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GOOD BEHAVIOR OR GLOBAL LIQUIDITY?

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Latin America's Access to International Capital Markets: Good Behavior or Global Liquidity?

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### **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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## **I. Introduction**

Latin America has had an active presence in international markets since independence in the early 19th century. Participation has been quite volatile though. In the early 1800s, international borrowing financed the wars of independence. 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 1867-1872, 1893-1913, and 1920-1929. As in the 1820s, most of these episodes ended with defaults. In the aftermath of the crisis of the 1930s, international capital markets all but disappeared, with Latin America becoming unable to borrow again. Only by the 1970s, did Latin America start to participate once more in international capital markets, with capital inflows reaching 51 billion dollars 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, with capital flows surging once more and reaching 112 billion dollars in 1997. But 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. Interestingly, and 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 it is just erratic international capital markets or whether, in fact, the volatile nature of the Latin American economies is at the heart of the problem. This is the question we plan to answer in this paper. Previous research on this topic has focused 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. Instead, we focus our analysis on international primary gross issuance.

We cast our net wide and collect issuance data for twenty Latin American countries. The data collected paints 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 is one with 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 is one with no participation in international markets. This last group includes Haiti, Nicaragua, and Paraguay, with no international issuance in bond, equity or syndicated-loan markets. Since only the first group has participated almost intermittently 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 II 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 III presents our new dataset of gross issuance in three international capital markets: bonds, equities, and syndicated loans for the twenty countries in Latin America. Section IV 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 V concludes.

## **II. 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 as well as official capital flows to Latin America, with the difference between the two capturing private capital flows. As shown in this figure, on average most of the capital flows to Latin America have been of a private nature, peaking at 45 billion dollars in 1981 and at 105 billion dollars in 1997. The cycles in international capital flows have become more pronounced in later periods. During the first capital-inflow episode, total capital flows increased about 13 times, from about 4 billion dollars in 1970 to 51 billion dollars in 1981. In the 1990s, total capital inflows increased about 22 times from about 5 billion dollars in 1983 to 112 billion dollars in 1997. Reversals also became more pronounced in the 1990s. While in the 1980s the reversal reached 90 percent, in the 1990s the reversal was somewhat more substantial as capital inflows turned into outflows. In this case, the reversal peaked at 102 percent. Importantly, both private and official capital flows cycles have been quite pronounced. Official capital inflows increased to 14 billion dollars in 1983 from about 1 billion dollars in 1972 to dry out later in the 1980s, with official capital inflows turning into a 4-billion-dollar

outflow in 1990. During the 1990s, the behavior of total official flows to Latin America was more irregular, in part due to 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 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-beginning of the 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 Figure 2, the earlier 1980s showed the highest deficits, peaking at about 8 percent of GDP in 1981, while the deficits in the mid-1990s just peaked at about 5 percent of GDP. The different boom-bust pattern in the current account and capital flows underlies an important difference between the two episodes of capital inflows. During the 1978-1981 capital-inflow episode, capital flows financed mostly current account deficits, with the average reserve accumulation only peaking at 1.5 percent of GDP in 1979. In contrast, during the 1990-1997 episode, capital flows financed a higher level of reserves accumulation. This time, reserves accumulation increased up to 2.1 percent of GDP in 1997.<sup>2</sup>

Table 1 provides a higher resolution picture of the current account behavior of Latin American countries. This table presents descriptive statistics for the current account for the twenty countries in our sample. The table reports the mean, standard deviation, 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, on average the current account has oscillated in these countries 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 -12 percent of GDP. While still volatile, the richer countries in our sample show smaller fluctuations over time.

Tables 2-3 show the evolution of the current account and financial account behavior over

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<sup>1</sup> For example, Argentina received 11 billion dollars of official capital flows in 2001 (about 40 percent of all official capital flows to Latin America) and Brazil received 11 billion in 1998 (about 90 percent of all official flows to Latin America) and 12 billion in 2002 (about 60 percent of all official flows to Latin America).

<sup>2</sup> On average, reserves accumulation during the 1978-1981 episode was 0.6 percent of GDP while during the 1990-1997 episode, it increased to 1.1 percent of GDP. See also, Calvo, Leiderman, and Reinhart (1994)

the boom-bust cycles in international capital flows. To capture the heterogeneity in our sample of twenty countries, we divide our sample in 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 is also the group that has had more frequent access to international capital markets. The medium-income group consists of Colombia, Dominican Republic, El Salvador, Panama, Paraguay, Peru, and Venezuela. Lastly, the low-income group consists of Bolivia, Guatemala, Ecuador, Haiti, Honduras, Jamaica, and Nicaragua, with far less ability to tap international capital markets. We also identify the episodes of booms and busts in capital flows. According to the data shown in Figure 1, we identify two episodes of booms in capital inflows: 1976-1981 and 1990-1998. The episodes of 1971-75, 1982-1989, and 1999-2005 are identified as episodes with less access to international capital markets.

Table 2 shows the total current account and its components: the balance of goods and services, net income, and transfers (private and public). It is important to point out some of the regularities shown in this table. First, low-income countries have larger current account deficits, on average about 4 percent of GDP. Current account deficits are just about 3 percent of GDP in high-income and medium-income countries. Second, current account deficits in all groups are the highest during the episode of high capital inflows during 1976-1981. Third, the large trade imbalances in low income countries starting in 1990s are financed by sharp increases in private transfers (workers remittances) and also by somewhat higher official transfers.

Table 3 shows the financing of the current account. For reference purposes, the second column of this table shows total transfers. This table brings attention to the heterogeneity across Latin America countries with respect to the financing of the current account. First, net capital flows are the largest for low income countries, 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. In contrast, the share of private capital flows to medium- and low-income countries oscillates around 50 percent, suggesting that it would be important to examine the behavior of official capital flows to these last two groups of

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<sup>3</sup> The sample is divided according to the 2005 Gross National Income per capita (at PPP values) in dollars. High-income countries include all countries with income per capita higher than 8000 dollars. Medium-income countries are those countries with income per capita between 8000 and 5000 dollars. The Low-income group includes countries with income per capita lower than 5000 dollars.

countries. In particular, it would be important to examine whether official capital flows to each country tend to counterbalance the gyrations of international private capital markets, providing more official funding in times of illiquid markets or whether they amplify the boom-bust pattern of private capital flows.

### **III. 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 gross issuance in order to understand international balance sheets. For instance, Lane and Milesi-Ferreti (2006) have defined financial globalization as “the accumulation of larger stocks of gross foreign assets and liabilities.” Following this approach and to have 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 is 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,<sup>4</sup> global bonds,<sup>5</sup> and foreign offerings.<sup>6</sup> International equity issuance includes issuance of common or preferred equity in the international market, issuance targeted at a particular foreign market, and registered stocks traded on foreign markets as domestic instruments (for example, American Depositary Receipts (ADRs)). Finally, international gross issuance in the syndicated-loan market includes all the loans granted by two or more financial institutions with the nationality of at least one of

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<sup>4</sup> 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.

<sup>5</sup> Global bonds are single offerings structured to allow simultaneous placement in major markets: Europe, U.S., and Asia.

