Official Dollarization and the Banking System in Ecuador and El Salvador

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Since Ecuadorian president Jamil Mahuad announced the adoption of the U.S. dollar as legal tender in January 2000, the discussion about the pros and cons of full dollarization has intensified. In 2001 El Salvador engaged in full dollarization to enhance its economic reform process. The two economies adopted the U.S. dollar as their currency for diametrically opposite reasons: In Ecuador full dollarization occurred in the midst of an economic and banking crisis. In contrast, in El Salvador full dollarization was expected to enhance the set of previous structural reforms put in place to support economic stability and thus attract foreign investors. This article studies the evolution of the banking system in these two countries before and after the adoption of full, or official, dollarization.[1]

Under full or official dollarization, a country adopts as legal tender another country's currency, in this case the U.S. dollar. The adopted currency takes over all the functions of domestic currency: a unit of account, medium of exchange, and store of value. The country's policymakers thus give up any possibility of monetary and exchange rate policies. Official dollarization is equivalent to pegging the domestic currency to the U.S. dollar, but it is different from a currency board because it is irreversible. This irreversibility theoretically makes full dollarization a credible economic policy and a way to avoid currency and balance-of-payments crises.

The expected benefits of full dollarization include the elimination of exchange rate risk, contributing to the decline of the country risk premium and interest rates, as well as the reduction of the inflation rate and inflationary expectations. These outcomes are expected to encourage foreign investment and a stable capital flow. One cost of full dollarization is the elimination of the government's ability to generate seigniorage—that is, revenue from issuing domestic money—to finance its fiscal deficit. Without this possibility, the dollarizing country must look for alternative revenue sources or reduce government expenditures. By giving up control of its money supply, a full dollarization regime encourages fiscal discipline (enhancing policy credibility) but also constrains the fiscal response to stabilize the economy in difficult times.

Some initial conditions could be relevant in the decision to implement official dollarization. Minda (2005) and Edwards and Magendzo (2006) observe that small countries with close trade or financial ties to the United States could favor official dollarization, as Panama did in 1904. Ecuador, El Salvador, and Panama, the largest countries that have implemented official dollarization, are still relatively small and are very open to U.S. trade and finance, with an average gross domestic product (GDP) of $11 billion (in 2000 dollars) and an average population of 7 million in 2004.[2]

A relevant factor in policymakers' decision to adopt full dollarization is the depth and type of partial dollarization already present in the economy.[3] A banking system with a large portion of deposits or loans denominated in foreign currency might have a smaller adjustment with the adoption of official dollarization than a system whose share is small or negligible. Banks in a dollarized economy might have internalized the costs of operating in such environment. They could already have foreign currency liquid assets, or the financial system could have adopted other prudential regulations to control or reduce liquidity and solvency risks. In addition, a country that is experiencing a currency or banking crisis might be more likely to implement official dollarization. Edwards (1995) points out that policymakers might be willing to make radical decisions in times of crisis rather than in times of economic stability. The realization and timing of expected benefits from full dollarization might depend on whether a country implemented it after an economic crisis, such as the currency and banking crisis in Ecuador, or as part of its structural reform process.

Official Dollarization and the Banking System

Three effects on the banking system under full dollarization are considered in this article: restrictions on the central bank as lender of last resort, the effect of economic stability on the performance of banks, and the promotion of financial integration with the world economy.

The restriction on the role of the monetary authority as lender of last resort is one of the costs of full dollarization. Central banks provide loans to banks facing liquidity problems. Under official dollarization, printing money is no longer a feasible source of liquidity, and the central bank needs to look for alternative responses to episodes of financial distress. Chang and Velasco (2000) study the case of an economy under a fixed exchange rate regime with a central bank that does not act as a lender of last resort, concluding that this regime is more prone to bank runs than a currency board. In this case, the liabilities of the banking system as a whole are, implicitly, obligations in international currency. Consequently, a bank run is possible if the banking system's implicit liabilities are greater than its liquid assets (in foreign currency). Under full dollarization, the economy is shielded from a currency or balance-of-payments crisis, but the risk of a banking crisis is real. Financial instability is endemic to this regimen.

The restriction on the role of the monetary authority as lender of last resort is one of the costs of full dollarization.

The solution includes external lines of credit with banks from abroad and reserve funds from taxes or other revenues (Calvo 2001). In their analysis, Chang and Velasco show that a policy of high bank reserve requirements dominates over a policy of large international reserves. "The intuition is that increasing the international li-

Dollarization: Some Definitions and Measurements

Official or *full (de jure) dollarization* is a country's adoption of another country's currency as legal tender.

Under *partial (de facto) dollarization*, a country's domestic currency remains the official legal tender, but transactions can also be carried out in foreign currency, effectively giving the country a bicurrency system.

Other types of dollarization can be distinguished:

- *Currency* or *payments dollarization*, sometimes referred to as currency substitution, is a country's use of foreign currency for transaction purposes.
- *Real dollarization* is the indexing, formally or de facto, of prices and wages to the dollar.
- *Financial dollarization*, also called asset substitution, occurs when a country's residents hold financial assets and liabilities in foreign currency. Financial dollarization can be external (using the dollar in claims between residents and nonresidents) or domestic (using the dollar in claims between residents).

Data limitations on cash holdings in foreign currency restrict the measurement of currency or payments dollarization. Financial dollarization can be measured in several different ways. Domestic financial dollarization can be measured as the ratio of foreign currency deposits or loans to GDP or to total deposits or to total loans. External financial dollarization can be measured as the ratio of foreign assets held by banks to foreign currency deposits or cross-border deposits to foreign currency deposits.

Source: Gulde et al. (2004) and Minda (2005)

quidity of the banking system has a social opportunity cost. Under a policy of high reserve requirements, banks internalize this cost; under a policy of large international reserves, they do not" (2000, 3).

