Latin America:
Access to International Capital Markets. Good behavior or Global Liquidity?

Ana Fostel and Graciela Kaminsky
Department of Economics
George Washington University
Washington, DC 20052

This Version: October 2006

I. Introduction

Latin America has had an active presence in international markets since independence in the early 19th century. But participation has been quite volatile. In the early 1800s, international borrowing finances the wars of independence. But the boom that started in 1822 with a loan to Colombia ended in 1826 with Peru's default. Other period of marked expansion in international borrowing occurred in 1867-1872, 1893-1913, and 1920-1929. As in the 1820s, most of these episodes end with defaults. In the aftermath of the crisis of the 1930s international capital markets all but disappear, with Latin America becoming unable to borrow again. Only by the 1970s, Latin America starts to participate again in international capital markets, with capital inflows reaching 41 billion dollars in 1981. However, when Mexico defaults in 1982, all Latin American countries lose access to international capital markets. The Brady debt-relief program in 1989 allows Latin America to tap international capital markets again, with capital flows surging again and reaching 100 billion dollars in 1997. But again the boom turned into a bust in the late 1990s, with net capital inflows turning into net outflows in 2004 and fueling concerns about the end of the era of financial globalization.

The boom-bust pattern in Latin America participation in international capital markets raises the question of whether erratic international capital markets are at the core of this volatility 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 in international primary gross issuance.

We cast our net wide and collect issuance data for 20 Latin American countries. The data collected paints a picture of three typical economies. The first type of country is one 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 type of country 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 is good country behavior or global liquidity at the heart of the ins and outs of international markets.

The paper proceeds 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, we present our new dataset of gross issuance in three international capital markets: bonds, equities, and syndicated loans. Our focus is on measuring the extent of participation across countries and over time. This section includes a panel estimation to untangle whether it is volatile capital markets or volatile Latin American economies at the heart of the boom-bust pattern in access to markets. Section IV concludes.

II. The Stylized Facts

First, we examine the current account behavior as well as the financing pattern via official and private capital flows since 1970. Second, we look at gross primary issuance in international capital markets to gauge a measure integration of the region to these markets.

A. The Current Account and Net Capital Inflows

Figure 1 shows the average behavior of the current account (as a percent of GDP) for the twenty countries in our sample. There are several features worth noticing: First, on average, Latin America has run current account deficits during the past forty years, indicating that part of the spending has on average been financed by foreign savings. Second, on average, the current account shows clearly pronounced cycles, with the late 1970s, the beginning of the 1980s, and the 1990s being high-deficit episodes. The earlier 1980s show the highest deficits, peaking at about 8 percent of GDP in 1981. Third, while there is a clear boom-bust pattern in current account deficits during this period, these cycles seem to become less pronounced in the later periods, with the deficits peaking at about 5 percent of GDP in 1993 and 1998.

Figure 2 looks at the type of capital flows financing those deficits. It 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. Unlike the current account behavior, cycles in international capital flows have become more pronounced in the later periods. During the first capital-inflow episode, total capital flows increased about 15 times, from about 4 billion dollars in 1970 to 51 billion dollars in 1981. In the 1990s, total capital inflows increased 22 times from about 5 billion dollars in 1983 to 100 billion dollars in 1997. Reversals also became more dramatic in the later part of the period. While in the 1980s the reversal (from peak to through) reached 92 percent, in the 1990s the reversal was somewhat more pronounced 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 1.4 billion dollars in 1972 to dry out in the 1880s, with capital inflows turning into 4 billion dollars 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.[1]

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 from 1965 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 14 percent of GDP for Nicaragua to a surplus of 3 percent of GDP for Venezuela. Nicaragua, records the highest volatility in current account balances over the sample, with a maximum of 12 to a minimum of -37 percent of GDP. The current account of Venezuela is also quite volatile oscillating between a maximum of 7 to a minimum -12 percent of GDP. While still volatile, the richer countries in our sample show smaller fluctuations over time.

Tables 2-4 show the evolution of the current account and capital account behavior over 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.[2] 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

[1] 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).

[2] 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 capital lower than 5000 dollars.

to the data shown in Figure 2, we identify two episodes of booms in capital inflows[3]: 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 4 percent of GDP compared to deficits of just 3 percent of GDP in high income and medium income countries. Second, current account deficit in all groups are the highest during the episode of high capital inflows during 1976-1981. While current account deficits also increase during the high capital inflow episode of the 1990s, the current account deficits only increase for high income countries. Third, overall the smaller current account deficits in medium and low income countries starting in the late 1990s are due to a sharp increase in private transfers (workers remittances). Official transfers to low income countries also sharply increase starting in the late 1980s. The higher transfers to low income countries since 1990 have financed substantially higher spending as shown in the higher deficits in the trade account.

Table 3 shows the patterns of domestic savings, investment, private and public consumption. This table suggests a time-varying pattern in consumption and investment behavior. Until the end of the 1980s, investment in all countries in our sample is quite volatile, surging during the 1976-81 capital-inflow episode and collapsing in the aftermath of the 1982 debt crisis. Investment (as a share of GDP) declines 4 percentage points in high income countries, 5 percentage points in medium income countries, and 1.5 percentage points in low income countries. In contrast, after the debt crisis, consumption (as a share of GDP) declines only 1 percentage point in high income countries and even increases about 3 percentage points in medium and low income countries. The 1990s show a different picture. First, with the capital-flow boom-bust behavior in high and medium income countries since 1990 being far less pronounced compared to the 1980s, fluctuations in trade imbalances have also become less volatile. As a result, the need for adjustment in consumption and investment following the crisis in the late 1990s is smaller. Interestingly, during this period the adjustment in consumption and

[3] We define boom and bust periods according to a 5-year moving average of total capital flows to the region.

investment are quite similar (about 1 percentage point) whereas in the 1980s investment takes the largest toll. Second, the saving-investment picture in low income countries also becomes quite different following the substantial increase in workers remittances. Trade deficits increase to about 14 percent of GDP in the 1999-2005 period, fueling a surge in investment (the investment share in GDP increases 3 percentage points). Naturally, workers remittances also allow a reduction in domestic savings (as a share of GDP) of about 2 percentage points.

Table 4 shows the financing of the current account. For reference purposes, the second column of this table shows total transfers. This table brings to the attention 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 is 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 is important to examine the behavior of official capital flows to these last two groups of countries. In particular, it is important to examine whether official capital flows to each country tend to counterbalance the gyrations of international capital markets, providing more official funding in times of illiquid markets or whether they amplify the boom-bust pattern of private capital flows.

