Overall	F-test	F-test	F-test	Chi-sq test
Statistic	54.38	4.76	34.18	260.28
Prob(F-statistic)	0.00	0.00	0.00	0.00
Bank specific Statistic	...	...	31.58	412.28
P-value	...	...	0.00	0.00
H-Statistic	0.7380	0.7483	0.4068	0.4426
Std. Error	0.0554	0.1868	0.0913	0.0812
P-value	0.0000	0.0010	0.0000	0.0000

* significant at 5 percent level
** significant at 1 percent level

A one-way error component model takes into account bank specific characteristics. Since we are dealing with a specific set of banks, a fixed effects model is more appealing. The hypothesis of no bank specific effects is rejected under both fixed and random effects, implying the ordinary least squares suffer from omitted variable bias. A Hausman test between fixed and random effects could not reject the null hypothesis of no correlation between the errors and the regressors in the random effects model. In any case, the estimates for the H-statistic from fixed and random effects are not that different.

Panel Estimation for Reduced Revenue Equation

	FE AR(1)	FE heteroskedastic	Two-way FE	Two-way FE heteroskedastic
Cost of labor	-0.0101	0.1484 *	0.1346	0.1346
Cost of funding	0.2360 **	0.2450 **	0.2264 **	0.2264 **
Cost of capital	0.0822	0.0361	0.0439 *	0.0439 *
Size	-0.1827 **	0.0696	0.1404	0.1404
Credit quality	-0.4335	-0.1280	-0.1530	-0.1530
Type of funding	-0.1876	-0.3718 *	-0.2607 **	-0.2607
Type of assets	0.0336	-0.0634	0.0916	0.0916
Constant	0.2592 *	-2.0630 **	-2.6523 **	-3.0269 **
R-squared				
Within	0.7562	...	0.5708	...
Between	0.2800	...	0.3359	...
Overall	0.2719	...	0.3337	...
Significance Overall	F-test	Chi-sq test	F-test	Chi-sq test
Statistic	77.55	9108.51	15.88	8781.92
Prob(F-statistic)	0.00	0.00	0.00	...
Bank specific				
Statistic	11.65	2377.41	31.52	2071.80
P-value	0.00	0.00	0.00	0.00
Time specific			F-test	Chi-sq test
Statistic	...	...	1.29	27.11
P-value	...	...	0.2438	0.0013
H-Statistic	0.3081	0.4296	0.3561	0.4049
Std. Error	0.0912	0.0765	0.0948	0.0775
P-value	0.0010	0.0000	0.0000	0.0000

* significant at 5 percent level
** significant at 1 percent level

A fixed effects model that allows for heteroskedastic errors provides a similar estimate for the H-statistic estimate, while one that allows for first order autocorrelation provides a somewhat lower estimate. Two-way error correction models take into account both bank and time specific characteristics. Time specific effects are not significant when homoskedastic

errors are assumed, but the result changes if heteroskedastic errors are allowed. The estimates for the H-statistic do not change much.

The Panzar-Rose test requires the market to be in equilibrium. The following equation was used to test for market equilibrium:

$$\ln(1+ROA) = c + b_l \ln(w_l) + b_f \ln(w_f) + b_k \ln(w_k) + b_a \ln(a) + \sum b_z Z$$

where ROA is the return on assets. In equilibrium, ROA should not be correlated to input prices, so $b_l + b_f + b_k = 0$ provide a test where the null is that the market is in equilibrium. A rejection would question the assumption of being in equilibrium, and cast doubt on the validity of the estimates for the H-statistic. However, the null hypothesis is not rejected for any of the specifications at a 5 percent level of confidence.

Panel Estimation for Equilibrium Test

	OLS F-test	Between F-test	Fixed Effects F-test	Random Effects Chi-sq test
Statistic	3.73	0.63	0.05	1.26
P-value	0.0547	0.4378	0.8309	0.2626

	FE AR(1) F-test	FE heteroskedastic Chi-sq test	Two-way FE F-test	Two-way FE heteroskedastic Chi-sq test
Statistic	1.64	0.63	1.14	3.71
P-value	0.2025	0.4275	0.286	0.054

IV. AN ASSESSMENT OF ECUADOR'S COMPETITIVENESS[1]

1.   **While Ecuador has been experiencing strong export growth in recent years, the country continues to receive low ratings in many competitiveness rankings.** For example, the 2005 growth competitiveness index of the World Economic Forum ranked Ecuador 103rd out of 117 countries[2], despite growth in the value of merchandise exports exceeding 24 percent in each of the last three years; and surveys of business executives point to significant obstacles faced by firms operating in Ecuador (see, e.g., World Economic Forum 2005 and World Bank 2005a). Against this background, this chapter sets out to assess Ecuador's competitiveness or, in other words, the country's ability to sell its products in international markets while, at the same time, maintaining adequate levels of productivity growth.

2.   **The chapter concludes that while progress has been made with policies to strengthen Ecuador's business environment, more needs to be done.** The strong performance of many export commodities in recent years, which has been supported by an exceptionally benign international environment, should not deter the authorities from continuing with efforts to address underlying vulnerabilities (such as the country's narrow export base) and low levels of productivity growth, *inter alia* through prudent fiscal and wage policies, progress with structural reforms to strengthen the business environment and attract foreign direct investment (FDI), and further trade liberalization. To establish these points, the paper first analyzes Ecuador's export performance (Section A), before focusing on recent trends in cost competitiveness (Section B) and on some other factors that impact the export sector and productivity growth, including the country's attractiveness as a host for foreign direct investment (Section C), the quality of institutions and governance (Section D), and the trade regime (Section E).

A.   External Sector Performance

3.   **After a period of comparatively weak performance in the 1990s and early 2000s, Ecuador's exports have grown significantly since 2003 (Table 1).** In the 1990s, annual export growth in Ecuador was almost 4 percentage points lower than the average for Western Hemisphere countries, and the country's performance further weakened in the 1999–2002 period. By contrast, export growth has accelerated dramatically since 2003 and outperformed that of many peer countries, as Ecuador benefited from favorable international demand for its petroleum products and some other key exports, as well as supply side factors (see para. 6).

Table 1. Ecuador: Export Growth, 1990-2004				
	1990-1998 1/	1999-2002 1/	2003	2004
World	6.8	4.5	16.7	21.3
Developing Countries	8.7	7.8	19.5	27.5
Western Hemisphere	10.5	5.6	10.3	24.0
Ecuador	6.7	4.6	23.7	24.6

Sources: National authorities; IMF, Direction of Trade Statistics.

1/ Compound annual growth rates.

---

[1] Prepared by Bjoern Rother.

[2] This rating is broadly unchanged from 2004, when Ecuador was ranked 90th out of 104 countries. While the macroeconomic stability index registered a slight improvement, the public institutions and technology subindices scored worse than in 2004 (113th and 100th out of 117, respectively).

4. **The recent favorable trend helped increase market shares in key export destinations, after having stagnated or fallen over much of the last 15 years.**

- This pattern is particularly pronounced for the United States (the destination for 42 percent of Ecuador's merchandise exports in 2004), where the share of imports from Ecuador in total imports increased by about 50 percent between 2002 and 2004 (Figure 1). Ecuador has benefited significantly from the Andean community free-trade area, which was finalized in 1993 (see Baquero and Freire 2003) as Ecuador's share in total community imports has more than doubled since 1990, making it Ecuador's second-largest export market (13.4 percent of total exports in 2004).