<sup>6</sup> Foreign bonds are bonds issued by firms and governments outside of 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.

the syndicate banks being different from that of the borrower.<sup>7</sup> As shown in this figure, during the first international-capital-inflow-episode, access to the international capital market took the form of syndicated-bank loans. Gross issuance in this market peaked at 37 billion dollars in 1981 but basically disappeared in the mid-1980s following the 1982 Debt Crisis. By 1986, Latin American total gross issuance in international capital markets was just 5 percent of the issuance in 1981.

By the end of the 1980s, the Brady Plan ended with the isolation of developing countries from international capital markets. First, this plan provided debt relief to emerging markets. Second, it also created almost overnight a market for sovereign emerging market bonds with its initiative to restructure defaulted loans into bonds collateralized by U.S. Treasury Bonds.<sup>8</sup> As investor confidence in emerging-market countries started to recover gradually, both the government and the private sector started issuing bonds in international capital markets, with the bond issuance by Latin American countries increasing from 1 billion dollars in 1990 to 53 billion dollars in 1997. The Brady plan, with its initiative of restructuring distressed commercial bank loans,<sup>9</sup> also provided a new impetus to the syndicated loan market, with issuance rapidly climbing to 54 billion in 1997. 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 started to participate in regulated equity markets in various financial centers. Many firms started to raise capital in the United States through the creation of American Depository Receipt Programs, with ADRs being traded on US stock markets in lieu of the foreign shares.<sup>10</sup> Since 1990, Latin American international equity issuance averaged 3 billion

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<sup>7</sup> The facilities included in our data consist of term loans, revolving credits, co-financing facilities, export credit bridge facilities, construction loans, mezzanine loans, or multiple options facilities.

<sup>8</sup> Most of the bonds had the principal collateralized by especially issued U.S. Treasury 30-year zero-coupon bonds purchased by the debtor country using funding from IMF, the World Bank, and the countries' own foreign exchange reserves. Interest payments on Brady bonds were in some cases also guaranteed by securities of at least double-A rated credit quality held with the New York Federal Reserve Bank.

<sup>9</sup> 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.

<sup>10</sup> See de La Torre and Schmukler (2004) for an excellent description of Latin America's participation in international capital markets.



dollars.<sup>11</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 contrast, 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>12</sup>

Tables 4 and 5 focus on access to international capital markets by the public and the private sector. Table 4 reports the number of issues and Table 5 reports the value of total issuance. There are some interesting features worth examining in these two tables. First, as shown in Table 4, during the 1980s most of the issues were public issues, with most loans being issued by either the central government or public firms. In this episode, about 65 percent of the issues were public issues. In contrast, since 1990, private corporations start issuing in international capital markets, with private issues reaching on average 75 percent of total issues. As shown in Table 5, in value terms, public issuance amounted to 75 percent during the 1980s and only 50 percent since 1990. Second, while private corporations have entered more massively in international capital markets, private access to international capital markets has experienced a more pronounced boom-bust behavior than the public sector. For example, following the booms in the 1990s, total issuance collapsed from 113 billion dollars in 1997 to 40 billion dollars in 2002 (35 percent of the peak), but private issuance fell from 65 billion dollars to 18 billion dollars (28 percent of the peak).

Figures 4 and 5 look at this data at the country level. Figure 4 reports number of issues and Figure 5 reports total value of gross issuance. Three of the countries in the sample, Haiti, Nicaragua, and Paraguay have not participated in these markets, so they are not included. We can divide all the issuing countries into two groups. The first group includes Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela with 1043, 1903, 535, 358, 1522, and 486 issues,

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<sup>11</sup> 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, and hence a part of the debt issues go towards refinancing old debt and only the remaining part is new capital.

<sup>12</sup> The evidence from gross issuance stands in stark contrast with the evidence from net capital flows. While gross issuance data suggests continuous access to international capital markets, that of capital flows indicates complete loss of access to international capital markets following the Russian crisis as discussed in Section II.

respectively. The second group comprises Bolivia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Panama, Peru and Uruguay with less than 200 issues each. While the first group participates frequently (although with several interruptions) in international capital markets, 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 10 years. In the next section, we use panel estimation to identify the fundamentals that affect international issuance.

#### IV. Good Behavior or Global Liquidity?

The goal of this section is to understand the role of domestic factors (“good behavior”) and external factors (“global liquidity”) on the ability of Latin American countries to access international capital markets.

Traditionally, capital flows to emerging markets are explained by stressing the demand side (of funds), i.e., 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 to fiscal and monetary causes (Krugman, 1979), to unemployment and overall loss of competitiveness (Obstfeld, 1994), and to banking fragility and overall excesses in financial markets (Kaminsky and Reinhart, 1999, and Chang and Velasco, 2000). More recently, the economics profession has started to pay attention to 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.

$$\begin{aligned} S &= f(r, r^*, \theta^*, l^*, crises^*, y, tot, mp, pr, op) \\ D &= g(r, op, \sigma, y, tot) \end{aligned} \tag{1}$$

where the  $*$  identifies world fundamentals,  $r$  is the country return,  $r^*$  is the world interest rate,  $\theta^*$  is investors’ risk aversion,  $l^*$  is world liquidity,  $crises^*$  indicates crises in other countries,  $y$  is domestic output growth,  $tot$  is terms of trade,  $mp$  is domestic macroeconomic policy,  $pr$  is domestic political risk,  $op$  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 the 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. Finally, the contagion literature (see, for example, Kaminsky and Reinhart, 2000) suggests that crises may spread rapidly, affecting the ability of emerging markets to access international capital markets, as investors rebalance their portfolio not only recalling loans from crisis countries but also from other countries to which they have exposure. 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>13</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, the more open the economy is, the more integrated the country to international markets will be. 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 (for example, Jeanne, 2003) suggests that the more open the economy is, the higher its ability to generate foreign currency denominated assets. With the likelihood of currency mismatches declining, demand for foreign currency denominated liabilities will increase. In contrast, currency mismatches will increase when the volatility of the real exchange rate increases, making domestic firms less inclined to borrow overseas.<sup>14</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 of outside funding, it can also lead to a Fisherian motive for borrowing today.

In order 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

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<sup>13</sup> See, for example, Bulow and Rogoff (1989).

<sup>14</sup> See also Catão, Fostel, and Kapur (2007).

$$Issuance / GDP = h(r^*, \theta^*, l^*, crises^*, y, tot, mp, pr, op, \sigma) \quad (2)$$

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

### **A. Data**

As we just discussed, we use total gross international issuance as a percent of GDP<sup>15</sup> to capture Latin America's access to international capital markets. Our focus is on Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela. The evolution of gross issuance is shown in Figure 6. As examined in the previous section, these six countries have been the ones with most access to international capital markets in Latin America.

We capture the evolution of global liquidity/risk aversion with four indicators, shown in Figure 7, and with an indicator of emerging market crises.

**U.S. Real Interest Rate:** We follow the literature and use the U.S. real interest rate to capture the degree of liquidity of international capital markets.<sup>16</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 capture completely the extent of liquidity in international capital markets. While the international capital market is quite fragmented in the 1970s, during the 1990s it becomes quite developed with a dramatic increase in the number of instruments offered. To capture this evolution, we construct three other measures of liquidity.

