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GLOBAL LIQUIDITY?**

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## LATIN AMERICA'S ACCESS TO INTERNATIONAL CAPITAL MARKETS: GOOD BEHAVIOR OR GLOBAL LIQUIDITY?

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### Resumen

Este artículo analiza el acceso de las economías latinoamericanas a los mercados de capitales internacionales entre 1980 y 2005, poniendo especial atención al rol de los factores internos y externos. A fin de capturar el acceso a los mercados, se utiliza la emisión primaria bruta de bonos internacionales, acciones, y bonos sindicados. Utilizando una estimación de panel, se encuentra que tener fundamentos sanos importa. Por ejemplo, el notable desempeño de Argentina, Brasil y Chile en los mercados de capitales a comienzos de los años de 1990s se debió en gran parte a que tenían fundamentos mejores. Sin embargo, la ola de créditos internacionales a América Latina que comenzó en 2003 ha tenido como principal impulsor el dramático aumento de la liquidez global.

### Abstract

This paper examines Latin America's access to international capital markets from 1980 to 2005, with particular attention to the role of domestic and external factors. To capture access to international markets, we use primary gross issuance in international bond, equity, and syndicated-loan markets. Using panel estimation, we find that sound fundamentals matter. For example, Argentina, Brazil, and Chile's superb performance in capital markets during the early 1990s has been in large part driven by better fundamentals. However, the upsurge in international lending to Latin America starting in 2003 has been mainly driven by a dramatic increase in global liquidity.

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## 1. INTRODUCTION

Latin America has had an active presence in international markets since independence in the early nineteenth century. Participation has been quite volatile, though. International borrowing financed the wars of independence in the early 1800s, but the boom that started in 1822 with a loan to Colombia ended in 1826 with Peru's default. Other periods of marked expansion in international borrowing occurred in 1867–72, 1893–1913, and 1920–29. As in the 1820s, most of these episodes ended with defaults. International capital markets all but disappeared following the crisis of the 1930s, with Latin America becoming unable to borrow again. Only in the 1970s did Latin America start to participate once more in international capital markets, with capital inflows reaching US\$51 billion in 1981. However, when Mexico defaulted in 1982, all Latin American countries lost access to international capital markets. The Brady debt-relief program in 1989 allowed Latin America to tap international capital markets again, and capital flows surged once more, reaching US\$112 billion in 1997. Again the boom turned into a bust in the late 1990s following the Russian default, with net capital inflows turning into net outflows in the early 2000s. In contrast to the prolonged inability to access international capital markets following the debt crisis in 1982, many Latin American countries started borrowing again in international markets within four years of the Russian crisis.

The boom-bust pattern in Latin America's participation in international capital markets raises the question of whether the problem lies with erratic international capital markets or the volatile nature of the Latin American economies. This is the question we address in this paper. Previous research on this topic focuses on the behavior of net capital flows. We argue in this paper that this is not a good indicator of access to international capital markets. While zero net capital inflows may reflect no international financial integration, they may also reflect complete integration with international diversification, in which inflows are just offset by outflows. We therefore center our analysis on international primary gross issuance.

We cast our net wide and collect issuance data for twenty Latin American countries for the period 1980–2005. The data collected paint a picture of three typical economies. The first group includes countries with active participation in international capital markets. This group includes Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela. The second typical economy has more limited access to international capital markets. This group includes Bolivia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Panama, Peru, and Uruguay. Finally, the third typical economy does not participate in international markets. This last group includes Haiti, Nicaragua, and Paraguay, which had no international issuance in bond, equity, or syndicated loan markets in the period studied. Since only the first group has participated fairly consistently in international capital markets, we focus our attention in these six countries and examine whether good country behavior or global liquidity is at the heart of the ins and outs of international markets.

The rest of the paper is organized as follows. Section 1 describes the behavior of the trade account and the patterns of financing in high-, medium-, and low-income countries. We pay particular attention to the evolution of transfers, as well as official and private capital flows. Section 2 presents our new data set of gross issuance in three international capital markets: bonds, equities, and syndicated loans for the twenty countries in Latin America. Section 3 examines in more detail the evolution of international gross issuance by Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela. Using panel estimation techniques, we examine the role of domestic fundamentals and external factors. Section 4 concludes.

## 2. THE CURRENT ACCOUNT AND NET CAPITAL FLOWS

We first examine the evolution of net capital inflows and the current account since 1970. Figure 1 shows total capital flows and official capital flows to Latin America; the difference between the two captures private capital flows. On average, most of the capital flows to Latin America have been of a private nature, peaking at US\$45 billion in 1981 and at US\$105 billion in 1997. The cycles in international capital flows are more pronounced in later periods. During the first capital inflow

episode, total capital flows increased about thirteen times, from about US\$4 billion in 1970 to US\$51 billion in 1981. In the 1990s, total capital inflows increased about twenty-two times, from about US\$5 billion in 1983 to US\$112 billion in 1997. Reversals also became more pronounced in the 1990s. While the reversal reached 90 percent in the 1980s, it was somewhat more substantial in the 1990s, as capital inflows turned into outflows. In this case, the reversal peaked at 102 percent. Both private and official capital flow cycles have been quite pronounced. Official capital inflows increased from US\$ 1 billion in 1972 to US\$14 billion in 1983 and reversed to net outflows of US\$4 billion in 1990. The behavior of total official flows to Latin America was more irregular in the 1990s, in part because of the bailout packages to the larger economies in the region.<sup>1</sup>

Figure 2 shows the average behavior of the current account as a percent of gross domestic product (GDP) for the twenty countries in our sample. As in the case of capital flows, the current account shows clearly pronounced cycles, with the late 1970s to early 1980s and the mid-1990s being high-deficit episodes. However, unlike the behavior of capital flows, the boom-bust pattern in current account deficits became less pronounced in the latter period. As shown in the figure, the early 1980s recorded the highest deficits, peaking at about 8 percent of GDP in 1981, while the deficits in the mid-1990s peaked at about 5 percent of GDP. During the 1978–81 capital-inflow episode, capital flows mostly financed current account deficits, with the average reserve accumulation only peaking at 1.5 percent of GDP in 1979. In the 1990–97 episode, capital flows financed a higher level of reserve accumulation. This time, reserves accumulation increased to 2.1 percent of GDP in 1997.<sup>2</sup>

Table 1 provides a sharper picture of the current account behavior of Latin American countries. The table presents descriptive statistics for the current account for the twenty countries in our sample, including the mean, standard deviation, and maximum and minimum values for the current account from 1970 to 2005. This table provides a good picture of the heterogeneity of the countries in the sample and over time. First, the current account average in these countries ranges from a deficit of 15 percent of GDP for Nicaragua to a surplus of 4 percent of GDP for Venezuela. Nicaragua records the highest volatility in current account balances over the sample, from a maximum of 26 to a minimum of –37 percent of GDP. The current account of Venezuela is also quite volatile, oscillating between a maximum of 23 to a minimum of –12 percent of GDP. While still volatile, the richer countries in our sample show smaller fluctuations over time.

Tables 2 and 3 show the evolution of the current account and financial account over the boom-bust cycles in international capital flows. To capture the heterogeneity in our sample of twenty countries, we divide the sample into three groups according to income per capita.<sup>3</sup> The high-income group consists of Argentina, Brazil, Chile, Costa Rica, Mexico, and Uruguay. This group has had the most frequent access to international capital markets. The medium-income group consists of Colombia, Dominican Republic, El Salvador, Panama, Paraguay, Peru, and Venezuela. The low-income group includes Bolivia, Guatemala, Ecuador, Haiti, Honduras, Jamaica, and Nicaragua, which have had less ability to tap international capital markets. We also identify the episodes of booms and busts in capital flows. Based on the data presented in figure 1, we identify two episodes of booms in capital inflows: 1976–81 and 1990–98. The episodes of 1971–75, 1982–89, and 1999–2005 are identified as episodes with less access to international capital markets.

Table 2 presents the total current account and its components: the balance of goods and services, net income, and transfers (private and public). The table reveals some important regularities. First, low-income countries have the largest current account deficits, at about 4 percent of GDP on average. Current account deficits are only around 3 percent of GDP in high-income and medium-income countries. Second, current account deficits in all groups are the highest during the 1976–81 episode

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1. For example, Argentina received US\$11 billion dollars of official capital flows in 2001 (about 40 percent of all official capital flows to Latin America that year); Brazil received US\$11 billion in 1998 (about 90 percent of all official flows to Latin America in 1998) and US\$12 billion in 2002 (about 60 percent of all official flows to Latin America that year).

2. On average, reserve accumulation during the 1978–81 episode was 0.6 percent of GDP. It increased to 1.1 percent of GDP during the 1990–97 episode. See also Calvo, Leiderman, and Reinhart (1994).

3. The sample is divided according to the 2005 gross national income per capita, at purchasing power parity (PPP) values, in dollars. High-income countries include all countries with a per capita income higher than US\$8,000. Medium-income countries have a per capita income between US\$8,000 and US\$5,000. The Low-income group includes countries with a per capita income of less than US\$5,000.

of high capital inflows. Third, the large trade imbalances in low-income countries starting in the 1990s were financed by sharp increases in private transfers (namely, workers' remittances) and somewhat higher official transfers.

Table 3 highlights the heterogeneity across Latin American countries with respect to the financing of the current account. For reference purposes, the second column of the table reports total transfers. Two key points emerge. First, net capital flows are the largest for low-income countries, at about 5 percent of GDP since 1970, while they average about 3 percent of GDP for high- and medium-income countries. Second, the composition of capital flows is quite different across the three groups. Private capital flows to high-income countries are about 75 percent of total flows. Private capital flows to medium- and low-income countries are just 50 percent of total capital flows, underscoring their lack of ability to tap international capital markets. In view of the importance of official capital flows to these last two groups of countries, future research needs to examine the behavior of official flows in more detail. In particular, it is important to explore whether official capital flows to each country tend to counterbalance the gyrations of international private capital markets, by providing more official funding in times of illiquid markets, or whether they amplify the boom-bust pattern of private capital flows.

### 3. INTERNATIONAL GROSS ISSUANCE

The evidence provided by net capital inflows presents an incomplete picture of access to international capital markets. While zero net capital inflows may reflect no access to international capital markets, they may also reflect complete integration with international diversification, in which inflows are just offset by outflows. The growth in the size and complexity of international financial markets in the last decade has redirected economists' attention to assets and liabilities in order to understand international balance sheets. For instance, Lane and Milesi-Ferreti (2006) define financial globalization as "the accumulation of larger stocks of gross foreign assets and liabilities." Even stocks of international assets and liabilities can only provide a partial measure of integration and do not necessarily capture which countries have more and frequent access to international markets, because large borrowings could be offset by equally large repayments. Market access can be assessed more clearly by looking at gross issuance. Thus, to attain a better grasp of financial integration, we look at gross issuance in three international markets: bonds, equities, and syndicated loan markets from 1980 to 2005. The data we use are obtained by Dealogic, which compiles information on issuance (at the security level) in international bond, equity, and syndicated loan markets. The database starts in 1980 (1983 for equity issuance).