B. Gross Issuance in International Capital Markets

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. To have a better grasp of financial integration, we look at gross issuance in three international markets: bonds, equities, and syndicated loans markets from 1980 to 2004. The data we use is obtained by Dealogic, who 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 gross international issuance in the three markets. The blue bars show issuance in the international bond market, which includes Euro market offerings,[4] global bonds,[5] and foreign offerings.[6] The yellow bars show international equity issuance, which 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 ADRs). Finally, the red bars show gross issuance in the syndicated loan market. International syndicated loans are all the loans granted by two or more financial institutions with the nationality of at least one of the syndicate banks being different from that of the borrower.[7] As shown in this figure, during the first episode of international capital inflows, access to the international capital market takes the form of syndicated bank loans. Gross issuance in this market peaks at 37 billion dollars in 1981 but basically disappears in the mid-1980s following the 1982 Debt Crisis. By 1986 Latin American total gross issuance in international capital markets is just 5 percent of the issuance in 1981.

By the end of the 1980s, a new development ends with the isolation of developing countries from international capital markets: The Brady plan,[8] which reduced the debt burden of emerging markets, and its initiative to restructure defaulted loans into bonds collateralized by U.S. Treasury Bonds in 1989[9] create, almost overnight, a market for sovereign emerging market bonds. As investor confidence in emerging markets countries starts to recover gradually, both the government and the private sector start issuing bonds in international capital markets, with

[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).
[5] Global bonds are single offerings structured to allow simultaneous placement in major markets: Euro, US, and Asia.
[6] Foreign bonds are bonds issued by firms and governments outside of the issuer's country, usually denominated in the currency of the country in which they are issued. 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.
[7] 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
[8] The key innovation of the Brady Plan is to allow the commercial banks to exchange their claims on developing countries into tradable instruments, allowing them to eliminate the debt from their balance sheets.
[9] Brady bonds are Dollar denominated bonds, named after U.S. Treasury Secretary Nicholas Brady, traded on the international bond market, allowing emerging countries to transform nonperforming debt into mostly collateralized bonds. 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 country's own foreign exchange reserves. Interest payments on Brady bonds are in some cases also guaranteed by securities of at least double-A rated credit quality held with the New York Federal Reserve Bank.

Latin American countries bond issuance 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, also provides 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 is the forceful development of an international equity market. In this decade, Latin American corporations not only start to raise capital in the highly unregulated international bond and syndicated loan markets, but also start to participate in regulated equity markets in various financial centers. Many firms start to raise capital in the United States through the creation of American Depositary Receipt Programs, with ADRs being traded on US stock markets in lieu of the foreign shares. Since 1990, Latin America international equity issuance averages 3 billion dollars.[10]

As we discussed when examining capital flows to Latin America, following the Asian and Russian crises, net capital flows to Latin America dwindle to a trickle (with capital inflows turning into outflows in 2004) suggesting that the era of international financial integration may have come to an end at least for Latin America. Interestingly, the evidence from gross issuance in bond, equity, and syndicated loan markets paints a somewhat different picture. While in the late 1980s 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.

Tables 5 and 6 focus on access to international capital markets by the public and the private sector. Table 5 reports the number of issues and Table 6 reports the value of total issuance. There are some interesting features worth. First, as shown in Table 5, 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 70 percent of total issues. In value terms, public issuance amounted to 75 percent during the 1980s and only 50 percent since 1990. Second, while private

[10] The magnitude of equity issues is not directly comparable to the magnitude of debt issues because unlike equity, bonds have finite maturities. Firms typically roll over bonds at maturity, and hence a part of the debt issues go towards refinancing old debt and only the remaining part is new capital.

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).

Figure 4 and 5 look at these data at the country level. Figure 4 reports total volume of gross issuance and Figure 5 reports number of issues. 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, 486 issues respectively. The second group comprises Bolivia, Costa Rica, Dominican Republic, El Salvador, Guatemala, Honduras, Jamaica, Panama, Peru and Uruguay with less than 200 issues. 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.

III. Access to International Capital Markets: Domestic and External Factors

In this section, we examine in more detail the evolution of Argentina, Brazil, Chile, Colombia, Mexico, and Venezuela primary issuance in international capital markets. We focus on the pattern of total gross international issuance as a percent of GDP in dollars at PPP levels. The patterns are 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. It is worth noticing that during the earlier part of the sample, these countries fared quite similarly, with pronounced and protracted reversals in the aftermath of the debt crisis in 1982.[11] On the other hand, their performance in international capital markets in the aftermath of the Russian crisis seems to be different. To provide a yardstick of continuity of access to international capital

[11] The data for Colombia obscures somewhat the extent of the reversal following the debt crisis. There were few large loans in 1985:4, 1998:1, 1989:2.

markets, we estimated the average gross issuance (as a percent of GDP) since 2000 as a proportion of gross issuance (as a percent of GDP) during the peak in the 1990s. This index of access to international capital markets ranks the six countries as follows: Chile = 0.63, Mexico = 0.57, Brazil = 0.45, Colombia = 0.43, Venezuela = 0.29 and Argentina = 0.20, indicating that Chile and Mexico have been the best performers while Argentina and Venezuela had suffered the worst reversals. In the rest of this section, we examine the determinants of the changing performance of these six Latin American countries in the international capital markets.

A. The supply and demand of funds.

In order to examine patterns of access to international markets consider the following model of supply and demand of financial funds with special attention to the role of external and domestic factors.

(i) $S = f(r, r^*, \theta, gl, y, mp, pr, op)$

(ii) $D = g(r, op, \sigma_{rex}, y)$

where r is the instrument's return, r^* is the world nominal interest rate, θ is some measure of investor risk aversion, gl is global liquidity, y is output growth, mp is a measure of macroeconomic policy, pr is political risk, op is the degree of openness and, σ_{rex} is the real exchange rate volatility.

One would expect that the supply of funds depends on the arguments in the following fashion: $\partial f/\partial r^* < 0$, $\partial f/\partial \theta < 0$, $\partial f/\partial gl$, $\partial f/\partial y > 0$, $\partial f/\partial mc > 0$, $\partial f/\partial pr > 0$, $\partial f/\partial op > 0$. The lower the world interest rate the higher the supply, assuming the emerging markets assets and US assets are substitutes. Also it will be negatively related to investor risk aversion. The positive relationship with global liquidity is clear. Output growth will signal better future repayment ability. Macroeconomic policy stability also reduces the probability of default. The lower the political

risk the lower the probability of default. Finally, the more open the economy is, the more integrated the country to international markets and hence the higher the cost of default.

On the demand side we would have that $\partial g/\partial op > 0$, $\partial g/\partial \sigma_{rex} < 0$, $\partial g/\partial y >(<) 0$. The more open the economy, the higher the foreign denominated asset that could be match by foreign denominated liabilities. On the other side, the higher the real exchange rate volatility, the higher the risk of mismatches. And finally, the influence of output growth is ambiguous. From one side, more output growth could lead to more domestic savings crowding out the need of outside funding. However, a higher output growth could lead to a Fisherian motive for borrowing today.

B. External Factors

Previous research on external factors has focused on the role of liquidity in international capital markets and world economic conditions. We now discuss the various indicators to capture these external conditions.