**World Issuance/World GDP:** To capture liquidity in international capital markets, we use world gross primary issuance in international capital markets as a share of world GDP.<sup>17</sup> The data on issuance (which includes bond, equity, and syndicated loans) is obtained from Dealogic. As shown in Figure 7, world international issuance (as a share of world GDP) increased from 0.6 percent in 1980 to 8 percent in 2005. This dramatic increase in world liquidity is in large part the

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<sup>15</sup> GDP is measured in dollars at PPP levels to avoid identifying the aftermath of large devaluation episodes as periods with an increase in access to international capital markets.

<sup>16</sup> 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 the U.S. output and 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.

<sup>17</sup> World Output is measured in dollars (based on PPP valuation of country GDP).

product of the collapse of the Bretton Woods System in 1973 and the capital account liberalization process it triggered. With no need to defend the peg, countries can choose their own monetary policy without the need to restrict capital mobility and thus a new era of financial liberalization began. As early as July 1973, the United States eliminated capital account restrictions. 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 also 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 financial integration of Latin America for about a decade. In the mid 1980s Latin America was substituted by European countries in international capital markets as the wave of international financial liberalization also embraced Western European countries as they moved towards the European Monetary System.<sup>18</sup> Financial integration was further energized in 1989 with the Brady Plan and its initiative to restructure defaulted loans into bonds collateralized by U.S. Treasuries. This program created, almost overnight, a market for sovereign emerging market bonds. As investor confidence in emerging-market countries started to recover gradually, both the government and the private sector started issuing bonds in international capital markets. This time around, Asian countries joined Latin America and removed controls on capital mobility.<sup>19</sup> Emerging markets' issuance in international capital markets increased 8-fold from 42 billion dollars in 1989 to about 350 billion in 1996. While international capital markets suffered in 2001 with the worldwide crash in stock markets, they have recovered with total issuance increasing to about 5 trillion dollars in 2005.

**Term Premium:** Liquidity in international capital markets can also be captured by the evolution of investors' term premium, which is estimated by the difference between the U.S. ten-year-note yield minus the U.S. one-year Treasury Bill rate.

**High Yield Spread:** Investors' risk aversion can also explain emerging markets issuance and overall global liquidity. We will approximate this variable by 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

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<sup>18</sup> World primary issuance in international capital markets increased more than 6-fold from 82 billion dollars in 1980 to 500 billion dollars in 1989.

<sup>19</sup> See Kaminsky and Schmukler (2003) for a chronology of financial liberalization in industrial and emerging countries.

between U.S. high-yield bonds and the one-year U.S. Treasury Bill rate. This index is constructed by Merrill Lynch.<sup>20</sup>

**Emerging Market Crises:** Currency crises in emerging markets can trigger a liquidity crunch as investors rebalance their portfolios by recalling loans 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 which takes the value of one during major currency crises, such as the Asian crisis in 1997 and the Russian crisis in 1998.<sup>21</sup>

We now examine the indicators capturing domestic fundamentals.

**Growth:** As we discussed above, economic activity may signal stronger ability of future repayment. Since GDP data is not available at the quarterly frequency, we use industrial production from the International Financial Statistics (IFS) database.

**Inflation:** Macroeconomic stability may be at the heart of the countries' ability to tap international capital markets. The fiscal accounts certainly would provide an excellent indicator of macroeconomic policy. Unfortunately, most countries in our sample do not have information on the fiscal accounts on a quarterly basis. Similarly, market interest rates can help to identify episodes of expansionary and contractionary monetary policy. Again, as with fiscal indicators, market determined interest rates are not available for these countries because in the aftermath of the debt crisis and until the early 1990s, all the countries in our sample had restrictions on deposit and loan interest rates. Thus, to capture the stance of fiscal and monetary policies, we use the consumer price index rate of inflation.

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

**Political Risk:** The quality of institutions, the extent of corruption, 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 political stability and the

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<sup>20</sup> Fostel (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.

<sup>21</sup> See also Broner and Rigobon (2005).

quality of governance of the country. The political stability indicators provide rankings on socioeconomic pressures at work in society 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. There is also information on the institutional strength and quality of the bureaucracy. A country ranked in the 80-100 percent range is considered very low risk while a country ranked below 50 percent is considered very high risk.

**Real Exchange Rate Volatility:** The real exchange is the effective real exchange rate from the World Economic Outlook database. The 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.

**Terms of Trade:** To capture the ability to pay and thus access to international capital markets, we also use data on terms of trade. Our data for terms of trade is obtained from the International Financial Statistics, IMF.

**Default:** Some of the countries in the sample are in default during part of the period studied. To capture the effect of default on the 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>22</sup>

## ***B. Estimation***

We estimate equation (2) using panel data models with fixed effects. Our data is 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 money supply. We also use openness lagged one period since more issuance (especially trade credits) can also facilitate more trade. Since feedback from issuance to political risk and output growth takes more than one period, we use current values of

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<sup>22</sup> Default and arrears events in this study are based on Beim and Calomiris (2000), Lindert and Morton (1989), Standard & Poor's (2002), and events identified by the International Monetary Fund.

these variables as explanatory variables. Finally, since all the variables capturing external factors are exogenous, we also use current values of these factors as explanatory variables in the regressions. In order to account for country-specific first-order auto-correlation and heteroscedasticity, we adjust standard errors using the Huber/White/Sandwich procedure.

Table 6 reports the regression estimates for a variety of alternative specifications. Regression I 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 higher world issuance. As expected, issuance declines with higher real exchange rate volatility and higher term premium. Regression II adds a control for the states of default. Increases in world liquidity will not affect the ability of the country to borrow in international capital markets if the country is in default. That is why not only do we 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/world GDP has a negative sign and it is significant at 1 percent confidence level. Regression III examines whether crises are of the 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 America issuance in international capital markets. Regressions IV-VII include other controls, such as 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, affects adversely 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 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 encompasses information on a



broad range of economic and financial indicators. This may explain the lower significance of the other domestic variables due to the presence of colinearity. The world factors with stronger effect on the ability of Latin American countries to tap international markets are world liquidity, as captured by world issuance/world GDP, and the term premium. A one-percentage point increase in world issuance/world GDP or a similar decline in the term premium increases the issuance by Latin American countries by 30 basis points of GDP.

We should also mention that the model captures well 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  $R^2$  within, which ranges from 0.48 to 0.57 while the  $R^2$  between oscillates between 0.06 and 0.38.

Figure 8 shows the actual dependent variable and the linear prediction of regression III (our baseline regression from now on) including the fixed effects. Our model predicts well 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>23</sup>

To check for robustness of the results in regression III, we performed augmented Dickey-Fuller unit root tests on the residuals, all of which rejected the null at the 10 percent significance level. We also included quarter dummies to control for seasonality in issuance; all these variables proved not significant. We also tested for dynamic effects by introducing various lags of all the variables, but we found not significant effects. Finally, we tested for other non linearities, 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 OLS estimation. The results are shown in Table 7. The exercise proves robust to this specification. In this case, real exchange rate volatility loses significance and inflation becomes more significant. But all

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<sup>23</sup> Two countries in our sample do 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. Interestingly, in those years, Colombia benefited from a large increase in development assistance loans. These loans might have dramatically reduced its need to tap international private capital markets.

variables still yield the right sign and significance consistent with the Fixed Effect estimation.

Second, we estimated the regression using a censored Tobit model estimation procedure. Unlike net issuance, gross issuance imposes a sign restriction on the dependent variable: issuance cannot be negative. 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. All the most important variables still prove significant.