Figure 3 shows Latin America's gross international issuance in the three markets. Issuance in the international bond market includes euro market offerings, global bonds, and foreign offerings.<sup>4</sup> International equity issuance includes the issue of common or preferred equity in the international market, issues targeted at a particular foreign market, and registered stocks traded on foreign markets as domestic instruments (for example, American Depositary Receipts, or ADRs). Finally, international gross issuance in the syndicated loan market includes all the loans granted by two or more financial institutions in which the nationality of at least one of the syndicate banks is different from that of the borrower.<sup>5</sup> As shown in the figure, during the first episode of international capital inflows, access to the international capital market took the form of syndicated bank loans. Gross issuance in this market peaked at US\$37 billion in 1981, but it basically disappeared after the 1982

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4. Eurobonds are bonds issued and sold outside the country of the currency in which they are denominated, for example, dollar-denominated bonds issued in Europe or Asia. Global bonds are single offerings structured to allow simultaneous placement in major markets, including Europe, the United States, and Asia. Foreign bonds are bonds issued by firms and governments outside the issuers' country, usually denominated in the currency of the country in which they are issued. For example, Samurai bonds are yen-denominated bonds issued in Tokyo by a non-Japanese company. Similarly, Yankee bonds are bonds denominated in U.S. dollars and issued in the United States by foreign banks and corporations.

5. The facilities included in our data consist of term loans, revolving credits, cofinancing facilities, export credit bridge facilities, construction loans, mezzanine loans, and multiple options facilities.

debt crisis. By 1986, Latin American total gross issuance in international capital markets was just 5 percent of the 1981 level.

In the late 1980s, the Brady Plan put an end to developing countries' isolation from international capital markets. First, this plan provided debt relief to emerging markets. Second, it created a market for sovereign emerging market bonds almost overnight with its initiative to restructure defaulted loans into bonds collateralized by U.S. Treasury bonds.<sup>6</sup> As investor confidence in emerging market countries gradually recovered, both the government and the private sector started issuing bonds in international capital markets, with bond issuance by Latin American countries increasing from US\$1 billion in 1990 to US\$53 billion in 1997. The Brady Plan, with its initiative of restructuring distressed commercial bank loans, also provided a new impetus to the syndicated loan market, and issuance rapidly climbed to US\$54 billion in 1997.<sup>7</sup> A new feature of financial integration in the 1990s was the forceful development of an international equity market. In this decade, Latin American corporations not only started to raise capital in the highly unregulated international bond and syndicated loan markets, but also began to participate in regulated equity markets in various financial centers. Many firms raised capital in the United States through the creation of ADR programs, with ADRs being traded on U.S. stock markets in lieu of the firms' foreign shares.<sup>8</sup> Between 1990 and 2005, Latin American international annual equity issuance averaged US\$3 billion.<sup>9</sup>

The crises in Asia and Russia in the late 1990s triggered a reversal in capital flows. This time around, however, the reversal in gross issuance was less pronounced than that following the 1982 debt crisis. At that time, Latin America's gross issuance in international markets crashed to about 4 percent of the levels attained in the early 1980s. In the late 1990s, total issuance declined only to about 40 percent of its peak in 1997, suggesting a more continuous access to international capital markets.<sup>10</sup>

Tables 4 and 5 focus on access to international capital markets by the public and private sectors. Table 4 reports the number of issues, while table 5 reports the value of total issuance. The two tables expose some interesting features of market access in the region. First, as shown in table 4, in the 1980s most issues were public (65 percent of total issues), while in the 1990s they were mostly private (75 percent of total issues). In value terms, public issuance amounted to 75 percent in the 1980s and only 50 percent after 1990 (see table 5). Second, while private corporations entered international capital markets more massively in the 1990s relative to the 1980s, private access to international capital markets displays a more pronounced boom-bust behavior than the public sector. For example, following the booms in the 1990s, total issuance collapsed from US\$113 billion in 1997 to US\$40 billion in 2002 (35 percent of the peak), but private issuance fell from US\$65 billion to US\$18 billion (28 percent of the peak).

Figures 4 and 5 graph this data at the country level. Figure 4 reports number of issues; figure 5 presents the total value of gross issuance. Haiti, Nicaragua, and Paraguay have not participated in these markets, so they are not included in the figures. We divide all the issuing countries into two groups. The first group includes Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela, which register 1,043, 1,903, 535, 358, 1,522, and 486 issues, respectively. The second group comprises Bolivia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Panama,

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6. For most of the bonds, the principal was collateralized by specially issued U.S. Treasury 30-year zero-coupon bonds purchased by the debtor country with funding from the International Monetary Fund, the World Bank, and the countries' own foreign exchange reserves. Interest payments on Brady bonds were sometimes also guaranteed by securities of at least an AA-rated credit quality held with the New York Federal Reserve Bank.

7. With the Brady Plan, commercial banks were allowed to exchange their claims on developing countries into tradable instruments, eliminating the debt from their balance sheets.

8. See de La Torre and Schmukler (2004) for an excellent description of Latin America's participation in international capital markets.

9. The magnitude of equity issues is not directly comparable to the magnitude of debt issues because, unlike equity, bonds and loans have finite maturities. Firms typically roll over bonds and loans at maturity, so part of the debt issue goes toward refinancing old debt and only the remaining share represents new capital.

10. The evidence from gross issuance contrasts starkly with the evidence from net capital flows. While gross issuance data suggest continuous access to international capital markets, data on capital flows indicate a complete loss of access to international capital markets following the Russian crisis, as discussed in section 1.

Peru, and Uruguay which have less than 200 issues each. While the first group participates frequently in international capital markets (although with several interruptions), the second group has only started to participate somewhat more frequently in the last ten years. Interestingly, even low-income countries such as Guatemala and Honduras have issued international bonds in the last ten years. In the next section, we use panel estimation to identify the fundamentals that affect international issuance.

#### 4. GOOD BEHAVIOR OR GLOBAL LIQUIDITY?

The goal of this section is to understand the role of domestic factors (which we term good behavior) and external factors (or global liquidity) on the ability of Latin American countries to access international capital markets. Past studies traditionally analyze capital flows to emerging markets by stressing the demand side (of funds)—that is, by showing how domestic fundamentals are responsible for the direction of these flows. For example, the three generations of models of currency crises explain the reversal in capital flows by pinpointing fiscal and monetary causes (Krugman, 1979), unemployment and overall loss of competitiveness (Obstfeld, 1994), and banking fragility and overall excesses in financial markets (Kaminsky and Reinhart, 1999; Chang and Velasco, 2000). More recently, the economics profession has started to explore global factors. The focus of this new literature is on financial centers and how shocks in mature economies are transmitted to emerging economies. Examples of this supply (of funds) approach include Caballero and Krishnamurthy (2002), Calvo (1999), Calvo, Izquierdo, and Mejía (2004), and Fostel (2005).

We incorporate this literature in the following simple model of supply and demand of financial funds to emerging economies.

$$S = f(r, r^*, \theta^*, l^*, \text{CRISES}^*, y, \text{TOT}, \text{MP}, \text{PR}, \text{OP}); \quad (1)$$

$$D = g(r, \text{OP}, \sigma, y, \text{TOT}); \quad (2)$$

where the asterisk identifies world fundamentals,  $r$  is the country return,  $r^*$  is the world interest rate,  $\theta^*$  is investors' risk aversion,  $l^*$  is world liquidity,  $\text{CRISES}^*$  indicates crises in other countries,  $y$  is domestic output growth,  $\text{TOT}$  is terms of trade,  $\text{MP}$  is domestic macroeconomic policy,  $\text{PR}$  is domestic political risk,  $\text{OP}$  is the degree of openness of the economy, and  $\sigma$  is the real exchange rate volatility.

The effect of shocks in world capital markets on the supply of funds to emerging economies is quite intuitive. Low world interest rates lead to higher supply, assuming that emerging market assets and world (financial centers) assets are substitutes. Also, the supply of risky emerging market assets will be negatively related to investors' risk aversion and positively related to world liquidity. The contagion literature (for example, Kaminsky and Reinhart, 2000) suggests that crises may rapidly affect the ability of emerging markets to access international capital markets as investors rebalance their portfolio, recalling loans not only from crisis countries but also from other countries to which they are exposed. The literature on currency and sovereign debt crises suggests that certain fundamentals can be taken as signals of reduced probability of a speculative attack or a default.<sup>11</sup> High output growth or better terms of trade signals better future repayment ability; macroeconomic policy stability reduces the probability of crises; and low political risk indicates a low probability of default. In all cases, the supply of funds will increase. Finally, a more open the economy will be more integrated with international markets. The costs of default in these circumstances will increase, triggering a larger supply of world funds.

On the demand side, the literature on currency mismatches suggests that the more open the economy is, the higher its ability to generate foreign-currency-denominated assets (see, for example, Jeanne, 2003). Since this reduces the likelihood of currency mismatches, demand for foreign-currency-denominated liabilities will increase. In contrast, currency mismatches will increase when

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11. See, for example, Bulow and Rogoff (1989).



the volatility of the real exchange rate increases, making domestic firms less inclined to borrow overseas.<sup>12</sup> Finally, the effects of output growth and the terms of trade are ambiguous. While higher output growth or better terms of trade could lead to more domestic savings, crowding out the need for outside funding, it can also lead to a Fisherian motive for borrowing today.

To estimate the relative contribution of external and domestic factors, we solve for the equilibrium in the system of equations described above to obtain a reduced-form equation that relates issuance with the rest of the variables. Hence, the equation to be estimated is

$$\frac{\text{ISSUANCE}}{\text{GDP}} = h(r^*, \theta^*, l^*, \text{CRISES}^*, y, \text{TOT}, \text{MP}, \text{PR}, \text{OP}, \sigma), \quad (3)$$

where the dependent variable is total issuance in international capital markets as a share of GDP to control for country size.

#### 4.1. Data

As we just discussed, we use total gross international issuance as a percent of GDP to capture Latin America's access to international capital markets.<sup>13</sup> We focus on Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela. Figure 6 illustrates the evolution of gross issuance. As examined in the previous section, these six countries have had the most access to international capital markets in Latin America.

We capture the evolution of global liquidity and risk aversion with four indicators, shown in figure 7, and with an indicator of emerging market crises. First, we follow the literature and use the U.S. real interest rate to capture the degree of liquidity of international capital markets.<sup>14</sup> As shown in figure 7, Latin America's loss of access to international capital markets in 1982 is clearly linked to the hike in U.S. real interest rates. However, fluctuations in the world real interest rate cannot completely capture the extent of liquidity in international capital markets. While the international capital market was quite fragmented in the 1970s, it became quite developed in the 1990s, with a dramatic increase in the number of instruments offered. To capture this evolution, we construct three other measures of liquidity.

Our second indicator of global liquidity is world gross primary issuance in international capital markets as a share of world GDP.<sup>15</sup> As shown in figure 7, world international issuance (as a share of world GDP) increased from 0.6 percent in 1980 to 8.0 percent in 2005. This dramatic increase in world liquidity is largely the product of the collapse of the Bretton Woods system in 1973 and the capital account liberalization process it triggered. When countries do not need to defend the peg, they can choose their own monetary policy without having to restrict capital mobility. The United States eliminated capital account restrictions as early as July 1973. The liberalization process also involved other industrial countries, with Germany and Great Britain partially eliminating capital controls in 1973 and Japan joining the group in 1979. Latin American countries opened their capital account in the mid-1970s, benefiting from a large inflow of capital. Eventually, the debt crisis in 1982 closed this episode of Latin American financial integration for about a decade. In the mid-1980s, the wave of international financial liberalization also embraced western European countries as they removed restrictions on capital flows to comply with the movement toward a common European currency.<sup>16</sup> Financial integration was further energized in 1989 by the Brady Plan and its initiative to

12. See also Catão, Fostel, and Kapur (2007).

13. GDP is measured in dollars at PPP levels to avoid identifying the aftermath of large devaluation episodes as periods with increased access to international capital markets.

14. For example, Calvo, Leiderman, and Reinhart (1993) link the evolution of foreign exchange reserves and the real exchange rate of developing countries to fluctuations in the U.S. real interest rate and U.S. output; they find that fluctuations in these indicators account for about 50 percent of the forecast error variance of official reserves and the real exchange rate of ten Latin American countries.