World Real Interest Rate: Most previous literature has used U.S. real interest rates to capture the degree of liquidity of international capital markets. See, for example, Calvo, Leiderman, and Reinhart (1993). They find that external factors account for about 50 percent of the forecast error variance of official reserves and the real exchange rate of ten Latin American countries. However, the real interest rate cannot capture completely the extent of liquidity in international capital markets, specially with international capital markets evolving from quite fragmented in the 1970s to a market with a variety of instruments in the 1990s To capture the evolution of international capital markets we construct a direct measure of liquidity.

Global Liquidity: Following the crises in the 1930s, international capital markets all but disappear. They start to recover in the 1970s. At the core of this recovery is the collapse of the Bretton Woods System in 1973.[12] With no need to defend the peg, countries can choose their

[12] The origins of the financial developments of the 1980s and 1990s can be traced to two market developments in the late 1950s and 1960s. In 1957, the British government introduces new financial restrictions to stop the speculation

own monetary policy without the need to restrict capital mobility and thus a new era of financial liberalization begins. As early as July 1973, United States eliminates 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 benefit from these developments in the 1970s, when the excess savings of OPEC countries are channeled through the euro dollar market to Latin America, with borrowing taking the form the form of syndicated loans. By the mid 1980s, the wave of international financial liberalization also embraces European countries as they move towards the European Monetary System.[13] Primary issuance in international capital markets increase more than 6-fold from 82 billion dollars in 1980 to 500 billion dollars in 1989. By the end of the 1980s, the Brady plan and its initiative to restructure defaulted loans into bonds collateralized by US treasuries in 1989 create, almost overnight, a market for sovereign emerging market bonds. As investor confidence in emerging markets countries starts to recover gradually, both the government and the private sector start issuing bonds in international capital markets. Emerging markets issuance in international capital markets increase 8-fold from 42 billion dollars in 1989 to about 350 billion in 1996. A new feature of financial integration in the 1990s is the forceful development of an international equity market. In this decade, corporations not only start to raise capital in the highly unregulated international bond and syndicated loan markets, but also start to participate in regulated equity markets in various financial centers. With financial integration of the world's capital markets escalating, firms are now able to issue equity underwritten and distributed in multiple foreign equity markets, sometimes simultaneously with distribution in the domestic market, in what is known as the Euroequity market. Finally, there is a theoretical literature that studies the role of international liquidity (and liquidity constraints) in determining emerging countries' access to international markets. See Caballero-Krishnamurthy(2001), Fostel

---

against the pound. The restrictions make London-based banks create a new market to avoid losing their share of financial transactions, with the banks' dollar deposits starting to be used to provide dollar loans in an unregulated market. This is the beginning of the Eurodollar market. Other events increase the liquidity of this market. The first is the Cuban crisis, with Russian banks moving their dollar reserves from the United States to London. The second event is also the product of another defense of the domestic currency against speculative attacks. This time the currency under attack is the U.S. dollar, with the U.S. government, as the British government did in 1957, introducing capital account controls in 1964. U.S. based-banks, like their British counterpart in the 1950s, turn to the Eurodollar market to avoid the restrictions that could imperil their operations.

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

(2005). In our estimation we use as a proxi for "world liquidity" the total issuance in international capital markets as a share of world output.

Term Premium: Liquidity in international capital markets may also be affected by investors' liquidity premium. Our first measure is an estimate of the international term premium calculated as the difference between the U.S. 10-year-note yield minus the U.S. 1-year Treasury Bill rate.

High Yield Spread: Investor's risk aversion can also explain emerging markets issuance. We will approximate this variable by the fluctuations in yields of risky firms (relative to the yield on a safe asset). This is, the yield spread between high-yield bonds in industrial and emerging economies and the one–year U.S. Treasury Bill rate. This index is constructed by Merryl Lynch. Fostel (2005) studies the relationship between emerging market bond spreads and High Yield spreads in a theoretical model explaining why in equilibrium the prices of these two assets under the presence of liquidity constraint may exhibit correlation despite different fundamentals.

World Economic Activity: External economic conditions may change the availability of funds in international capital markets**.** For example, with the United States drifting into recession in the early 1980s, investors search for opportunities elsewhere, for example Latin America. We construct an index of world economic activity using data from the G-7 countries.

Terms of Trade: World economic conditions can affect the terms of trade of small open economies, such as that of Latin American countries, with higher terms of trade improving export and overall economic performance. In the mid-1970s the value of Latin American exports rose by 40 percent and the purchasing power of exports increased by about 15 percent. Interestingly, it is precisely at times of improved export performance that Latin-American countries have better access to international capital markets. Our data for terms of trade is obtained from World Economic Outlook database, IMF.

C. Domestic Factors

Traditionally, when examining international capital flows, most research has focused on whether capital flows are attracted by a growing economy, stable macroeconomic policies, and good institutions.

Macroeconomic policies: 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. To capture fiscal austerity and conservative monetary policies we use the CPI rate of inflation.

Economic Activity: As we discussed before, economic activity, may signal stronger ability of future repayment. Since we do not have GDP data at quarterly frequency, we use as a proxy quarter industrial production from International Financial Statistics (IFS) data base.

Real Exchange Rate volatility: Real exchange volatility is also taken from the IFS data base, and we calculate the volatility as a 8-quarter rolling standard deviation of the log of the variables.

Index of 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 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 rank in the 80-100 percent range is considered very low risk while a country ranked below 50 percent is considered very high risk.

Openness: We calculate openness as the sum of exports and imports over GDP. The source is quarterly data from IFS.

D. Panel data estimation

In order to estimate the relative contribution of external and domestic factors we solve for the equilibrium in the system of equations (i) and (ii) above getting a reduced form equation that relates issuance with the rest of the variables. This is the equation to be estimated.

(iii) $Is = h\,(r^{*},\ \theta,\ gl,\ y,\ mp,\ pr,\ op,\ \sigma_{rex})$.

We consider six countries, Argentina, Brazil, Chile, Colombia, Mexico and Venezuela from 1980 to 2005 and run a fixed effects panel estimation adjusting standard errors for country-specific correlation using Huber/White/sandwich procedure. To mitigate potential endogeneity biases, variables enter the regressions lagged one period. Table 7 reports the results for a variety of alternative specifications.

Regression (I) includes political risk, real exchange volatility and global liquidity as variables. All of them are significant and have the sign predicted by theory. The higher the political risk index, the less the political risk associated with the country, the more the issuance. The higher the real exchange rate volatility is the less the issuance. Last, the higher the global liquidity is the higher the country's issuance. These variables prove significant in all the different specifications shown in the table. Regressions (II) and (III) add inflation, industrial production growth and the liquidity premium to the previous ones. The new variables are also significant and with the correct sign. The higher the inflation, the lower the issuance, the higher the production growth the higher the issuance and the higher the liquidity premium the lower the issuance. Regressions (IV) –(VII) replace global liquidity with the US interest rate, and prove new different combinations of variables. First, in all except regression (VII) the US interest rate

is significant and has the expected negative sign. Regressions (IV) and (VII) show that openness is significant as well and has the right positive sign. Inflation remains negative and significant in (IV) and (VII). However, industrial production looses precision in regression (VI). Finally, regression (VIII) presents the results when all variables are considered simultaneously. All variables except openness and US interest rates remain significant and with the correct sign. Although these two remain with the predicted sign they loose significance. All regressions show overall R^2 ranging between 0.4 (in regressions (V) and (VI)) and 0.47((II) and (VIII)), a pretty good fit given the high volatility of quarterly issuance. Moreover, both R^2 within and R^2 between[14] range from .42 and .5 and .29 and 69 respectively.

