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# Low-Income Countries' Access to Private Debt Markets

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## Abstract

Private debt flows to developing countries surged to record levels over the period 2003–07. A few low-income countries have gained access to the international bond market but the bulk of the flows have continued to go to just a few large middle-income countries. Most low-income countries still heavily depend on concessional loans and grants from the official sector to meet their financing needs. The paper provides an overview of low-income countries' access to cross-border bank lending

and bond issuance in the international market over the past few decades. It highlights some stylized facts that characterize salient features of low-income countries' experience in external borrowing from the private sector and discusses the various factors that influence governments' and corporations' decisions to seek external financing along with creditors' decisions to provide the financing. The paper concludes by assessing the prospects for low-income countries' access to private debt markets over the medium term.

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**Low-Income Countries' Access to Private Debt Markets**

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## **1. Introduction**

Private debt flows to developing countries surged to record levels over the period 2003-07, fueled by a combination of factors. Ample global liquidity and low interest rates in the major advanced countries spurred investors' search for yield, amid favorable external and internal conditions. Fundamentals improved significantly in many developing countries, promoting robust growth in a stable macroeconomic environment. Foreign investors gained confidence in countries that have adopted more flexible exchange rate regimes along with more transparent monetary and fiscal policy frameworks. A series of financial and technological innovations have played a prominent role from a longer-run perspective. Advances in computing and communication technologies have reduced transactions costs significantly, making it much easier for creditors, debtors and credit-rating agencies to collect and process information used to assess risk, and transmit the analysis to a much wider class of investors worldwide. The rapid expansion of the Eurobond market broadened the investor base for the emerging market asset class, reducing transactions costs further and enhancing market liquidity. The development of liquid derivative markets enabled investors to manage their exposure to default, interest rate and exchange rate risks more efficiently, expanding the demand for emerging market debt instruments.

Taken together, all the developments mentioned above have brightened the prospects for low-income countries' ability to access private debt markets. This in turn has raised concerns among donors that some low-income countries—especially those that received debt relief from the Heavily Indebted Poor Country (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI)—might borrow excessively on non-concessional terms and thereby jeopardize debt sustainability over the long term. A few low-income countries have gained access to the international bond market, notably Vietnam in 2005, followed by Mongolia, Nigeria and Ghana in 2007. Yet the bulk of private debt flows continues to go to just a few large middle-income countries. In 2007 five countries accounted for over half of cross-border bank loan commitments to and bond issuance by developing countries. Low-income countries occasionally access cross-border syndicated bank lending to finance large-scale projects, often in resource extractive industries, and obtain short-term bank loans, mostly for trade financing. But most low-income countries still heavily depend on concessional loans and grants from the official sector to meet their financing needs.

The paper provides an overview of low-income countries' access to cross-border bank lending and bond issuance in the international market over the past few decades.<sup>1</sup> Section 2 highlights some stylized facts that characterize salient features of low-income countries' experience in external borrowing from the private sector. Section 3 discusses the various factors that influence governments' and corporations' decisions to seek external financing along with creditors' decisions to provide the financing. Section 4 concludes by assessing the prospects for low-income countries' access to private debt markets over the next few years.

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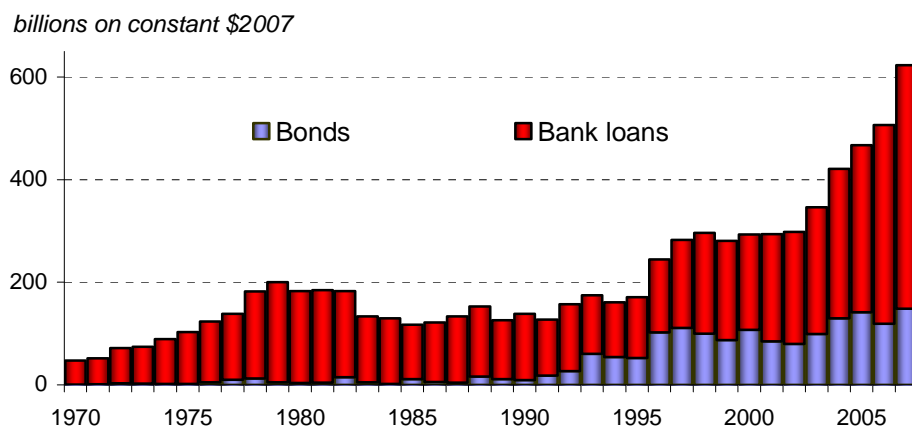
<sup>1</sup> This paper focuses on external financing; for an overview of issues relating to developing countries' access to finance from domestic sources see Claessens (2006).

## 2. Some Stylized Facts

### *Private debt issuance to developing countries*

Private debt issuance (comprised of bond issuance and bank loans) by developing countries more than doubled between 2002 and 2007, led by bank lending (figure 1). Disbursements of bank loans increased from \$318 billion in 2002 to a record \$475 billion in 2007, well above the previous peaks of \$197 billion in 1997 just prior to the Asian crisis and \$200 billion in 1979 just prior to the Latin American crisis.

**Figure 1 Private debt issuance by developing countries, 1991-2007**



Source: World Bank Debtor Reporting System.

The bulk of private debt and equity flows has gone to just few large middle-income countries. In 2003-07, ten countries accounted for three-quarters of long-term private debt and equity flows to developing countries<sup>2</sup> (table 1). This largely reflects their relative economic size – ten countries accounted to 72 percent of the total Gross National Income (GNI) of developing countries over the same period. However, the share of long-term private debt flows to low-income countries has been much lower than their share of GNI. In 2003-07, low-income countries received only 0.5 percent of bank loans disbursed to developing countries and 1 percent of bond issuance, while accounting for 6 percent of GNI. Their shares of long-term private debt flows are also significantly lower than their shares of short-term debt (3.8 percent) and equity issuance (5.3 percent). Moreover, the volume of private debt issued by low-income countries has declined significantly since the early 1980s, as a share the total amount issued by all developing countries and in constant dollar terms<sup>3</sup> (figure 2).

<sup>2</sup> Long-term private debt flows are comprised on bonds and bank loans with maturities of greater than one year. Private equity flows are comprised of foreign direct investment and portfolio equity.

<sup>3</sup> Figure 2 measures private debt flows in \$US dollars deflated by an implicit price deflator for the GNI of low-income countries.

**Table 1 Share of private debt and equity flows to developing countries, 2003-7**

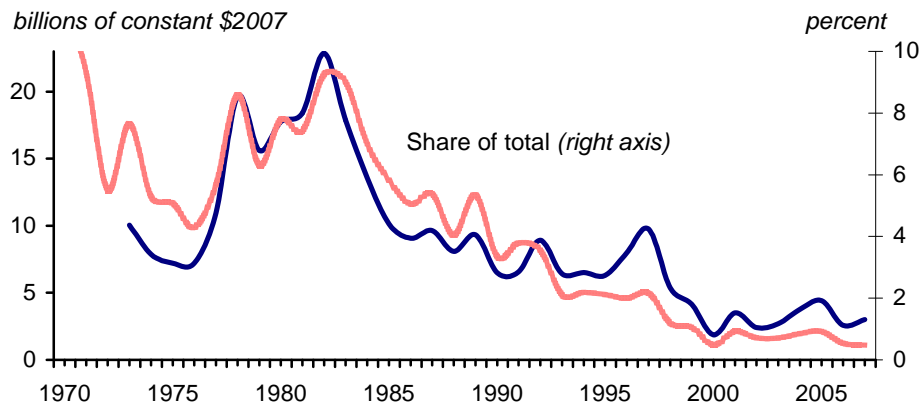
<i>Percent</i>					
<i>Bank loans<sup>1</sup></i>		<i>Bond issuance<sup>1</sup></i>		<i>Short-term debt</i>	
Turkey	12.1	Russian Federation	18.9	China	26.0
Poland	11.0	Brazil	13.5	Russian Federation	7.3
Mexico	8.2	Mexico	9.1	Turkey	6.3
Russian Federation	7.8	Turkey	6.2	Argentina	5.5
China	7.7	India	6.0	Indonesia	5.2
Brazil	7.3	Poland	5.5	Brazil	4.8
Kazakhstan	6.8	Kazakhstan	4.6	Poland	4.3
India	6.6	Philippines	3.2	India	3.3
Thailand	3.8	Lebanon	3.1	Thailand	2.8
Ukraine	3.7	China	3.1	Ukraine	2.5
Top 5	46.8		53.7		50.3
Top 10	74.9		73.2		67.9
BRICs <sup>2</sup>	29.4		41.5		41.3
Low income	0.5		1.0		3.8
Lower middle income	29.8		22.8		49.4
Upper middle income	69.7		76.2		47.9
<i>Private debt flows<sup>1</sup></i>		<i>Private equity flows</i>		<i>Nominal GNI</i>	
Russian Federation	19.7	China	26.0	China	23.4
Mexico	10.7	Russian Federation	7.7	Brazil	8.7
Brazil	10.1	Brazil	7.4	Mexico	8.5
Turkey	7.3	India	6.9	India	8.4
China	6.0	Mexico	5.5	Russian Federation	8.0
India	4.7	Turkey	3.8	Turkey	4.7
Poland	3.7	Poland	3.7	Indonesia	3.0
South Africa	3.5	Thailand	2.9	Poland	3.0
Kazakhstan	3.4	South Africa	2.7	South Africa	2.3
Malaysia	2.7	Chile	2.2	Iran, Islamic Rep.	2.0
Top 5	53.7		53.6		57.0
Top 10	71.9		68.8		72.0
BRICs <sup>2</sup>	40.5		48.0		48.5
Low income	0.7		5.3		6.0
Lower middle income	27.9		49.8		49.1
Upper middle income	71.4		45.5		45.2

Source: World Bank Debtors Reporting System.

Notes: 1. Disbursements of private debt with original maturity of over one year.