15. World output is measured in dollars (based on PPP valuation of country GDP).

16. World primary issuance in international capital markets increased more than sixfold, from US\$82 billion in 1980 to US\$500 billion in 1989.

restructure defaulted loans into bonds collateralized by U.S. Treasury bonds. This program created, almost overnight, a market for sovereign emerging market bonds. As investor confidence in emerging market countries gradually recovered, both the government and the private sector started issuing bonds in international capital markets. This time around, Asian countries joined Latin America in removing controls on capital mobility.<sup>17</sup> Emerging markets' issuance in international capital markets increased eightfold from US\$42 billion in 1989 to about US\$350 billion in 1996. While international capital markets suffered in 2001 with the worldwide stock market crash, they have since recovered with total issuance increasing to about US\$5 trillion in 2005.

Our third indicator for capturing liquidity in international capital is the evolution of investors' term premium, which we estimate as the difference between the U.S. ten-year-note yield minus the U.S. one-year Treasury bill rate.

Investors' risk aversion can also explain emerging market issuance and overall global liquidity. Our fourth indicator approximates this variable using the fluctuations in yields of risky firms (relative to the yield on a safe asset). The indicator shown in figure 7 is the yield spread between U.S. high-yield bonds and the one-year U.S. Treasury bill rate. This index is constructed by Merrill Lynch.<sup>18</sup>

Finally, currency crises in emerging markets can trigger a liquidity crunch as investors rebalance their portfolios by recalling loans not only from the crisis country, but also from other countries to which they have exposure. To evaluate whether Latin American issuance was seriously disturbed by financial crises in other emerging markets, we include in our estimation an indicator that takes the value of one during major currency crises, such as the Asian crisis in 1997 and the Russian crisis in 1998.<sup>19</sup>

We also incorporate seven indicators that capture domestic fundamentals: namely, growth, inflation, openness, political risk, real exchange rate volatility, the terms of trade, and default. With regard to growth, economic activity may signal a stronger ability to repay debts in the future. Since GDP data are not available at the quarterly frequency, we use industrial production from the *International Financial Statistics* (IFS) database, maintained by the International Monetary Fund (IMF).

Our second domestic indicator is inflation. Macroeconomic stability may be at the heart of the countries' ability to tap international capital markets. The fiscal accounts would provide an excellent indicator of macroeconomic policy, but most countries in our sample do not have quarterly information on their fiscal accounts. Similarly, market interest rates can help to identify episodes of expansionary and contractionary monetary policy, but market-determined interest rates are not available because all the countries in our sample had restrictions on deposit and loan interest rates following the debt crisis through the early 1990s. Thus, to capture the stance of fiscal and monetary policies, we use the consumer price index (CPI) inflation rate.

We calculate openness as the sum of exports and imports over GDP. The source is quarterly data from the IMF's *International Financial Statistics*.

Our next indicator of domestic fundamentals is political risk. The quality of institutions, the extent of corruption, a government's ability to carry out its declared programs, and its ability to stay in office may influence international issuance. To capture this possibility, we use the index of political risk published in the *International Country Risk Guide* (ICRG). This is a composite index that assesses a country's political stability and quality of governance. The political stability indicators provide rankings on socioeconomic pressures that could constrain government action or fuel social dissatisfaction, as well as rankings of domestic political violence or ethnic tensions. The indicators on governance provide rankings on corruption within the political system, as well as assessments of the strength and impartiality of the legal system and of popular observance of the law. The index also includes information on the institutional strength and quality of the

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17. See Kaminsky and Schmukler (2003) for a chronology of financial liberalization in industrial and emerging countries.

18. Postel (2005) studies the relationship between emerging market bond spreads and high-yield spreads in financial centers. Her model explains why prices of risky assets in financial centers and in emerging economies move together in the presence of liquidity constraints even when fundamentals in emerging countries and financial centers are not correlated.

19. See also Broner and Rigobon (2005).

bureaucracy. A country ranked in the 80–100 percent range is considered a very low risk, while a country ranked below 50 percent is considered a very high risk.

The real exchange rate is the effective real exchange rate from the IMF’s *World Economic Outlook* database. Volatility is measured by the standard deviation of the real exchange rate (in logs). The standard deviation is computed over a moving window of eight quarters.

To capture a country’s ability to pay and thus its access to international capital markets, we use data on the terms of trade. Our data for terms of trade are from the IMF’s *International Financial Statistics*.

Finally, some of the countries in the sample were in default for part of the period studied. To capture the effect of default on exclusion from international capital markets, we construct an indicator that takes a value of one when the country is in default or arrears and zero otherwise. The various episodes of default and arrears are taken from Catão, Fostel, and Kapur (2007).<sup>20</sup>

## 4.2. Estimation

We estimate equation (3) using panel data models with fixed effects. Our data are sampled at quarterly frequencies. The dependent variable, issuance/GDP, is shown in figure 6. Issuance includes bond, equity, and syndicated loan issuance in international capital markets. To mitigate potential endogeneity biases, some of the variables enter the regressions lagged one period. This is the case of exchange rate volatility and inflation, since capital inflows can create appreciation and price movements via fluctuations in the money supply. We also use openness lagged one period, because more issuance (especially trade credits) can also facilitate more trade. Given that feedback from issuance to political risk and output growth takes more than one period, we use current values of these variables as explanatory variables. Finally, all the variables capturing external factors are exogenous, so we also use current values of these factors as explanatory variables in the regressions. To account for country-specific first-order autocorrelation and heteroskedasticity, we adjust standard errors using the Huber-White sandwich procedure.

Table 6 reports the regression estimates for a variety of alternative specifications. Regression 1 includes growth, inflation, political risk, real exchange volatility, the term premium, and world issuance (as a percent of world GDP) as explanatory variables. All the variables have the correct sign, and, with the exception of inflation, they are significantly different from zero at all conventional significance levels. Issuance increases with higher growth, better institutions (as captured by a high political risk index), and larger world issuance. As expected, issuance declines with higher real exchange rate volatility and a higher term premium. Regression 2 adds a control for the states of default. Increases in world liquidity will not affect a country’s ability to borrow in international capital markets if the country is in default. We therefore not only include our measure of international liquidity as an explanatory variable, but we also interact international liquidity with the default index. As expected, the variable that captures the interaction effect between the default indicator and world issuance over world GDP has a negative sign, and it is significant at the 1 percent confidence level. Regression 3 examines whether crises are of a contagious nature. We find that major crises such as the 1997 Asian crisis and the 1998 Russian crisis have a negative (and significant) effect on Latin American issuance in international capital markets. Regressions 4–7 include other controls, such as the terms of trade, the U.S. high-yield spread, and the world real interest rate. As expected, higher international risk aversion, as captured by the U.S. high-yield spread, adversely affects Latin America’s issuance in international capital markets. In contrast, the world real interest rate, captured by the U.S. real interest rate, and the terms of trade do not have a significant effect on total issuance.

Across all regressions, political risk is the domestic factor with the highest economic significance. An increase in the index of about 20 points, which moves the median Latin American country to the political standards of industrial countries, produces an increase in issuance of about 1.2 percent of GDP. However, we think we should not interpret this variable in a narrow way as an indicator of

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20. Default and arrears events in this study are based on Beim and Calomiris (2000), Lindert and Morton (1989), Standard and Poor’s *Credit Week* (various issues), and events identified by the International Monetary Fund.

only “political institutions.” This index is highly correlated with the economic and financial indices also published in the International Country Risk Guide, suggesting that the fluctuations in the political risk index also encompass information on a broad range of economic and financial indicators. The presence of colinearity may also explain the lower significance of the other domestic economic variables. The world factors with the strongest effect on the ability of Latin American countries to tap international markets are world liquidity, as captured by world issuance over world GDP, and the term premium. A one-percentage point increase in world issuance over world GDP or a similar decline in the term premium increases Latin American issuance by 30 basis points of GDP.

The model also performs well in capturing the fluctuations in international issuance, with overall  $R^2$  ranging between 0.50 and 0.60. Most of the explanatory power originates from the time variation as captured by the within  $R^2$ , which ranges from 0.48 to 0.57, while the between  $R^2$  varies from 0.06 and 0.38.

Figure 8 shows the actual dependent variable and the linear prediction of regression 3 (our baseline regression from here on), including the fixed effects. Our model does well in predicting the boom-bust pattern in international access of Latin American countries, although it underpredicts somewhat the boom in the mid-1990s. Also, with the exception of Colombia, our model captures quite well the decline in issuance following the Russian crisis in 1998 and the recovery in issuance starting in 2002.<sup>21</sup>

To check the robustness of the results in regression 3, we performed augmented Dickey-Fuller unit root tests on the residuals, all of which rejected the null hypothesis at the 10 percent significance level. We also included quarter dummies to control for seasonality in issuance; all these variables proved insignificant. We tested for dynamic effects by introducing various lags of all the variables, but we found insignificant effects. Finally, we tested for other nonlinearities, such as interaction effects between the emerging market crisis indicator and the various indicators capturing liquidity in international capital markets, but they were not statistically significant.

In light of the potential criticisms regarding the panel methodology itself, we estimated all the regressions using two other methodologies. First, we used pooled ordinary least squares estimation. The results are shown in table 7. The exercise proves robust to this specification. Real exchange rate volatility loses significance and inflation becomes more significant, but all the variables still yield the right sign and significance consistent with the fixed effects estimation. Second, since gross issuance (our dependent variable) cannot be negative, we estimated the regression using a censored Tobit model estimation procedure. The results can be seen in table 8. The results prove robust to the sign constraint. All the variables yield coefficients with the right sign, and all the most important variables still prove significant.

We now resume our discussion about the relative importance of domestic and external factors. In the context of this estimation, domestic factors include growth, inflation, openness, political risk, real exchange rate volatility, terms of trade, and the interaction between world issuance over world GDP with the default indicator. External factors include emerging market crises, the high yield spread, the term premium, the U.S. real interest rate, and world issuance over world GDP. Using the coefficients of regression 3, we calculate the path of the domestic component for each country and the evolution of the common external factor. They are shown in figures 9 and 10. A quick glance at these figures reveals two interesting patterns. First, countries differ greatly in their domestic characteristics (figure 9). With the exception of Colombia, all the countries in our sample show a strong improvement in domestic fundamentals in the early 1990s. Only Chile, however, shows continuous strong improvement in domestic performance in the late 1990s. Brazil and Mexico continue to show sound domestic fundamentals in the late 1990s, but their improvement slows. Argentina and Venezuela, in turn, quickly deteriorate in the latter part of the sample. Second, the influence of external factors increased after the mid-1990s (figure 10).

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21. Argentina and Colombia did not participate in the recovery in international issuance starting in 2002. While Argentina could not access international capital markets following the default in 2001, it is not clear why Colombia’s issuance declined in the last three years of the sample. One possible explanation is that Colombia benefited from a large increase in development assistance loans in those years, which might have dramatically reduced its need to tap international private capital markets.

To provide more detail on the relative contribution of the domestic and external factors to the booms and busts in international issuance starting in 1990, we examine separately three episodes: 1990–98, 1999–2001, and 2002–05. The first and the third episodes are periods of a boom in international issuance, whereas the second is an episode of pronounced decline in issuance. Table 9 shows, for each country, the total predicted growth rate in issuance, as well as the growth rate of the domestic and external components. In Argentina, Brazil, and Chile, the boom of the early 1990s is mostly driven by superb domestic fundamentals. Domestic fundamentals have a less important role in Mexico and Venezuela during this episode. Domestic fundamentals deteriorate in Colombia, fueling a decline in international issuance in the early 1990s. In contrast, with the exception of Argentina, the booms and bust in international issuance starting in 1999 are driven mostly by external factors. This result is consistent with the findings of the empirical studies that focus on spreads instead of issuance. They find that external factors are also very important in determining emerging market spreads, especially since 2002. To conclude, good behavior seems to be at the core of the boom in Latin America’s participation in international capital markets in the early 1990s, but the evidence from the later periods suggests that global liquidity has played a more important role.