Figure 7[15] shows the actual dependent variable and the linear prediction of regression (VIII) including the fixed effects. All countries except Argentina have a sensible fit. In this case, by the end of the sample period the fit value predicts a high recovery in issuance. However, actual issuance didn't increase. This result is driven by the spectacular output growth after the 2002 crises included in the regressors.

In checking the robustness of the results we performed augmented Dickey-Fuller unit root tests on the residuals, all of which reject the null at the 10% level. We also included quarter dummies to control for seasonality in issuance, all these variables proved not significant. Finally, we included other variables that we thought could have an effect proving not significant either, like terms of trade and US high yield spreads. The reason for the latter clearly is that the presence of crossover investors treating US junk bonds and Emerging Market bonds is a very recent phenomenon (after 1997).

Finally, we want to resume our discussion about the relative importance of domestic and external factors. In the context of this estimation, as discussed before domestic factors are openness, political risk, inflation, industrial production growth and real exchange rate volatility. External factors are US interest rate, liquidity premium and global issuance. Using the coefficients of regression (VIII) we calculate each factor's contribution to the total explanatory

[14] R^2 within capturing the time variation and R^2 between the cross sectional dimension.
[15] In the remaining figures country codes are the following: 1-Argentina, 3-Brazil, 4-Chile, 5-Colombia, 14-Mexico, 20-Venezuela.

power of the regression. In order to this we need to decide how to treat the fixed effects. We will assume that are equally divided between both, assigning half of the fixed effects to domestic and external respectively. [16]

Figure 8 shows for each country domestic and external factors as well as the linear prediction. Figure 9 provides a higher resolution picture at the domestic factors by country. There are several things that stand up. First, the influence of the external factors has increased after the mid-nineties. Second, countries differ greatly regarding domestic characteristics. Chile and Mexico show strong improvement in fundamentals after the mid-nineties. Brazil and Colombia a more modest increasing trend and finally, Argentina and Venezuela a strong deterioration by the end of the period.

We next want to study more carefully the relative contribution of each factor after the 1990s, the period in which the external factors have become steadily more important. In order to do so we divide the period in three: 1990-1998, 1999-2001 and 2002-2005. The first and the third are periods of increasing trend in the external factors, whereas the second is the one of decreasing behavior. Table 8 shows the growth rate of each factor (in terms of the total fit) and of the fit itself for each country in these three periods.

It turns out that during the 1990's domestic factors are important for the South Cone: Argentina, Brazil and Chile. On the contrary, external ones were important for Colombia, Mexico and Venezuela. During the second period, domestic factors are relatively more important for Argentina, Brazil, Chile and Venezuela. External ones were for Colombia and Mexico. Finally, in the last period of boom, in all countries the external factors are the most important ones.[17]

All this suggests that sound fundamentals are important, however during the last 4 years global liquidity conditions seem to have been explaining a bigger part of these countries' access to international markets than before.

[16] In fact, assuming that fixed effect are only a pull factor does not change greatly the following results.
[17] We do not consider Argentina for this last period given the poor fit of the estimation for this case.

IV. Conclusions

We have studied the Latin American countries participation in international capital markets using data for twenty countries for the period 1970-2005. 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:

1. Overall, the small economies of Latin America have basically not have access to international capital markets, suggesting the presence of a size effect. There seems to be a minimum required liquidity to attract international investors.
2. For the larger economies of Latin America, the evidence in the 1990s suggests that the boom-bust pattern in international issuance has been mainly driven by fluctuations in global liquidity and investor's changing risk behavior. This is specially the case in the resurgence of international issuance since 2002.
3. Still, good behavior matters. Argentina, Brazil, and Chile superb performance in capital markets from 1990 to 1998 has been in large part driven by better fundamentals, from better governance, to higher growth, to macroeconomic stabilization. Again, Argentina's dramatic fall in 1999-2001 can be explained by a pronounced deterioration in institutions as well as the collapse in economic activity.
4. Finally, in contrast with the net capital inflow data, gross issuance data suggests globalization during the last part of the sample has increased, with countries continuing to issue even in times of lower global liquidity.

References

Aizenman, Joshua, "Financial Liberalizations in Latin America in the 1990s: A Reassessment,"

Caballero-Krishnamurthy, "A Dual Liquidity Model of Emerging Markets" May 2002, American Economic Review, Papers and Proceedings, 92(2), 33-37.

Calvo, Sara and Carmen Reinhart, "Capital Flows to Latin America: Is There Evidence of Contagion Effects?" in Guillermo Calvo, Morris Goldstein, and Eduard Hochreiter (eds) *Private Capital Flows to Emerging Markets,* Institute for International Economics, Washington, DC, 1996.

Calvo, Guillermo, Leonardo Leiderman, and Carmen Reinhart, "Capital Inflows and Real Exchange Rate Appreciation in Latin America: The Role of External Factors, *IMF Staff Papers*, Vol. 40 No. 1, March 1993, 108-151.

Calvo, Guillermo, Leonardo Leiderman, and Carmen Reinhart, "Capital Inflows to Latin America: The 1970s and 1990s**,"** in Edmar Bacha, ed. *Economics in a Changing World*, Vol. 4 Development, Trade and the Environment, (London: Macmillan Press, 1994), 123-148.

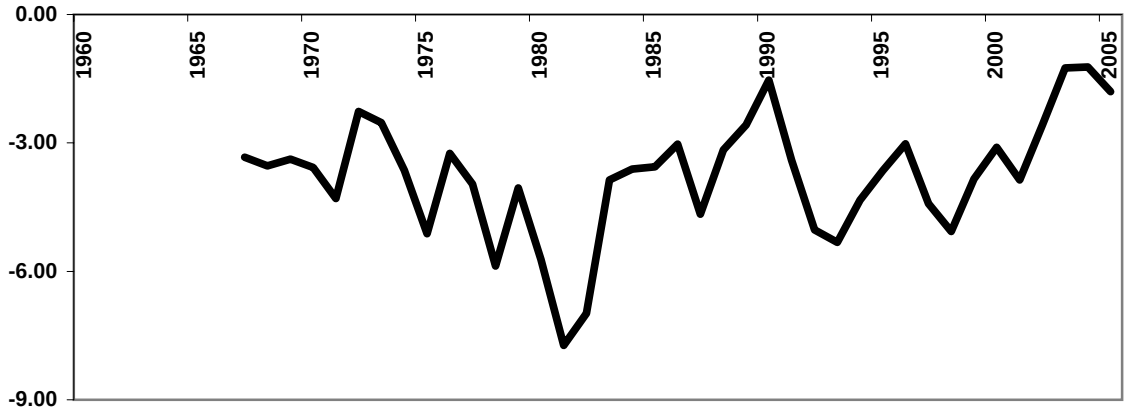
Diaz-Alejandro, Carlos, "Latin American Debt: I Don't Think We are in Kansas Anymore," *Brookings Papers on Economic Activity,* Vol 1984, No. 2, 335-403.