Figure 1. Evolution of Ecuadorian Market Shares in Key Export Destinations, 1990-2004

Source: IMF, Direction of Trade Statistics.
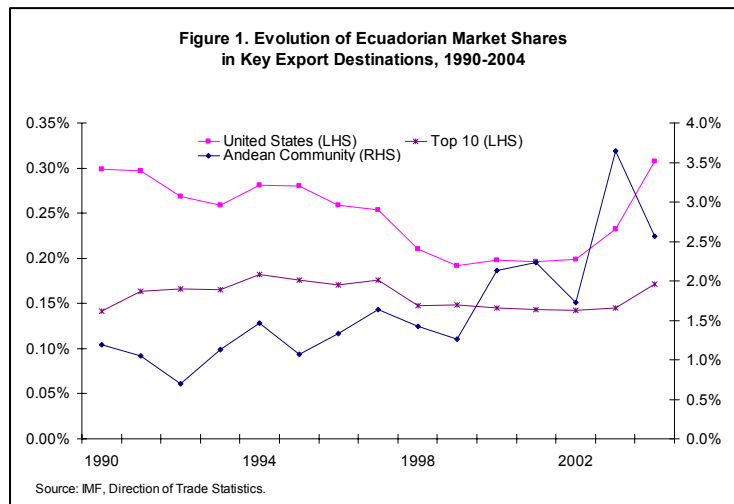
- However, Ecuador's share of total world exports in 2004 remained broadly unchanged from the levels prevailing in the early 1990s. This contrasts sharply with the experience of many other emerging market countries represented in the EMBI index, which as a group became increasingly important as exporters in world markets and expanded their market share from 14 percent in 1991 to almost 25 percent in 2004 (Figure 2).[3]

Figure 2. Evolution of Ecuador's Exports Relative to EMBI Countries (Merchandise Exports as a Share of World Exports)

Source: IMF, Direction of Trade Statistics.

---
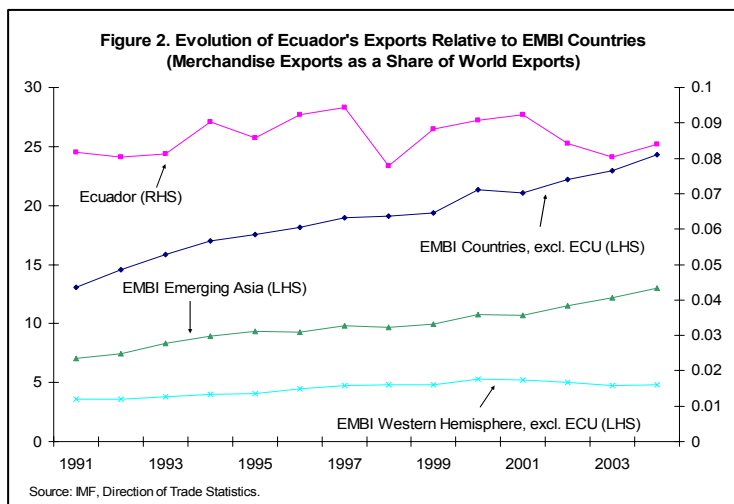
[3] The increase in the market share of EMBI countries has been mainly driven by South East Asian countries and China, while the share of Western Hemisphere countries in world exports has remained broadly unchanged.

5.   **Regarding the composition of exports, progress with the development of nontraditional sectors has been the most important development in the last decade.** This trend has been most pronounced for the cut flower industry, which benefited from a successful strategy of developing a high-quality niche on the flower world market (Box 1). That said, other "medium-tech" to "high-tech" sectors including metal manufactures and food processing also contributed to the increase in the share of nontraditional sectors in total exports, which took place at the same time as a strong expansion of the petroleum sector (Tables 2 and 3).

Table 2. Ecuador: Evolution of Nontraditional Export Values, 1995-2005			
	growth rate	share of total exports	
	1/	1995	2004
Nontraditional exports, total	9.6%	19.5%	23.8%
Metal manufactures	10.3%	2.7%	2.7%
Food industrial	11.1%	2.3%	3.3%
Cut flowers	16.4%	1.9%	4.6%
Chemicals and pharmaceuticals	5.2%	1.0%	1.1%
Textiles	4.9%	1.1%	1.0%
Other products of the sea	13.4%	3.2%	5.2%
Other	10.3%	3.4%	4.5%

Sources: National authorities; and staff estimates.

1/ Compound annual growth rates for 1996-2005; 2005 estimate based on outturn for Q1-Q3.

Table 3. Ecuador: Performance of Export Components, 1996-2005								
	1996-2005		2003		2004		2005 3/	
	growth rate 2/	contribution to growth	growth rate	contribution to growth	growth rate	contribution to growth	growth rate	contribution to growth
Total exports 1/	8.5	100.0	23.7	100.0	24.6	100.0	26.7	100.0
Petroleum exports	14.4	79.1	26.5	45.8	62.4	106.3	36.4	75.5
Traditional exports	-0.7	-2.4	17.8	22.0	-3.7	-4.1	11.8	9.3
o/w bananas and plantanes	2.4	4.3	13.6	11.0	-7.0	-5.0	6.4	3.2
o/w shrimp	-4.4	-4.4	19.0	4.0	10.3	2.0	32.7	5.2
Nontraditional exports	9.6	23.3	25.8	32.3	-1.8	-2.2	18.0	15.2
o/w cut flowers	16.4	5.5	6.1	1.5	14.9	3.0	6.6	1.0

Source: National authorities; and staff estimates.

1/ Excluding unrecorded exports.
2/ Compound annual growth rate.
3/ Jan.-Sep.2005 over Jan.-Sep. 2004.

6.   **Notwithstanding these positive recent trends, Ecuador's export base remains very narrow and hence vulnerable to exogenous shocks including changes in international prices** (Table 3).

- Ecuador's export performance continues to depend strongly on crude oil, the price of which is highly volatile.[4] The oil sector represented 55 percent of total exports in 2004

---

[4] For instance, a simple simulation suggests that a drop in the WTI price to an average of US$40 per barrel in 2006 (a reduction of 33 percent relative to the baseline) would lead, ceteris paribus, to an increase in the current account deficit from 1 percent of GDP to 6 percent of GDP.

and accounted for almost 80 percent of overall export growth since 1996. The strong sector performance can be attributed, in part, to the completion of the private-sector owned OCP pipeline in 2003, which despite declining export volumes of PetroEcuador, the state-owned petroleum company allowed for a 37 percent increase in export volumes in 2004. Nevertheless, most of the sector's growth since 2002 is accounted for by favorable international price trends.

- Ecuador's export base remains highly concentrated. The top four commodity categories (petroleum, bananas and plantains, cut flowers, and shrimp) accounted for 77 percent of total export value in 2004, indicating an even higher concentration than a decade ago when the top four categories represented 72 percent of exports.[5] In this context, it is important to note that for two of these sectors—bananas and shrimp—the robust growth experience since the early 2000s was to a large part driven by a recovery of volumes following severe negative exogenous shocks (damage to banana crops by the El Niño weather pattern in 1997–98, and white spot disease which afflicted shrimp production in 1998–2000).

- That said, the absence of strong positive correlations among export prices for key commodity groups has helped mitigate vulnerability due to the narrow export base. A negative correlation coefficient of -0.70 over the period 1995–2004 indicates that prices for Ecuador's oil and non-oil exports did typically move in opposite directions, and prices for traditional and nontraditional non-oil exports were only weakly correlated (with a correlation coefficient of +0.33).

---

[5] In 1995, the top four categories were petroleum products, bananas and plantains, shrimp, and coffee.

Box 1. Why Are Cut Flower Exporters So Successful?

The strong growth of the Ecuadoran cut flower industry over the past decade suggests that the evolution of external cost competitiveness on its own does not necessarily determine export performance at the industry level. In the case of the flower sector, the strategy to concentrate on the high quality niche of the international flower market together with a strong focus on technology improvements helped reduce the sector's sensitivity to changes in cost conditions, and thus to Ecuador's volatile macroeconomic environment.