## 5. CONCLUSIONS

We have studied the participation of Latin American countries in international capital markets using data for twenty countries for the period 1970–2005. We first looked at the main stylized facts on net capital flows. We then turned our attention to data on gross issuance since 1980. Much more analysis is needed on the links between domestic economic conditions, global market liquidity, and access to international capital markets. We have not even attempted to address in estimations the issue of the less integrated group’s access to international markets, mostly because of the endemic data limitations. With these considerations in mind, our main findings can be summarized as follows.

Looking at gross issuance data may be a more accurate approach to studying Latin America’s financial integration to world capital markets than focusing on net flows. Whereas data on net capital flows suggest a complete loss of market access after the Russian and Asian crises, data on gross issuance indicates that Latin American countries continue to tap international capital markets even in times of lower global liquidity.

Overall, the small economies of Latin America have basically not had access to international capital markets, suggesting the presence of a size effect. There seems to be a minimum required liquidity to attract international investors.

For the larger economies of Latin America, the evidence in the 2000s suggests that the boom-bust pattern in international issuance has mainly been driven by fluctuations in global liquidity and investors’ changing risk behavior. This is specially the case in the resurgence of international issuance since 2002.

Still, good behavior matters. The superb performance of Argentina, Brazil, and Chile in capital markets in the 1990s was largely driven by improved fundamentals—from better governance to higher growth and macroeconomic stabilization. This is also the case for the more moderate Mexican performance during the same period. Finally, Argentina’s dramatic fall in 1999–2001 can be explained by a pronounced deterioration in institutions and, most importantly, by the sovereign default in 2001.

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**Table 1. Current Account: Latin America, 1970–2005**

Percent of GDP

<i>Country</i>	<i>Mean</i>	<i>Standard deviation</i>	<i>Minimum</i>	<i>Maximum</i>
Argentina	-0.63	3.06	-4.84	8.87
Bolivia	-3.45	4.39	-10.83	9.55
Brazil	-3.10	3.33	-10.40	1.94
Chile	-3.64	3.47	-14.50	1.78
Colombia	-1.50	2.80	-6.36	4.74
Costa Rica	-7.16	3.54	-16.01	-1.68
Dominican Republic	-4.49	4.28	-14.22	6.03
Ecuador	-3.81	3.84	-12.35	5.28
El Salvador	-0.26	3.67	-5.51	7.16
Guatemala	-3.73	2.01	-7.53	0.31
Haiti	-1.55	1.97	-6.28	1.13
Honduras	-5.67	2.76	-12.34	-1.51
Jamaica	-5.81	4.18	-15.20	0.25
Mexico	-2.58	2.43	-7.05	3.75
Nicaragua	-14.90	12.55	-36.50	25.73
Panama	-7.46	8.24	-31.12	6.31
Paraguay	-3.03	4.08	-11.62	7.31
Peru	-5.08	3.54	-14.27	1.36
Uruguay	-1.74	2.29	-7.00	3.16
Venezuela	3.55	7.70	-11.96	22.66

Source: International Monetary Fund (IMF), *World Economic Outlook*.

**Table 2. Components of the Current Account: Latin America, 1970–2005**

Percent of GDP

<i>Country group and period</i>	<i>Current account</i>	<i>Balance of goods and services</i>	<i>Net income</i>	<i>Official transfers</i>	<i>Private transfers</i>
High income					
1971–1975	–4.14	–2.69	–1.67	0.04	0.15
1976–1981	–5.27	–2.55	–2.95	0.00	0.20
1982–1989	–2.77	2.64	–6.22	0.51	0.40
1990–1998	–2.82	–0.93	–2.62	0.25	0.48
1999–2005	–1.51	1.45	–3.75	0.10	0.69
1970–2005	–3.02	–0.20	–3.40	0.21	0.39
Middle income					
1971–1975	–3.91	–2.41	–1.98	0.68	–0.18
1976–1981	–5.24	–4.07	–1.90	0.22	0.56
1982–1989	–2.31	–2.80	–3.38	1.70	2.18
1990–1998	–1.90	–3.57	–2.75	0.75	3.67
1999–2005	–0.42	–2.57	–2.81	0.29	4.67
1970–2005	–2.78	–2.74	–2.94	0.85	2.11
Low income					
1971–1975	–2.58	–1.50	–2.73	0.70	1.26
1976–1981	–5.47	–3.69	–3.90	0.79	1.53
1982–1989	–4.83	–1.69	–6.49	1.01	1.81
1990–1998	–3.78	–5.64	–3.81	2.11	3.31
1999–2005	–3.20	–12.35	–3.08	2.35	9.88
1970–2005	–3.97	–4.83	–4.02	1.61	3.37

Source: IMF, World Economic Outlook.



**Table 3. The Balance of Payments: Latin America, 1970–2005**

Percent of GDP

<i>Country group and period</i>	<i>Current account</i>	<i>Total transfers</i>	<i>Errors and omissions</i>	<i>Capital account</i>	<i>Capital flows</i>		<i>Changes in reserves</i>
					<i>Official</i>	<i>Private</i>	
<b>High income</b>							
1971–1975	−4.14	0.22	−0.86	0.00	1.03	2.35	1.63
1976–1981	−5.27	0.23	−0.35	0.00	0.67	5.33	−0.37
1982–1989	−2.77	0.82	1.53	0.00	1.39	0.04	−0.19
1990–1998	−2.82	0.73	0.52	0.00	0.11	3.21	−1.08
1999–2005	−1.51	0.79	0.22	0.01	0.73	0.67	−0.11
1970–2005	−3.02	0.57	−0.24	0.03	0.71	2.21	0.30
<b>Middle income</b>							
1971–1975	−3.91	0.47	−0.52	0.00	1.38	4.49	−1.48
1976–1981	−5.24	0.73	1.71	0.00	1.80	3.55	−1.82
1982–1989	−2.31	3.87	−0.36	0.00	1.97	−0.01	0.77
1990–1998	−1.90	4.42	1.23	0.25	0.65	1.19	−1.51
1999–2005	−0.42	4.96	−0.36	0.56	1.55	−1.03	−0.49
1970–2005	−2.78	2.85	0.37	0.14	1.38	1.32	−0.65
<b>Low income</b>							
1971–1975	−2.58	1.65	−1.66	0.00	2.25	2.92	−0.94
1976–1981	−5.47	2.12	−0.38	0.00	4.16	2.01	−0.32
1982–1989	−4.83	3.36	0.67	0.10	3.28	0.13	0.66
1990–1998	−3.78	5.67	−0.13	1.01	1.46	2.69	−1.25
1999–2005	−3.20	12.22	−0.78	0.50	1.51	3.93	−1.62
1970–2005	−3.97	4.88	−0.33	0.31	2.41	2.35	−0.54

Source: IMF, World Economic Outlook.

**Table 4. Latin American Access to International Capital Markets: Total Issuance**  
Number of issues

<i>Year</i>	<i>Bonds</i>		<i>Equities</i>		<i>Syndicated loans</i>	
	<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>
1980	12	7	0	0	147	97
1981	13	14	0	0	234	174
1982	12	5	0	0	214	95
1983	0	0	0	0	40	21
1984	0	0	0	0	117	16
1985	0	1	0	0	65	9
1986	1	2	0	1	14	8
1987	2	0	0	0	25	9
1988	8	0	0	0	16	19
1989	0	2	0	0	15	18
1990	7	6	0	2	29	41
1991	22	17	0	29	42	53
1992	18	71	0	39	61	78
1993	46	149	0	52	64	78
1994	28	95	4	79	27	106
1995	37	77	0	13	34	147
1996	71	108	1	43	56	162
1997	72	135	3	35	62	291
1998	63	69	1	4	50	244
1999	77	57	0	6	31	236
2000	51	50	2	13	36	313
2001	61	38	1	2	33	254
2002	29	14	0	4	45	153
2003	40	40	0	7	56	134
2004	40	35	0	16	80	243

Source: Dealogic.

**Table 5. Latin American Access to International Capital Markets: Value of Total Issuance**  
Billions of U.S. dollars

<i>Year</i>	<i>Bonds</i>		<i>Equities</i>		<i>Syndicated loans</i>	
	<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>	<i>Public</i>	<i>Private</i>
1980	0.6	0.3	0.0	0.0	17.7	5.3
1981	1.1	0.7	0.0	0.0	28.3	8.3
1982	1.0	0.3	0.0	0.0	24.2	6.3
1983	0.0	0.0	0.0	0.0	6.4	1.2
1984	0.0	0.0	0.0	0.0	11.4	0.6
1985	0.0	0.1	0.0	0.0	4.3	0.9
1986	0.2	0.1	0.0	0.0	0.8	0.8
1987	0.2	0.0	0.0	0.0	1.7	0.9
1988	2.3	0.0	0.0	0.0	2.2	2.2
1989	0.0	0.3	0.0	0.0	5.7	1.8
1990	0.6	0.3	0.0	0.1	3.4	2.4
1991	3.3	1.6	0.0	3.9	8.4	4.0
1992	2.7	5.9	0.0	4.0	5.2	6.0
1993	7.0	12.6	0.0	6.1	6.4	5.0
1994	6.1	8.3	0.4	4.3	3.8	6.9
1995	13.3	6.6	0.0	0.6	6.1	13.1
1996	28.2	10.4	0.1	3.7	15.3	16.3
1997	34.0	18.9	0.9	5.0	13.7	40.7
1998	25.4	8.7	0.1	0.4	9.6	37.3
1999	26.9	5.3	0.0	0.6	5.6	30.2
2000	24.6	6.2	2.6	4.2	5.1	39.0
2001	26.9	6.0	0.7	0.6	4.9	29.9
2002	16.1	1.5	0.0	2.0	5.7	14.3
2003	25.2	8.5	0.0	1.2	8.7	12.3
2004	28.6	7.9	0.0	2.7	7.7	23.3

Source: Dealogic.

**Table 6. Panel Estimation with Fixed Effects: 1984–2005<sup>a</sup>**

<i>Explanatory variable</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Growth	0.01 (2.06)**	0.01 (1.62)	0.01 (1.58)	0.01 (1.59)	0.01 (1.73)	0.01 (1.15)	0.01 (1.80)
Inflation	-0.18 (-1.43)	-0.19 (-1.11)	-0.02 (-1.60)	-0.02 (-1.02)	-0.02 (-1.16)	-0.01 (-0.70)	-0.02 (-0.82)
Openness				-0.02 (-1.05)			
Political risk	0.07 (4.00)***	0.06 (4.67)***	0.06 (4.66)***	0.06 (5.23)***	0.06 (3.92)***	0.06 (4.42)***	0.06 (4.26)***
Real exchange rate volatility	-8.30 (-3.00)**	-2.73 (-1.13)	-2.90 (-1.19)	-3.34 (-1.75)	-3.47 (-1.74)	-2.35 (-1.14)	-3.25 (-1.22)
Terms of trade					-0.01 (-0.80)		
Emerging market crises			-0.24 (-1.99)*	-0.25 (-2.08)*	-0.27 (-2.28)**	-0.24 (-1.98)*	-0.20 (-1.66)
High-yield spread						-0.14 (4.85)***	
Term premium	-0.27 (-1.95)*	-0.27 (-2.59)**	-0.27 (-2.60)**	-0.28 (-2.54)**	-0.27 (-2.46)**		
U.S. real interest rate							0.12 (1.70)
World issuance / world GDP	0.29 (4.37)***	0.26 (4.81)***	0.26 (4.84)***	0.29 (4.15)***	0.26 (4.91)***	0.30 (5.03)***	0.35 (5.46)***
(World issuance / world GDP) * Default		-0.42 (-5.33)***	-0.40 (-5.24)***	-0.43 (-4.91)***	-0.41 (-5.69)***	-0.40 (-6.50)***	-0.40 (-4.57)***
Constant	-3.19 (-4.20)***	-2.25 (-3.07)***	-2.30 (-3.05)***	-2.18 (-2.45)	-1.70 (-1.65)	-2.17 (-2.60)	-3.50 (-3.20)
<i>Summary statistic</i>							
No. observations	510	510	510	510	510	510	510
Within $R^2$	0.50	0.58	0.58	0.58	0.59	0.59	0.58
Between $R^2$	0.39	0.10	0.11	0.05	0.15	0.12	0.12
Overall $R^2$	0.50	0.53	0.53	0.50	0.54	0.54	0.53

\* Statistically significant at the 10 percent level.