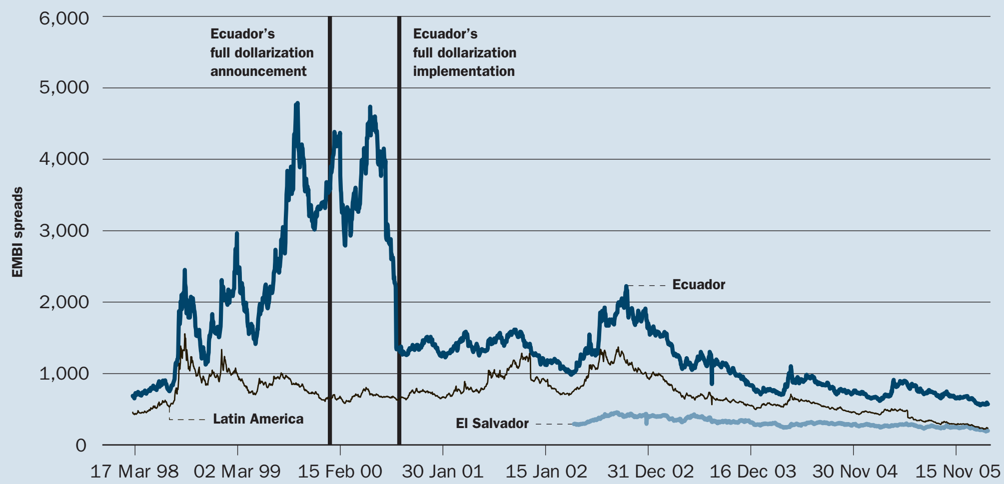
Paradoxically, even though full dollarization limits the central bank's role as lender of last resort and therefore monetary authority responses to financial crises, it might make banks runs less likely because consumers and businesses may have greater confidence in the domestic banking system. The reason is that official dollarization reduces the moral hazard present in highly dollarized banking systems. In a partially dollarized economy, the impact of a large depreciation is widespread in the banking system. Banks expect that the monetary authority would come to the rescue of troubled banks or would delay any sharp devaluations. However, under official dollarization and without exchange rate risk, banks would have to manage their own solvency and liquidity risks better, taking the respective precautionary measures.

Gale and Vives (2002) show that dollarization provides a credible commitment not to help banks in trouble even though it would be ex ante optimal to do so. Their study concludes that dollarization is beneficial when the costs of establishing a reputation for the central bank are high, monitoring by the central bank is important in improving returns, and the cost of liquidating projects is moderate.

Under official dollarization, the lack of a lender of last resort encourages changes in the way supervisory and regulatory institutions manage liquidity and solvency risks.

1. In this article, the terms "official" and "full" dollarization will be used interchangeably.
2. Minda (2005) points out that full dollarization affects small countries and territories; a majority are insular (such as the Marshall Islands and Micronesia) and are closely connected to another country (Guam, Puerto Rico, San Marino).
3. See the sidebar above for a description of the types and measures of dollarization.

Figure 1
Country Risk and Full Dollarization



Source: Bloomberg

Prudential norms to manage liquidity risk include higher reserve requirements, liquidity requirements, and deposit insurance.[4] Gulde et al. (2004) point out that these norms reduce banks' profits because banks have to hold more liquid assets, which have a lower return, and required reserves that pay below-market rates and must increase their expenditures to pay for insurance. Official dollarization also eliminates banks' exchange rate services, a good source of revenues, especially in partially dollarized countries.[5]

Banks ultimately benefit from the reduction of inflation, the elimination of inflationary expectations, and price stability, which fosters an environment beneficial to financial intermediation. With the return of confidence in the currency and financial stability, one expects an increase in bank deposits and loans supporting the development of the banking system. In addition, the elimination of currency risk and currency mismatch contributes to a more efficient banking system. As a net result, reserve requirements are expected to be lower given that banks do not have to distinguish between foreign and domestic currency deposits. Moreno-Villalaz (1999) points out that official dollarization in Panama allowed banks to reduce their reserves by an equivalent of 5 percent of GDP.

Official dollarization also lowers transaction and information costs, encouraging trade and financial integration. According to Minda (2005), even if the risk of external shocks cannot be eliminated, full dollarization contributes to diminishing their impact and lowering contagion risk by eliminating exchange risk, signaling to international markets the country's commitment to currency stability. This commitment could foster foreign investment and stable capital flows, promoting the integration of the domestic financial market with the world.

Official Dollarization in Ecuador and El Salvador

In 2000 and 2001, Ecuador and El Salvador, respectively, implemented official dollarization for diametrically opposite reasons. In this section, we discuss the economic background before and after the adoption of the U.S. dollar as their domestic currency.

Ecuador. During the 1990s, attempts to open the Ecuadorian economy to international trade and capital markets failed, for the most part. Large fiscal deficits and increasing external debt led to imbalances that became unsustainable with the decline of world oil prices and El Niño's devastating impact on production and infrastructure in 1998. These external shocks resulted in low economic growth, inflation, and liquidity problems in an already fragile banking sector. Several developments contributed to Ecuador's economic collapse in 1999: the devaluation of the sucre in February, a freeze on bank deposits in March, a default on external debt payments in September, and the country's overall political uncertainty and lack of policy direction.

In Ecuador, the lag in the adjustment of administered prices and the increase in fiscal spending have delayed the convergence of prices to international levels.

In January 2000, in an environment of social unrest and lacking congressional support for the implementation of structural reforms, then President Jamil Mahuad called for full dollarization to avoid the collapse of the banking system. Days later, Mahuad was deposed. Congress confirmed Gustavo Noboa, the elected vice president, as the new president. Noboa continued with full dollarization to promote a return to economic stability. In this already partially dollarized economy, the exchange rate was set at 25,000 sucres per U.S. dollar. Along with full dollarization, the Economic Transformation Law (Ley de Transformación Económica) introduced reforms that provided incentives to private investment in the energy sector, encouraged privatization of state enterprises, and made labor markets more flexible. Over the course of the year, the central bank repurchased almost all the outstanding stock of sucres, and all bank accounts were converted into dollars. The International Monetary Fund (IMF) signed a standby agreement with the Ecuadorian government to support economic stability and recovery, helping to attract additional funding from other multilateral institutions.