Industry background

Notwithstanding the fact that economy-wide external cost competitiveness has only slightly improved relative to the pre-crisis period (see Figure 4 of the main text), the value of Ecuadoran flower exports grew by an average of 17 percent per annum over the period 1996–2004, compared with a growth rate of only 4 percent for Colombia—the industry's main competitor. As Figure 1 shows, the strong growth was supported by both a continuous increase in export volumes and unit value. Hand-in-hand with the strong growth performance came a significant expansion of Ecuador's market share in its key export destination, the United States, from only 4 percent of total cut flower imports in 1991 to 20 percent in 2004. By contrast, Colombia experienced a decline in its market share from 64 percent to 58 percent over the same horizon.

Factors driving the sector's strong performance

Several factors have contributed to the strong growth performance of the industry and helped neutralize the cost disadvantages that the cut flower exporters face compared to their Colombian competitors (see Table 1):

Table 1. Selected Costs for the Flower Sector		
	Ecuador	Colombia
Monthly worker salary	US$220	US$160
Air freight tariff to U.S.	US$1.24 per kg	US$0.85 per kg
Electricity	US$0.11 per kwh	US$0.05 per kwh
Sources: Expoflores; and Banking Supervision Agency.		

Figure 1. Cut Flower Exports: Evolution of Volumes and Unit Value, 1996-2004
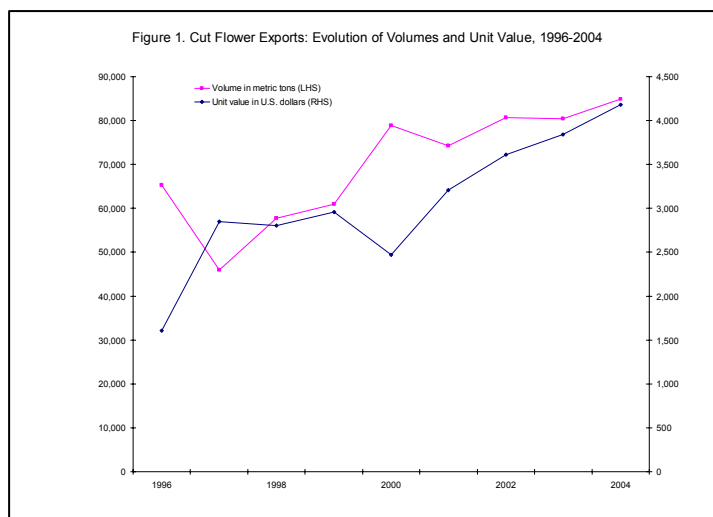
Box 1. Why Are Cut Flower Exporters So Successful? (continued)

- **Concentration on a high-quality niche market.** Ecuadoran producers are capitalizing on favorable climatic conditions to grow high quality varieties of roses which command a premium over Colombian exports (about 15 percent in 2004).

- **Focus on technology improvements through high R&D spending and foreign direct investment.** The focus on the high quality niche makes significant R&D spending essential to satisfy the demand for a continuous flow of innovative products. Moreover, technology development is supported by foreign investment, including by Dutch firms which are among the leaders in the sector. The Inter-American Development Bank supports efforts to strengthen the cooperation among producers, including in the areas of marketing and production.

- **Efforts to improve labor productivity.** Despite the fact that wages are relatively high and represent 40 percent of total costs, available evidence suggests that producers do not rate wages or labor market regulations as major obstacles to competitiveness. This may be partially due to improvements in labor productivity, with the number of workers per hectare declining from 12.3 in 2000 to 11.3 in 2004 (suggesting an improvement in productivity by 8 percent over those five years).

- **Tariff-free access to key export markets.** Ecuadoran (and Colombian) cut flowers access the United States is free of duty under the Andean Trade Promotion and Drug Eradication Act, providing them with a cost advantage of 6.8 percent over competitors facing the MFN tariff. Given that these preferences are scheduled to end in 2006, the sector is a strong advocate of a free trade agreement with the United States. Entry into the European Union, its second most important destination market, is also duty-free.

- **Development of new export destinations.** The sector has been very successful in diversifying into new export markets with a view to develop new sources of growth and reduce the industry's dependence on its dominant export market, the United States.[1] In particular, exports to Russia increased from US$8.8 million in 1996 to US$31.8 million in 2004, making it the second most important individual country market.
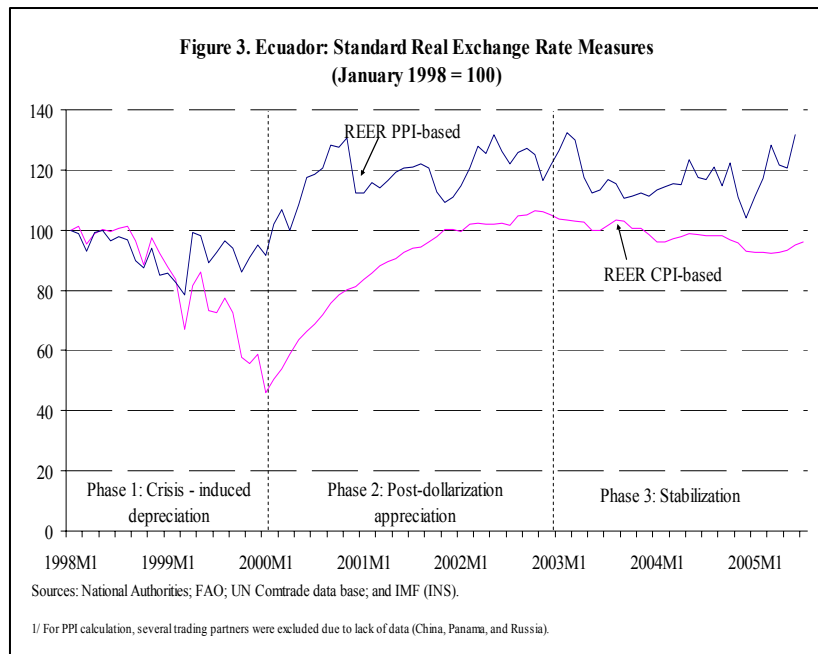
1/ Baquero and Jimbo (2005) find that export volumes depend strongly on demand conditions in the United States. In particular, a one percent drop of U.S. GDP would be expected to lead to a 10 percent reduction in export volumes. The sensitivity to changes in the unit price is lower, with a one percent increase being associated with a volume reduction of 0.62 percent.

B. Cost Competitiveness

Real exchange rate measures

7.   **Standard measures of the real exchange rate have remained broadly flat since early 2003 and signal no significant change in external competitiveness relative to the pre-crisis period**

(Figure 3). That said, the indicator constructed on the basis of wholesale prices still shows some deterioration in cost competitiveness compared to early 1998, which may be explained by the fact that the prices of tradable goods, which represent a higher share of the goods basket underlying this index compared to the CPI, adjusted more fully to the depreciation of the exchange rate than nontradable goods prices (Figure 3).[6]

**Figure 3. Ecuador: Standard Real Exchange Rate Measures
(January 1998 = 100)**

REER PPI-based

REER CPI-based

Phase 1: Crisis - induced depreciation

Phase 2: Post-dollarization appreciation

Phase 3: Stabilization

Sources: National Authorities; FAO; UN Comtrade data base; and IMF (INS).

1/ For PPI calculation, several trading partners were excluded due to lack of data (China, Panama, and Russia).

8.   **Notwithstanding the aggregate trend, competitor-based measures suggest substantial differences in external cost competitiveness across sectors.** For example, the evolution of Ecuador's real exchange rate relative to the five main banana-exporting competitor countries indicates that cost incentives for banana production in Ecuador have only recently approached levels existing at the time of the El Niño shock. By contrast, shrimp producers have benefited in recent years from a significantly improved cost position relative to their (mostly Asian) competitors. In a more nuanced way, the cut flower sector also gained a competitive advantage since mid-2002 in line with the depreciation of the U.S. dollar vis-à-vis the Euro (Figure 4).

---

[6] The standard Fund measure for the CPI-based real exchange rate uses a weighting scheme for trading partners excluding trade in oil. The same trading partner scheme was applied to the real exchange rate measure based on producer prices. For a general discussion of the relative merits of different measures for the real exchange rate, see Marsh and Tokarick (2004).