Now we 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/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/world GDP. Using the coefficients of regression III, we calculate the path of the domestic component for each country and the evolution of the common external factor. They are shown in Figure 9. A quick glance to this figure reveals two interesting patterns. First, countries differ greatly regarding domestic characteristics. With the exception of Colombia, all the countries in our sample show a strong improvement in domestic fundamentals in the early 1990s. But only Chile shows continuous strong improvement in domestic performance in the late 1990s. While Brazil and Mexico continue to show sound domestic fundamentals, improvement slows down in the late 1990s. Finally, Argentina and Venezuela quickly deteriorate in the latter part of the sample. Second, the influence of the external factors has increased after the mid-1990s.

We now study in more detail the relative contribution of the domestic and external factors in the booms and busts in international issuance starting in 1990. We examine separately three episodes: 1990-1998, 1999-2001, and 2002-2005. The first and the third episodes are periods of a boom in international issuance, whereas the second one 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.

Interestingly, the boom of the early 1990s in Argentina, Brazil, and Chile is mostly driven by superb domestic fundamentals. Domestic fundamentals have a less important role in Mexico and Venezuela during this episode. Finally, domestic fundamentals deteriorate in Colombia, fueling a decline in international issuance during 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 finding is consistent with other empirical studies that focus on spreads instead of on issuance, suggesting 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.

## **V. Conclusions**

We have studied the participation of the 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. Second, we turned our attention to data on gross issuance since 1980. Much more analysis needs to be undertaken to refine our understanding of 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 access to international markets of the less integrated group 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 study Latin America's financial integration to world capital markets. As discussed above, whereas data on net capital flows suggests a loss of market access after the Russian and Asian crises, data on gross issuance paints a much less dark picture, suggesting an increase in globalization 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 been mainly 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. Argentina, Brazil, and Chile superb performance in capital markets during the 1990's has been in large part driven by better fundamentals, from better governance, to higher growth, and to 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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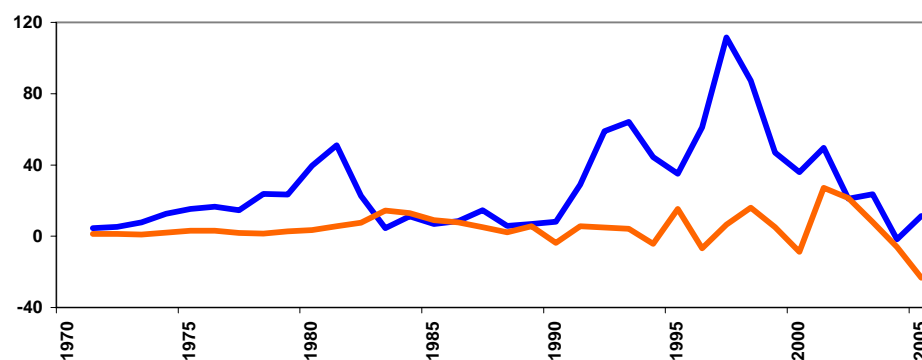
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**Figure 1**  
**Net Capital Flows: Latin America, 1970-2005**  
**(Billions of Dollars)**

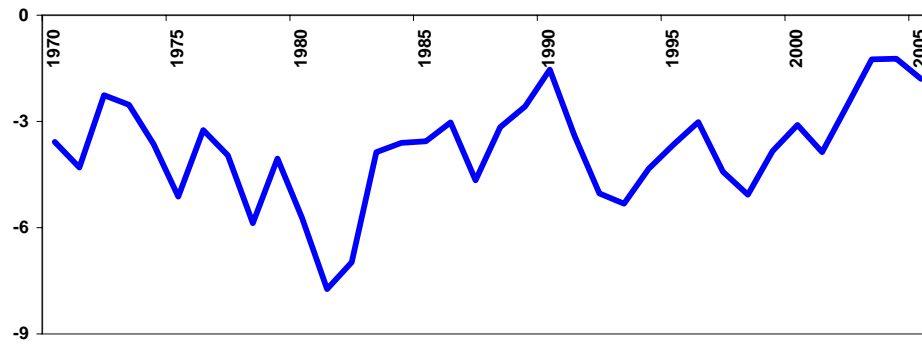


Notes: Total capital flows is the sum of official and private capital flows to twenty Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and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

Source: World Economic Outlook Database, International Monetary Fund.

■ Total Capital Flows  
■ Official Capital Flows

**Figure 2**  
**The Current Account: Latin America, 1970-2005**  
**(in Percent of GDP)**

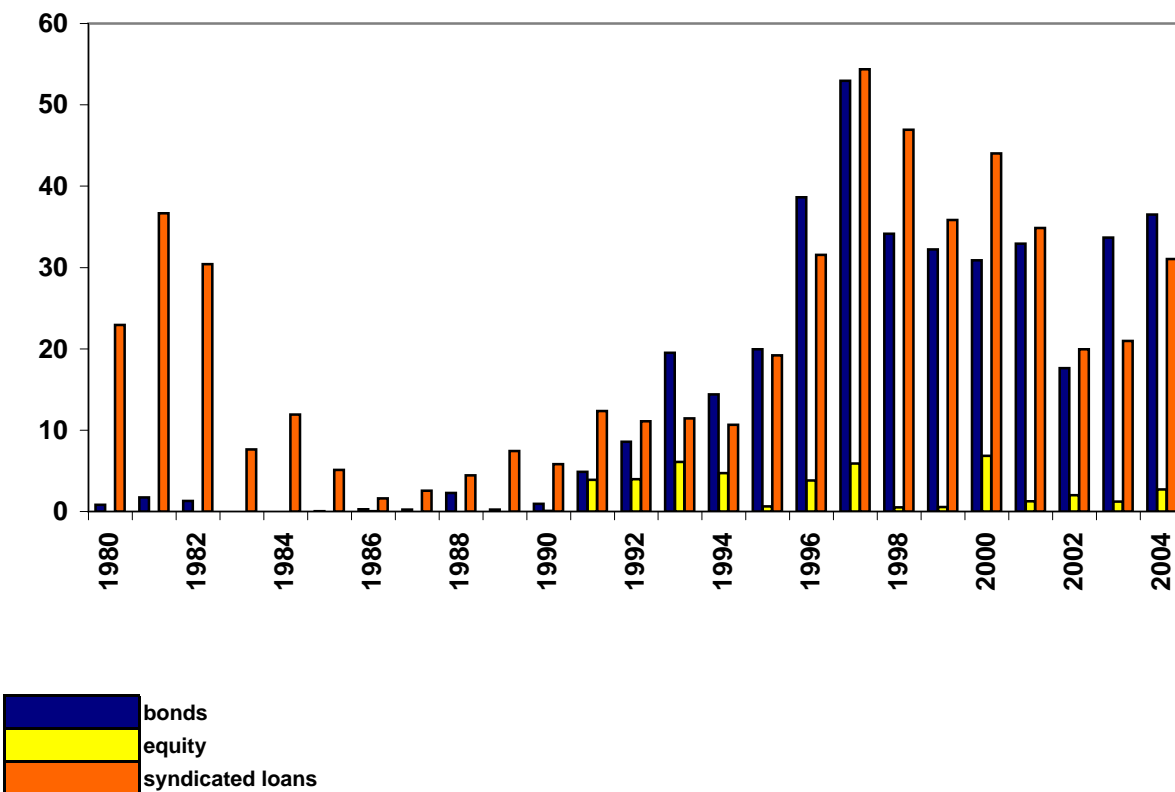


Notes: The CA/GDP ratio is the average for twenty Latin American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, El Salvador, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay, and Venezuela.