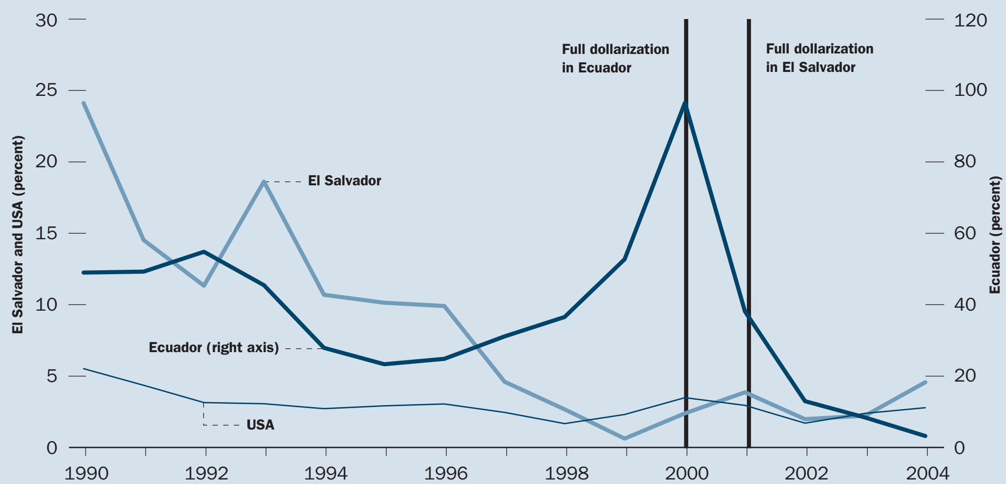
Ecuador started enjoying the expected benefits of full dollarization even before the U.S. dollar was officially adopted on September 9, 2000. As a sign of the enhanced credibility provided by full dollarization, the release of frozen bank deposits in March did not translate into a bank run. Economic recovery in the first quarter of 2000 and lower inflation in July represented the stabilizing effect of full dollarization. Ecuador also restructured its external debt in August 2000, reducing the total external debt ratio from 106 percent of GDP at the end of 1999 to around 98 percent in 2000.

Full dollarization eliminated currency risk in Ecuador although country risk did not decline immediately with the announcement of full dollarization in January 2000.[6] However, country risk became less volatile after dollarization took effect in September and diminished after debt renegotiations with international organizations (see Figure 1).

Initially, dollarization did not help reduce inflation; the adjustment to lower rates has taken some years. The lag in the adjustment of administered prices and the increase in fiscal spending have delayed the convergence of prices to international levels. By 2003 the inflation rate reached 7.9 percent, the first year since 1972 to have only

4. These norms reduce banks' profits, but banks have to face this level of protection voluntarily given that full dollarization has removed currency risk.
5. Duncan (2003) notes that in Peru, a highly dollarized economy, currency exchange transactions represented 2.1 percent of the banks' revenues.
6. The indicator for country risk is the interest rate spread in basis points between Ecuador's emerging market bond index and thirty-year U.S. treasury instruments.

Figure 2
Inflation in Fully Dollarized Countries



Source: World Development Indicators, World Bank

single-digit growth. In 2004 inflation rose only 2.7 percent for the year, thus converging to U.S. inflation rates (see Figure 2).

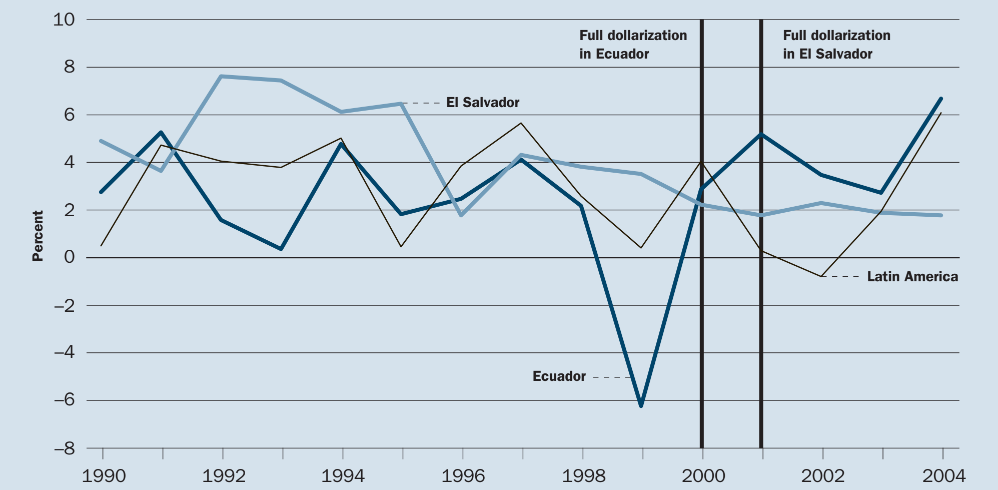
In addition to a more stable and lower inflation rate, clear signs of economic recovery emerged in 2001, with the country reporting real GDP growth of 5.1 percent in 2001. While economic growth reached only 3.4 percent and 2.7 percent in 2002 and 2003, respectively, the economy bounced back in 2004 with almost 7 percent growth, with the help of an increase in oil output from the new oil pipeline, the Oleoducto de Crudos Pesados. Currently, high global commodity prices continue to support economic growth, but the economy had an estimated growth of 2.9 percent in 2005 and is expecting similar growth of 3.0 percent in 2006, according to Economic Intelligence Unit forecasts.

El Salvador. After reaching a peace agreement in the early 1990s resolving a civil war, El Salvador implemented comprehensive structural reforms in the mid-1990s in an attempt to rebuild and stabilize the economy. These reforms included the simplification of the tax structure, reprivatization of the financial system, and financial and trade liberalization (IMF 1998). In addition, in 1993, the central bank adopted a fixed exchange rate policy with respect to the U.S. dollar to minimize exchange rate risk and to foster price stability.[7]

These structural reforms and overall political and economic stability helped bring El Salvador back into the global economy. Export growth and diversification and the growth of the maquila industries helped the economy become less dependent on coffee production.[8] Additionally, stability and comprehensive reforms have contributed slightly to improvements in per capita income and social conditions. However, even after a decade of steady growth, most measures of poverty and social conditions have not fully recovered from the deterioration of the civil war in the 1980s.