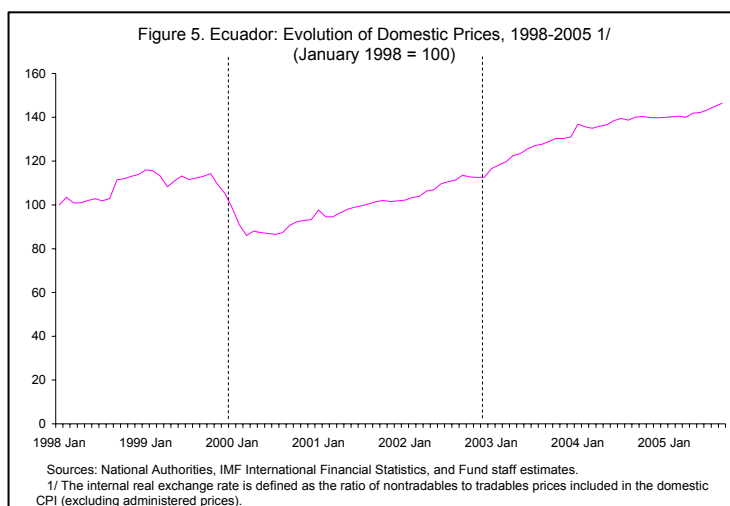Figure 4. Ecuador: Competitor-based REER for Main Non-oil Exports, 1998–2005
(January 1998 = 100)

Aggregate RER

Banana Sector

Cut Flower Sector

Shrimp Sector
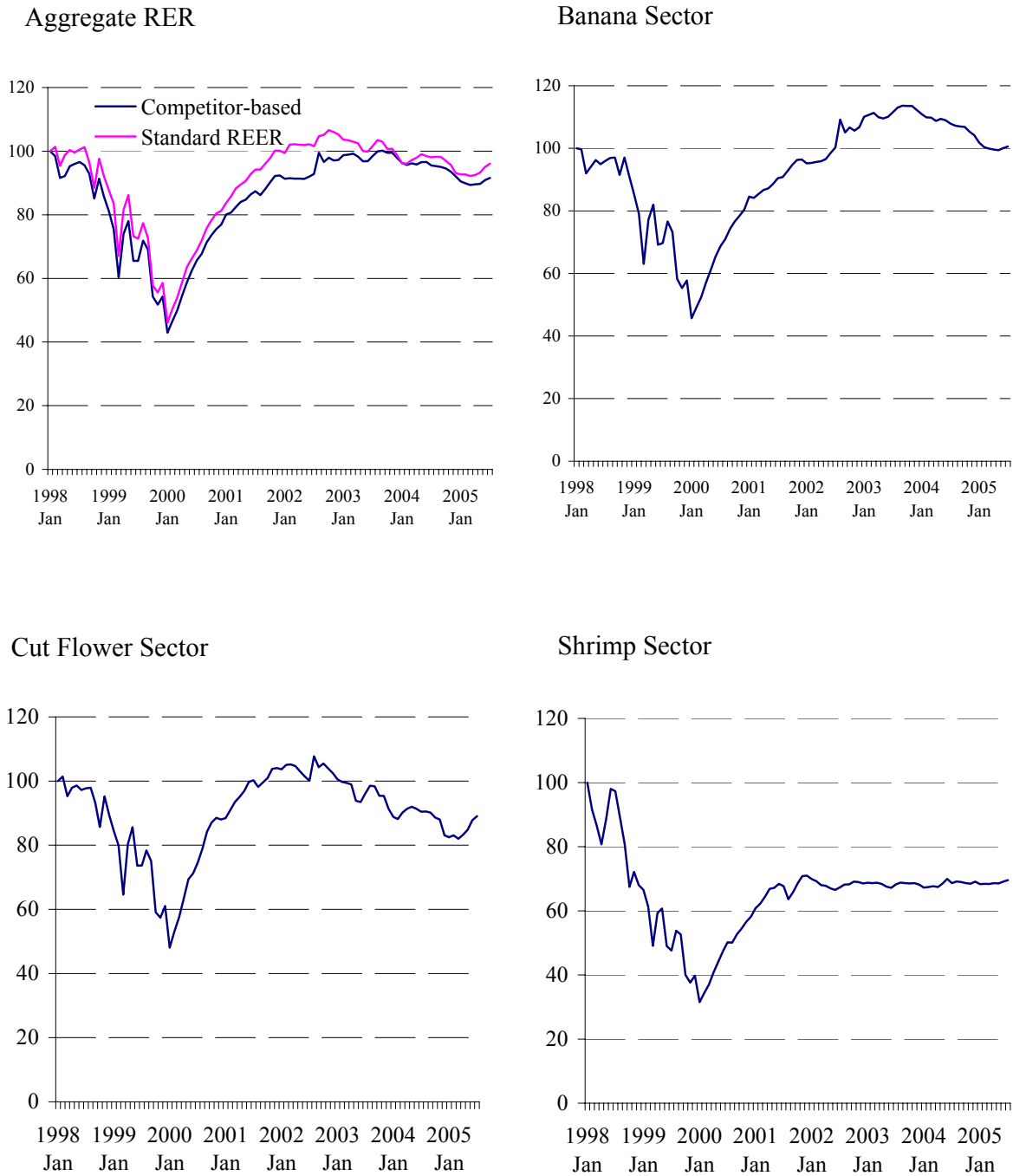
Sources: National authorities; UN Comtrade database; FAO; and Fund staff estimates.

9.   **The internal real exchange rate indicates that the tradable goods sector lost attractiveness for investors relative to the nontradable goods sector.** Based on a disaggregation of the domestic CPI into its tradable and nontradable goods components (excluding prices for administered goods), the measure shows that prices received by firms operating in the nontradable goods sector have continuously increased

Figure 5. Ecuador: Evolution of Domestic Prices, 1998-2005 1/
(January 1998 = 100)

Sources: National Authorities, IMF International Financial Statistics, and Fund staff estimates.
1/ The internal real exchange rate is defined as the ratio of nontradables to tradables prices included in the domestic CPI (excluding administered prices).

relative to prices for tradable goods in the years following dollarization, implying that investment in the tradable goods sector yields relatively lower returns (Figure 5).

Labor costs

10.   **Increases in the minimum wage, which provide a benchmark for wage setting in the private sector, consistently exceeded inflation in recent years, while gains in labor productivity have been modest (Table 4).**

- With inflation declining to international levels, recent minimum wage increases have introduced an upward bias in real minimum wages.[7] The fact that the rise in minimum wages exceeded the evolution of average real wages may be partially explained by data quality issues, but also by the fact that wage

Table 4. Ecuador: Labor Market Indicators, 1990-2004

	1990-1998	1999-2002	2003	2004
Participation rate	56.1	55.7	53.8	55.8
Unemployment rate	8.5	12.1	9.8	11.0
Visible underemployment	n.a.	10.3 3/	8.8	7.2
Real wage growth 1/	5.3 2/	1.6	-5.8	6.0
Real minimum wage growth 1/	3.8 2/	-0.7	6.0	2.3
Real output per worker 1/	0.1	-2.1	2.5	0.8

Sources: National authorities, World Bank World Development Indicators, International Labor Office, and staff estimates.

1/ Compound annual growth rate.
2/ Based on data for 1991-1998.
3/ Based on data for 2001 and 2002.

---

[7] Formally, the annual increase in the minimum wage is set by the National Salary Council that includes representatives of employers, unions, and the authorities. However, in case the Council does not reach an agreement (which has been the rule rather than the exception in recent years), the Ministry of Labor has the right to set the national minimum wage increase based on the inflation forecast of the Central Bank. This wage increase then constitutes a benchmark for setting sectoral minimum wages by 113 sectoral commissions.

trends may have diverged among skill categories,[8] with the minimum wage being particularly relevant for the (large) segment of low- and semi-skilled workers.