2. Brazil, Russian Federation, India and China.

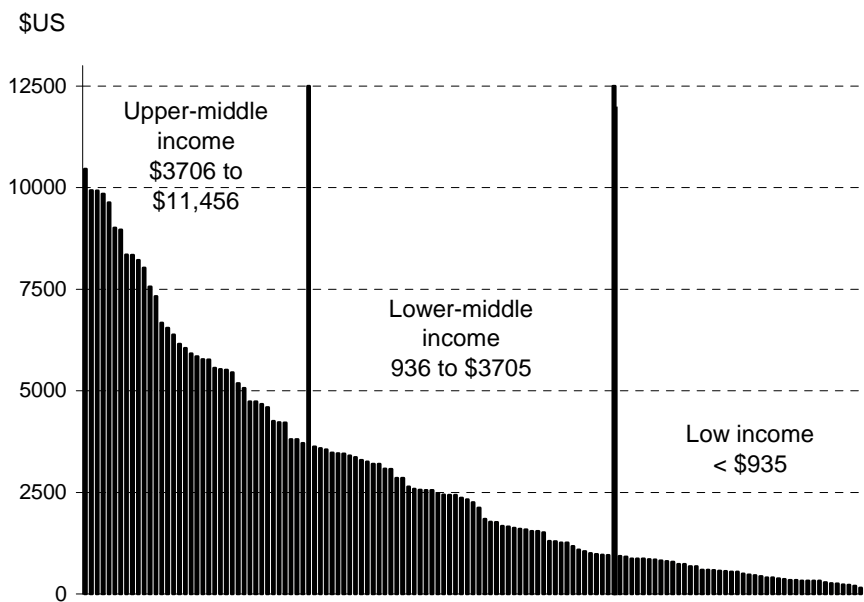
**Figure 2 Private debt issuance by low-income countries, 1970-2007**



Source: World Bank Debtor Reporting System.

Comparing private debt flows to low- versus middle-income country aggregates is somewhat arbitrary for many of the issues at hand, especially for countries close to the low-income cut-off (GNI per capita of \$935 in 2007). In 2007 GNI per capita in 11 countries was within \$100 of the low-income cut-off (figure 3). It seems unlikely that access to private debt markets would vary appreciably over such a narrow range. A more meaningful approach would be to examine how access to private debt markets varies with income (GNI per capita), focusing on the lower end of the income distribution.

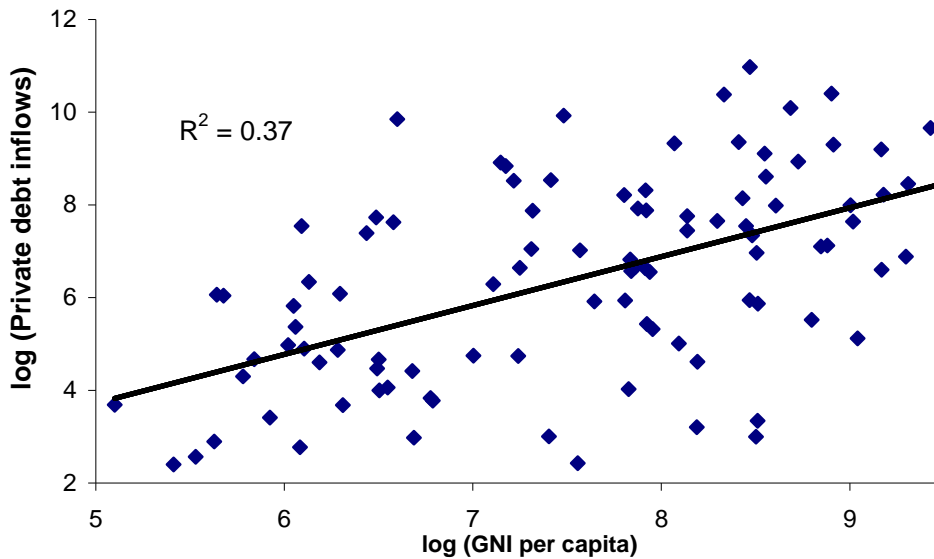
**Figure 3 GNI per capita in developing countries, 2007**



Source: World World Development Indicators.

Private debt issuance is higher in countries with higher income levels (GNI per capita), on average, but there is considerable variation across countries. Estimates of the cross-country variation over the period 2003-07 indicate that a country with GNI per capita of \$935 (the low-income cut-off in 2007) would receive around \$0.3 billion in private debt inflows, compared to \$1.2 billion for a country with a GNI per capita of \$3705 (the cut-off between the lower- and upper-middle income classification) (figure 4).<sup>4</sup> Only two low-income countries rank in the top 30 borrowers among 110 countries over the period 2003-07—Pakistan (ranked 25<sup>th</sup>) and Nigeria (ranked 29<sup>th</sup>).

**Figure 4 Private debt flows versus GNI per capita, 2003-07**



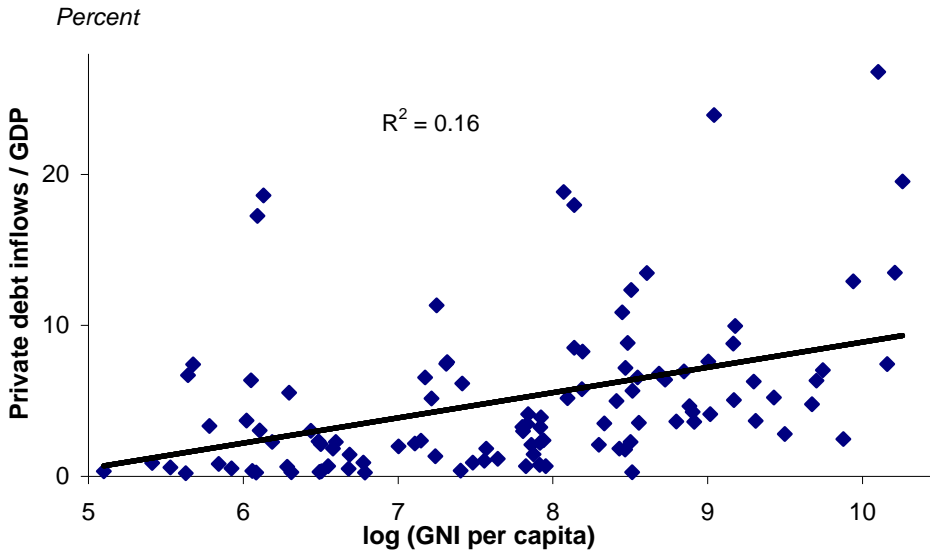
The low share of private debt flows going to low-income countries partly reflects their smaller economic size. One can take this into account by scaling private debt flows relative to the country's GDP. Private debt issuance as a ratio to GDP is higher in countries with higher income levels (GNI per capita), on average, but again there is considerable variation across countries (figure 5). Estimates indicate that a country with GNI per capita of \$935 would receive private debt inflows of about 2 percent of its GDP, compared to 3.5 percent for a country with a GNI per capita of \$3705. Private debt flows to some low-income countries have been quite high relative to their economic size. Four low-income countries rank in the top 10 of 109 countries in our sample, led by Seychelles (ranked 2<sup>nd</sup> behind the United Arab Emirates) with private debt inflows equal to an average level of 24 percent GDP in 2003-07, followed by Lao PDR (19 percent), Jamaica (18 percent) and Ghana (17 percent).

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<sup>4</sup> A similar relationship holds when private debt flows are disaggregated by sovereign versus (private and public) corporate debtors.



Figure 5 Private debt inflows / GDP versus GNI per capita, 2003-07



The cross-country correlation between private (foreign direct investment and portfolio) equity flows and income per capita is also quite low (figures 6 and 7). Only two low-income countries rank in the top 20 destinations for equity inflows among developing countries over the period 2003-07 (Nigeria ranked 11<sup>th</sup> and Vietnam ranked 19<sup>th</sup>). However, five low-income countries rank in the top 20 destinations for equity inflows relative to GDP, led by Mauritania, ranked 5<sup>th</sup> with equity inflows equal to an average level of 17 percent of its GDP.

Figure 6 Equity inflows to developing countries and GNI per capita, average 2003-07

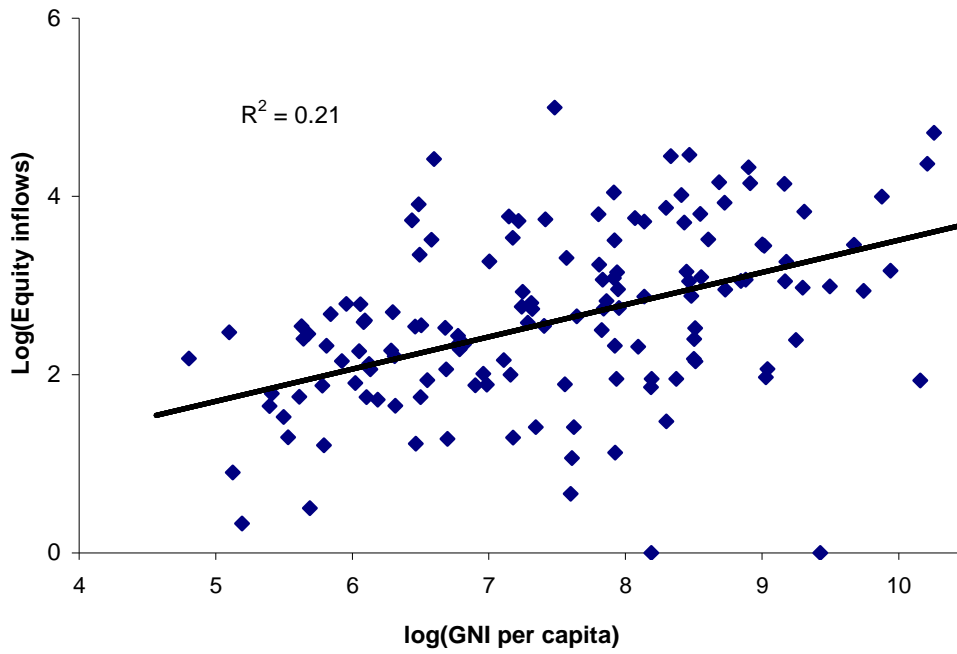
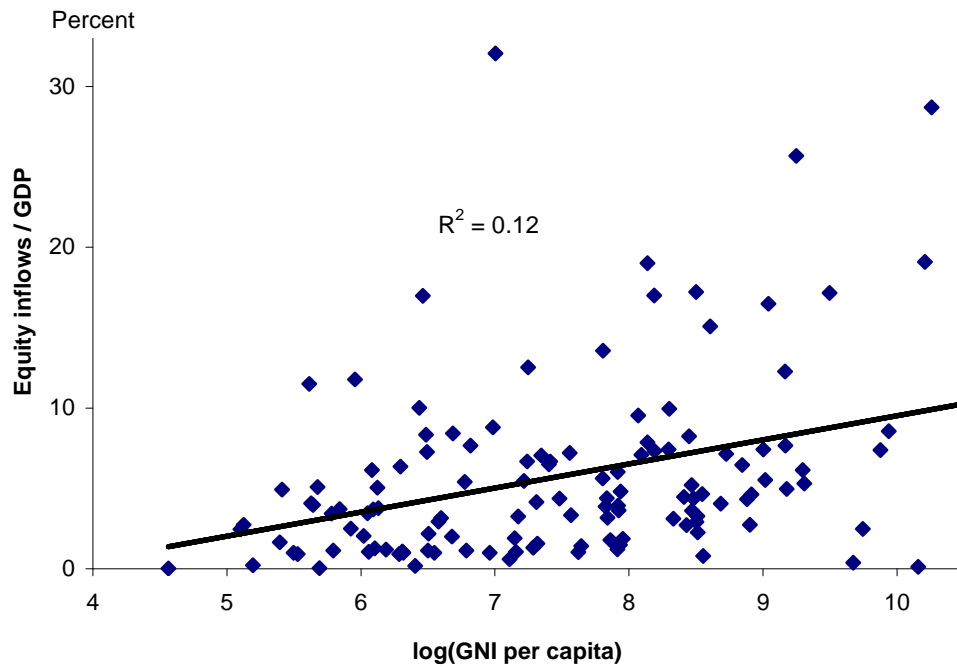