Since 1992, El Salvador's economy has enjoyed stability and a steady decline of inflation rates, from 18.5 percent in 1993 to 2.3 percent in 2000. Interest rates have remained high, however, mainly because of the lack of confidence in the fixed

Figure 3
Real GDP Growth



Source: World Development Indicators, World Bank

exchange rate regime. Interest rates declined slightly from 19 percent in 1993 to 14 percent in 2000. Remittances from abroad also increased significantly, growing approximately 155 percent from 1992 to 2000. In 2000, total remittances reached $1.75 billion, approximately 13 percent of real GDP. GDP growth averaged 6 percent between 1990 and 1995. In 1998 Hurricane Mitch caused widespread flooding and landslides, affecting agriculture, the transportation infrastructure (mainly highways), and housing. But the economy continued growing, albeit at a slower pace, averaging 3.7 percent between 1998 and 2000.

Beginning January 1, 2001, the Salvadoran government implemented the Monetary Integration Law (Ley de Integración Monetaria), which established a fixed exchange rate of 8.75 colones per U.S. dollar and made the dollar legal tender and the only unit of account in the financial system. The colón is still considered legal tender and continues to circulate alongside the dollar, but dollars have gradually replaced colones, which are no longer printed. All financial operations are denominated in dollars, and currently the use of the colón is generally limited to some rural areas.

Unlike Ecuador, which adopted the dollar as a policy alternative to bring economic stability, El Salvador had enjoyed economic stability and low inflation rates before official dollarization (see Figures 2 and 3). (Further, El Salvador is currently one of four investment-graded countries in Latin America, a status that demonstrates the confidence of international investors.) The government decided to dollarize in an attempt to lower interest rates, increase foreign investment, improve financial

7. Even before 1993, the historical preference was a fixed exchange rate with respect to the U.S. dollar, in which the rate changed only during the period of the civil war from 2.5 colones per U.S. dollar to 8 colones per U.S. dollar. In 1993, the exchange rate became fixed at 8.75 colones per U.S. dollar. See IMF (1998) for more details.
8. Maquila industries are plants that assemble imported materials and parts and re-export the finished product to the original market.

conditions, and decrease transaction costs in international trade, thereby further accelerating economic growth and stability (see Towers and Borzutzky 2004). In addition, the government argued that dollarization would protect wages and savings against devaluations. Dollarization would also benefit Salvadorans living in the United States by making their remittance transfer costs cheaper.[9] Officials also pointed out that full dollarization was the logical next step, considering that historically the colón has been pegged to the dollar, especially since 1993. Moreover, the country's economy is closely linked to the United States: Two-thirds of total exports are sent to U.S. markets, and the United States is the origin of a large portion of remittances.

While economic growth in El Salvador has decelerated, interest rates, inflation rates, and remittances have improved since full dollarization was adopted.

Right after the adoption of dollarization, El Salvador faced several severe shocks, including two earthquakes, declining international coffee prices, increasing oil prices, and the slowdown of the U.S. economy. These shocks dampened economic growth and other expected benefits from full dollarization. Real GDP grew by only 1.8 percent in 2004 and has averaged less than 2 percent since 2001. Trade growth has also been sluggish, with export growth averaging only 3 percent and imports averaging 6.7 percent since 2001—a sharp contrast to the 17.5 percent export growth in 2000. Foreign investment growth has also been slow, with gross fixed capital formation increasing slightly more than 1 percent since 2001.

While economic growth has decelerated, interest rates, inflation rates, and remittances have improved since full dollarization was adopted. In 2004, lending interest rates (in foreign currency) averaged 6.3 percent, declining considerably from 11 percent in 2000.[10] Although inflation increased slightly to 4.5 percent in 2004, it has averaged around 3 percent since 2001 compared to 7.8 percent from 1992 to 2000. Remittance inflows have also improved significantly, reaching $2.55 billion (approximately 16 percent of GDP) in 2004, according to the central bank. Economic growth is expected to increase in the coming years as the implementation of the Dominican Republic–Central American Free Trade Agreement (DR-CAFTA) and reforms to deepen the financial sector, along with prudent fiscal policies, support productivity gains and investment.[11]

Comparing results. For Ecuador and El Salvador, the implementation of official dollarization has resulted, as expected, in lower inflation rates, lower country risk premiums, and gains in policy credibility. The expected benefits have taken longer to materialize in Ecuador than in El Salvador, however. In Ecuador, even though inflation rates started to decline in 2000, not until 2004 did the rates reach levels similar to the U.S. inflation rate. In addition, the fall in the volatility of monthly inflation in Ecuador also was noticeable only after February 2003. El Salvador, on the other hand, continued to enjoy low inflation rates, and inflation volatility declined smoothly after full dollarization.

The same picture can be drawn for country risk; in Ecuador it took eight months after President Mahuad announced full dollarization in January 2000 for international markets to show lower levels of risk premiums, which declined sharply the day that the debt was renegotiated with international organizations in September 2000. But country risk reached levels of below 1000 basis points only after May 2004.[12] In El Salvador, country risk has been below the average spread for the Latin American region since country risk for the country was introduced in May 2002 (see Figure 1).

Economic growth has been influenced heavily by internal and external conditions. In Ecuador the persistence of high oil prices has helped anchor official dollarization in the last two years, thus compensating for the lack of external financing and increases in fiscal expenditures. Higher oil exports have helped pay down public debt and stimulate the economy during a period of political instability. In El Salvador the slow recovery of the U.S. economy, political uncertainty surrounding the elections, low coffee prices, and high oil prices have decelerated economic activity. Figure 3 shows lower, but less volatile, economic growth for El Salvador in 2000 and 2004 than for Ecuador and Latin America. Under official dollarization, both economies continue to be vulnerable to external and internal shocks. But policy credibility and economic stability brought by full dollarization can encourage reforms to promote competitiveness and productivity to overcome such vulnerabilities.