- Real wages have generally exceeded productivity, although in recent years there appears to be a closer relationship. Aggregate data on the real output per worker suggest that labor productivity stagnated over the course of the 1990s, declined in the crisis episode, and recovered only modestly since 2003. Moreover, a simple regression of the change in employment on the changes in real output and real wages over the 1991–2004 period shows a negative elasticity of employment to real wages. This suggests that firms were typically not able to maintain employment at previous levels through the realization of adequate productivity gains when facing rising labor costs.[9] These findings appear to be broadly consistent with anecdotal evidence pointing to underinvestment in education; the loss of human capital through emigration; high unemployment among higher-educated workers; and a growing trend towards informal employment (see, e.g., Rinne and Sanchez-Parano 2003; Baquero et al. 2004; and the Central Bank's "Coyuntura del Mercado Laboral" of September 2005).[10] Furthermore, many studies note that the economy suffers from a low rate of technology adaptation with negative consequences for labor and/or total factor productivity.[11]

11. **However, firms typically do not rate labor regulations as sources of major problems for their operations (see World Bank 2005a).** This may be explained partially by firms' limited compliance with labor legislation encouraged by weak enforcement

---

[8] A recent study by the Inter-American Development Bank (IADB 2003) finds that wage differentiation with respect to the education level is very low. For example, the average percentage change of wage levels per additional year of schooling for workers with tertiary education is only 7 percent, the lowest spread observed throughout Latin America.

[9] The equation was estimated based on employment and growth data taken from the Fund's International Financial Statistics and real wage data from the International Labor Organization is (t-statistics shown in parentheses):

$$\Delta \text{ employment} = 0.03 + 0.82 * \Delta \text{ (Real GDP)} - 0.32 * \Delta \text{ (Real Wage)},$$

$$(1.79) \ (2.15) \qquad\qquad (-2.18)$$

with an adjusted R^2 of 0.27. The results do not change significantly when including a dummy for the crisis year 1999.

[10] Rinne and Sanchez-Parano (2003) report that half a million Ecuadorans emigrated after the 1999 crisis, compared with a total population of about 13 million (as of 2004). According to Baquero et al. (2004), total informal sector employment increased from 1.7 million workers in 1997 to 2.6 million workers in 1999 and remained at about this level through 2001, before declining gradually.

[11] See, e.g., World Economic Forum (2005) and World Bank (2005a). By contrast, a recent competitiveness report of the central bank (BCE 2005) shows that imports of capital goods as well as of telecommunications and computer equipment increased rapidly in 2005.

capabilities. But firms also benefited from new legislation introduced since 1998 (including the Economic Transformation Law) allowing for more flexibility in the labor market. In particular, s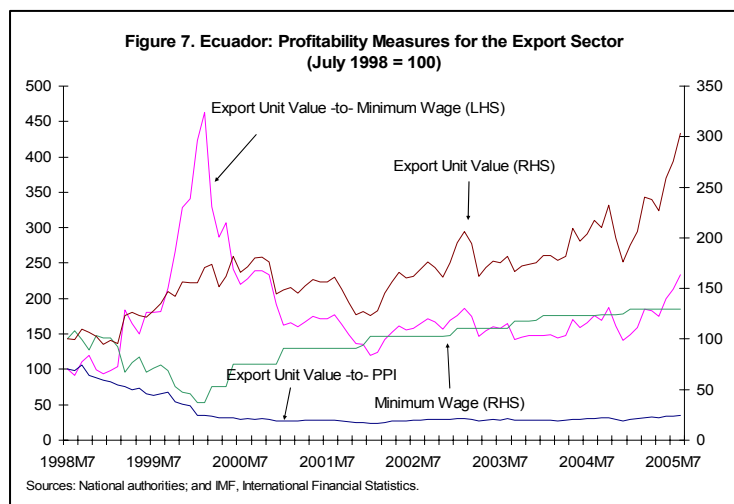teps were taken to simplify wage policies in the private sector, introduce new and more flexible forms of hiring through hourly and temporary contracts, and encourage outsourcing (see Rinne and Sanchez-Parano 2003; and Baquero et al. 2004 for a more detailed discussion).[12] In addition, social security contributions (averaging 17–18 percent of gross wages as of 1999), which are a key component of nonwage labor costs, remain modest and have a lower coverage than in neighboring countries including Colombia and Peru (see IADB 2001; and IADB 2003).

12.   **Building on recent reform initiatives, the authorities should address remaining labor market rigidities.** With a view to strengthen incentives for formal sector employment, steps should be taken to (i) reduce termination costs that currently remain at levels much higher than the regional average (Figure 6), (ii) eliminate the mandatory rule for profit sharing that requires firms to pay out a 15 percent share of

Figure 6. Labor Market Rigidity, 2005

Source: World Bank, Doing Business Database.

profits to employees, and (iii) bring minimum wage increases more in line with productivity growth.
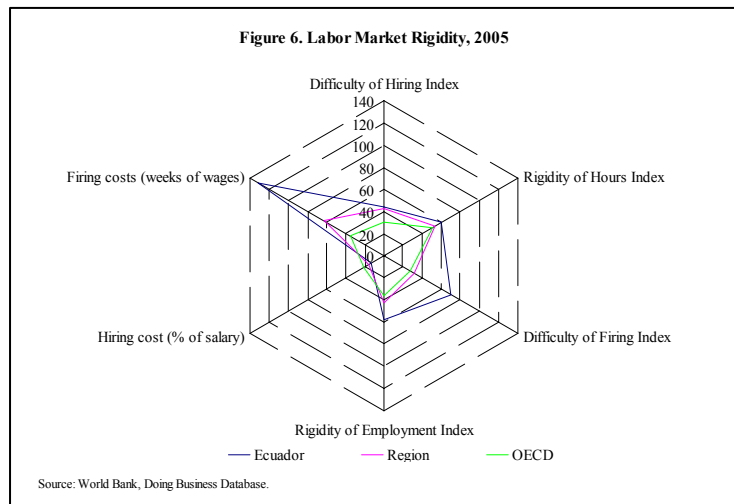
Firm profitability

13.   **Approximate indicators for the export sector's profit margin suggest that profitability did not deteriorate in recent years (Figure 7).** The ratio of export unit value-to-wholesale prices remained broadly stable after the transition to dollarization, as increases in export unit values compensated for the rise in local costs reflected in wholesale prices, which was mainly driven by the

Figure 7. Ecuador: Profitability Measures for the Export Sector
(July 1998 = 100)

Sources: National authorities; and IMF, International Financial Statistics.

strong increase of the sub-index for minerals, electricity, gas, and water.[13] Moreover, the

---

[12] The informal sector accounted for about half of total employment in the first semester of 2005.