Figure 7 Equity inflows / GDP and GNI per capita, average 2003-07



In an effort to provide additional insight into the relationship between capital flows and income levels across countries, we estimated a regression of the form:<sup>5</sup>

$$\text{Equation (1)} \quad \log(\text{capital flow} / \text{GDP}) = \alpha + \beta_1 \log(\text{GDP}) + \beta_2 \log(\text{GNI per capita}) + \varepsilon$$

where GDP represents nominal GDP and  $\varepsilon$  is a random error term. Estimates of equation (1) are reported in Table 2. The top section of the table corresponds to estimates obtained from the sample countries with non-zero capital flows. For example, over the period 2003-07 syndicated bank loans were made to 109 countries but only 67 countries issued bonds. Thus, differences in country coverage can account for some of the differences in parameter estimates across the various capital flows. The bottom section of the table reports estimates obtained using a common sample of countries.<sup>6</sup> The estimates of the parameter  $\beta_2$  indicate that GNI per capita is statistically significant for all capital flows except portfolio equity. The point estimates indicate that GNI per capita is a more important determinant of private debt inflows than FDI inflows. The negative sign in the regression for Official Development Assistance (ODA) implies that donors allocate larger shares of aid to countries with lower income levels. There is, however, a great deal of variation across countries--the two explanatory variables explain only around 15 percent of the cross-country variation in bank loans and FDI inflows and 30 percent of that in bond issuance.

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<sup>5</sup> Population is statistically insignificant when added to the regression for all capital flows, implying that GDP is a better scale variable for explaining the cross-country variation in capital flows.

<sup>6</sup> Only 45 of 150 countries in our sample reported capital inflows in all four categories (bond issuance, bank loans, FDI and portfolio equity).

**Table 2 OLS Estimates of equation (1) over the period 2003-07**

<i>Capital flow</i>	$\beta_1$		$\beta_2$		$R^2$	SER	N
Debt and equity	-0.078*	(0.042)	0.471***	(0.072)	0.259	0.959	130
Debt	-0.075	(0.048)	0.573***	(0.086)	0.319	1.017	110
Equity	-0.132***	(0.047)	0.357***	(0.088)	0.138	1.023	125
Bank loans	-0.033	(0.060)	0.379***	(0.087)	0.153	1.076	109
Bond issuance	-0.366***	(0.065)	0.375***	(0.136)	0.303	0.989	67
FDI	-0.174***	(0.043)	0.368***	(0.084)	0.167	0.985	125
Portfolio equity	0.357***	(0.099)	0.279	(0.182)	0.158	1.665	61
ODA	-0.505***	(0.039)	-1.033***	(0.069)	0.832	0.777	107

*Common sample periods:*

Debt	-0.072	(0.062)	0.566***	(0.083)	0.315	1.019	105
Equity	-0.153***	(0.052)	0.280***	(0.070)	0.149	0.859	105
Bank loans	0.014	(0.080)	0.359***	(0.123)	0.119	0.977	63
Bond issuance	-0.334***	(0.077)	0.407***	(0.118)	0.330	0.933	63
FDI	-0.220***	(0.067)	0.133	(0.102)	0.167	0.810	63

*Notes:* \*\*\*, \*\* and \* denote significant at the 1%, 5% and 10% levels, respectively.

Estimated standard errors shown in parentheses.

SER = standard error of the regression; N = number of countries in sample.

ODA = net ODA (Official Development Assistance) disbursements.

Most low-income countries have accessed syndicated bank loans at least once since the early 1990s, but very few on a frequent basis. The average volume of syndicated bank loan transactions in 2003-07 was less than 0.2 percent of GDP in one half of low-income countries. Moreover, few low-income countries have ever issued bonds in the international market. Only 7 of 48 low-income countries in our sample have issued an external bond since 1980. Of those, only India and Pakistan have accessed the international bond market on a frequent basis. India has been active since the early 1980s, with bond

issues in 14 of the past 18 years (table 3).<sup>7</sup> Pakistan issued a series of external bonds in the mid-1990s, prior to its debt crisis in 1998-99, and re-established access in 2004.<sup>8</sup>

**Table 3 Frequency of access to private debt markets, 1990-2007**

*Number of developing countries that received a syndicated loan or issued an international bond*

Number of years	0	1-9	10-17	18
<b>Syndicated loans</b>				
Low income	12	24	10	2
Lower middle income	6	20	14	7
Upper middle income	3	12	11	9
<b>Bond issuance</b>				
Low income	41	7	0	0
Lower middle income	21	17	9	0
Upper middle income	6	11	16	2

Source: Dealogic DCM Analytics

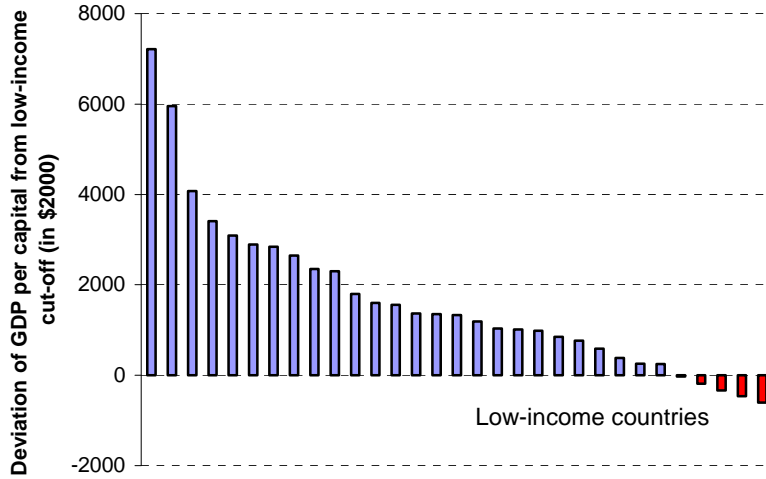
More recently, Vietnam gained access in 2005, followed by Mongolia, Ghana and Nigeria in 2007. Vietnam issued a \$750 million sovereign Eurobond in 2005, followed by a \$187 million issue (denominated in domestic currency) in 2007 by a publicly owned corporation. The Trade & Development Bank of Mongolia, a public company, issued a \$75 million Eurobond. A publicly-owned Nigerian bank (GTB Finance BV) issued a \$350 million Eurobond in January, followed by a \$175 million issue by a privately-owned bank (the First Bank of Nigeria PLC) in March. Ghana became the first heavily indebted poor country (HIPC) to issue an external bond, offering a \$750 million Eurobond issue in September. The bond issue was oversubscribed several times, despite being launched in the midst of the turmoil in international financial markets.

In most cases countries issued sovereign bonds for the first time after having graduated from low-income status. Only five countries launched their first sovereign bond when their GNI per capita was below the low-income cut-off at the time; ten countries had incomes over \$2000 above the low-income cut-off (in constant dollars) (figure 8). Income per capita of countries making a first-time sovereign bond issue has varied considerably, suggesting that there is no threshold level required to gain access to the international bond market. The same is true for first-time corporate bond issuance.

<sup>7</sup> India made the transition from a low- to middle-income country in 2007 with a GNI per capita of \$950, just above the low-income cut-off of \$935.