Source: World Economic Outlook Database, International Monetary Fund



**Figure 3**  
**Latin America Gross Issuance in International Capital Markets**  
**(Billions of Dollars)**



Source: Dealogic

Figure 4  
Total Gross Issuance in International Capital Markets  
Number of Issues

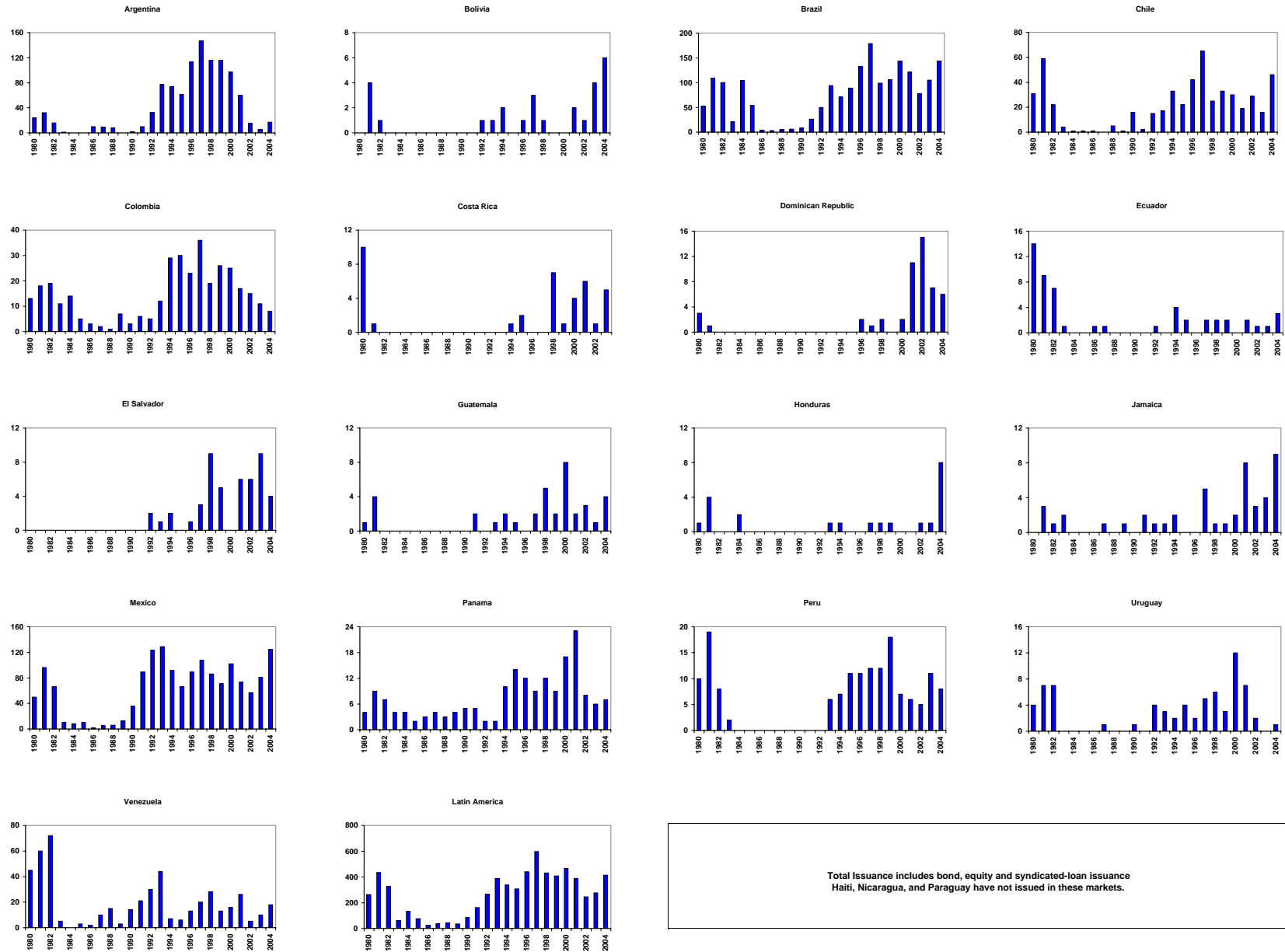


Figure 5  
Total Gross Issuance in International Capital Markets  
(Billion Dollars)