Banking Systems before Official Dollarization

In Latin America, banks are the most significant institutions in the financial system, representing approximately 70 percent of total financial assets. Latin American banks, however, do not reach levels of financial deepening and development observed in developed economies. Throughout the 1960s and 1970s, banks in Ecuador and El Salvador faced a period of stability, which gave way to disruptions caused by the external debt crisis in the 1980s in Ecuador and by a civil war in El Salvador late in that decade. The economic instability, high inflation, and depreciation of the domestic currency that ensued, along with other political and external shocks, did not foster an environment of financial deepening. In this section, we will analyze the banking systems in Ecuador and El Salvador after this period of instability.

Banking crisis in Ecuador. In Ecuador, the banking crisis of the late 1990s really began a decade earlier and had "[its] roots in a 'boom and bust' cycle in the middle of financial liberalization, coupled with lax financial surveillance and bad banking practices" (Jacome 2004, 12). De la Torre, Garcia-Saltos, and Mascaró (2001) argue that the banking crisis can be explained in three dimensions: failure to establish an effective regulatory and supervisory environment in the face of financial liberalization, a credit boom and sudden stop phenomenon, and the exacerbation of financial vulnerability during 1997 and 1998 due to lax fiscal policy and failure to introduce financial reform.

In 1994 the General Law of Financial Institutions (Ley General de Instituciones del Sistema Financiero) created the legal basis for financial liberalization, fostering financial intermediation and investment allocation. Banks could then perform dollar-denominated services, and commercial banks were now legally allowed to have offshore operations. The central bank also underwent significant reform, retaining the ability to provide monetary support to banks in liquidity and solvency troubles (see Beckerman and Solimano 2002). In addition, the law established a modern framework for the development of risk-based prudential regulations.

But the implementation of these new prudential regulations did not materialize quickly. Regulations continued to be outdated, and enforcement continued to be extremely lax, deficient, and uneven. Monitoring difficulties and lack of information

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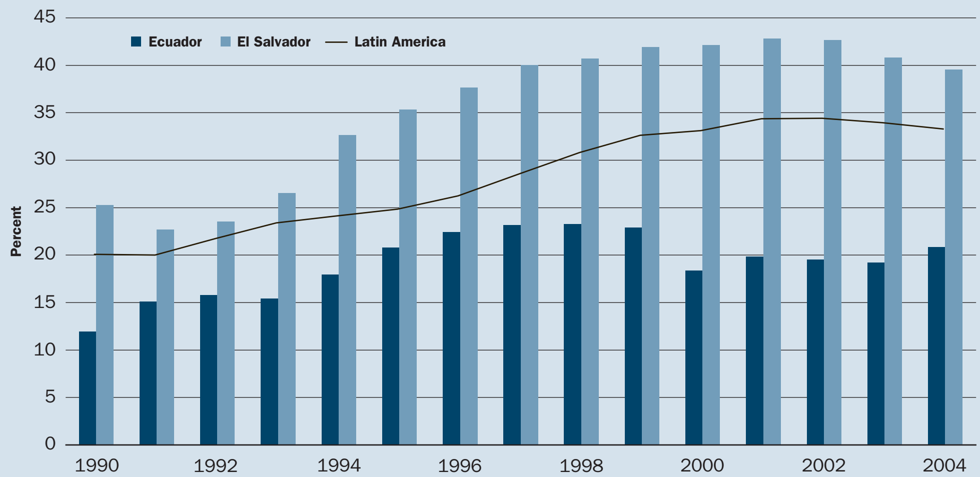
9. There would be no foreign exchange transaction cost associated with sending remittances after dollarization.
10. The interest rate for loans in domestic currency was 14 percent in 2000.
11. The Central American countries involved in DR-CAFTA are Costa Rica, El Salvador, Guatemala, Honduras, and Nicaragua.
12. JPMorgan raised Ecuadorian debt from underweight to market weight, despite political uncertainty. In addition, the government was negotiating a new standby agreement with the IMF.

Figure 4
Bank Deposits as a Percentage of GDP



Source : Financial Structure Database, World Bank

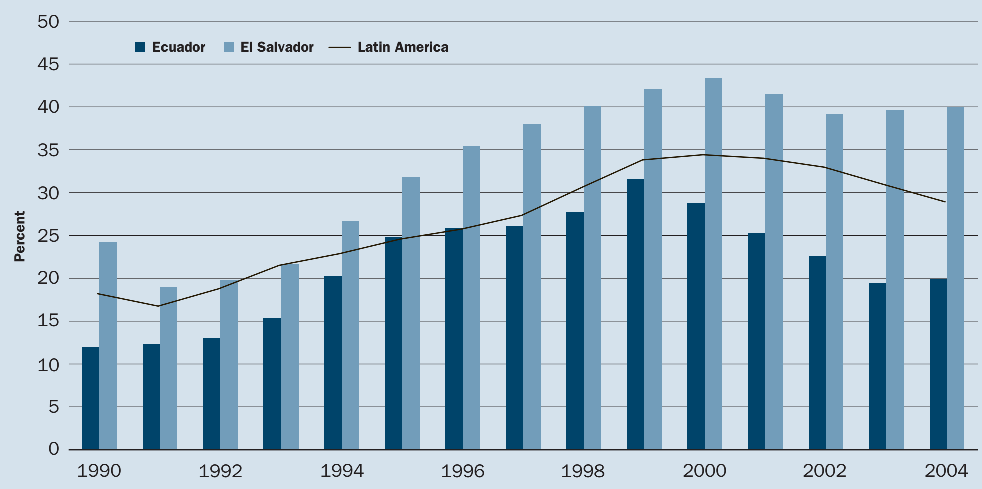
from banks, mainly from their offshore branches, limited the ability to produce an accurate assessment of the soundness of the financial system. In addition, the supervisory authority had no proper strategy or power to intervene in a troubled bank, thus restricting the use of preventive measures to avoid bankruptcies and bank failures.