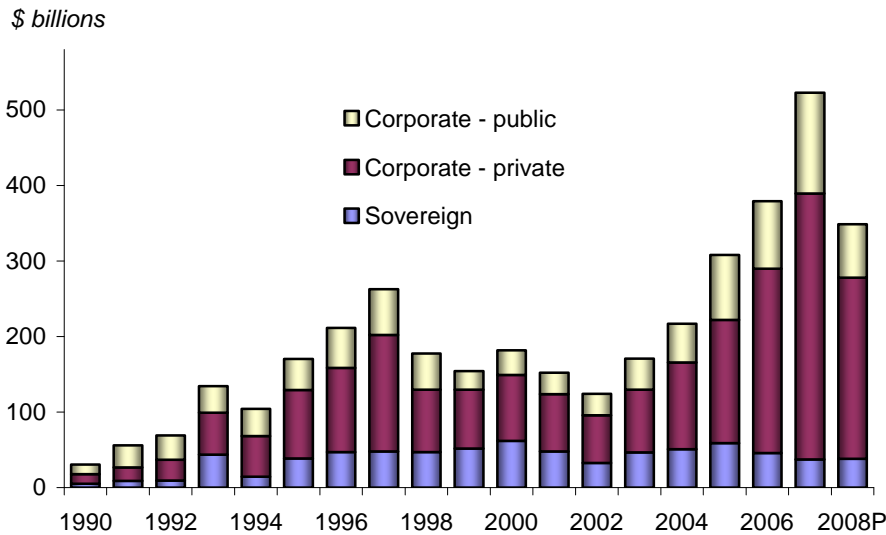
<sup>8</sup> Some low-income countries have launched “one-off” bond issues. Examples include the following. In 1984 Papua New Guinea issued a seven-year \$20 million sovereign bond (private placement). In 1994 the Republic of Congo issued a five-year \$600 million sovereign Eurobond. In 1995 the Bank of Ceylon (a public bank in Sri Lanka) issued a three-year \$12 million bond (private placement), followed by a five-year \$100 million bond issue (private placement) by a private corporation (Sri Lanka Telecom) in 2004 and a \$500 billion sovereign issue in 2007.

**Figure 8 GNI per capita when developing country first issued sovereign bond**



Private debt issuance by developing countries has become dominated by the corporate sector. Private corporations' share of total private debt issuance has risen from one-half at the beginning of the decade to two-thirds in 2007, while governments' (sovereign debt issued to private creditors) share declined from one-third to a low of only 7 percent (figure 9).

**Figure 9 Private debt issuance by developing countries, 1990-2008**



Source: Dealogic DCM Analytics and Loan Analytics.  
 Note: P = projection.

The conventional wisdom is that countries must first gain access to the international bond market by issuing sovereign bonds, in order to set a benchmark for pricing subsequent corporate issues. Although this has been the case for the majority of countries, there are many examples where corporations based in developing countries have issued bonds prior to sovereign issues. For instance, two commercial banks in

Nigeria issued bonds in 2007 even though the Nigerian government has not yet accessed the international bond market. In fact, corporate issues preceded sovereign issues in almost one-third of the developing countries that gained access to the international bond market since 1990.<sup>9</sup> However, some of the first-time corporate issues entailed relatively small amounts for project financing, backed by collateral and/or guarantees.

Most developing countries that have accessed private debt markets have done so on an infrequent basis (Gelos, Sahay and Sandleris 2004). Only 2 of 48 low-income countries (Ghana and Vietnam) accessed syndicated bank loans in each of past 18 years, while 12 countries did not receive any (table 3). Most low-income countries (41 of 48) did not access the international bond market over the period 1990-2007, compared to 6 of 35 upper-middle-income countries.

Most low-income countries heavily depend on official sources to meet their financing needs. Net ODA disbursements exceeded ten percent of GDP in 25 countries on average over the period 2003-07, all but four of which were low-income countries. Net ODA disbursements exceeded private debt and equity flows over the same period in 27 of 39 low-income countries for which data are available, compared to just 9 of 65 middle-income countries.

### **3. Underlying Determinants**

The stylized facts outlined above indicate that governments and corporations in large middle-income countries receive the bulk of private debt flows. Most low-income countries depend on official creditors to meet most of their external financing needs. This reflects several supply and demand factors.<sup>10</sup>

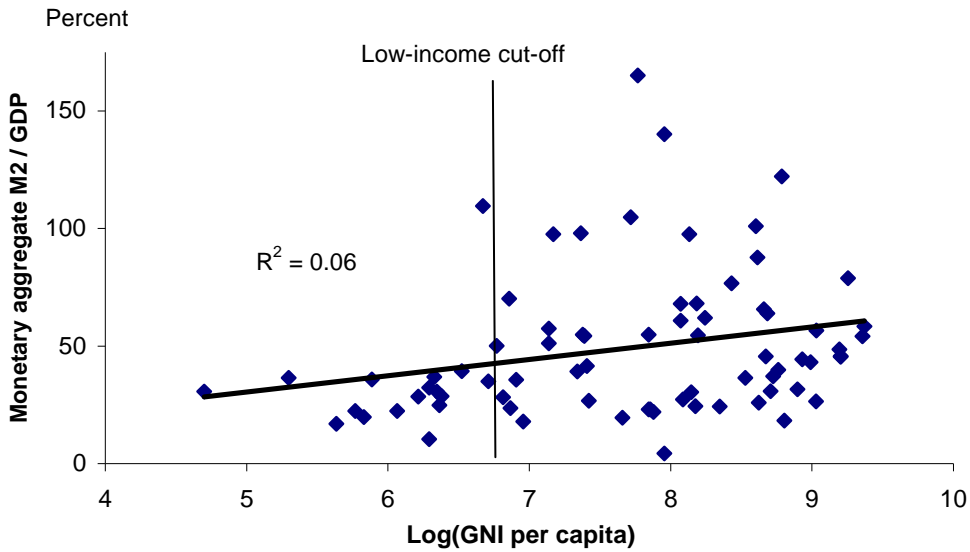
On the demand side, governments and corporations take into account the costs and benefits of borrowing from external versus domestic sources. Countries with ample domestic savings and well-developed domestic capital markets provide more scope for domestic borrowing. Although domestic capital markets tend to be less developed in countries with lower income levels, there is a high degree of variation across countries. This is illustrated by Figures 10 and 11 which show that conventional measures of financial sector development—monetary and credit aggregates as share of GDP—vary substantially across income levels. Moreover, monetary and credit aggregates are statistically insignificant when added to the regressions of the form reported in Table 2, implying that conventional measures of financial sector development cannot explain the cross-country variation in private capital flows.

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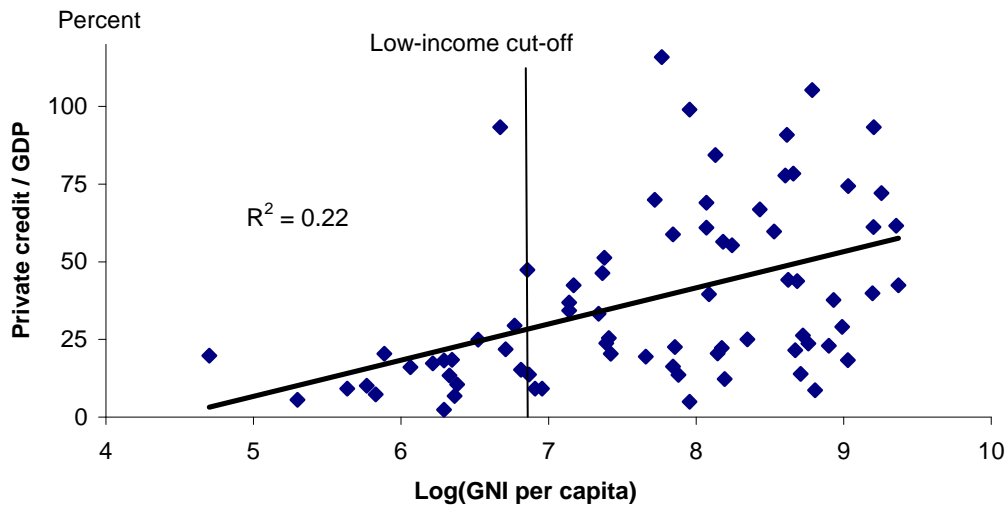
<sup>9</sup> This calculation is based on the Dealogic Loan Analytics database which begins in 1980. “First-time” bond issuance is defined as a situation where a government or corporation issues a bond in the international market after 1989 in a country that had no external bond issues during the 1980s.

<sup>10</sup> For a more detailed discussion and empirical analysis of the various supply and demand factors, see Fernandez-Arias and Montiel (1996), Mody and others (2001) and Hale and Arteta (2007).

**Figure 10 Monetary aggregate (M2) as a share of GDP and GNI per capita, 2007**



**Figure 11 Private sector credit as a share of GDP and GNI per capita, 2007**



Source: IMF International Financial Statistics.

Corporations and governments in countries with high domestic interest rates have higher incentives to access external financing.<sup>11</sup> It is difficult to gauge the importance of this due to the poor quality of data on domestic interest rates in most developing countries, particularly relating to the cost of

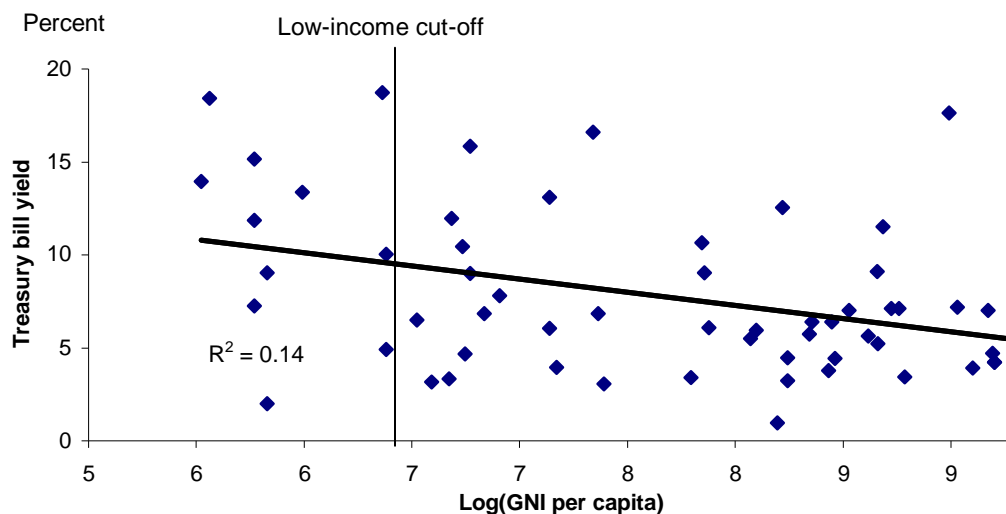
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<sup>11</sup> Christensen (2005) reports that the implicit interest rate on domestic debt exceeds that on external debt by a wide margin in several low-income countries in Sub-Saharan Africa. However, this calculation is based on external debt owed to private and official creditors, the latter being highly concessional.



borrowing by corporations.<sup>12</sup> The limited data available indicate that the cross-country correlation between treasury bill yields and GDP per capita is quite low (figure 12). The wide dispersion in domestic interest rates across countries reflects several factors, including inflation differentials as well as cases where governments oblige commercial banks to hold treasury bills with yields well below market rates.