\*\* Statistically significant at the 5 percent level.

\*\*\* Statistically significant at the 1 percent level.

a.  $T$  statistics are in parentheses.

**Table 7. Pooled OLS Estimation: 1984–2005<sup>a</sup>**

<i>Explanatory Variables</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Growth	0.01	0.01	0.06	0.01	0.01	0.00	0.01
	-1.78	(1.15)	(1.11)	(0.97)	(1.15)	(0.42)	(1.32)
Inflation	-0.03	-0.03	-0.03	-0.02	-0.02	-0.02	-0.02
	(-9.28)***	(-10.32)***	(-11.35)***	(-3.08)**	(-10.44)***	(-3.15)**	(-10.28)***
Openness				0.01			
				(0.57)			
Political risk	0.07	0.07	0.07	0.07	0.07	0.07	0.07
	(4.33)***	(4.53)***	(4.52)***	(3.42)**	(4.13)***	(4.84)***	(4.41)***
Real exchange rate volatility	-5.93	-0.74	-0.87	-0.88	-1.28	-0.54	-1.32
	(-2.43)**	(-0.29)	(-0.34)	(-0.38)	(-0.45)	(-0.23)	(-0.46)
Terms of trade					-0.01		
					(-2.41)**		
Emerging market crises			-0.21	-0.20	-0.26	-0.21	-0.15
			(-1.58)	(-1.50)	(-1.96)*	(-1.55)	(-1.29)
High-yield spread						-0.14	
						(3.87)**	
Term premium	-0.29	-0.30	-0.29	-0.28	-0.28		
	(-1.99)*	(-2.39)**	(-2.39)**	(-2.31)**	(-2.19)**		
U.S. real interest rate							0.13
							-1.71
World issuance / world GDP	0.26	0.25	0.25	0.25	0.25	0.28	0.33
	(4.00)***	(4.06)***	(4.08)***	(3.53)**	(3.88)***	(4.29)***	(5.00)***
(World issuance / world GDP) * Default		-0.31	-0.31	-0.30	-0.30	-0.30	-0.30
		(-3.71)**	(-3.68)**	(-3.8)**	(-3.61)**	(-4.15)***	(-3.23)**
Constant	-3.24	-3.09	-3.10	-3.90	-2.62	-2.80	-4.29
	(-4.94)	(-3.74)	(-3.7)	(-3.96)	(-2.68)	(-3.55)	(-3.44)
<i>Summary statistic</i>							
No. observations	510	510	510	510	510	510	510
R <sup>2</sup>	0.50	0.54	0.54	0.55	0.55	0.55	0.54

\* Statistically significant at the 10 percent level.

\*\* Statistically significant at the 5 percent level.

\*\*\* Statistically significant at the 1 percent level.

a. *T* statistics are in parentheses.

**Table 8. Tobit Estimation: 1984–2005<sup>a</sup>**

<i>Explanatory Variables</i>	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Growth	0.01 (1.73)	0.01 (1.42)	0.01 (1.38)	0.01 (1.30)	0.01 (1.70)	0.01 (0.78)	0.01 (1.33)
Inflation	-0.04 (-4.64)***	-0.03 (-4.42)***	-0.03 (-4.40)***	-0.03 (-3.81)**	-0.02 (-3.86)**	-0.03 (-3.48)**	-0.03 (-3.94)**
Openness				0.01 (1.83)*			
Political risk	0.08 (11.39)***	0.07 (11.79)***	0.07 (12.13)***	0.07 (11.34)***	0.07 (12.14)***	0.08 (12.72)***	0.08 (12.37)***
Real exchange rate volatility	-5.97 (-3.34)**	-0.64 (-0.34)	-0.76 (-0.41)	-0.76 (-0.41)	-1.25 (-0.68)	-0.58 (-0.31)	-1.32 (-0.71)
Terms of trade					-0.01 (-4.13)***	-0.01 (-4.25)***	
Emerging markets crises			-0.20 (-0.84)	-0.20 (-0.82)	-0.24 (-1.08)	-0.19 (-0.83)	-0.13 (-0.60)
High-yield spread						-0.13 (-5.79)***	
Term premium	-0.29 (-5.45)***	-0.29 (-5.71)***	-0.29 (-5.73)***	-0.29 (-5.68)***	-0.28 (-5.61)***		
U.S. real interest rate							0.12 (4.00)**
World issuance / world GDP	0.29 (11.00)***	0.26 (10.77)***	0.26 (10.80)***	0.26 (10.44)***	0.26 (10.82)***	0.28 (11.77)***	0.34 (12.57)***
(World issuance / world GDP) * Default		-0.30 (-7.01)***	-0.32 (-7.02)***	-0.31 (-6.87)***	-0.31 (-6.94)***	-0.31 (-6.87)***	-0.30 (-6.63)***
Constant	-3.50 (-8.03)	-3.30 (-8.04)	-3.30 (-8.06)	-3.30 (-8.05)	-2.82 (-6.53)	-3.10 (-7.25)	-4.48 (-10.38)
<i>Summary statistic</i>							
No. observations	510	510	510	510	510	510	510
Pseudo $R^2$	0.20	0.21	0.22	0.21	0.23	0.22	0.21

\* Statistically significant at the 10 percent level.

\*\* Statistically significant at the 5 percent level.

\*\*\* Statistically significant at the 1 percent level.

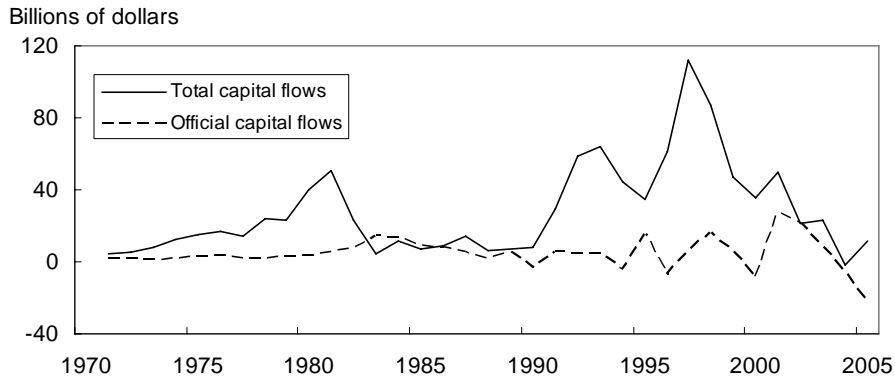
a.  $T$  statistics are in parentheses.

**Table 9. The Role of Domestic and External Factors<sup>a</sup>**

<i>Country and episode</i>	<i>External factors</i>	<i>Domestic factors</i>	<i>Total change</i>
Argentina			
1990–1998	0.93	2.74	3.67
1999–2001	–0.37	–0.44	–0.81
2002–2005	1.03	–3.60	–2.57
Brazil			
1990–1998	0.93	1.46	2.39
1999–2001	–0.57	–0.12	–0.69
2002–2005	1.23	0.03	1.25
Chile			
1990–1998	0.93	1.57	2.50
1999–2001	–0.57	–0.23	–0.79
2002–2005	1.23	0.25	1.48
Colombia			
1990–1998	0.93	–0.70	0.23
1999–2001	–0.57	0.55	–0.01
2002–2005	1.23	0.35	1.58
Mexico			
1990–1998	0.93	0.50	1.43
1999–2001	–0.57	0.26	–0.31
2002–2005	1.23	0.24	1.47
Venezuela			
1990–1998	0.93	0.59	1.51
1999–2001	–0.57	–1.03	–1.59
2002–2005	1.23	0.50	1.73

a. The last column shows the total change in gross issuance (as a percent of GDP) for each episode. The first two columns show the part explained by external and domestic factors.

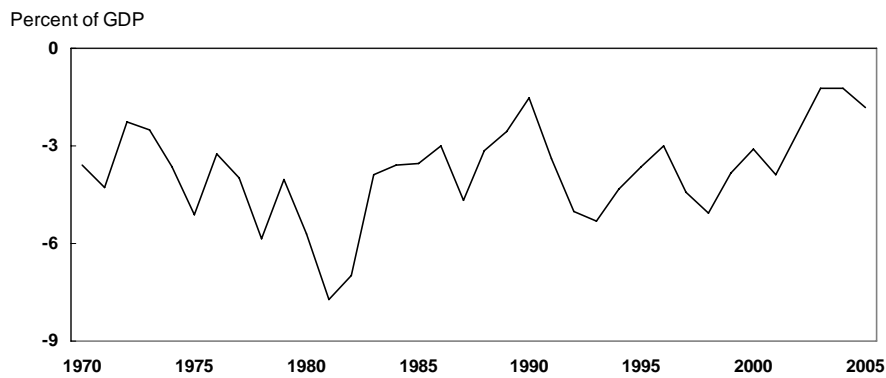
**Figure 1. Net Capital Flows: Latin America, 1970–2005<sup>a</sup>**



Source: International Monetary Fund (IMF), *World Economic Outlook*.

a. Total capital flows are the sum of official and private capital flows to twenty Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

**Figure 2. The Current Account: Latin America, 1970–2005<sup>a</sup>**

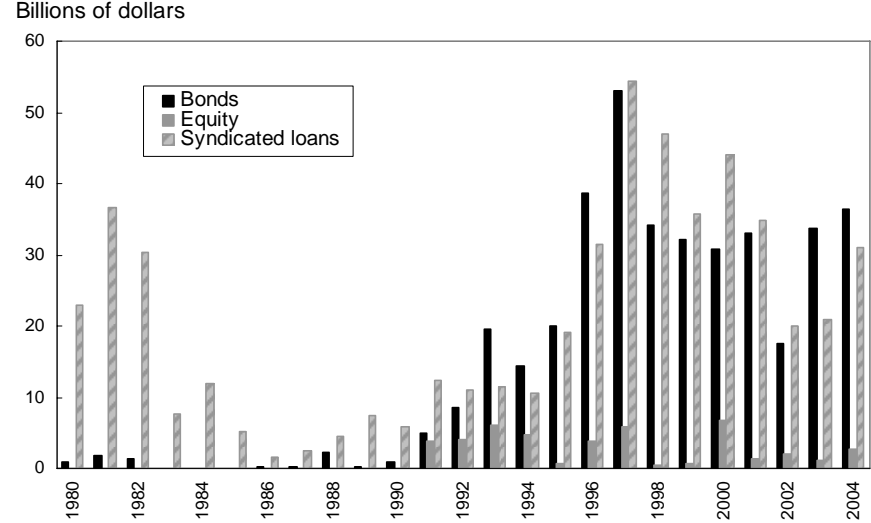


Source: IMF, *World Economic Outlook*.

a. The current-account-to-GDP ratio is the average for twenty Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.