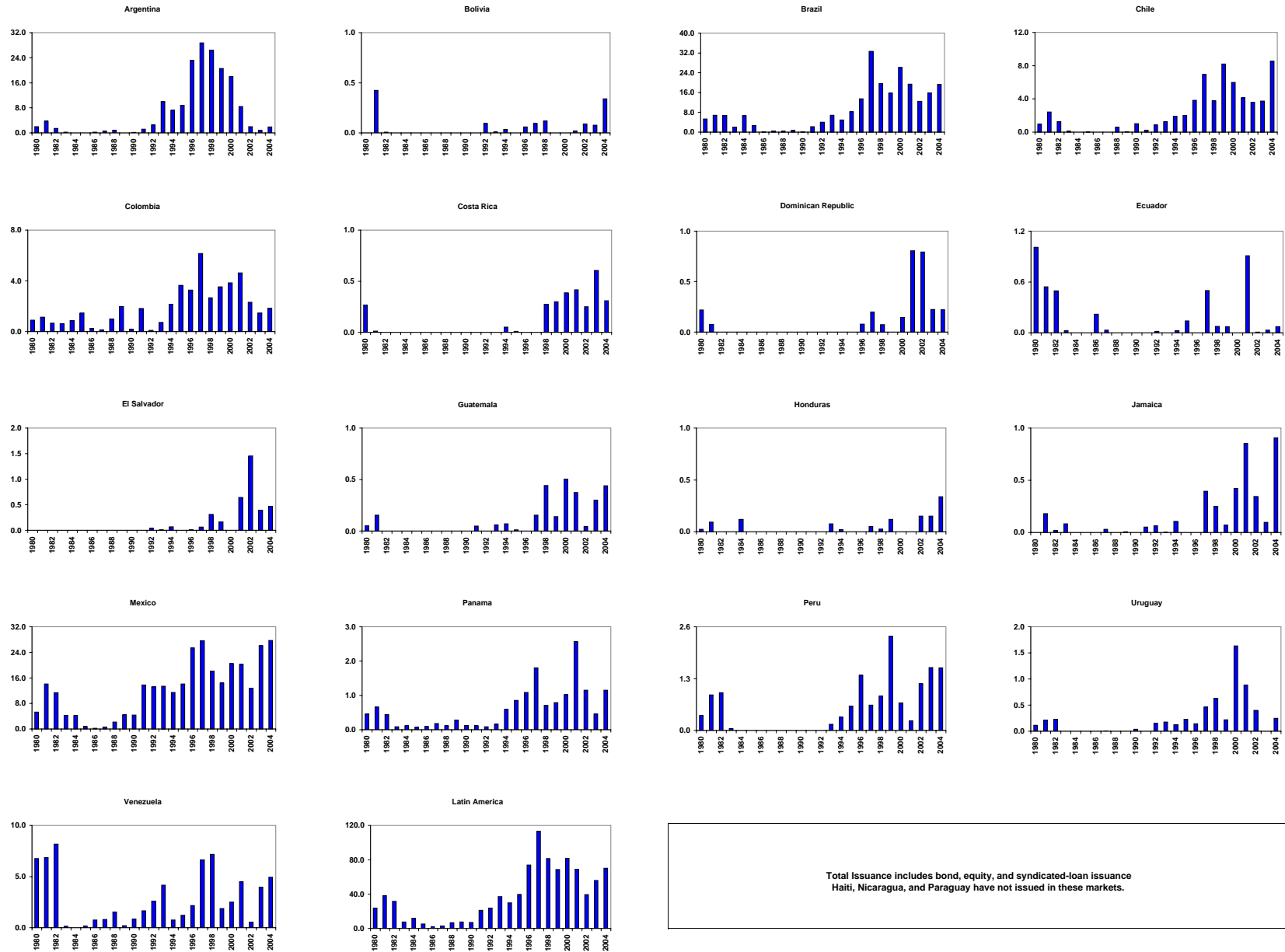
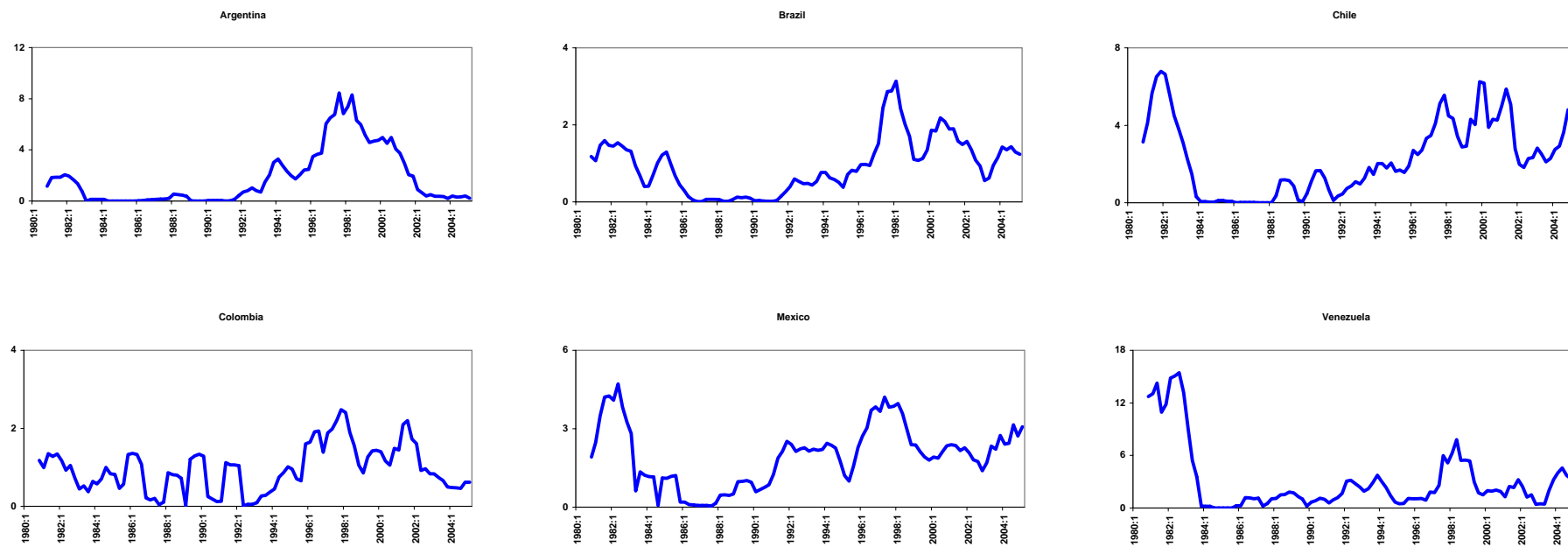
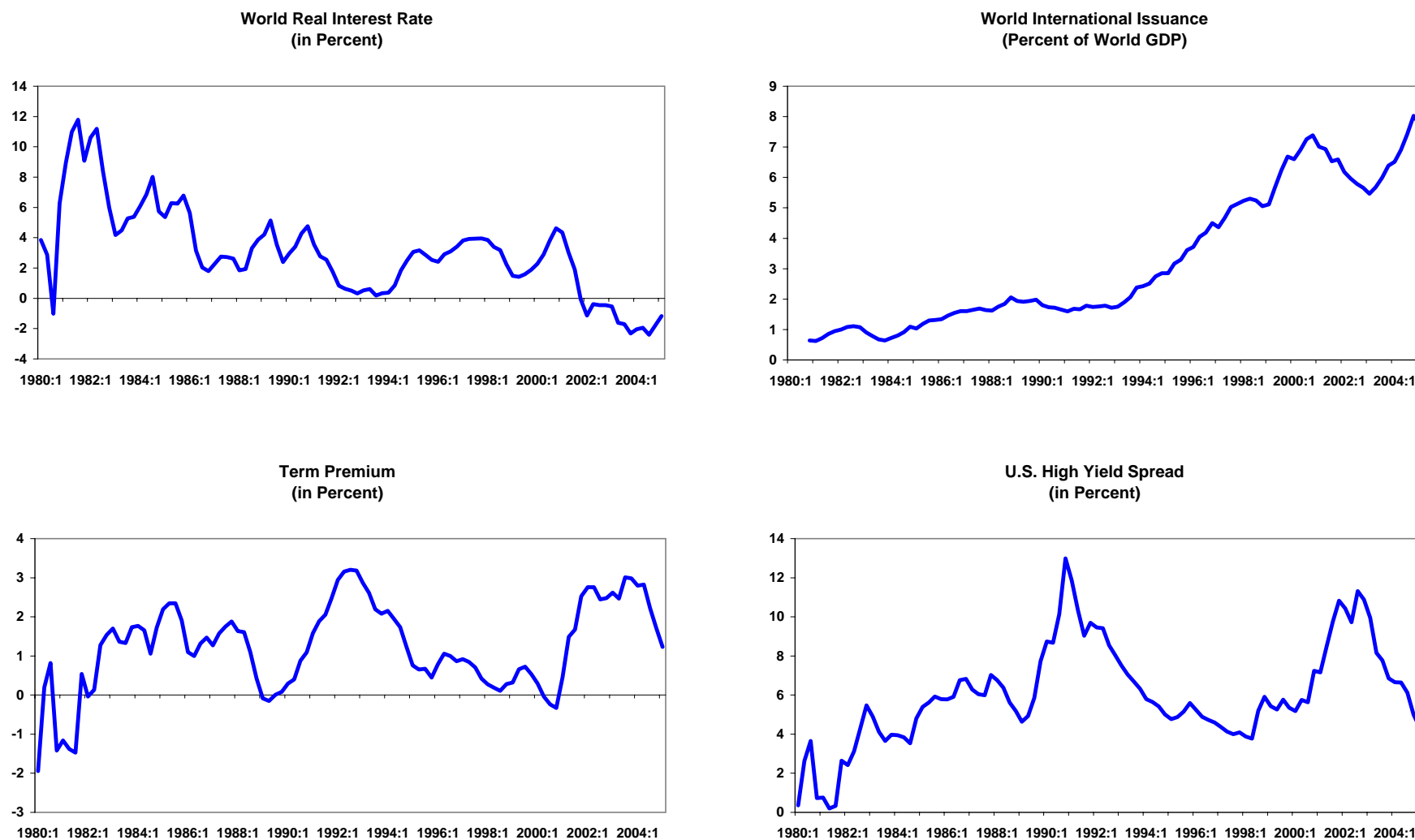


Figure 6  
Total Gross Issuance in International Capital Markets  
(in Percent of GDP)



Notes: 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  
Sources: Dealogic and World Economic Outlook Database, IMF.