Edwards, Sebastian, "Debt Relief and the Current Account: An Analysis of the HIPC Initiative," mimeo, June 2002.

Fostel, Ana, "A Supply Story: Emerging Markets, High Yield and Market Closures", Mimeo. 2005.

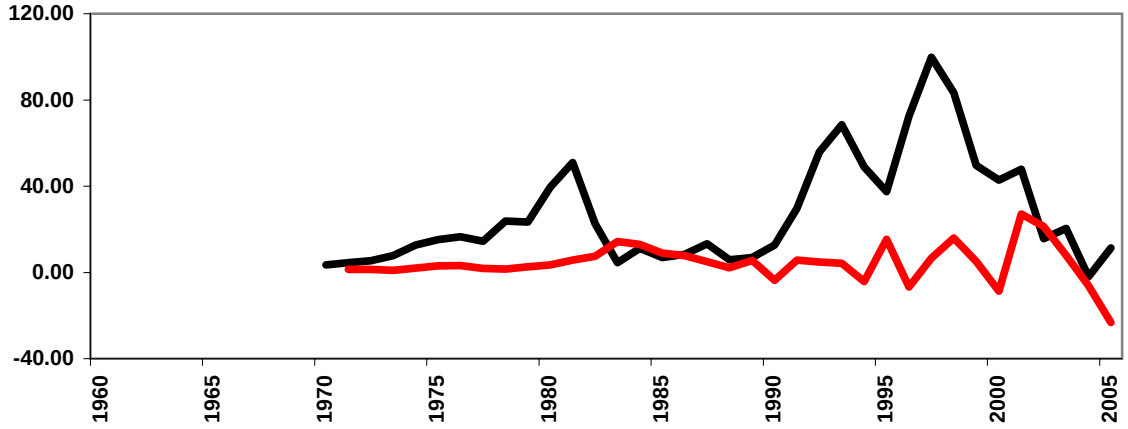
Kaminsky, Graciela and Sergio Schmukler, "Short-Run Pain, Long-Run Gain: The Effects of Liberalization on Financial Markets," National Bureau of Economic Research Working Paper No.

Figure 1
The Current Account: Latin America, 1960-2005



Notes: The current account is measured as a percent of GDP.
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, International Monetary Fund

Figure 2
Net Capital Flows: Latin America, 1960-2005
(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, International Monetary Fund.