**Figure 12 Treasury bill yields and GNI per capita, 2007**



Source: IMF International Financial Statistics.

Debt management considerations also play a prominent role in assessing the relative cost of domestic versus external financing. Although domestic debt is typically denominated in domestic currency, a significant portion is indexed to the exchange rate or inflation in many countries. In addition, domestic debt has tended to have a much shorter maturity than external debt. Thus, the decision to borrow in domestic versus external markets needs to be addressed in a debt management framework that takes into account exchange rate risk and maturity structure considerations. Unfortunately, there is scant data on indexation and maturity structure of domestic debt in developing countries, making it difficult to compare the relative cost of external versus domestic financing.<sup>13</sup>

Governments and corporations in low-income countries are generally believed to have significant financing gaps. According to this view, governments are often unable to finance key investments in infrastructure, health and education, while corporations often unable to finance their operations and take advantage of profitable investment opportunities. From this perspective, one would expect that the overall financing needs of low-income countries would be higher than that of middle-income countries, on

<sup>12</sup> Only about one-half of the 135 developing countries examined in this paper report data on treasury bill yields or money market interest rates in the IMF International Financial Statistics database; very few countries report long-term government bond yields.

<sup>13</sup> See the discussion in Jeanne and Guscina (2006) and Abbas and Christensen (2007) and the references therein.

average. Another possibility is that low-income countries have lower financing needs than middle-income countries because the returns to private and public investment are much lower.<sup>14</sup>

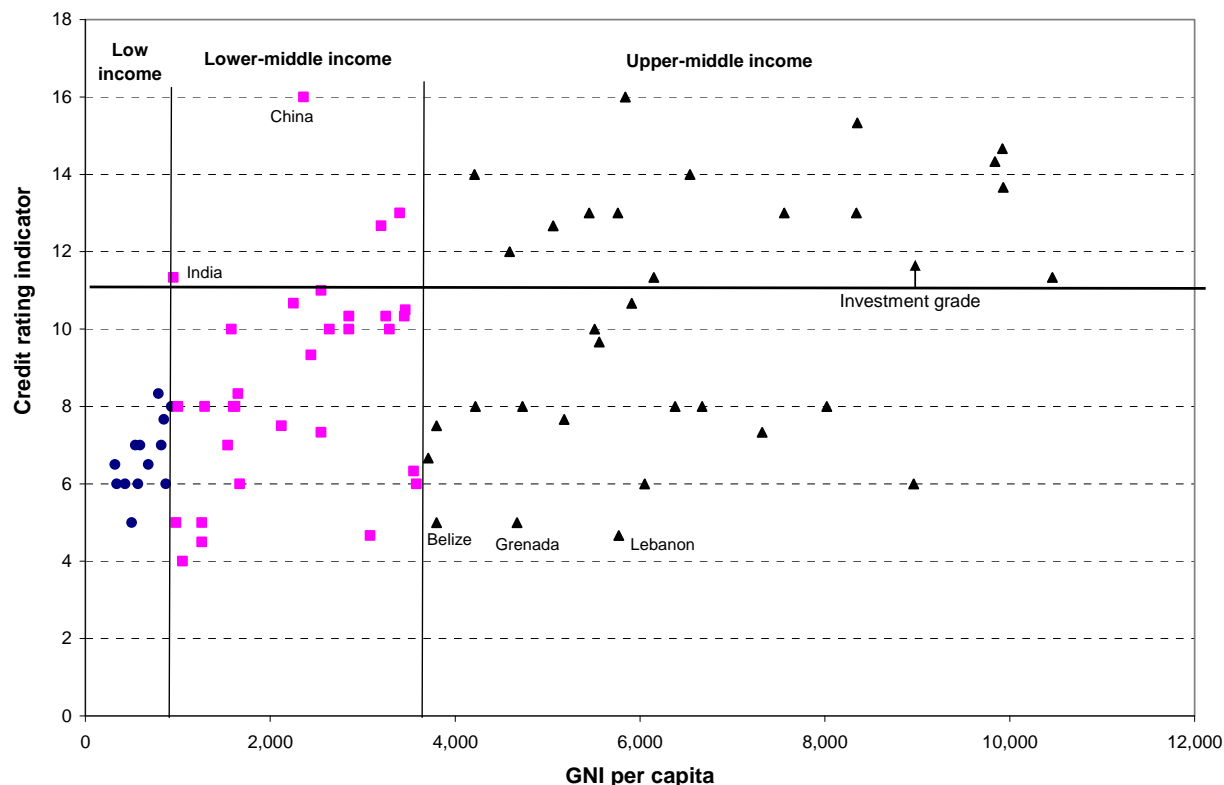
Risk, information constraints and monitoring costs are generally thought to be major obstacles constraining the supply of external financing to low-income countries. Foreign investors generally perceive most low-income countries as being highly prone to debt distress, given their vulnerability to large adverse shocks, along with weak governance and macroeconomic instability. High costs of acquiring information about investment opportunities in low-income countries and monitoring on-going developments makes it all the more difficult for creditors to assess the risks. Credit ratings provide potential creditors with an assessment of the risk of debt default. One-quarter of low-income countries have been rated by at least one of the three major agencies (Standard and Poor's, Moody's and Fitch), compared to two-thirds of middle-income countries.<sup>15</sup> The average credit rating for low-income countries is lower than that for middle-income countries, but ratings vary considerably across middle-income countries (figure 13). Vietnam has the highest rating among low-income countries (rated BB by Standard and Poor's), two notches below investment grade, while one in three middle-income countries have investment-grade ratings. All (rated) low-income countries except Mali have higher ratings than three upper-middle-income countries (Belize, Grenada and Lebanon). Credit ratings suggest that several factors beyond countries' income levels are important in assessing the risk of default on sovereign bonds.

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<sup>14</sup> This is one of the main elements underlying growth diagnostics developed by Hausmann, Rodrik, and Velasco (2005).

<sup>15</sup> The discussion of credit ratings focuses on foreign-currency long-term sovereign debt as of July 2008.

Figure 13 Credit ratings on sovereign bonds and GNI per capita, 2007

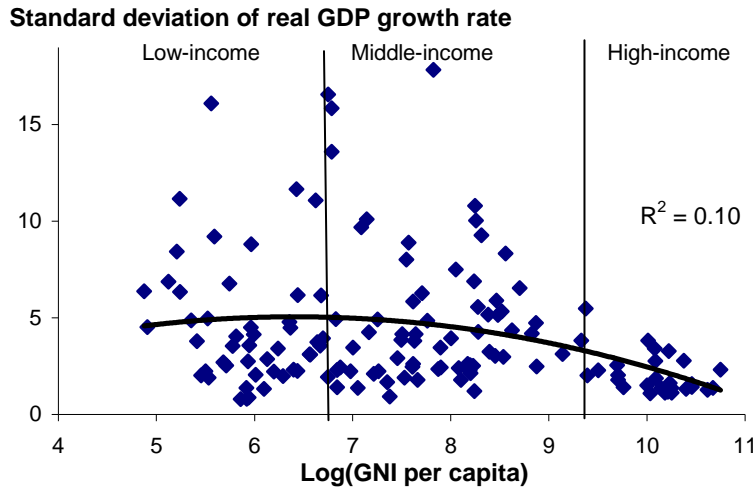


Macroeconomic instability is thought to be a major source of risk in developing countries (Catão and Sutton 2002, Catão and Kapur 2004, Loayza and others 2007, and Raddatz 2007). Volatility in economic growth over the period 1990-2007 has been higher in low- and middle-income countries than in high-income countries on average (figure 14).<sup>16</sup> However, the cross-country correlation between the standard deviation of growth rates and GNI per capita is quite low for low- and middle-income countries. A few countries exhibit very large fluctuations in annual growth rates -- the standard deviation of real GDP growth exceeds 15 percent in four countries—Equatorial Guinea, Rwanda, Azerbaijan, and Georgia.<sup>17</sup> In the case of Georgia, private debt flows totaled 7.4 percent of GDP in 2007, more than double the median level (3.5 percent) for all developing countries. This included a \$200 billion Eurobond issue by the Bank of Georgia (a publicly-owned commercial bank) with a spread of 419 basis points above the yield on benchmark US treasury bonds. This example illustrates that creditors are willing to take on the risk of lending to developing countries with a history of high macroeconomic volatility.

<sup>16</sup> A similar result holds for the two sub-periods: 1990-99 and 2000-08.

<sup>17</sup> Equatorial Guinea made the transition from a middle- to high-income country in 2007.

Figure 14 Standard deviation of real GDP growth and GNI per capita, 1990-2007



Source: World Bank World Development Indicators.

Low-income countries have sustained growth rates comparable to middle-income countries over the past five years with similar inflation rates. However, large external imbalances are more common in low-income countries. Current account deficits exceeded 5 percent of GNI in 30 of 40 low-income countries in 2007, and exceeded 10 percent in 14 cases. Given the accounting relationship between the current and capital accounts, one might expect that a negative relationship between current account deficits and private capital flows. We examined this by adding countries' current account balance as a ratio to GDP ( $CA / GDP$ ) to the regression equation (1):

$$\text{Eq. (2) } \log(\text{capital flow} / \text{GDP}) = \alpha + \beta_1 \log(\text{GDP}) + \beta_2 \log(\text{GNI per capita}) + \beta_3 100 * (\text{CA} / \text{GDP}) + \varepsilon$$

Estimates of the parameter  $\beta_3$  reported in Table 4 indicate that countries with larger current account deficits have higher FDI inflows, but not private debt flows. One interpretation of this result is that countries with heavy external financing needs are perceived as being more prone to default and hence are less able to access private debt markets. It is important to recognize, however, that causality between current account balances and capital flows runs in both directions, implying that the estimates of  $\beta_3$  are distorted by simultaneity bias.