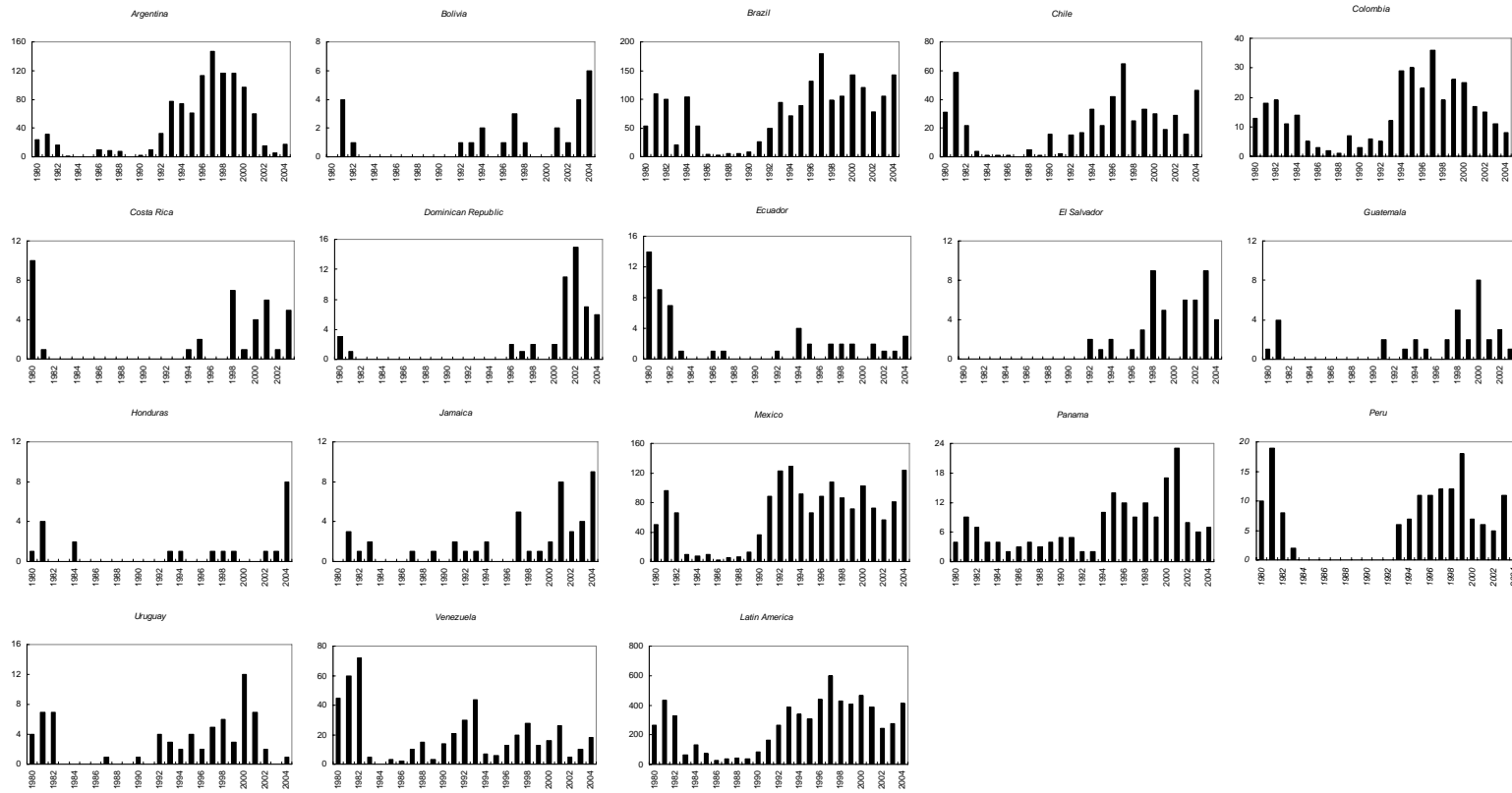
**Figure 3. Latin American Gross Issuance in International Capital Markets**



Source: Dealogic.



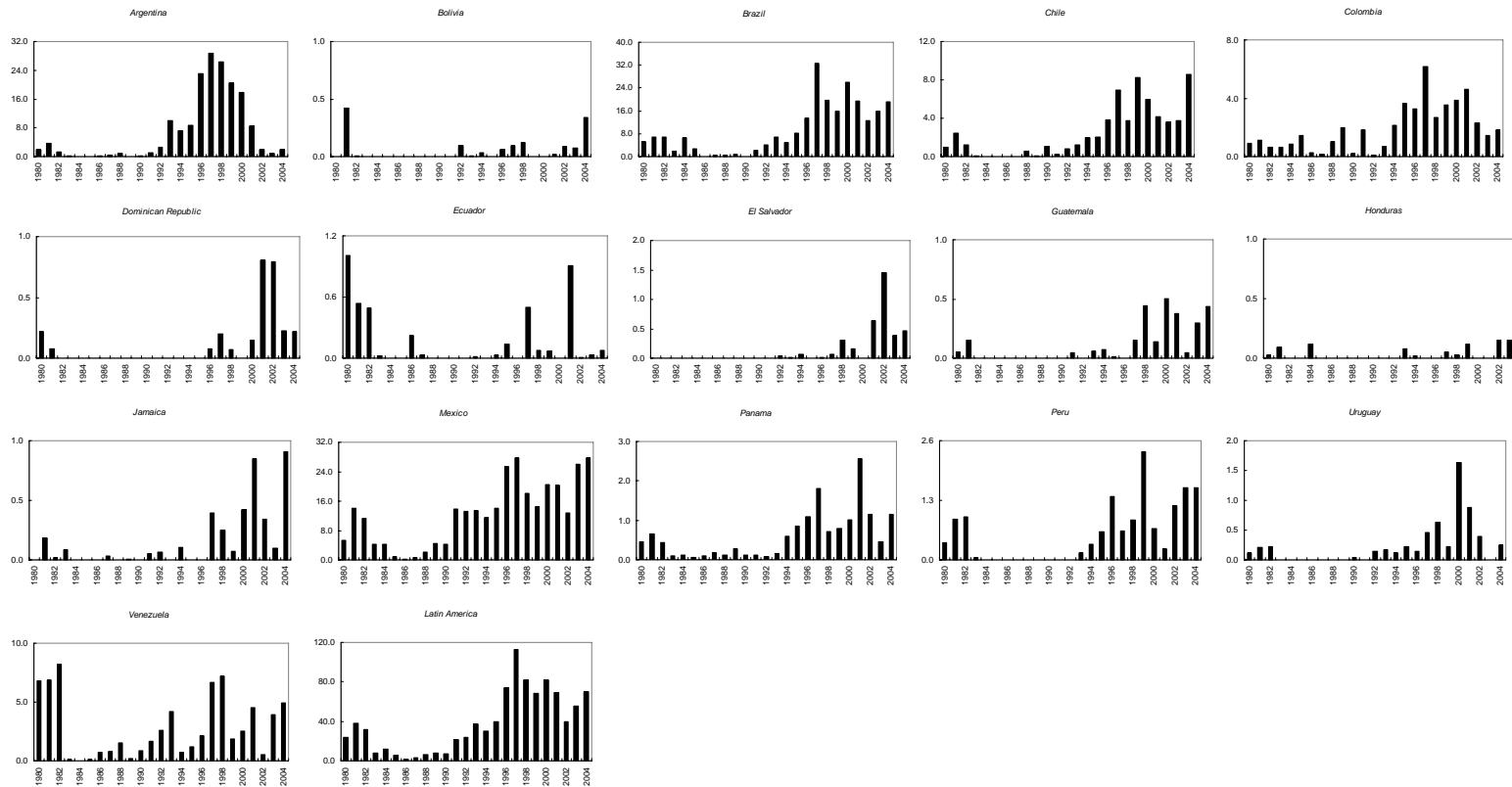
**Figure 4. Number of Issues in International Capital Markets<sup>a</sup>**



Source: Dealogic.

a. Total Issuance includes bond, equity, and syndicated loan issuance. Haiti, Nicaragua, and Paraguay have not issued in these markets.

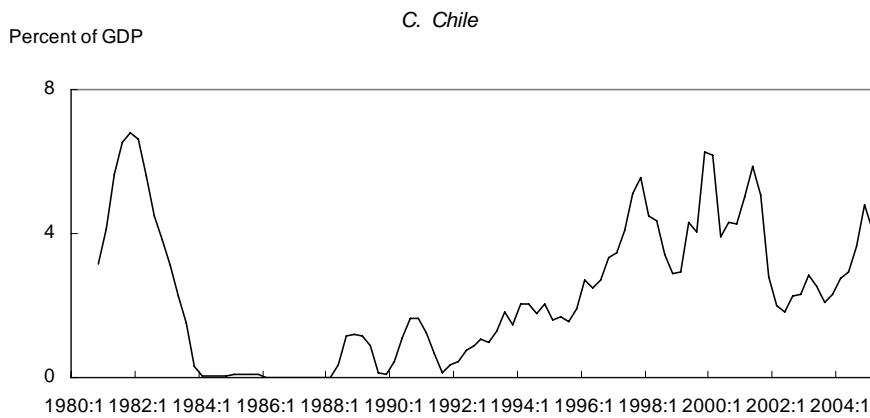
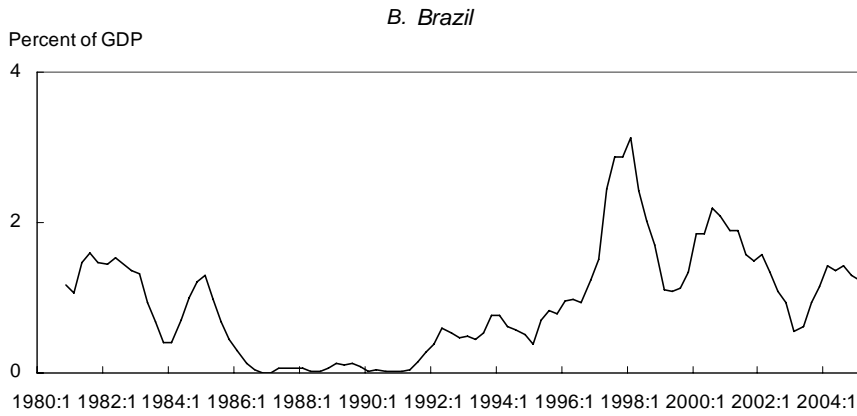
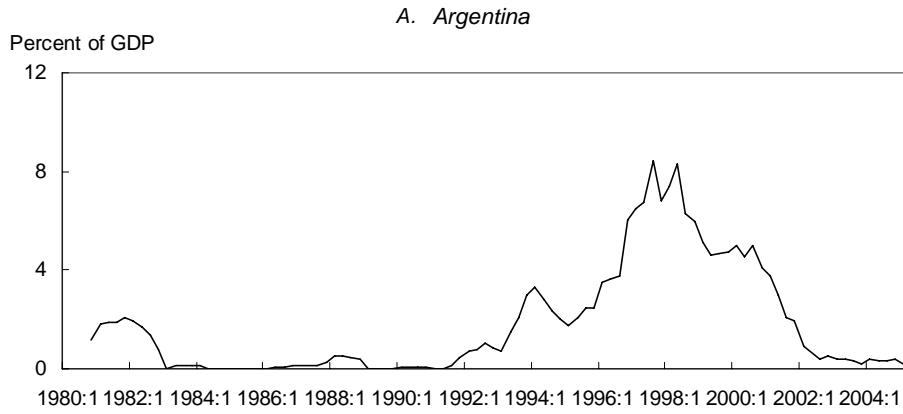
**Figure 5. Value of Total Gross Issuance in International Capital Markets (Billion of U.S. Dollars)<sup>a</sup>**



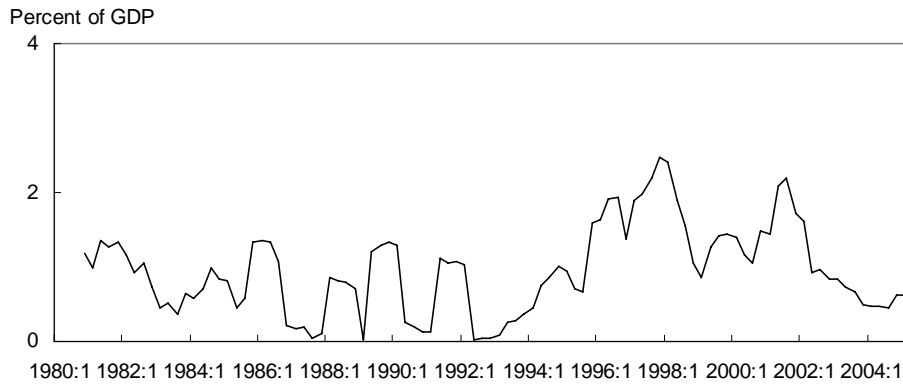
Source: Dealogic.

a. Total Issuance includes bond, equity, and syndicated loan issuance. Haiti, Nicaragua, and Paraguay have not issued in these markets.