With lax prudential supervision and regulation, banks increasingly performed risky transactions, encouraged by moral hazard stemming from successive bailouts granted over the 1980s. Related-party lending intensified, loan portfolios became heavily concentrated in certain economic sectors, and dollar-denominated operations increased without the proper measures to hedge currency mismatches, mainly with borrowers earning in local currency but acquiring loans in dollars.

Financial liberalization coincided with a period of foreign capital inflows attracted by higher domestic returns in an environment of domestic macroeconomic stability. The rapid monetization of the economy brought in a sizable credit boom. Credit increased in real terms by 40 percent in 1993 and 50 percent in 1994. The increase in liquidity was encouraged by a decline in reserve requirements from 28 to 10 percent in domestic currency deposits and from 35 to 10 percent for foreign currency deposits (see Jacome 2004).

In 1995, as risky activities intensified in the banking system, Ecuador experienced a sudden stop and reversal of capital inflows, mainly because of domestic political problems, the short but costly war with Peru, and the Mexican Tequila crisis. In addition, the continued depreciation of the currency under the new exchange rate regime created difficulties for banks with currency and maturity mismatches. In an environment of political and economic instability, residents began to shift their deposits to stronger and more stable banks and to dollar-denominated deposits. Nevertheless, the money was kept in the banking system. But the failure of two banks in 1995 and 1996 increased residents' fears. Liquidity pressures on the banking system increased as residents began to panic, triggering deposit runs.

Figure 5
Bank Credit to the Private Sector as a Percentage of GDP



Source : Financial Structure Database, World Bank

In early December 1998, the government passed the "AGD Law," which established a blanket guarantee through the Guarantee of Deposits Agency (Agencia de Garantía de Depósitos)(AGD), in an effort to restore a sense of stability in the banking system (see Jacome 2004). The government also included a 1 percent tax on financial transactions (debits and credits) to substitute for income tax. In an effort to avoid the tax, residents began to store money in foreign currency outside of the banking system, further hurting bank liquidity. Deposits contracted 15 and 60 percent in 1998 and 1999, respectively. However, as shown in Figure 4, bank deposits as a percentage of GDP remained at 23 percent in 1998 and 1999 because of the decline in GDP of 7.3 percent.

Since the AGD Law was not helping the banking system, the government imposed a widespread deposit freeze in March 1999. Time deposits and repurchase agreements were locked for at least one year, and savings deposits in excess of U.S.$500 and half of checking account balances were frozen for six months. Despite the deposit freeze, only three banks became insolvent and had to shut down.

An examination of banking system data shows the effects of the crisis. From 1995 to 1997, loans grew 29 percent but fell 31 percent in 1998 and 1999 (see Figure 5). Total assets also grew 29 percent from 1995 to 1997 but fell 9 and 29 percent, respectively, in 1998 and 1999. Bank assets' share in total financial assets went from 98 percent in 1997 to 77 percent in 1999, a 22 percent decline. In addition, past-due loans' performance also deteriorated quite sharply; past-due loans increased a dramatic 307.6 percent in 1999, reaching $1.1 million.

In summary, prior to official dollarization the banking system in Ecuador underwent a crisis that resulted in a reduction in the system's size (in terms of both assets and number of banks), in a deposit freeze to avoid a bank run, and in a decline in banks' lending activities.

Banking stability in El Salvador. In the first half of the 1990s, the Financial System Reform Program (Programa de Fortalecimiento y Privatización del Sistema

Financiero) was initiated as part of the country's structural reform, which established a new role for the central bank; redefined monetary, credit, and exchange rate policies; readjusted the legal and institutional framework; and strengthened and privatized the banking system.[13] In 1990 the Organic Law for the Superintendence of the Financial System (Ley Orgánica de la Superintendencia del Sistema Financiero) was approved, establishing an autonomous institution to oversee banks, *financieras* (formerly known as savings and loans associations), the central bank, and other institutions of the financial system. In addition, commercial banks and *financieras* were privatized through a process that involved several stages, from analyzing each bank's loan portfolio to institutional restructuring. According to the central bank, ownership was returned to the private sector by distributing the largest banks to individual shareholders and bank employees. During the 1990s financial liberalization was consolidated by implementing laws that established the autonomy of the central bank and its limitations on public financing.

Policy credibility and economic stability brought by full dollarization can encourage reforms to promote competitiveness and productivity to overcome vulnerabilities to shocks.

The process of financial liberalization promoted growth in the banking system. Assets rose from 27 percent of GDP in 1990 to 51 percent in 2000. In the first half of 1990s, nonperforming loans were small while indicators of liquidity, efficiency, solvency, and profitability were satisfactory. Assets performed well, and total deposits increased dramatically (see SAPRIN 2001).

In the second half of the 1990s, however, adverse economic conditions affected the performance of the banking sector. Two bank failures in 1997 and 1998 brought to light some weaknesses of the banking system and its supervision and regulation. Banco Fincomer and Insepro-Finsepro were linked to illegal transfers of funds from corporate firms to bank branches, highlighting the fact that resources could be transferred outside the surveillance of supervision and regulation.

While deposits and loans continued to grow, their growth rates declined. From rates of 19.6 percent in 1996, deposits' growth rates slowed to 5.4 and 5.1 percent in 1999 and 2000, respectively. Loan activity growth demonstrated a similar pattern, declining from 20.1 percent in 1996 to only 4.3 percent in 1999 and 1.8 percent in 2000. The performance of nonperforming loans also began to deteriorate along with asset quality.

In response, the 1999 Banking Law (Ley de Bancos) was established, bringing greater transparency in financial activities and forcing banks to monitor credit risk. The law, one of the most progressive in Central America, brought the banking system in line with internationally accepted standards.

Banks after Official Dollarization

The previous discussion raises several questions: Did the banking system introduce changes to overcome the restrictions imposed on the central bank in the role of lender of last resort? Given the expected reduction in inflation, interest rates, country risk, and volatility that ensued from dollarization, how did the banking system evolve? Did banks in fact perform better in an environment of expected economic stability? And, finally, did full dollarization help in the financial integration of the banking system with international markets?