**Table 4 OLS Estimates of equation (2) over the period 2003-07**

<i>Capital flow</i>	B <sub>2</sub>		B <sub>3</sub>		R <sup>2</sup>	SER	N
Debt and equity	0.489***	(0.068)	-0.037***	(0.008)	0.348	0.900	130
Debt	0.586***	(0.084)	-0.020**	(0.009)	0.336	1.005	110
Equity	0.368***	(0.078)	-0.046***	(0.014)	0.269	0.942	125
Bank loans	0.387***	(0.086)	-0.011	(0.010)	0.152	1.076	109
Bond issuance	0.402***	(0.132)	-0.020*	(0.012)	0.317	0.978	67
FDI	0.379***	(0.074)	-0.046***	(0.014)	0.306	0.898	125
Portfolio equity	0.278	(0.183)	0.008	(0.034)	0.144	1.678	61
ODA	-1.013***	(0.070)	-0.016*	(0.010)	0.836	0.767	107

*Common sample periods:*

Debt	0.574***	(0.082)	-0.020	(0.012)	0.334	1.005	105
Equity	0.296***	(0.064)	-0.041***	(0.009)	0.284	0.788	105
Bank loans	0.361***	(0.124)	-0.001	(0.014)	0.119	0.977	63
Bond issuance	0.430***	(0.116)	-0.020	(0.013)	0.355	0.915	63
FDI	0.176*	(0.094)	-0.037***	(0.010)	0.311	0.737	63

*Notes:* \*\*\*, \*\* and \* denote significant at the 1%, 5% and 10% levels, respectively.

Estimated standard errors shown in parentheses.

SER = standard error of the regression; N = number of countries in sample.

ODA = net ODA (Official Development Assistance) disbursements.

Potential creditors might also consider indicators of the business climate and economic policies in assessing the risks of lending to low-income countries. For example, the “Doing Business” rankings produced by the World Bank has gained prominence in the business media. Low-income countries tend to have lower rankings, on average. In 2007 low-income countries accounted for 24 of the lowest 30 rankings. Kenya had the highest ranking among low-income countries, ranking 72<sup>nd</sup> out of 178 countries. This suggests that the relatively poor investment climate in low-income countries might have an

important influence on creditors' assessment of default risk. However, this is not supported by our regression analysis – “doing business” rankings are statistically insignificant when added to the regressions of the form reported in Table 2. Similar results were obtained using indexes of the overall quality of economic management and structural policies generated by the International Development Association (IDA).<sup>18</sup>

The supply / demand dichotomy serves to organize our thoughts on the many potential factors that influence governments' and corporations' decisions to access external financing. However, some factors did not fit neatly into this dichotomy. For instance, economies of scale can restrict both the demand for and the supply of external capital. Many countries don't have the technical capability required to collect and report macroeconomic and financial data that creditors typically use to access default risk. Few institutional investors, fund managers and investment banks are familiar with investment opportunities, particular in some of the smaller low-income countries, and do not have the resources needed to monitor economic and political developments on a frequent basis. Governments and corporations therefore have an incentive to minimize transactions costs by making large infrequent bond issues and syndicated bank loan transactions. This can partly account for the intermittent borrowing pattern observed in most low-income countries.

The size of the corporate sector might also be an important factor, given that bond issuance and syndicated bank loans have become dominated by private and public corporations in developing countries. Surveys indicate that over 40 percent of large firms use external finance, compared to just over 20 percent for small firms (World Bank 2007, figure 1.9). Moreover, large firms finance about 30 percent of their new investment by external finance, compared to only about 15 percent for small firms (World Bank 2007, p. 45). Beck, Demirguc-Kunt and Maksimovic (2004) find that small firms and firms in countries with poor institutions use less external finance, especially bank finance. These empirical findings suggest that private debt flows to low-income countries will increase as the corporate sector matures.

### ***How important is credit rationing?***

The wide range of factors that influence the demand and supply for external financing makes it difficult to assess the extent to which external borrowing is limited by the unwillingness of creditors to lend to low-income countries. The existing theoretical and empirical literature on credit rationing provides some insight into this question. In a seminal paper by Eaton and Gersovitz (1981), debtors weigh the potential cost of defaulting (exclusion from private capital markets) against the benefits (a lower debt burden). Creditors are unwilling to lend at any price if they believe that the benefits of default exceed the potential costs. Creditors' assessment of debtors' “willingness to repay” is complicated by several additional factors such as moral hazard, adverse selection and asymmetric information. Estimates of the incidence of credit rationing vary considerably. Eaton and Gersovitz found that 80 percent of developing countries were credit constrained in 1970 and 1974, suggesting that the credit-rationing constraint binds quite often.

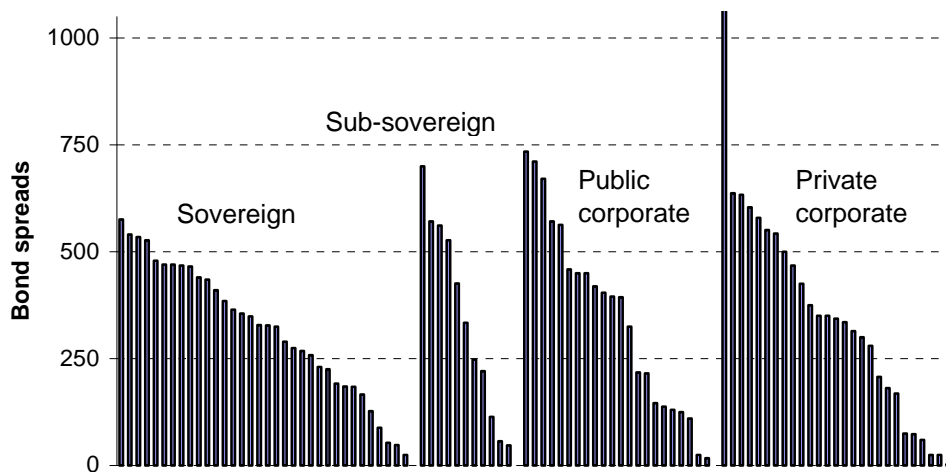
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<sup>18</sup> The Resource Allocation Index generated by the International Development Association (IDA) is comprised of sub-indexes on economic management and structural policies, which are designed to gauge the extent to which policies and institutions foster growth and poverty reduction in 78 countries that are eligible to receive concessional funding from the IDA.

More recent research by Zoli (2004) and Pescatori and Sy (2004) has taken a different approach by modeling the supply of funds using a nonlinear specification that is bounded by a ceiling. Credit rationing occurs when default is imminent because no risk premium can compensate creditors. Zoli's empirical analysis of emerging market sovereign bond spreads indicates that the ceiling varies over a fairly wide range (between 570 to 850 basis points depending on the specification). In contrast, estimates reported by Pescatori and Sy indicate that the ceiling is around 1000 basis points, which they argue is a critical psychological threshold for market participants.

The analysis by Zoli and Pescatori and Sy suggests that countries are unable to access the international bond market unless bond spreads are below a threshold level. While there are few examples of bonds issued with spreads above 1000 basis points,<sup>19</sup> it is unclear that this constitutes credit rationing, in the sense that there is a binding constraint on the supply of funds. Demand-side considerations are also likely to play an important role as corporations and governments assess the high cost of borrowing from abroad. Moreover, spreads on first-time bond issues vary over a wide range (figure 15). Of the 94 governments and corporations in developing countries that issued bonds for the first time over the period 1990-2007, spreads exceeded 500 basis points in 20 cases. There were also 8 cases where spreads on first-time bond issues were below 50 basis points. Governments and corporations typically do not wait until spreads are below a threshold level before accessing the international bond market for the first time.

**Figure 15 Spreads on first-time bond issues, 1990-2007**

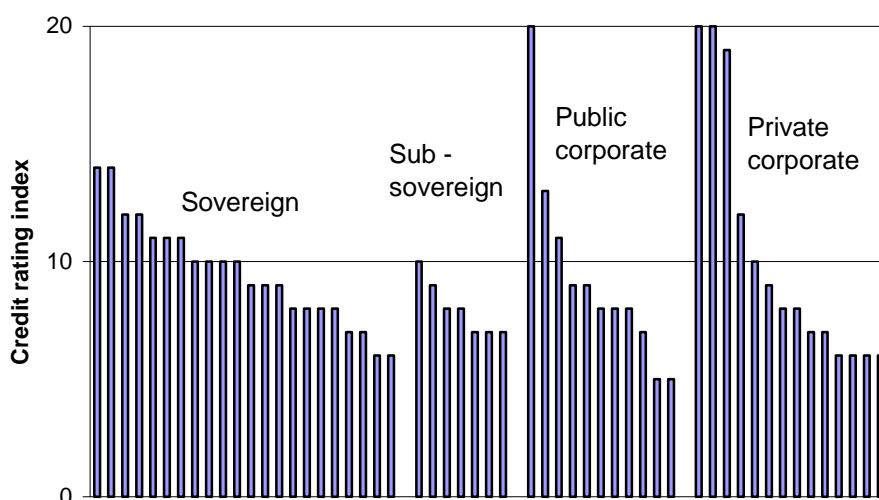


Source: Dealogic DCM Analytics and Loan Analytics.

<sup>19</sup> One example was in November 2002 when Kyivstar GSM ZAT, Ukraine's largest telecom company, issued a 3-year US-dollar denominated Eurobond with a yield to maturity of 13 percent, marking the first external bond issue by a private corporation located in the country.

Credit ratings for first-time bond issues also vary over a wide range (figure 16). Data on credit ratings are available for 54 inaugural bond issues by governments and corporations in developing countries, ranging from A- (four notches above investment grade on the scale used by Standard and Poors and Fitch) to B (five notches below investment grade). Only about one-quarter of the first-time bond issues were investment grade. Several countries have gained access to the international bond market with inaugural issues rated far below investment grade. In 2001 Termoelectrica SA, a public utility in Romania, launched the country's first external bond—a three-year \$134 million Eurobond with a spread of 711 basis points, that was rated B- (six notches below investment grade).