**Figure 7**  
**External Indicators**



Notes: The World Interest Rate is captured with the One-Year U.S. Real Interest Rate. World International Issuance/World GDP is Total Issuance in 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.

Sources: Dealogic, Board of Governors of the Federal Reserve System Database, International Financial Statistics (IMF), and Merrill Lynch.

Figure 8  
Total Gross Issuance in International Capital Markets (Percent of GDP)  
Actual and Predicted Values

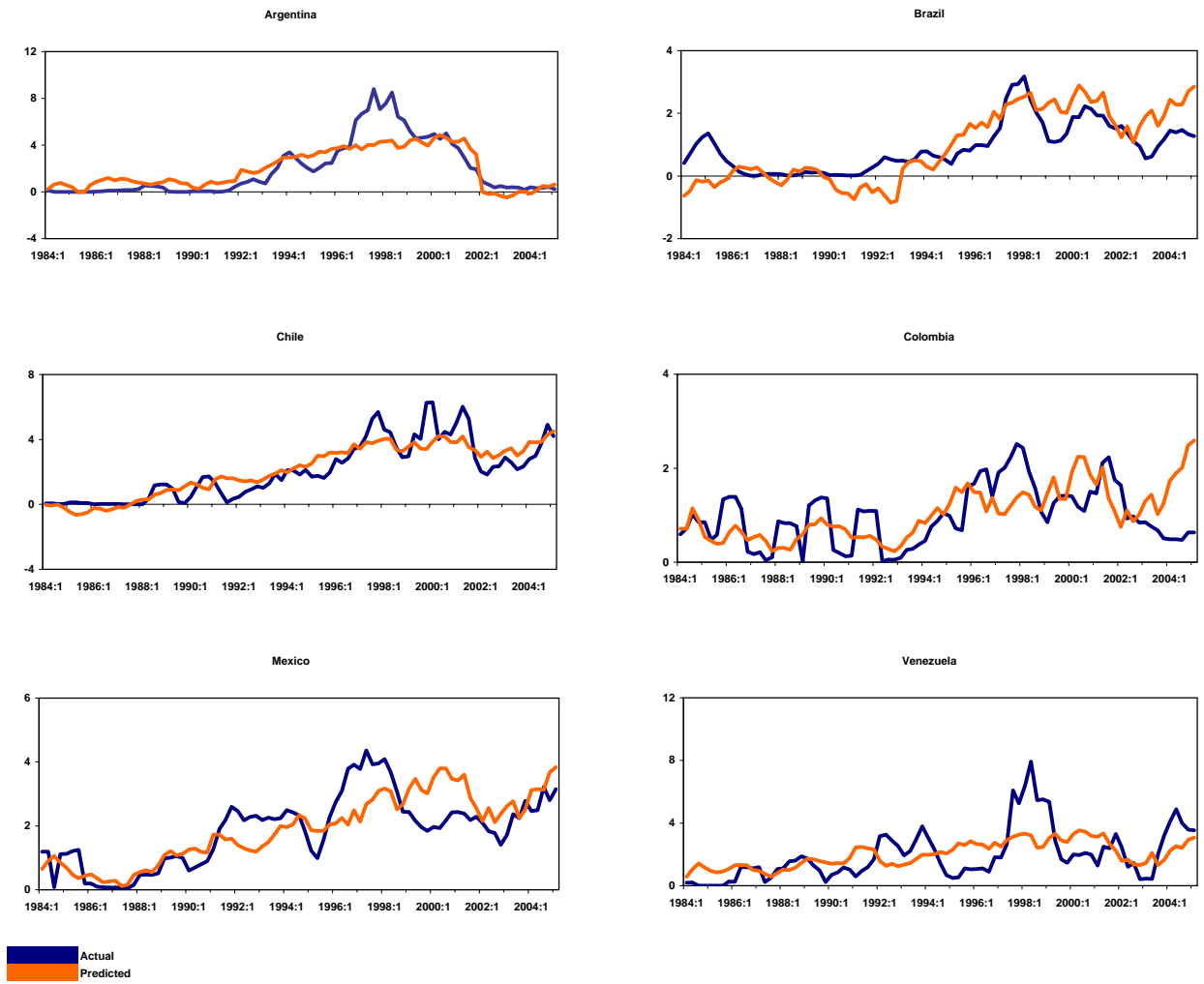
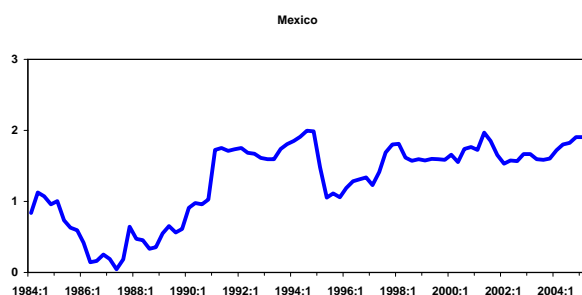
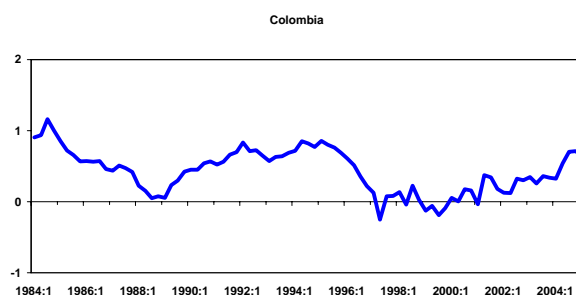
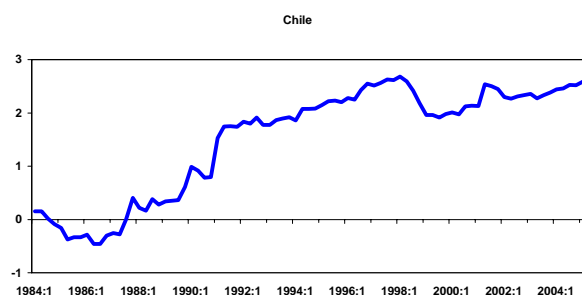
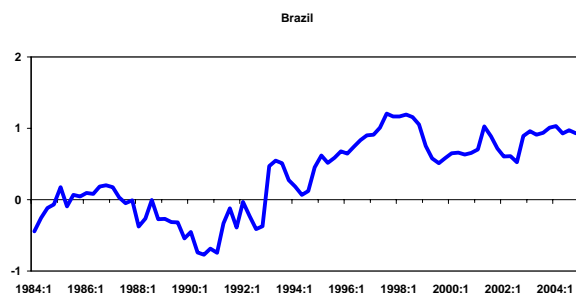
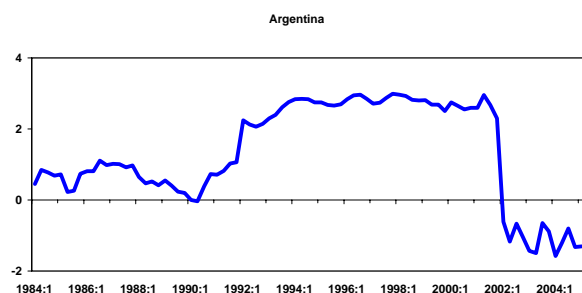
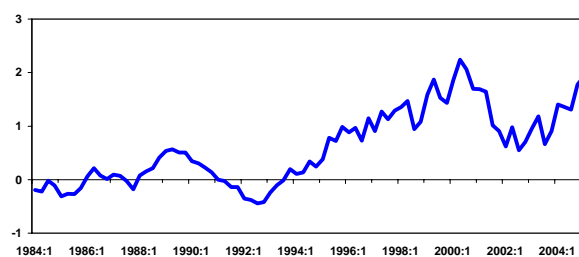