[13] The subindex grew by almost 200% between November 2001 and April 2005.

ratio of export unit value-to-minimum wages (as a proxy for average wages) points to a recent improvement in profit margins. When interpreting these trends, it is however important to note that the favorable trend in Ecuador's export unit value underlying these calculations is biased by the strong increase in international oil prices. While a calculation based on the non-oil export unit value (drawn from the Fund's BOP statistics) still suggests that profitability as measured by the ratio of export unit value-to-wholesale prices improved by 7 percentage points between 2000 and 2003, it points to a significant deterioration in 2004 (by 10 percentage points).
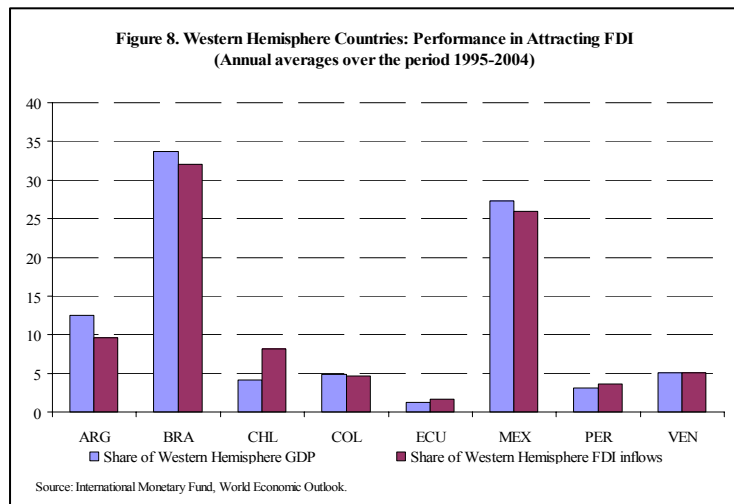
14.   **On balance, the indicators discussed above do not indicate major cost-competitiveness problems, but this should be no reason for complacency.** In particular, the evidence suggests that (i) initial gains in external competitiveness after the transition to dollarization relative to the pre-crisis period have not been sustained at the aggregate level; (ii) the growing gap between prices for nontradable and tradable goods may discourage investment in the latter sector; and (iii) wage increases in recent years have been significant and generally not justified by growing productivity. Moreover, a fall in Ecuador's export unit value—which increased in recent years mainly through the favorable trend in oil prices—could lead to a significant deterioration of firm profitability. In this context, the authorities should continue with their efforts to address recent inflationary pressures and advance with labor market reforms.[14] In addition, progress should be made with structural reforms to improve trade-related infrastructure, as the comparatively high costs for (and unreliability of access to) finance, electricity, telecommunications, and transportation remain major obstacles for companies in Ecuador (see World Bank 2005a).

---

[14] Driven mainly by strong growth in bank credit and public spending, 12-month CPI inflation rose from less than 2 percent in June 2005 to over 4 percent at the end of the year despite frozen domestic fuel prices.

C. Foreign Direct Investment

15.   **FDI can provide an impetus to productivity growth and competitiveness through a variety of channels,** including its role in facilitating the transfer of technology, in increasing the outward-orientation of the economy through higher export production and the increased use of imported inputs, and in strengthening competition in factor and product markets. Consistent with this benign view of FDI, an empirical study contained in the World Bank's 2005 ICA (World Bank 2005a) finds that companies in Ecuador with foreign ownership exhibit substantially higher productivity levels than their domestically-owned counterparts and pay higher wages.[15] In addition, the study presents evidence that the presence of FDI leads to positive spillover effects on productivity within sectors and along the value chain, as both domestic competitors and suppliers tend to adapt to the foreign competition by employing a higher share of skilled workers and using more imported inputs.

16.   **So far, however, Ecuador has only been successful in attracting substantial FDI inflows to the oil sector.** While Ecuador succeeded in attracting more FDI relative to its economic size than most other Western Hemisphere countries over the 1995–2004 period (Figure 8), the bulk of the FDI inflows averaging 4.1 percent of GDP per annum went into

the mining sector that mainly represents oil-related activities (Table 5).[16] Outside the oil sector, FDI activity has been very low (inflows averaged only one percent of GDP over the 2001–04 period) and widely dispersed across sectors. For example, the agriculture and fisheries sector, which accounts for most of Ecuador's non-oil exports (9 percent of GDP), received only 0.1 percent of GDP in FDI inflows in 2004.

Figure 8. Western Hemisphere Countries: Performance in Attracting FDI
(Annual averages over the period 1995-2004)

Source: International Monetary Fund, World Economic Outlook.

---

[15] The findings are based on a 2003 survey of 441 manufacturing firms, covering five provinces and 10 manufacturing sectors (oil-derived products, food, beverages, textiles, garments, leather products, wood products, chemicals, rubber and plastic products, and metal products).

[16] Peak levels of 5–6 percent of GDP in the early 2000s were linked to the construction of the OCP pipeline.

Table 5. Ecuador: Foreign Direct Investment Inflows, 1999-2004					
	avg. 1999-2002		2003		2004	
	US$ million	Share of total	US$ million	Share of total	US$ million	Share of total
Total FDI inflows	993,390	100	1,554,737	100	1,160,293	100
Agriculture and Fisheries	9,210	1	48,388	3	41,241	4
Mining	866,481	87	828,051	53	903,075	78
Manufacturing	33,328	3	70,993	5	36,892	3
Electricity,gas, and water	430	0	281	0	6,046	1
Construction	15,239	2	441,684	28	30,954	3
Commerce	30,079	3	50,382	3	49,705	4
Transport and communication	8,664	1	24,815	2	52,219	5
Private services	28,996	3	89,240	6	39,691	3
Public services	962	0	904	0	469	0
Source: National authorities.					

17.   **Several factors help explain Ecuador's poor performance in attracting FDI outside the oil sector.** Notwithstanding the fact that the foreign investment regime is relatively liberal in general terms (see WTO 2005), legal provisions discourage investment in strategic sectors. In particular, the law on investment promotion and guarantees allows discriminatory treatment between domestic and foreign investors in sectors such as fisheries, mining, hydrocarbons, and public utilities, which are often among the most attractive for foreign investors. In addition, the weak regulatory environment in some key sectors, such as electricity generation and distribution, may deter foreign investment. For example, given the highly politicized setting of electricity tariffs, the incentives for private ownership in electricity generation and distribution are low. More broadly, however, the reluctance to invest in Ecuador may reflect Ecuador's poor record in the protection of property rights as well as substantial governance issues, which are discussed in the next section.

D. Political Institutions and Governance

18.   **Weak political institutions and governance issues are seen by many observers as major obstacles for Ecuadoran firms, deterring both local and foreign investment.** This message is consistently echoed in many competitiveness assessments of the country, including the World Bank's ICA, the World Economic Forum's growth competitiveness index, Transparency International's corruption perception index, the index of economic freedom published by the Heritage Foundation, and Melo (2003).[17] Specifically, the various assessments point to the following issues that Ecuadoran firms have to cope with:

- A substantial degree of economic policy uncertainty through weak and unstable governments. In particular, Congress is extremely fragmented, political turnover is high

---

[17] In their 2005 vintages, the World Economic Forum's public institutions subindex ranks Ecuador 113th out of 117 countries, Transparency International 117th out of 159 countries, and the Heritage foundation 114th out of 155.

(in April 2005, President Palacio became Ecuador's sixth president in the last 8 years), and public support for political institutions is generally low. Such an environment tends to render decision-making at the firm-level more difficult, shorten the time horizon for investment decisions, and redirect management resources from productive towards political activities.

- A low level of effective protection of property rights, due to the high degree of political influence on the judiciary and deficiencies in the court system. For example, the World Bank's 2005 ICA estimates that disputes over payments that are taken to court take on average four years to be resolved (World Bank 2005a).

- Significant levels of corruption. A significant negative impact on firm operations is again suggested by the World Bank's 2005 ICA, which estimates bribes to amount to 2.6 percent of average firm revenue (World Bank 2005a). The study further notes that informal payments are common to secure public contracts, with the average payment amounting to 9 percent of the contract's value.

19.   **Regressing inward FDI stocks on various variables also points to a significant impact of political and institutional factors on investor decisions.** The model builds on the baseline specification of the gravity model of bilateral FDI stocks for 10 Latin American countries described in Box 2, and adds several institutional variables available from the International Country Risk Guide (ICRG), including an aggregate index of political risk (ICRG political) and sub-indices on political stability, investment risk, corruption, the rule of law, democratic accountability of the government, and bureaucratic efficiency. Moreover, the World Bank's rigidity of employment index is used as a proxy for the quality of labor market institutions. The main results are summarized in Table 6.