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

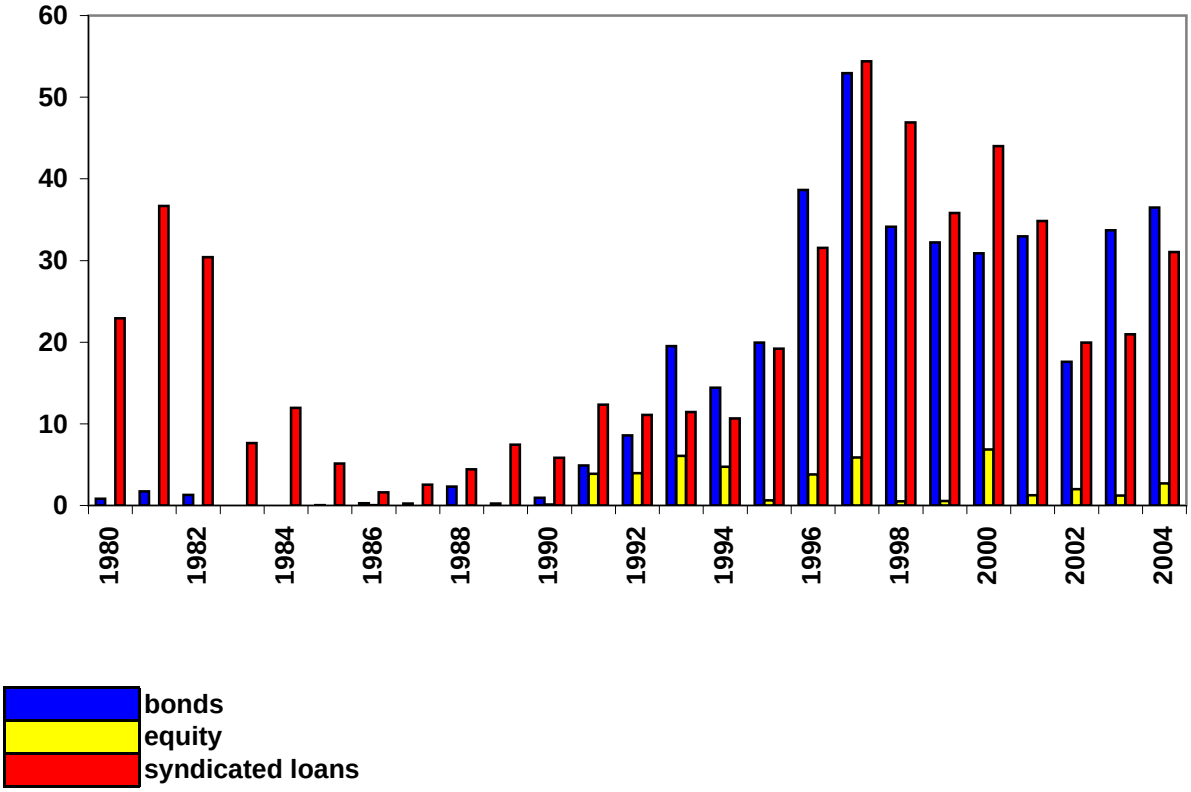
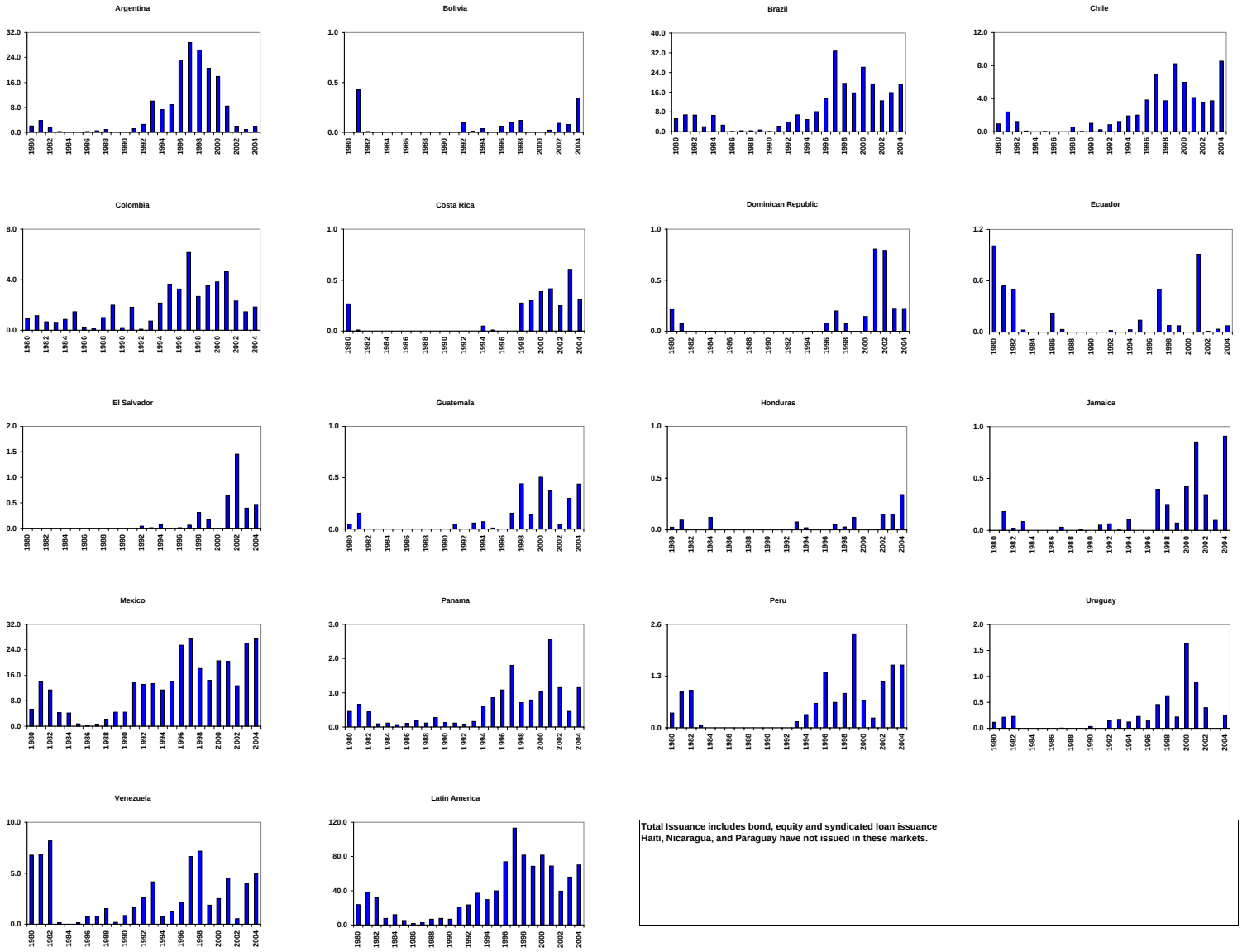
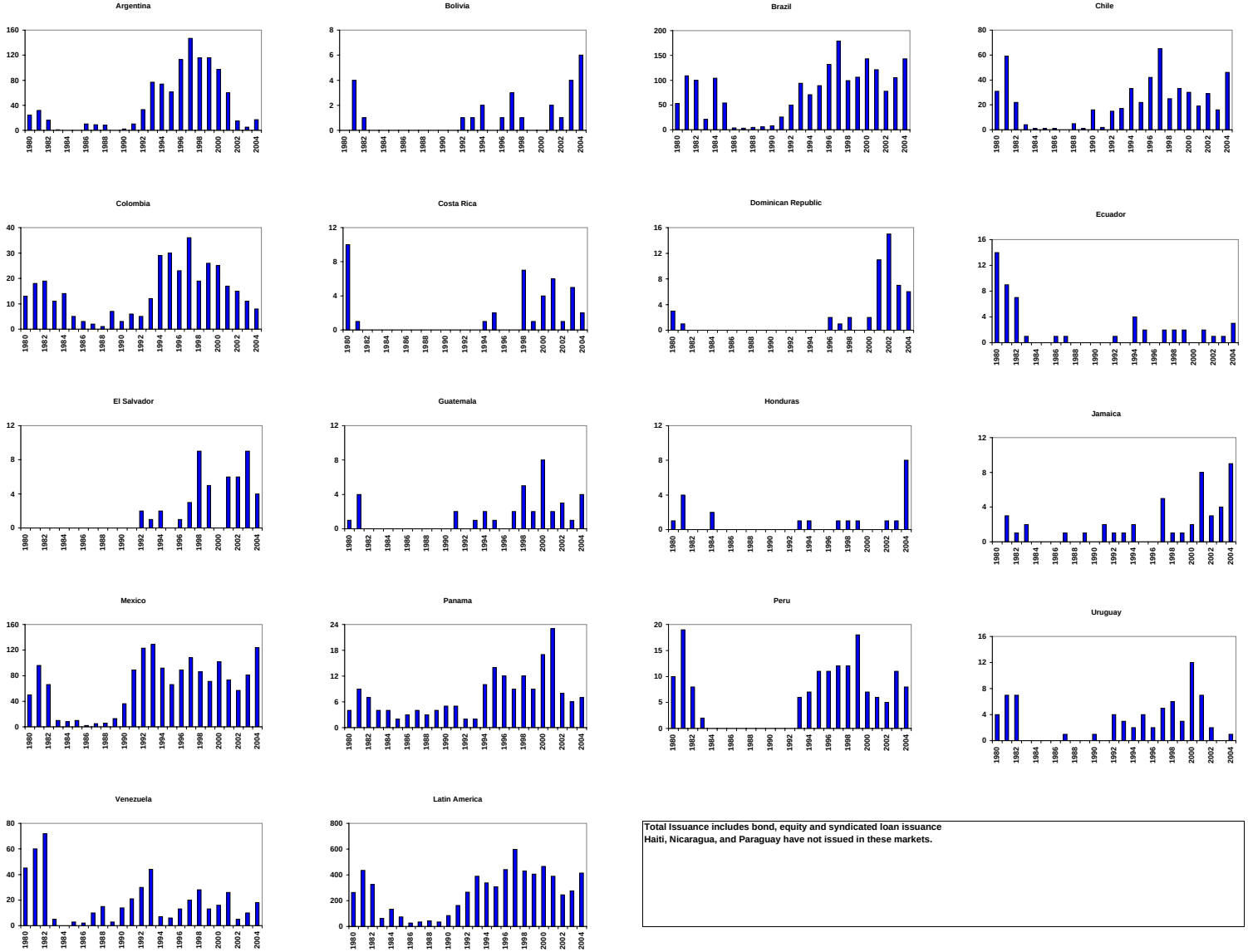


Figure 4
Total Gross Issuance in International Capital Markets
(Billion Dollars)