Figure 9  
Estimated Domestic and External Factors

Domestic Factors



External Factor



Note: Domestic and Foreign Factors are predicted issuance as a percent of GDP.

**Table 1**  
**Current Account: Latin America, 1970-2005**  
**(Percent of GDP)**

Country	Mean	Standard Deviation	Minimum	Maximum
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:** World Economic Outlook Database, IMF.



**Table 2**  
**Components of the Current Account, Latin America, 1970-2005**  
**(in Percent of GDP)**

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

**Source:** World Economic Outlook Database, IMF.

**Table 3**  
**The Balance of Payments: Latin America, 1970-2005**  
(in Percent of GDP)

Periods	Current Account	Total Transfers	Errors and Omissions	Capital Account	Capital Flows		Changes in Reserves
					Official	Private	
	High Income Countries						
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
	Middle Income Countries						
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
	Low Income Countries						
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:** World Economic Outlook Database, IMF.

**Table 4**  
**Latin America Access to International Capital Markets**

Year	Total Issuance (Number of Issues)					
	Bonds		Equities		Syndicated Loans	
	Public	Private	Public	Private	Public	Private
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 America Access to International Capital Markets**

Year	Total Issuance (Billion Dollars)					
	Bonds		Equities		Syndicated Loans	
	Public	Private	Public	Private	Public	Private
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)**

Explanatory Variables	I	II	III	IV	V	VI	VII
<b>Growth</b>	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)
<b>Inflation</b>	-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)
<b>Openness</b>				-0.02 (-1.05)			
<b>Political Risk</b>	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)***
<b>Real Exchange Rate Volatility</b>	-8.3 (-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)
<b>Terms of Trade</b>					-0.01 (-0.80)		
<b>Emerging Market Crises</b>			-0.24 (-1.99)*	-0.25 (-2.08)*	-0.27 (-2.28)**	-0.24 (-1.98)*	-0.20 (-1.66)
<b>High Yield Spread</b>						-0.14 (4.85)***	
<b>Term Premium</b>	-0.27 (-1.95)*	-0.27 (-2.59)**	-0.27 (-2.60)**	-0.28 (-2.54)**	-0.27 (-2.46)**		
<b>U.S. Real Interest Rate</b>							0.12 (1.70)
<b>World Issuance/ World GDP</b>	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)***
<b>(World Issuance/World GDP)*Default</b>		-0.42 (-5.33)***	-0.40 (-5.24)***	-0.43 (-4.91)***	-0.41 (-5.69)***	-0.40 (-6.50)***	-0.40 (-4.57)***
<b>Constant</b>	-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)
<b>Number of Observations</b>	510	510	510	510	510	510	510
<b>R2 within</b>	0.50	0.58	0.58	0.58	0.59	0.59	0.58
<b>R2 between</b>	0.39	0.10	0.11	0.05	0.15	0.12	0.12
<b>R2 overall</b>	0.50	0.53	0.53	0.50	0.54	0.54	0.53

**Notes:** t-statistics in parentheses. \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively.

**Table 7**  
**Pooled OLS Estimates**  
**(1984-2005)**

Explanatory Variables	I	II	III	IV	V	VI	VII
<b>Growth</b>	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)
<b>Inflation</b>	-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)***
<b>Openness</b>				0.01			
				(0.57)			
<b>Political Risk</b>	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)***
<b>Real Exchange Rate Volatility</b>	-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)
<b>Terms of Trade</b>					-0.01		
					(-2.41)**		
<b>Emerging Market Crises</b>			-0.21	-0.20	-0.26	-0.21	-0.15
			(-1.58)	(-1.50)	(-1.96)*	(-1.55)	(-1.29)
<b>High Yield Spread</b>						-0.14	
						(3.87)**	
<b>Term Premium</b>	-0.29	-0.3	-0.29	-0.28	-0.28		
	(-1.99)*	(-2.39)**	(-2.39)**	(-2.31)**	(-2.19)**		
<b>U.S. Real Interest Rate</b>							0.13
							-1.71
<b>World Issuance/World GDP</b>	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)***
<b>(World Issuance/World GDP)*Default</b>		-0.31	-0.31	-0.3	-0.3	-0.3	-0.3
		(-3.71)**	(-3.68)**	(-3.8)**	(-3.61)**	(-4.15)***	(-3.23)**
<b>Constant</b>	-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)
<b>Observations</b>	510	510	510	510	510	510	510
<b>R-squared</b>	0.50	0.54	0.54	0.55	0.55	0.55	0.54

**Notes:** t-statistics in parentheses. \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively.

**Table 8**  
**Tobit Estimation**  
**(1984-2005)**

Explanatory Variables	I	II	III	IV	V	VI	VII
<b>Growth</b>	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)
<b>Inflation</b>	-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)**
<b>Openness</b>				0.01 (1.83)*			
<b>Political Risk</b>	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)***
<b>Real Exchange Rate Volatility</b>	-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)
<b>Terms of Trade</b>					-0.01 (-4.13)***	-0.01 (-4.25)***	
<b>Emerging Markets Crises</b>			-0.20 (-0.84)	-0.20 (-0.82)	-0.24 (-1.08)	-0.19 (-0.83)	-0.13 (-0.60)
<b>High Yield Spread</b>						-0.13 (-5.79)***	
<b>Term Premium</b>	-0.29 (-5.45)***	-0.29 (-5.71)***	-0.29 (-5.73)***	-0.29 (-5.68)***	-0.28 (-5.61)***		
<b>U.S. Real Interest Rate</b>							0.12 (4.00)**
<b>World Issuance/World GDP</b>	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)***
<b>(World Issuance/World GDP)*Default</b>		-0.30 (-7.01)***	-0.32 (-7.02)***	-0.31 (-6.87)***	-0.31 (-6.94)***	-0.31 (-6.87)***	-0.30 (-6.63)***
<b>Constant</b>	-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)
<b>Observations</b>	510	510	510	510	510	510	510
<b>Pseudo R<sup>2</sup></b>	0.20	0.21	0.22	0.21	0.23	0.22	0.21

**Notes:** t-statistics in parentheses. \*, \*\*, \*\*\* denote significant at 10%, 5%, and 1%, respectively.

**Table 9**  
**The Role of Domestic and External Factors**

Episodes	Factors		Total Change
	External	Domestic	
	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

**Notes:** 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.