Table 6. Impact of Institutional Variables				
			second-step coefficients	
	institution	adj. R^2	institution	per capita
ICRG political	.16***	.515	.10***	-1.04***
	(.04)		(.03)	(.34)
ICRG stability	1.07***	.480	.47*	-.81**
	(.33)		(.27)	(.34)
ICRG invest	.40***	.510	.46***	-.94***
	(.10)		(.11)	(.34)
ICRG corruption	.58*	.442	.26	-.52
	(.30)		(.29)	(.34)
ICRG rule of law	.49**	.453	.18	-.91**
	(.21)		(.16)	(.38)
ICRG dem. accountability	.97***	.501	.17	-.65**
	(.25)		(.21)	(.32)
ICRG bur. efficiency	.75***	.475	.54**	-.38
	(.24)		(.25)	(.33)
Rigidity of employment	-.08***	.530	-.04***	-1.21***
	(.02)		(.01)	(.35)

1/ Dependent variable is bilateral stock of inward FDI.
2/ Standard errors between parentheses: ***, **, and * refer to 1%, 5%, and 10% significance levels, respectively.

Box 2. A Simple Gravity Model of Inward FDI Levels For Latin America

Using bilateral FDI stock data for 10 Latin American countries, the model relates FDI levels to various explanatory variables including the distance between the source and the host country. [1/]
The model, which is based on data covering the 1993-2003 period, broadly follows the methodology discussed in Benassy-Query et al. (2005) to estimate bilateral inward FDI stocks through the following equation:

$$\ln(FDI)= \alpha_0 + \alpha_1*\ln(GDP_h) + \alpha_2*\ln(GDP_s) + \alpha_3*\ln(GDPCAP_h)$$
$$+\alpha_4*\ln(GDPCAP_s)+ \alpha_5*\ln(DIST).$$

GDP_h captures the market size of the host country as a proxy for demand to be served by affiliates of foreign firms operating in this market, while GDP_s should be proportional to the pool of investors in the source country. Both measures can be expected to be positively correlated with FDI stocks. The GDP per capita terms $GDPCAP_h$ and $GDPCAP_s$ are included in the equation to account for the level of economic development of the host and the source country, respectively. While the expected sign of the host country term is ambiguous, depending on whether the strength of the positive purchasing power effect outweighs the negative effect of wage differentials captured in the per capita term, higher per capita GDP in the source country should lead to higher FDI activity. Finally, the distance term DIST is intended to account for various transaction costs in the bilateral investment. In line with the gravity models used to explain trade flows, the hypothesis is made that such costs should increase with geographical distance between the source and the host country.

The main results are as follows (see Tables 1 and 2):

- All variables except for the per capita GDP of the host country are significant and show the expected sign in all specifications of the model. Although not always being significant at conventional confidence levels, the host country's per capita term consistently shows a negative sign, suggesting that the wage differential might be more important than purchasing power for attracting FDI to Latin American countries (see World Bank 2005b for similar findings).

Table 1. Standard Gravity Model of FDI 1/				
	avg.98-02	93-02	93-97	98-02
intercept	4.15	.68	-.76	2.55**
	(2.87)	(.87)	(1.24)	(1.15)
ln host GDP	.82***	.86***	.79***	.95***
	(.14)	(.06)	(.08)	(.08)
ln source GDP	.36***	.33***	.34***	.31***
	(.11)	(.03)	(.05)	(.04)
ln per capita GDP host	-.49	-.29***	-.18	-.44***
	(.34)	(.09)	(.13)	(.12)
ln per capita GDP source	.62***	.70***	.69***	.70***
	(.22)	(.07)	(.09)	(.09)
ln distance	-.63**	-.55***	-.49***	-.61***
	(.24)	(.06)	(.08)	(.07)
N	98	1087	557	530
adj. R^2	.427	.469	.456	.506

1/ Dependent variable is bilateral stock of inward FDI.
2/ Standard errors between parentheses: ***, **, and * refer to 1%, 5%, and 10% significance levels, respectively.

Box 2. A Simple Gravity Model of Inward FDI Levels For Latin America (continued)

- The model further suggests that Ecuador underperforms as an FDI host country relative to what would be expected by its market size, per capita GDP, and geographical proximity to important source countries. Moreover, based on the baseline specification, its performance as an FDI host appears to be significantly worse than that of other Andean community member countries (Table 2, left-hand columns).

Table 2. Degree of FDI Over-/Underperformance					
	baseline model			with ICRG political	
	actual	predicted	deviation	actual	predicted	deviation
Colombia	12,337	13,507	-9%	12,337	7,452	66%
Ecuador	1,446	3,362	-57%	1,446	1,262	15%
Peru	9,810	9,106	8%	9,810	15,957	-39%
Venezuela	17,392	15,797	10%	17,392	11,455	52%

1/ The sample includes Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Paraguay, Peru, Uruguay, and Venezuela and covers the period 1992-2002 based on UNCTAD data on bilateral inward FDI stocks available under www.unctad.org. Other data are drawn from the Fund's IFS (GDP and GDP per capita), the Centre D'Etudes Prospectives et D'Informations Internationales (geographical distances), and the International Country Risk Guide for political and institutional factors (with the exception of the rigidity of employment index which is drawn from the World Bank's Doing Business database).

- All of the institutional variables are significant and show the expected sign when added one at a time to the model's baseline specification[18]: stronger institutions in a country lead to higher inward FDI stocks (except for the employment index, where a higher value signals higher distortions).

- These findings do not fundamentally change when re-estimating the model in a two-step procedure to control for the fact that institutional variables are often highly correlated with a country's per capita income.[19] The two right-hand columns of Table 6 report that all institutional factors maintain their expected sign, even if most coefficients become smaller and some statistically insignificant. There is thus still strong evidence that many of the factors examined—including the aggregate political risk index, investment risk, bureaucratic efficiency, and labor market rigidity—remain highly relevant for explaining the attractiveness of a country as an FDI host.

- Institutional variables also help explaining Ecuador's underperformance in attracting FDI relative to neighboring countries that is reported in the model's baseline specification (Box 2, Table 2). For example, when adding the broad ICRG political risk index to the baseline specification of the gravity model, the expected level of Ecuador's inward FDI stock declines from US$3.4 billion to US$1.3 billion, compared to an actual level of US$1.5 billion (figures represent averages over the 1998–2002 period).

20.   **The evidence suggests that strengthening institutions and governance could have a substantial positive impact on Ecuador's business climate and competitiveness.** While reforms in these areas will be difficult to achieve given powerful vested interests and long-established relations between the government and the private sector, some of the authorities' recent initiatives—including the naming of 31 judges for the supreme court and efforts to finalize a Free Trade Arrangement (FTA) with the United States that would likely include

---

[18] Adding more than one institutional variable at a time is difficult due to the high multicollinearity between them.

[19] Specifically, each institutional variable ($Inst_h$) was first regressed on the host country's GDP per capita

$$Inst_h = \alpha_0 + \alpha_1 * \ln(GDPCAP_h) + \mu_h,$$

before the residual μ_h was used to replace the institutional variable ($Inst_h$) in the equation

$$\ln(FDI) = \alpha_0 + \alpha_1 * \ln(GDP_h) + \alpha_2 * \ln(GDP_s) + \alpha_3 * \ln(GDPCAP_h) + \alpha_4 * \ln(GDPCAP_s) + \alpha_5 * \ln(DIST) + \alpha_6 * (Inst_h).$$

The same procedure was repeated with regressing per capita GDP on the respective institutional variable before using it in the baseline specification.

provisions to strengthen the public procurement code, customs operations, and the legal security of investors—could help catalyze reforms in governance and legal security.

E. The Trade Regime

21.   **Ecuador has taken substantial steps to liberalize its trade regime since the early 1990s.**[20] For example, Ecuador progressively reduced MFN tariff rates from an average applied rate of 32.9 percent in 1990 to an average of 11.4 percent at the beginning of 2005, benefiting both consumers and industries that use imported inputs in their production processes. Moreover, Ecuadoran exporters have been able to benefit from preferential trading arrangements that improved the terms and predictability of access to key export markets, notably the Andean Trade Preference Act (ATPA) and the Andean Trade Promotion and Drug Eradication Act (ATPDEA) of the United States and the FTA of the Andean Community.