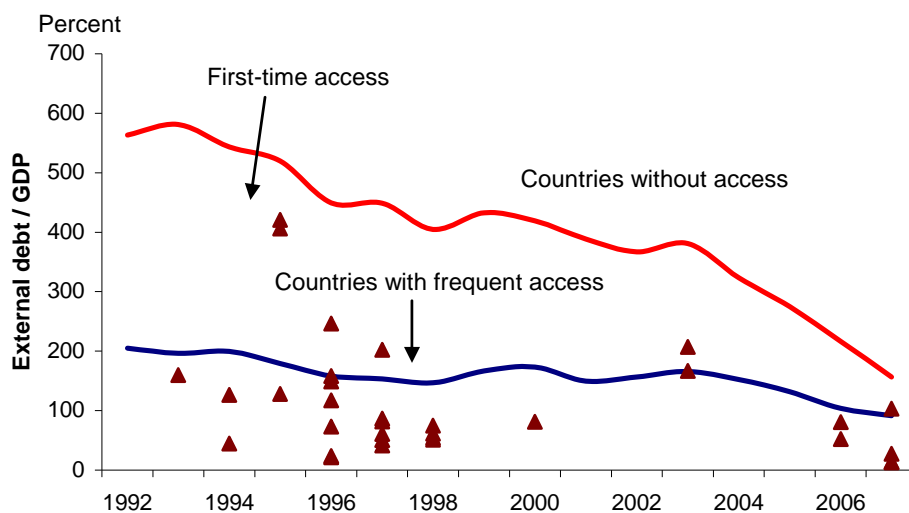
**Figure 16 Credit ratings of first-time bond issues, 1980-2007**



External debt burdens appear to play a role in determining whether governments access the international bond market. Countries that have gained access to the international bond market for the first time have tended to have lower external debt burdens than the average of developing countries without access. This is illustrated in figure 17 which compares the average external debt to export ratio for two groups of countries: 1. those where governments have accessed the international debt market on a frequent basis (in more than 12 years over the period 1990-2007); and 2. those that did not access the international bond market over the period 1980-2007. The differential between the average debt burdens for the two groups narrowed from over 350 percentage points the early 1990s to only 65 percentage points in 2006. The external debt burdens of countries that have launched inaugural sovereign bonds are denoted by the triangles shown in figure 17. Countries that access the international bond market for the first time have lower external debt burdens than the average for countries without access and in most cases is even lower than the average for countries that have accessed the international bond market on a frequent basis.



**Figure 17 External debt as a share of exports in developing counties, 1992-2006**



Source: World Bank Debtor Reporting System

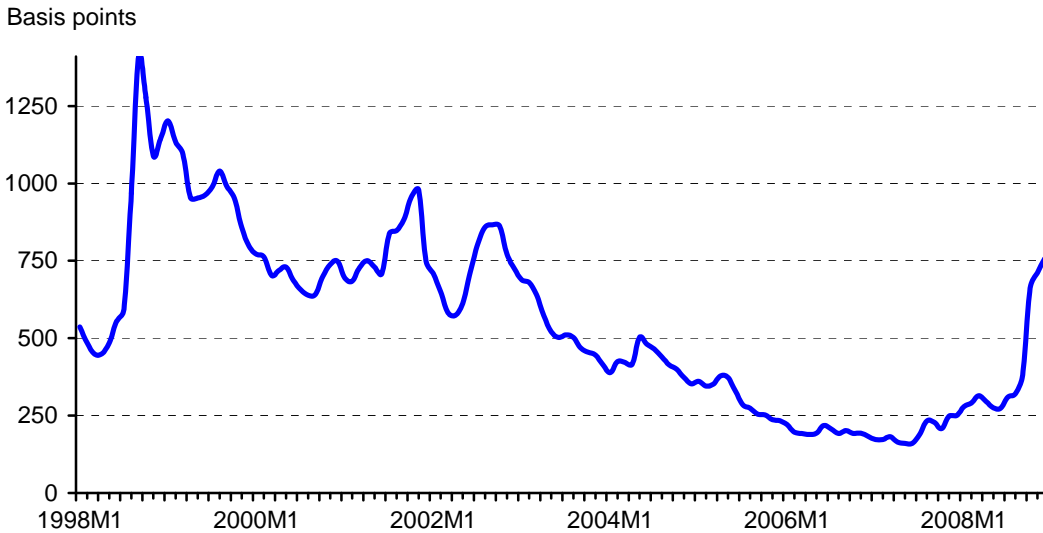
To sum up, governments and corporations in developing countries have gained access to the international bond market under a wide range of circumstances, suggesting that several factors are important. This is supported by recent empirical studies. Grigorian (2003) finds that first-time sovereign bond issues by 32 middle-income countries over the period 1980-2002 are influenced by a few external factors (international interest rate and US GDP growth) along with several internal factors (the level and growth rate of GDP, GDP per capita, the current account and fiscal balance, the external debt burden, the level of foreign reserves relative to imports, and inflation rates). Gelos, Sahay and Sandleris (2004) find the quality of countries' policies and institutions and their vulnerability to external shocks all play prominent roles as well. The analysis is further complicated by complex linkages between supply and demand factors. For instance, public sector borrowing requirements depend on governments' overall fiscal position, which in turn is influenced by their ability to access external financing. In other words, governments that can access private debt markets on a frequent basis are more able finance larger budget deficits.

#### 4. Prospects

Although the surge in private capital flows to developing countries in 2003-07 has largely gone to middle-income countries, a number of low-income countries have gained access to the international bond market. However, the prospects for other developing countries to access private debt markets have worsened significantly in late 2008 in the wake of the global financial crisis. Spreads on emerging market sovereign bonds widened sharply in September 2007 following the collapse of Lehman Brothers and other major financial institutions (figure 18). As of mid-January 2008, sovereign spreads exceed 1000 basis points in 15 of 38 emerging market economies tracked by JPMorgan indexes. Moreover, spreads on emerging market corporate bonds widened by even more, especially for non-investment grade issues

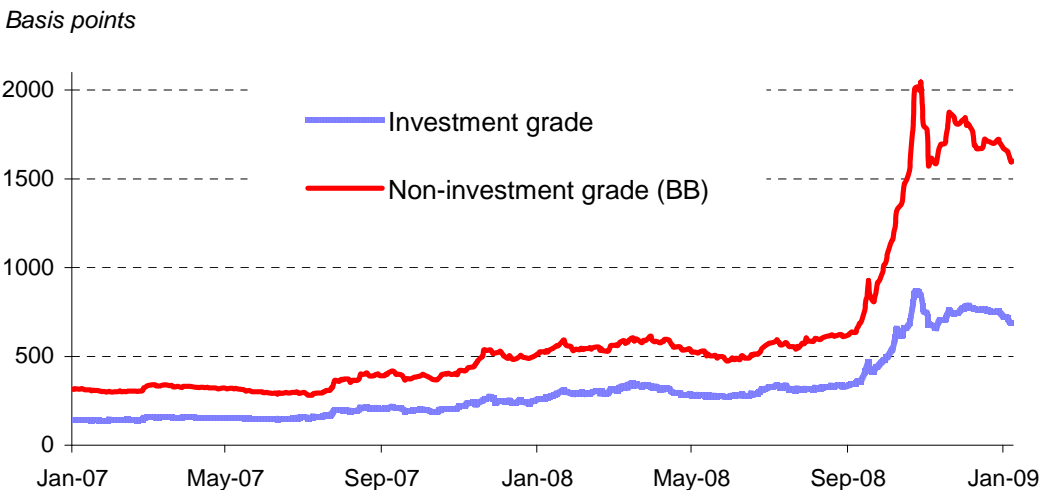
(figure 19). Only the most credit worthy borrowers will be willing and able to issue bonds under such dire market conditions.

**Figure 18 Emerging Market Sovereign Bond Spread, 1998 to 2008**



Source: JPMorgan EMBI Global Composite Index.

**Figure 19 Emerging Market Corporate Bond Spreads, Jan. 2007 to Dec 2008**



Source: JPMorgan Corporate emerging market bond indexes (CEMBI).

Prospects are expected to improve significantly over the longer term, however. New creditors have emerged as important sources of finance. Several managed funds and private equity firms have developed expertise to invest in frontier debt and equity markets. Assets held by sovereign wealth funds will continue expand, particularly if commodity prices rebound, which would provide an additional source of financing for equity and debt securities issued by frontier markets. Also, assets managed by institutional investors (notably, pension, insurance and mutual funds) in developing and advanced

countries are expected to increase their exposure to frontier markets over coming years, especially in countries that show promise of sustainable rapid growth and profitable investment opportunities.

Assessing the prospects for individual countries is a daunting task. The above analysis indicates that access to private debt markets does not hinge on thresholds levels of debt burdens, credit ratings, bond spreads, economic size (GNI) or income level (GNI per capita), but rather reflects a complex set of decisions taken by debtors and creditors, each weighing the potential costs and benefits.