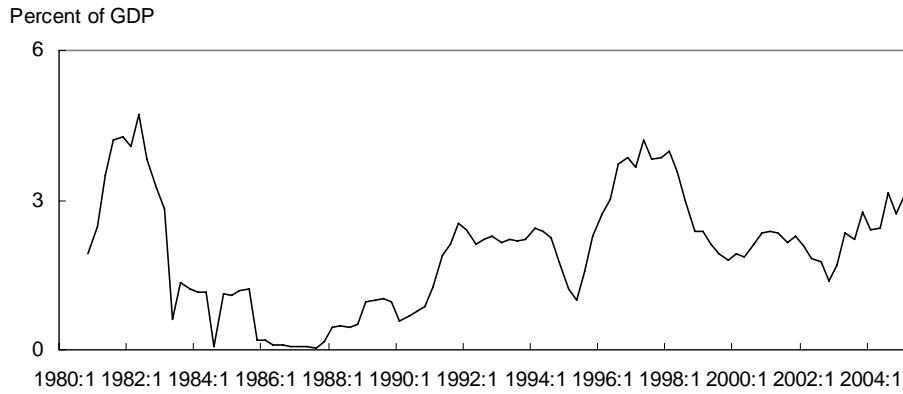
**Figure 6. Total Gross Issuance in International Capital Markets as a Proportion of GDP<sup>a</sup>**



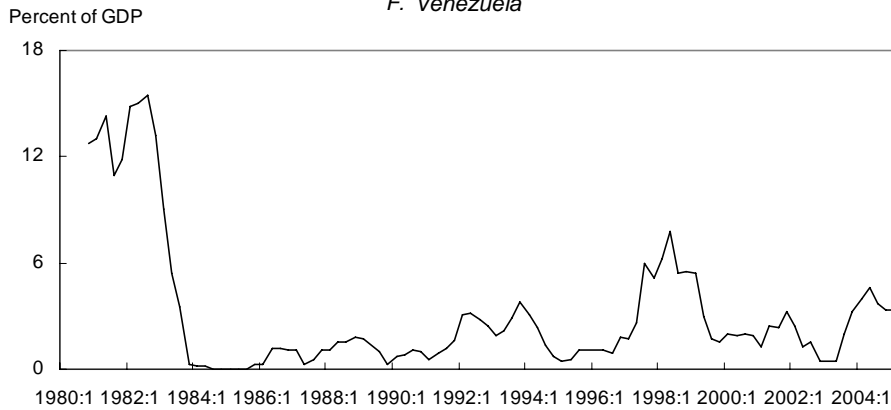
D. Colombia



E. Mexico



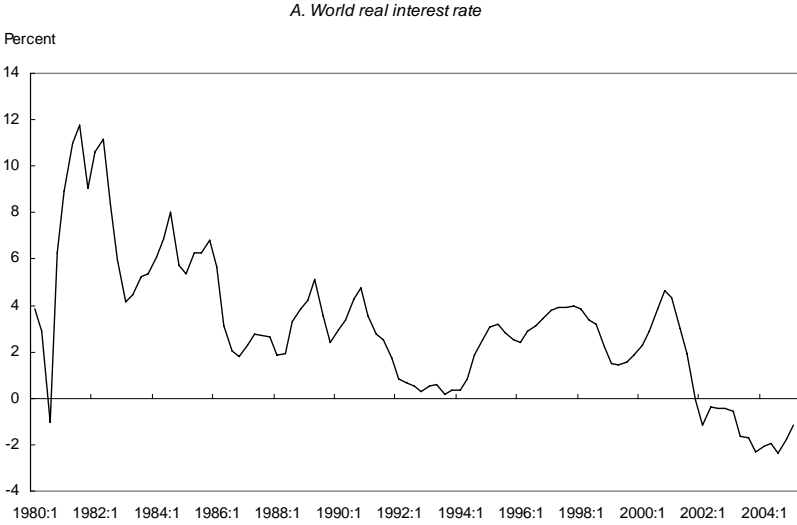
F. Venezuela



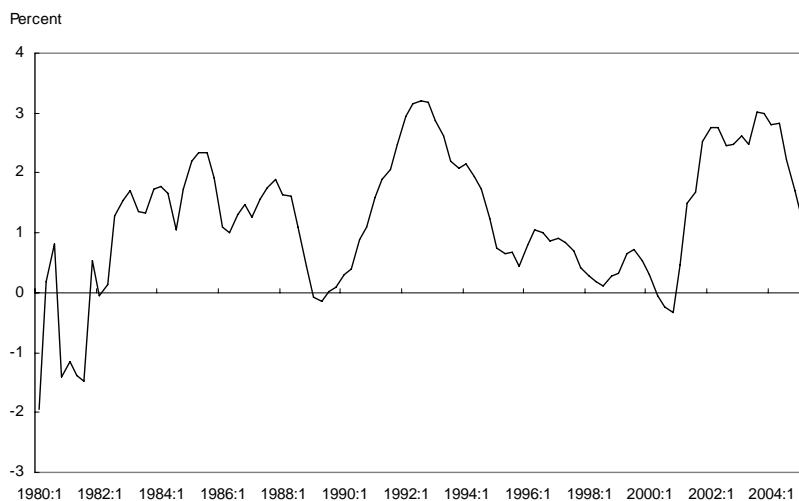
Source: Dealogic; IMF, *World Economic Outlook*.

a. For each quarter, total issuance is the sum of issuance in the quarter plus the issuance in the three previous quarters divided by annual GDP in dollars evaluated at PPP exchange rates.

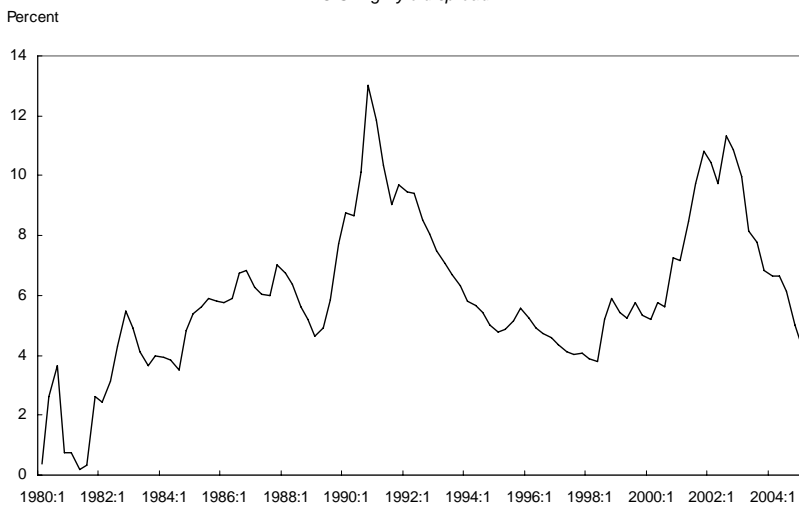
**Figure 7. External Indicators<sup>a</sup>**



C. Term premium



D. U.S. high-yield spread

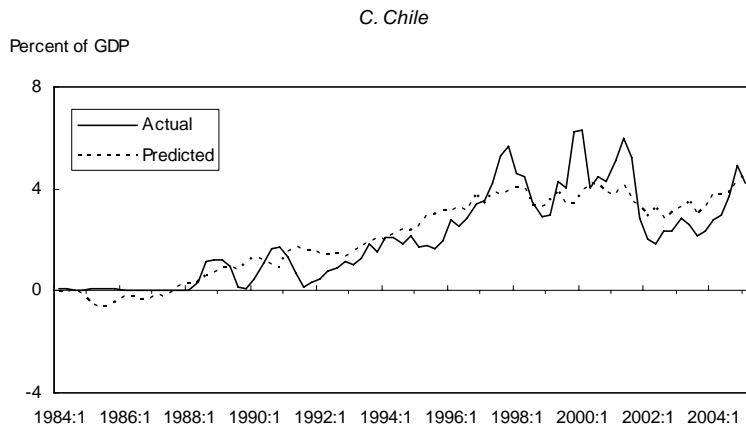
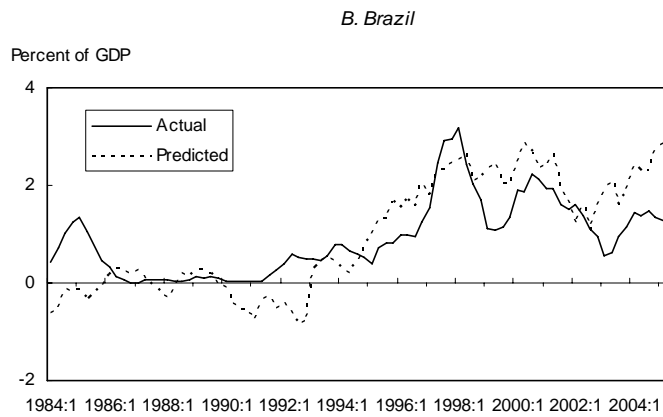
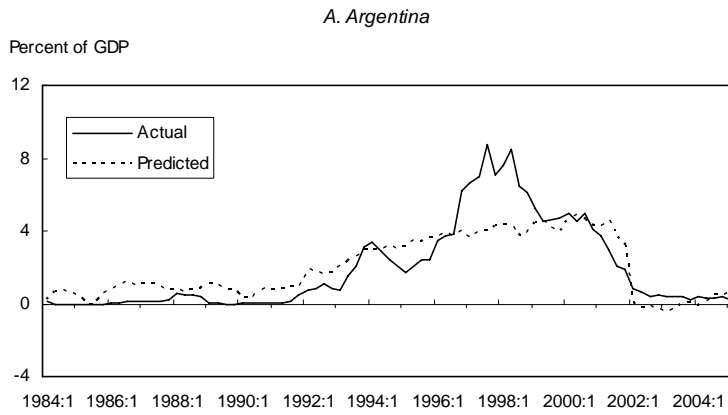


Source: Dealogic; Board of Governors of the Federal Reserve System database; IMF, *International Financial Statistics*; Merrill Lynch.