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

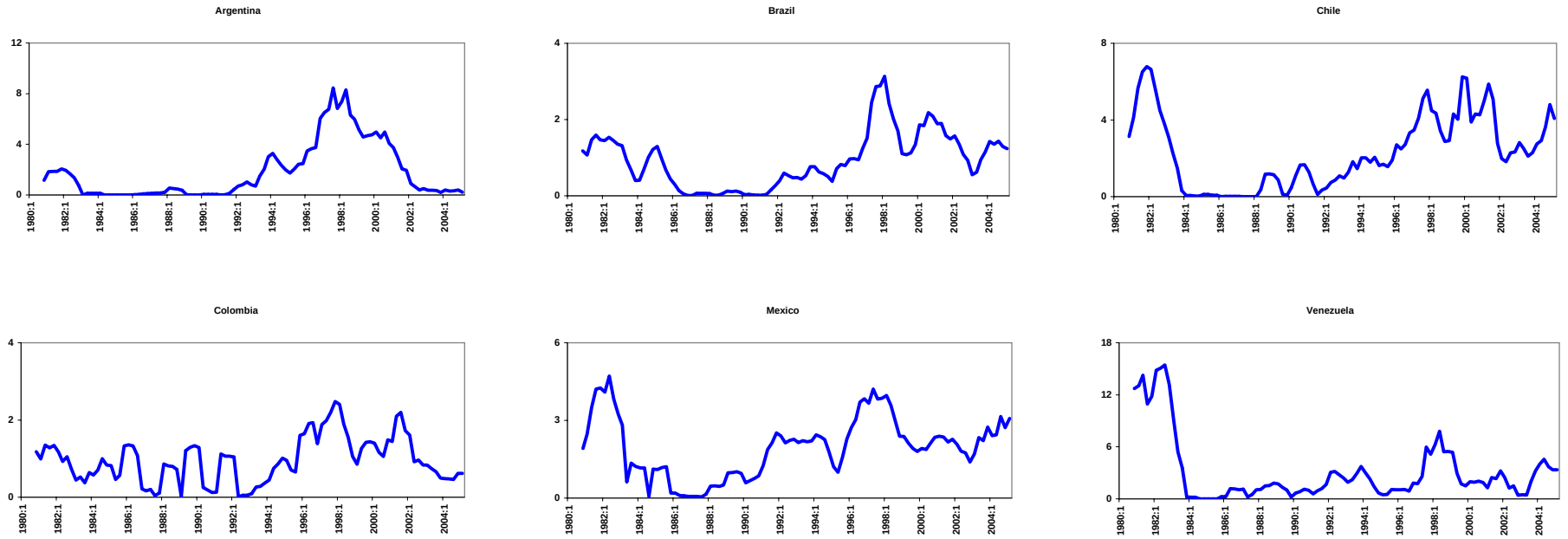
Figure 5
Number of Issues International Capital Markets



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

(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

Table 1
Current Account: Latin America, 1960-2005
(Percent of GDP)

Country	Mean	Standard Deviation	Minimum	Maximum
Argentina	-0.53	2.96	-4.84	8.87
Bolivia	-3.50	4.22	-10.83	9.55
Brazil	-2.97	3.24	-10.40	1.94
Chile	-3.38	3.47	-14.50	1.78
Colombia	-1.52	2.72	-6.36	4.74
Costa Rica	-7.09	3.41	-16.01	-1.68
Dominican Republic	-4.92	4.38	-14.22	6.03
Ecuador	-3.87	3.70	-12.35	5.28
El Salvador	-0.09	3.57	-5.51	7.16
Guatemala	-3.66	1.98	-7.53	0.31
Haiti	-1.44	1.94	-6.28	1.13
Honduras	-5.53	2.69	-12.34	-1.51
Jamaica	-5.82	4.03	-15.20	0.25
Mexico	-2.58	2.33	-7.05	3.75
Nicaragua	-14.43	12.38	-36.50	25.73
Panama	-7.66	7.98	-31.12	6.31
Paraguay	-3.34	4.07	-11.62	7.31
Peru	-5.09	3.45	-14.27	1.36
Uruguay	-1.60	2.27	-7.00	3.16
Venezuela	3.27	7.45	-11.96	22.66

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

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

Table 3
Financing the Trade Deficit: Savings and Investment
(in Percent of GDP)

Periods	High Income Countries					Middle Income Countries					Low Income Countries				
		Consumption					Consumption					Consumption			
	Trade Balance	Government	Private	Savings	Investment	Trade Balance	Government	Private	Savings	Investment	Trade Balance	Government	Private	Savings	Investment
1971-1975	-2.65	12.35	68.51	19.14	21.80	-1.23	9.91	69.76	20.33	21.57	-4.33	10.67	74.30	15.03	19.36
1976-1981	-2.57	12.51	66.59	21.01	23.58	-2.13	10.07	67.15	22.78	24.91	-4.56	13.49	72.13	14.37	18.94
1982-1989	2.74	11.85	66.05	22.17	19.42	-0.41	11.40	69.27	19.33	19.74	-6.13	15.09	73.41	11.49	17.63
1990-1998	-0.96	12.41	68.17	19.43	20.38	-4.27	9.75	73.29	16.97	21.24	-9.06	11.17	76.33	12.50	21.57
1999-2005	1.42	13.51	66.00	20.54	19.10	-2.87	12.08	70.88	17.04	19.91	-13.47	11.54	77.74	10.82	24.52
1970-2005															

Table 4
The Balance of Payments: Latin America, 1970-2005
(in Percent of GDP)