22.   **However, some provisions in the trade regime still tend to shield firms from competition and thus the need for seeking productivity gains, and discourage export production.**

- Tariff protection for some domestic industries is still high and discourages structural change towards more productive sectors by distorting relative prices. In particular, most industries in the manufacturing sector benefit from tariff escalation, tariff concessions, and relatively high effective rates of protection (see WTO 2005). An extreme example of such protection is the domestic car industry, which benefits from an MFN tariff of 35 percent on imported motor vehicles and motor vehicle parts.

- Ecuador still has many non-tariff barriers to trade that tend to discourage the use of imported inputs in production activities. For instance, the country maintains an import licensing regime that applies to more than 1,000 tariff lines, of which roughly half correspond to agricultural goods.[21] Furthermore, imports are required to comply with Ecuadoran technical norms while domestically produced goods are not, and imports exceeding US$4,000 and all exports are subject to approval by the Central Bank.

---

[20] This section draws on World Bank 2005a and WTO 2005, which provide a detailed assessment of Ecuador's trade regime.

[21] Efforts have recently been taken to reduce the number of tariff lines for which such licensing is required, and as of early 2005, 210 out of 1471 previously existing licensing requirements have been eliminated (IBRD 2005). Moreover, the customs administration is committed to further simplify the licensing system and increase its transparency through the introduction of an IT-based system. In particular, if a response to a licensing request is not given within 10 working days, the license will be automatically authorized.

- Regarding the export sector, some important trade preferences that benefit Ecuadoran firms are currently being challenged or will be discontinued. Most significant among these are the preferences unilaterally granted by the United States under the ATPA and the ATPDEA. However, these agreements, which provide tariff-free access to Ecuador's most important export market for key product groups such as bananas, cut flowers, and crude oil, are scheduled to expire at end-2006.[22] In addition, shrimp exports that enjoyed free entry to the U.S. under the ATPDEA prior to 2004 are currently subject to an anti-dumping margin; and banana producers would be negatively affected by the programmed modification of the European Union's banana import regime.[23]

- Trade is further hampered by inefficiencies in customs procedures, including port operations. For example, the World Bank's 2005 ICA reports that Ecuadoran exporters need on average 7 days to perform customs procedures at their exit port, while their competitors in Central America need only about two days. The numbers are even more concerning for importers, for whom it takes on average 17 days to clear customs at the port of entry, compared to a week or less in East Asian and Central American countries. Anecdotal evidence further suggests that while the drawback regime is open to any exporter registered as a taxpayer in Ecuador, the process often involves very long delays.

23.   **Given the detrimental impact of the remaining deficiencies on the economy, further efforts should be taken to liberalize the trade regime and reform customs**. In particular, the authorities' participation in regional and multilateral initiatives to further liberalize trade in goods and services—including the ongoing negotiations of a free trade arrangement between several Andean Community Countries and the United States—could contribute to strengthening Ecuador's competitiveness (inter alia by locking-in existing trade preferences) and reduce the remaining anti-export bias in the trade regime, if accompanied by complementary domestic policies that aim at improving the business environment. In addition, the authorities' customs modernization plan should be implemented swiftly to reduce delays in customs operations and improve transparency.

---

[22] As of 2003, the four Andean countries (Bolivia, Colombia, Ecuador, and Peru) enjoyed duty-free treatment for 86 percent of their combined export value to the United States, with more than half of the preferences being granted on the basis of the ATPA and ATPDEA. The remaining dutiable portion of imports included tuna in metal cans and above-quota imports of certain agricultural products subject to tariff-rate quotas that are not eligible for ATPDEA preferences. Only one product, canned tuna, was dutiable among the twenty leading U.S. imports from ATPA countries (for a detailed description of the preferences, see Sek, Leonore, 2005, *"Andean— U.S. Free-Trade Agreement Negotiations,"* updated June 29, 2005; and Kornis, Magda, 2004, *"The Expanded Andean Trade Preferences Act and a U.S. Free Trade Agreement With its Beneficiaries,"* United States International Trade Commission, International Economic Review November/December 2004).

[23] The European Union intends to replace its current tariff-and-quota system with a single-tariff system in 2006, which would likely involve more than a doubling of the present tariff of 75 Euros per ton paid within the set quota.

REFERENCES

Banco Central del Ecuador, 2005, *"Competitividad y Productividad. Boletin No.13,"* Quito: Banco Central del Ecuador.

Baquero, Marco, Belen Freire, and Guillermo Jimbo, 2004, *"Evolution de Mercados Laborales Formales e Informales en Ecuador: Una Definicion Alternativa,"* Apuntes de Economia No.46, Quito: Banco Central del Ecuador.

Baquero, Marco and Guillermo Jimbo, 2005, *"Sensibilidad de las Exportaciones de Flores de Ecuador a Estados Unidos a Variaciones de Precio e Ingreso,"* unpublished draft, Quito: Banco Central del Ecuador.

Benassy-Quere, Agnes, Maylis Coupet, and Thierry Mayer, 2005, *"Institutional Determinants of Foreign Direct Investment,"* CEPII Working Paper No. 2005–05, Paris: Centre d'Etudes Prospectives et d'Informations Internationales.

Freire, Belen and Guillermo Jimbo, 2003, "Indicadores de Competitividad: Apertura Comercial y Capital Humano," Apuntes de Economia No.30, Quito: Banco Central del Ecuador.

Hinkle, Lawrence E. and Peter J. Montiel, 1999, *Exchange Rate Misalignment: Concepts and Measurement for Developing Countries.* Oxford: Oxford University Press.

Inter-American Development Bank, 2003, *Good Jobs Wanted: Labor Markets in Latin America.* Washington, Inter-American Development Bank.

International Bank for Reconstruction and Development, 2005, *"Project Document for a Proposed Second Fiscal Consolidation and Competitive Growth Adjustment Loan in the Amount of US$100 Million to the Republic of Ecuador,"* 01/26/05.

International Labor Organization, Office for Latin America and the Caribbean, 2005, *"2005 Labor Overview. Latin America and the Caribbean (First Semester Advance Report),"* Lima: ILO 2005.

Marsh, Ian W. and Stephen P. Tokarick, 2004, *"Competitiveness Indicators: A Theoretical and Empirical Assessment."* IMF Working Paper No. 94/29, Washington, D.C.: International Monetary Fund.

Melo, Alberto, 2003, *"La Competitividad de Ecuador en la Era de la Dolarizacion: Diagnostico y Propuestas,"* Documento de Trabajo #C-101, Washington D.C.: Inter-American Development Bank.

Rinne, Jeffrey and Carolina Sanchez-Paramo, 2003, *"The Labor Market and Civil Service in Ecuador,"* pp. 445–7 in Fretes-Cibils, Vicente, Marcelo M. Giugale, and Jose Roberto Lopez-Calix (eds.), Ecuador. An Economic and Social Agenda in the New Millennium. Washington D.C., The World Bank.

United Nations Conference on Trade and Development, 2005, *"World Investment Report— Transnational Corporations and the Internationalization of R&D,"* New York and Geneva: United Nations.

The World Bank, 2005a, *"Ecuador. Investment Climate Assessment,"* Economic Report No.31900, April 11, 2005. Available under http://www-wds.worldbank.org/servlet/ WDS_IBank_Servlet? pcont=details&eid=000012009_20050607113026.

The World Bank, 2005b, "DR-CAFTA: Challenges and Opportunities for Central America." Available under http://lnweb18.worldbank.org/LAC/LAC.nsf/0/ EF19E9E2E78A00458525702D006D0E7E?Opendocument.

The World Economic Forum, 2005, The Global Competitiveness Report 2005–06, Basingstoke: Macmillan.

The World Trade Organization, 2005, *"Trade Policy Review Ecuador—Report by the Secretariat,"* TPR/S/148, Geneva: World Trade Organization.