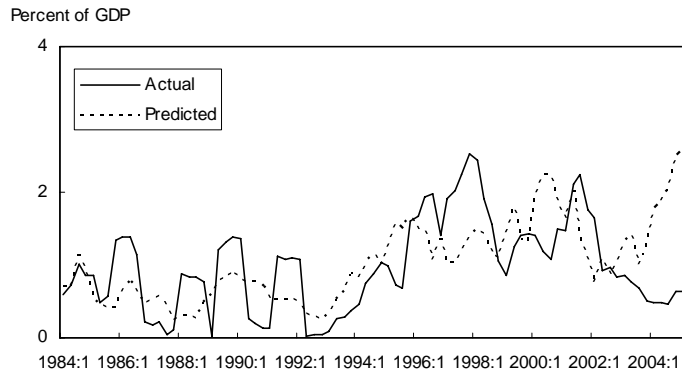
a. The world interest rate is captured with the one-year U.S. real interest rate. World International issuance over world GDP is total issuance in the bond, equity, and syndicated loan markets as a percent of world GDP evaluated at PPP. The term premium is the difference between the U.S. ten-year-note yield minus the U.S. one-year Treasury bill rate. The high-yield spread is the difference between the yield of U.S. high-yield bonds and the one-year U.S. Treasury bill rate.



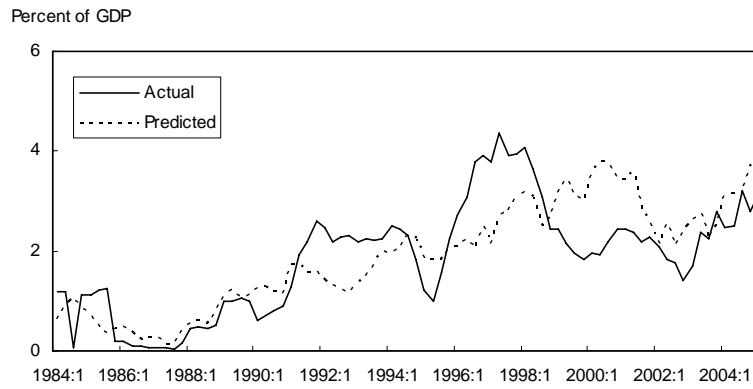
**Figure 8. Total Gross Issuance in International Capital Markets over GDP: Actual and Predicted Values<sup>a</sup>**



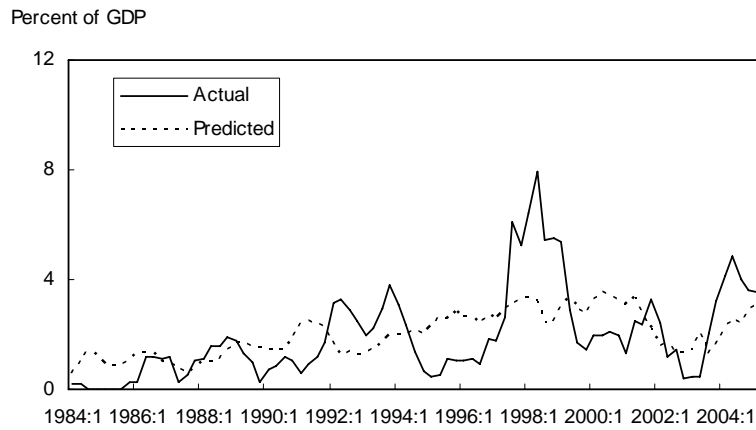
*D. Colombia*



*E. Mexico*

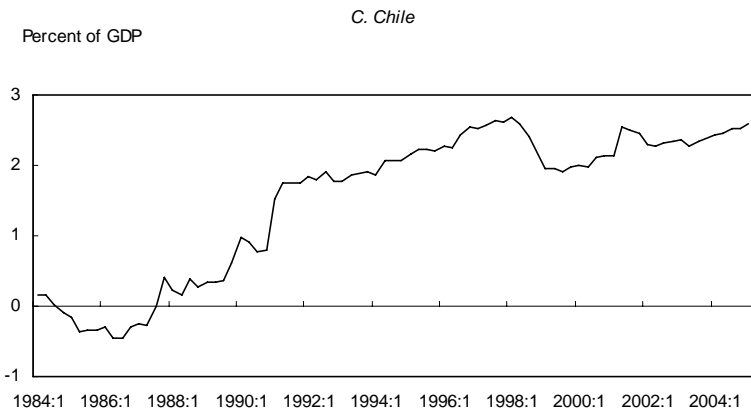
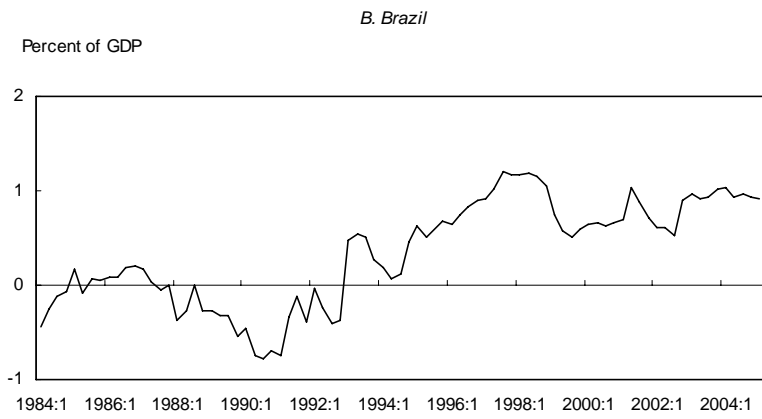
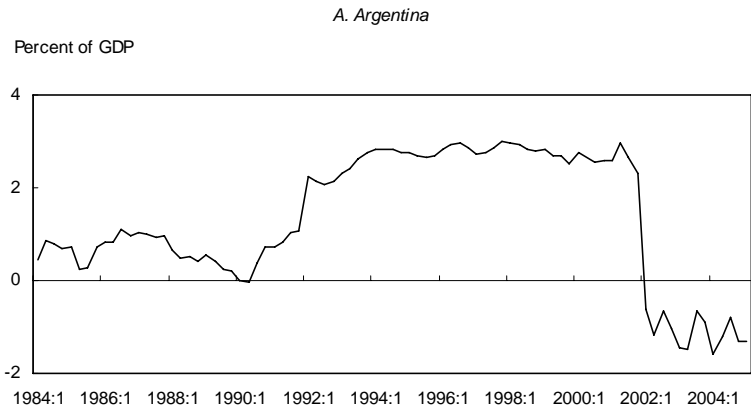


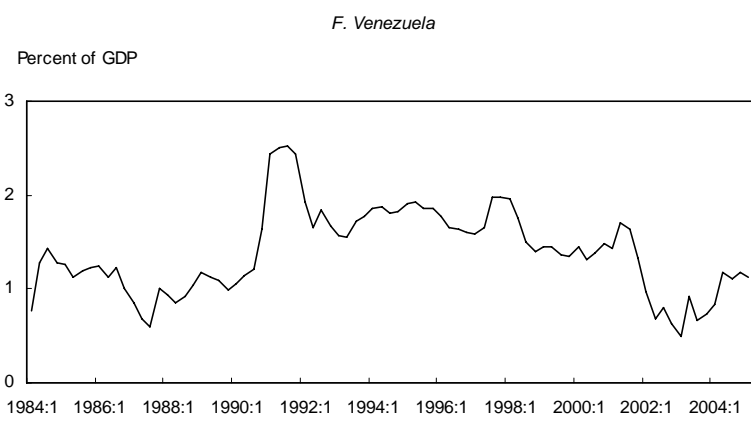
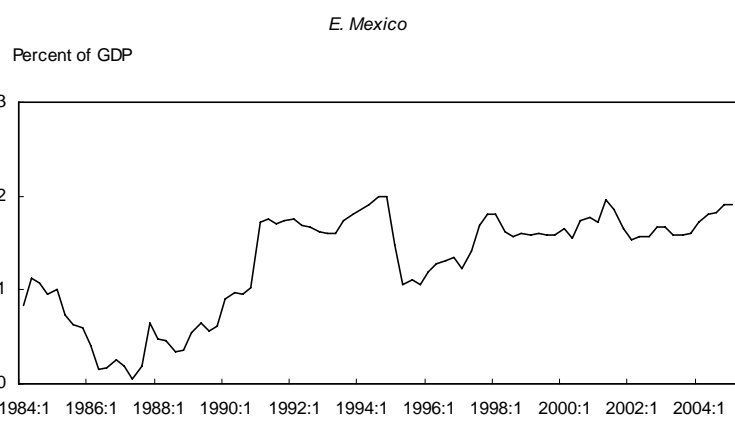
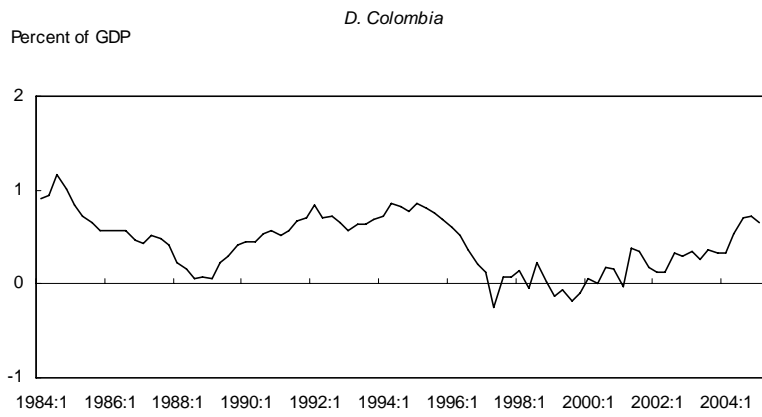
*F. Venezuela*



Source: Dealogic; IMF, *World Economic Outlook*.

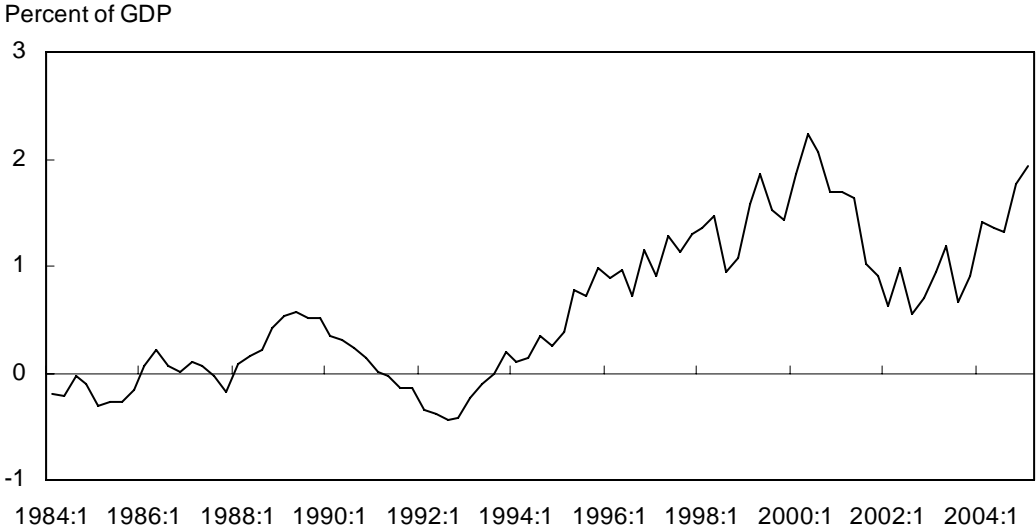
**Figure 9. Estimated Domestic Component, by Country<sup>a</sup>**





a. Domestic factors are predicted issuance as a percent of GDP.

**Figure 10. Estimated External Factor<sup>a</sup>**



a. The external factor is predicted issuance as a percent of GDP.

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