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

Table 5
Latin America Access to International Capital Markets

Year	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

Table 6
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

Table 7
Panel Estimation

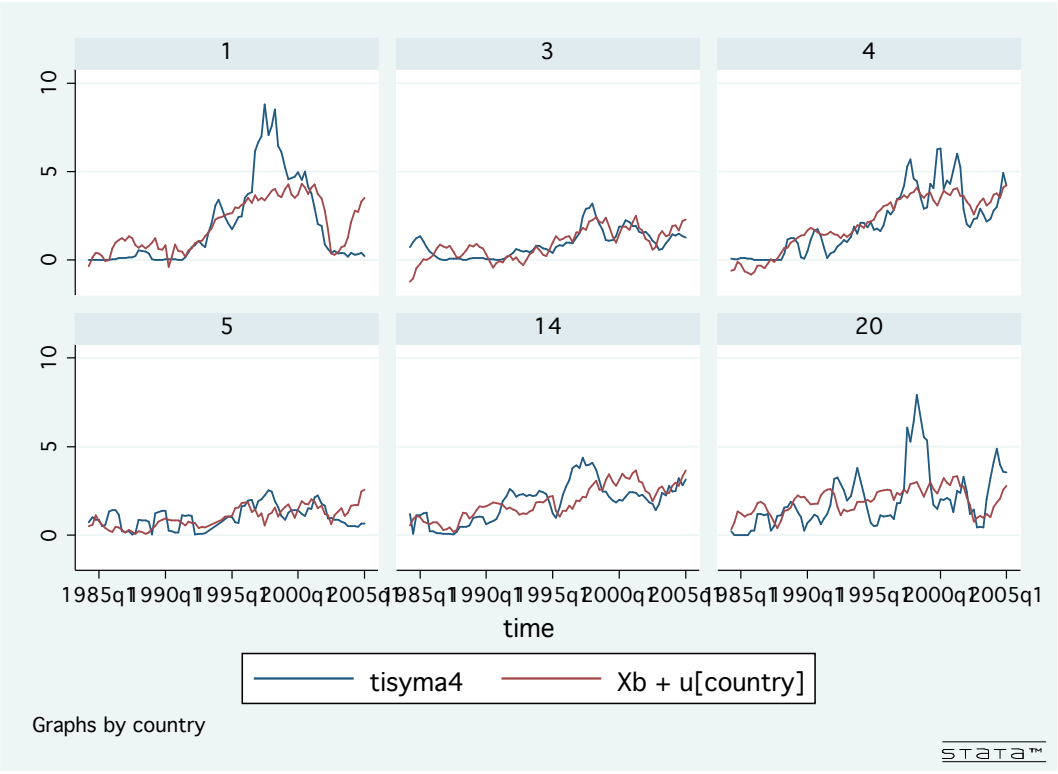
	I	II	III	IV	V	VI	VII	VIII
Opennes				**0.031**			**0.031**	-0.001
				(2.11)*			(2.18)*	-0.04
Political Risk	**0.074**	**0.072**	**0.071**	**0.062**	**0.064**	**0.064**	**0.061**	**0.07**
	(3.71)*	(3.91)*	(3.97)*	(2.66)*	(2.77)*	(2.75)*	(2.69)*	(3.86)*
Inflation		**-0.002**			**-0.002**		**-0.002**	**-0.0008**
		(3.15)*			(5.91)**		(5.59)**	(2.39)*
Industrial Production			**0.015**			0.012		**0.013**
			(2.04)*			-1.87		(2.14)*
Real Exchange Rate Volatility	**-9.316**	**-8.773**	**-9.365**	**-9.185**	**-9.144**	**-9.924**	**-8.595**	**-9.512**
	(2.35)*	(2.99)*	(2.73)*	(2.96)*	(3.24)*	(3.17)*	(2.76)*	(3.13)*
U.S. Interest Rate				**-0.168**	**-0.188**	**-0.196**	-0.162	-0.009
				(2.03)*	(2.48)*	(2.70)*	-1.9	-0.1
Liquidity Premium		**-0.237**	**-0.233**	**-0.453**	**-0.517**	**-0.519**	**-0.459**	**-0.241**
		(2.28)*	(2.25)*	(5.45)**	(6.82)**	(7.70)**	(5.17)**	(2.34)*
Global Liquidity	**0.29**	**0.258**	**0.268**					**0.255**
	(6.26)**	(4.66)**	(5.10)**					(3.64)*
# Obs	504	504	504	517	522	522	517	499
Panel	6	6	6	6	6	6	6	6
R-sq with	0.46	0.49	0.49	0.42	0.41	0.41	0.42	0.5
R-sq bet	0.29	0.32	0.29	0.61	0.36	0.3	0.63	0.3
R-sq all	0.44	0.47	0.47	0.43	0.4	0.4	0.44	0.47

Robust t statistics in parentheses
* significant at 10%; significant at 5%

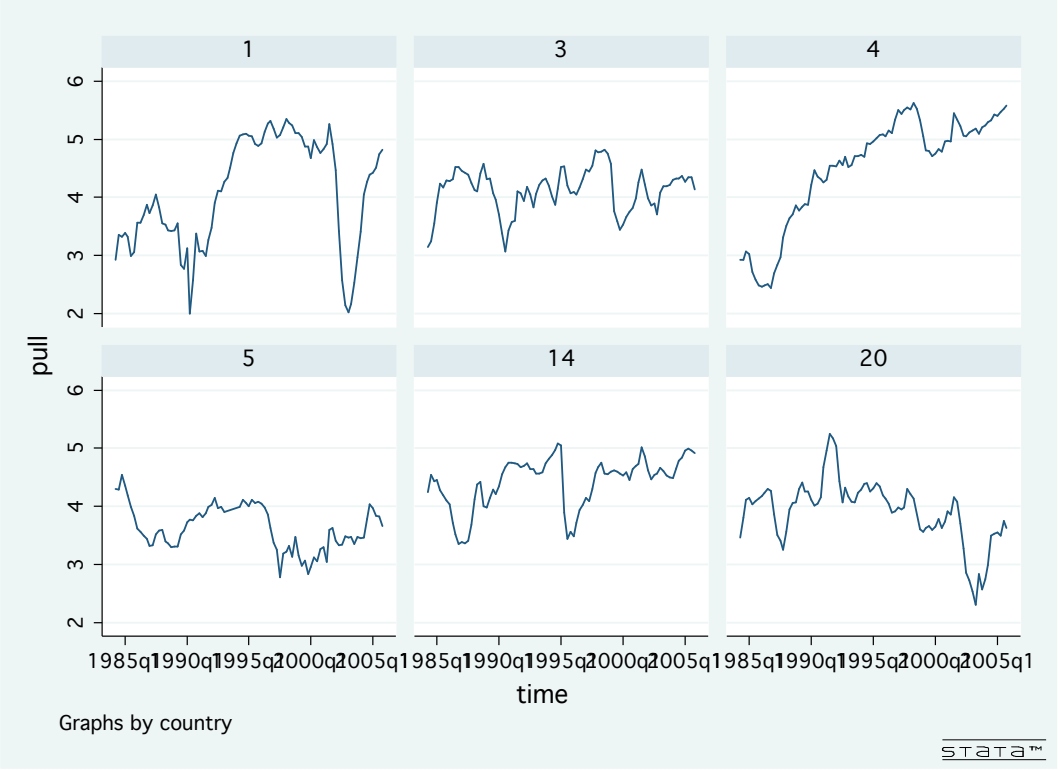
Table 8
Fluctuations in International Gross Issuance:
The Role of Domestic and External Factors

Episodes	Factors		Total Change
	Domestic	External	
		Argentina	
1990-1998	27.4	57.5	84.9
1999-2001	-9.7	-40.4	-50.1
2002-2005			
		Brazil	
1990-1998	31.7	32.9	64.5
1999-2001	-12.6	-18.2	-30.7
2002-2005	26.3	15.3	41.7
		Chile	
1990-1998	22.4	30.5	52.9
1999-2001	-9.6	-7.1	-16.7
2002-2005	16.3	4.8	21.1
		Colombia	
1990-1998	26.8	-10.6	16.1
1999-2001	-16.1	5.4	-10.6
2002-2005	24.0	12.0	36.0
		Mexico	
1990-1998	22.6	9.0	31.6
1999-2001	-11.6	-0.4	-12.0
2002-2005	18.6	7.6	26.3
		Venezuela	
1990-1998	21.1	0.3	21.4
1999-2001	-12.7	-14.8	-27.5
2002-2005	24.7	20.9	45.7

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


1
3
4
5
14
20
0
5
10
1985q1
1990q1
1995q1
2000q1
2005q1
time
tisyma4
Xb + u[country]
Graphs by country
STATA™

Graphs by country


1
3
4
5
14
20
pull
2
3
4
5
6
1985q1
1990q1
1995q1
2000q1
2005q1
time
Graphs by country
STATA™