Lender of last resort. In Ecuador the Economic Transformation Law that supported the implementation of full dollarization in September 2000 included changes in the role of the central bank, the development of a liquidity fund, and the modernization and tightening of banking supervision and regulation. Under the new law, the central bank is able to conduct liquidity operations with banks, including transactions in stabilization bonds with commercial banks and repurchase operations. In addition, a separate Liquidity Support Fund was established to supplement the central bank's capacity during liquidity problems (see Beckerman and Solimano 2002). Banks are required to allocate 1 percent of their deposit base to the fund.[14]

Under full dollarization, banking regulations were restructured and tightened, and regulators were given more power to take preventive measures against banks that showed signs of instability. More stringent capital adequacy regulations (which are now much closer to Basel standards) and new credit risk centers were established to improve prudent supervision. In addition, the General Law of Financial Institutions was overhauled in 2001, including reforms such as a prohibition against related-party lending, more stringent loan-loss reserves and capital definitions and requirements, and mandatory consolidated financial reporting. These reforms improved transparency and brought the banking system closer to international standards. Deficiencies do remain, however, and while regulations were updated, actual implementation and enforcement continue to be poor (see Fitch Ratings 2003). Bank accounting standards continue to deviate from international norms while some regulations continue to be lenient, including rules for loan write-offs.

Compared to the experience in Ecuador, where full dollarization supported the banking system in its rebuilding process, full dollarization in El Salvador supported the performance of an already well-established banking system. The absence of a lender of last resort has encouraged Salvadoran banks to hold a growing proportion of their assets in highly liquid instruments. Also, banking system deposits are now insured under the Deposit Guarantee Fund (Instituto de Garantía de los Depósitos) (IGD) set by the 1999 Banking Law. The IGD guarantees deposits up to U.S.$6,700, or roughly three times GDP per capita.[15] One of the main weaknesses of the fund is that it does not provide adequate coverage for the deposits that it currently insures (U.S.$2.2 billion). In case of need, it would cover only about 2 percent of the insured funds.

The banking environment. In Ecuador, after the banking crisis and during the initial stages of full dollarization, the government initiated an evaluation process to assess banks' solvency. External auditors determined that the government should intervene in sixteen banks, with all but two closing soon afterward. This restructuring process removed the weakest, most problematic banks from the system. But none of the banks was exempt from the devastating impact of the crisis, and those that remained in operation were weakened by asset quality problems, liquidity pressures, and a sharp decline in the level of activity and, thus, sustainable operating profitability.[16] Consequently, immediately after dollarization, the size of the banking system (in terms of financial penetration) shrank. In 2001, total assets fell to 28.6 percent of GDP (from 38.2 percent in 2000). By 2003, total assets declined to 21.4 percent of GDP, levels similar to those in the 1980s. Since then, deposit growth and loan growth reached 86.4 percent and 111.7 percent, respectively, from 2000 to 2004 in response to the rebound in investor confidence and

13. See the historical outline at the central bank of El Salvador's Web site, www.bcr.gob.sv.
14. This fund is in addition to the reserve requirement of 8 percent.
15. Offshore deposits are not insured.
16. Most banks remained in profit thanks to hefty gains on foreign currency positions when the sucre devalued and to inflation adjustments, which were used to boost capital and increase loan-loss reserves (see Fitch Ratings 2003).

more robust economic growth. Nonperforming loans over total loans have declined, indicating better asset quality and more stability in the banking system.

Although prior to 2001 Salvadoran banks already operated in an environment of free capital flows and low inflation, full dollarization contributed to a reduction in banks' intermediation margins. On the deposit side, local banks compete among themselves within the domestic market. Although large banks have a comparative advantage with their expansive networks, small banks have benefited from full dollarization as their funding costs have converged with those of their larger competitors. Lower lending rates and recent depressed credit have given Salvadoran banks a comparative advantage versus other Central American banks, encouraging larger Salvadoran banks to expand their lending to neighboring countries (Honduras, Guatemala, and Nicaragua). Recent reforms to the banking law in 2003 have limited cross-border lending; however, banks are circumventing restrictions by establishing holding companies in Panama. This practice results in additional risk to the Salvadoran operations of these institutions.

As a response to lower intermediation margins, there has been a process of consolidation to allow banks to compete more effectively. Between 2000 and 2002 four mergers occurred that resulted in a high concentration: Four banks now account for more than 80 percent of the sector's assets and deposits. These banks are among the largest in Central America but are still small by international standards.

Financial integration. Foreign bank presence in El Salvador remains negligible despite the absence of barriers to entering the market. The country has only two foreign-owned institutions that have operated for some time. It is also estimated that about fifty other foreign banks that do not have a local presence provide financing to El Salvador's private sector, on the order of $1.8 billion as of June 2002, nearly double the amount at the end of 1999 (see Fitch Ratings 2003). Ecuador has twenty-five private banks, of which two are foreign.

Overall, full dollarization helped the stabilization of the banking system in Ecuador by stopping the collapse of the economy. In 2005, despite political uncertainty, financial conditions remained stable, deposits had grown steadily over the previous four years, and banks continued to maintain high levels of liquidity and to improve asset quality. But the long-term sustainability of this policy remains uncertain as institutional weaknesses in the economy and banking system continue. In El Salvador, banks have improved their performance despite the economic deceleration, gaining competitiveness in the Central American region. The regulatory and supervisory institutions have set up regulations comparable to international standards.

Did Official Dollarization Have an Impact on Bank Performance?

To examine how full dollarization and other macroeconomic and institutional factors affected bank performance indicators such as profitability, liquidity, and asset quality, we use panel data including all banks in Ecuador and El Salvador from 1995 to 2004. Following Demirguc-Kunt and Huizinga (1999), we define bank performance Y_{it} for bank i at time t as follows:

$$(1)\quad Y_{it} = f\,(DOLL_t, MACRO_t, BANK_{it}) + \text{error}_{it},$$

where Y_{it} is the dependent variable—bank performance—measured by its profitability, loan quality, and loan growth. Profitability or before-tax profits can be decomposed as net interest income plus noninterest income minus overhead costs minus loan-loss provisions, usually as a ratio of total assets. The indicator for loan quality is loan-loss provisions as a ratio of total loans (LLP), and, for liquidity, net loans as a ratio of total deposits.

The explanatory variables are a dollarization dummy indicating when the country implemented official dollarization. We also include macroeconomic variables reflecting the state of the economy, including economic growth rates, inflation rates, interest rates, gross domestic product (GDP) per capita, and trade as a percentage of GDP. As indicators of financial structure, we use credit to the private sector as a percentage of GDP, bank deposits as a percentage of GDP, and bank assets' share in the banking system. Another set of variables is specific to banks' activity. These include loan-to-asset ratios and equity-to-asset ratio indicators of capital strength as well as bank size variables such as individual banks' share of loans and deposits as a portion of loans and deposits in the banking system. Country and year dummies are included to capture idiosyncratic effects. These bank activity variables are lagged one period to prevent simultaneity, in particular because balance-sheet variables refer to year-end balances.

Full dollarization helped the stabilization of the banking system in Ecuador by stopping the collapse of the economy.

The data set, published by Latin Finance, includes information from all banks from 1995 to 2004 in Ecuador and El Salvador. Macroeconomic variables come from International Financial Statistics published by the IMF, financial structure variables come from the Financial Structure Database of the World Bank (2004), and data on dollarization ratios come from the Web sites of the central banks of Ecuador and El Salvador.

The table shows the results of the regression for loan-loss provisions (or loan quality), liquidity, and profitability. As expected, the coefficient of the dollarization dummy is positive and significant in the explanation of loan quality. Given the absence of a lender of last resort, banks need to hold adequate reserves to respond to any sudden increase in nonperforming loans. Trade as a percentage of GDP has a direct relationship with loan provisions, indicating that banks may allocate more reserves for loans given an increase in the openness of the economy that could bring more fluctuations as a result of external shocks. The coefficient on the interest rate is negative and significant, suggesting that an increase in the interest rate could reduce the demand for loans. Economic growth is significant with a negative sign, meaning that economic growth is an incentive to decrease loan-loss provisions. Inflation is also significant with a negative sign; a possible explanation is that unexpected inflation will benefit borrowers and reduce the incentive to increase loan-loss provisions. Relatively larger banks will have a greater loan-loss provision ratio.

The second column of the table shows the results for liquidity, which is net loans over deposits. The dollarization dummy has a negative and significant coefficient; as expected, official dollarization will restrict liquidity in the overall economy, and banks need to make reserves to support their liquidity needs. In this regression, macroeconomic variables and financial structure indicators are also significant. Economic growth has a negative and significant coefficient, showing a direct relationship between economic growth and liquidity. Inflation and bank liquidity have an inverse and significant relationship: Higher inflation increases the demand for money (for example, less deposits) competing with banks. In the case of trade as a percentage of GDP, the relationship with bank liquidity is also indirect: The more open an economy is, the higher the demand for cash for international transactions, competing with bank liquidity.

Table
Regressions on Bank Performance Indicators for Ecuador and El Salvador, 1995–2004

Independent variables	Loan quality: Loan-loss provisions	Liquidity: Net loans/deposits	Profitability: Before-tax profits
Dollarization dummy	0.1532**	–2.1611**	–0.168
	(0.0772)	(0.8520)	(0.1727)
Macroeconomic variables			
Economic growth	–0.0106***	–0.4524***	0.017*
	(0.0035)	(0.1704)	(0.0097)
GDP per capita	–0.0003	–0.0047	0.0010
	(0.0003)	(0.0040)	(0.0010)
Inflation	–0.0010**	0.0547***	0.0033
	(0.00068)	(0.0206)	(0.0030)
Trade as a percent of GDP	0.0039**	0.2588***	–0.0096
	(0.0016)	(0.0952)	(0.0066)
Interest rate	–0.0014**	0.0645*	0.0095
	(0.0005)	(0.0355)	(0.0092)
Financial structure variables			
Bank assets/central bank assets			–1.676
			(1.9096)
Private credit by banks as a percent of GDP		–58.8336**	
		(22.6876)	
Bank deposits as a percent of GDP	0.0111		
	(0.6214)		
Bank variables			
Asset share in total banks	0.0006	–0.0213	0.0003
	(0.0016)	(0.0119)	(0.0013)
Equity-to-loan ratio (t – 1)	–0.00002	0.0004	0.00004***
	(0.000016)	(0.00048)	(0.00002)
Number of observations	391	391	391

Notes: The table does not include country dummies and year dummies. *, **, and *** indicate significance at the 10, 5, and 1 percent levels, respectively.

Source: Authors' regressions using data from Latin Finance, the IMF, Banco Central del Ecuador, Banco Central de Reserva de El Salvador, and the World Bank

The regression on profitability indicates that neither the official dollarization dummy, macroeconomic variables (except for economic growth), nor financial structure variables explain bank profitability. Lagged variables that are specific to the bank—such as the ratio of equity to assets and to loans, indicators of bank solvency—are positive and significant in the explanation of bank profitability. This result is similar to that found in the general literature on bank performance. Economic growth has a direct relation with profitability, as expected.

Conclusion

In both Ecuador and El Salvador, the banking system has initially benefited from the implementation of full dollarization. Even though the two countries adopted the U.S. dollar as their country's currency for entirely different reasons, both countries have experienced improvements in banking regulations and in the overall stability of the banking systems. According to our estimations, official dollarization has played a significant role in improving bank liquidity and asset quality. Macroeconomic variables and financial structure indicators have also been relevant in explaining bank liquidity and loan quality, and bank profitability has responded to variables that are bank specific.

While it is still too early to determine whether these initial benefits of dollarization will be sustainable in the long term, both countries have been able to modernize and improve upon the overall safety and soundness of the banking system.

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