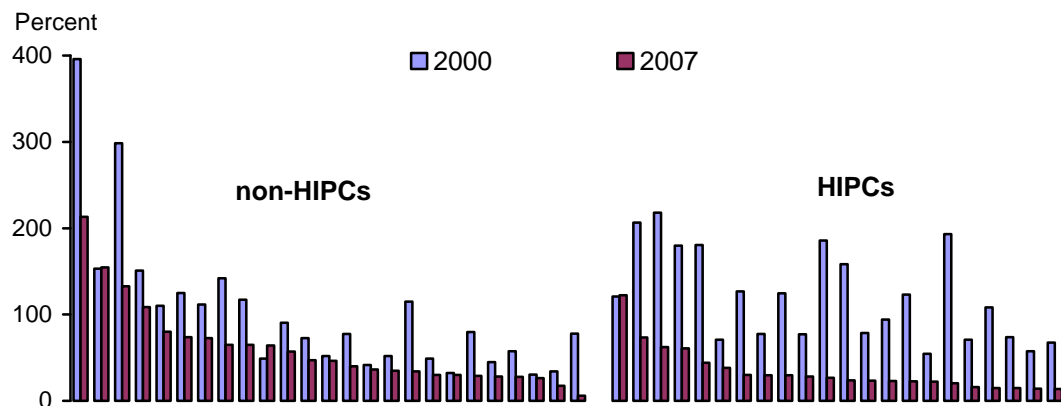
From the debtor's perspective, the potential benefits of external financing include expanding the availability of credit to governments and corporations, particularly in situations where they are unable to meet their financing needs in the domestic market. Access to global capital markets can also reduce intermediation costs by taking advantage of economies of scale attained in large syndicated bank loan transactions and bond issues. Assessing private capital flows can also give countries stronger incentives ("collateral benefits") to pursue economic policies that are more conducive to promote long-run growth (Kose and others 2006). Several recent studies stress the importance of improving the quality of domestic financial institutions in order to capitalize on the development impact of cross-border debt flows.<sup>20</sup> Empirical estimates of such benefits are inconclusive, however. Gourinchas and Jeanne (2006) and Prasad, Rajan, and Subramanian (2007) conclude that it is difficult to establish a robust causal relationship between private capital inflows and economic growth using macroeconomic data.

Managing the risks associated with external borrowing presents a major challenge to governments and corporations, particularly in countries vulnerable to sudden shifts in investor sentiment. Debt sustainability has surfaced as a major issue among donors, and the development community at large, as more low-income countries explore the option of borrowing from abroad on non-concessional terms. There has been growing concern that some countries (especially those that received major debt relief) might take on excessive risks by expanding borrowing on non-concessional terms, and thereby jeopardize debt sustainability over the long term. External debt burdens have declined considerably in most low-income countries, particularly those that have received debt relief from the Heavily Indebted Poor Country (HIPC) Initiative and the Multilateral Debt Relief Initiative (MDRI), as well as additional debt relief from Paris Club creditors (figure 20). The external debt of low-income countries declined from 65 percent of GNI in 2000 to 29 percent in 2007, while that for middle-income countries declined more modestly (from 36 to 25 percent). In 2007 external debt declined below 30 percent of GNI in 16 of the 23 countries that have reached the completion point of the Heavily Indebted Poor Countries (HIPC) initiative. Nigeria's external debt fell from 78 percent of GNI in 2000 to 6 percent in 2007 following a major debt relief agreement with its Paris Club creditors in 2005.

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<sup>20</sup> See IMF (2007) and Bordo (2008) and the references therein.

**Figure 20 External debt as a share of GNI in low-income countries and HIPCs, 2000 and 2007**



Source: World Bank Debtor Reporting System

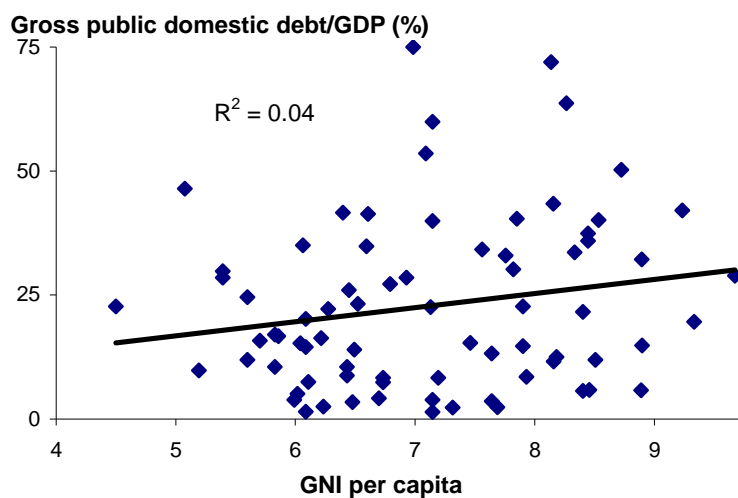
One might expect that countries with that low external debt burdens are well placed to manage the risks entailed in borrowing from private creditors on non-concessional terms. But history has shown that debt burdens alone are not a good indicator of default risk. Reinhart, Rogoff and Savastano (2003) stress that debt default has often occurred in emerging market economies with moderate debt levels. Many low-income countries are vulnerable to large external (especially terms of trade) and domestic (often policy-induced) shocks that can worsen the risk outlook significantly (Catão and Sutton 2002, Catão and Kapur 2004, Loayza and others 2007, and Raddatz 2007). The risk of debt distress therefore remains a major concern, as evident in recent developments. The spread on Pakistan's sovereign bonds widened from below 200 basis points in mid-2007 (comparable to the EMBI Global composite index) to over 2000 basis points in October 2008, yet its external debt was only 28 percent of GDP in 2007, well below the average level for middle-income countries (47 percent). Similarly, spreads widened to over 1000 basis points in four other countries where external debt was under 30 percent of GDP in 2007. These examples serve to illustrate just how quickly investor confidence can deteriorate in countries with low external debt burdens.

Assessing debt sustainability has become complicated by the development of domestic debt markets in some countries. Governments in many developing countries have been financing a growing share of their borrowing requirements in the domestic market. Unfortunately, the quality of data on the volume and attributes of domestic public debt is poor (at best). Data for 2005 indicates that the stock of public debt outstanding in domestic markets is significant in many developing countries, averaging around 25 percent of GNI (figure 21). Non-resident purchases of domestic public debt are substantial in some cases, raising the risk that a sudden shift in investor sentiment could lead to instability in the domestic financial market.<sup>21</sup> This is of particular concern in countries where specialized investment funds have focused on making short-term returns generated by high domestic interest rates and the anticipation

<sup>21</sup> Non-resident purchases of debt issued in domestic markets which should be classified as external debt from a balance of payments perspective but often goes unreported.

of currency appreciation (often in commodity-exporting countries that benefited from rising commodity prices until mid-2008). Moreover, much of domestic public debt in low-income countries has a short-term maturity (under a year) (figure 22),<sup>22</sup> making rollover-risk a major concern as well.

**Figure 21 Gross Public Domestic Debt as a share of GNI in developing countries, 2005**

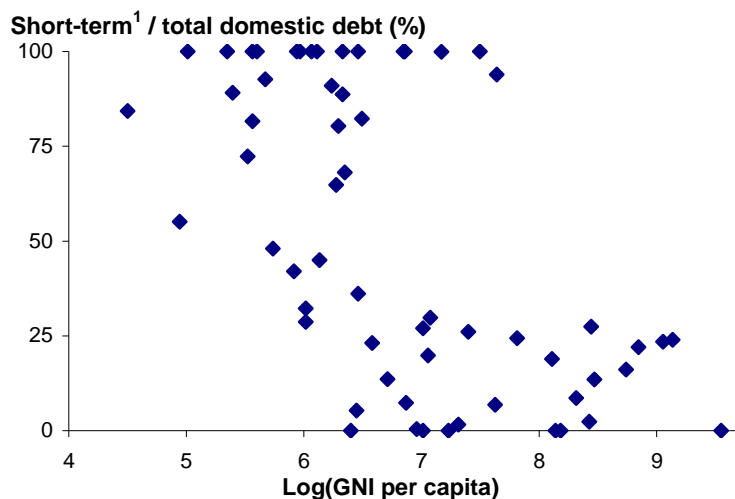


Sources: World Bank staff calculations based on estimates reported by Christensen (2005), Jeanne and Guscina (2006) and Cowan and others (2006).

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<sup>22</sup> Calculations reported by Christensen (2005, Table 5) indicate that domestic debt issued by governments in low-income Sub-Saharan Africa countries have an average maturity ranging from just a few months (Burundi and Uganda) to just over a year (Kenya). In contrast, calculations reported by Jeanne and Guscina (2006, Figure 7) indicate that a significant portion of government debt issued in domestic markets in Asia and Latin America is medium and long term. Estimates compiled by Cowan and others (2006) indicate that the proportion of domestic public debt that is short term (original maturity of less than one year) ranges from almost one half for Brazil to less than one percent in Nicaragua, El Salvador and Colombia.

**Figure 22 Short-term debt as a share of total domestic debt, 2004**



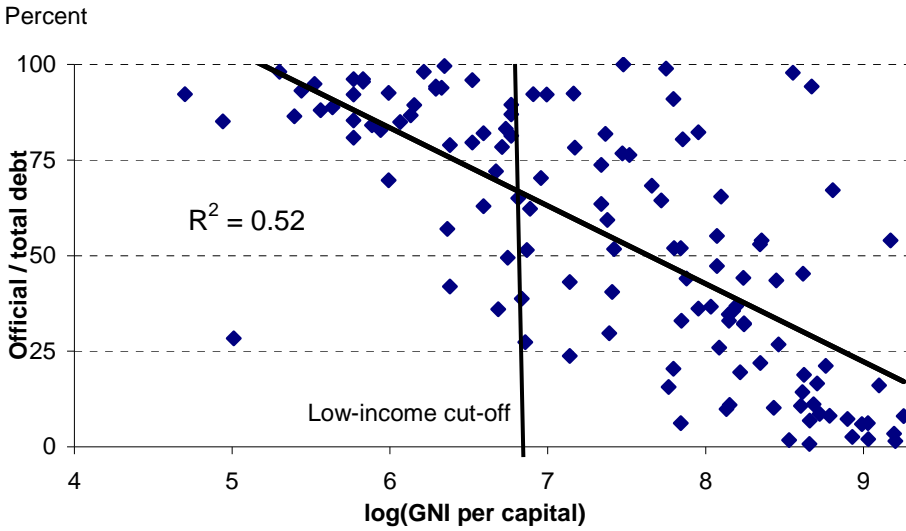
Sources: World Bank staff calculations based on estimates reported by Christensen (2005), Jeanne and Guscina (2006) and Cowan and others (2006).

Note: 1. Domestic debt with original maturity of less than one year.

Expanding borrowing from commercial creditors would signify a major shift in most low-income countries where the outstanding debt is largely comprised of highly-concessional long-term loans from the official sector. In 31 of 42 low-income countries more than 80 percent of external debt is owed to official creditors, compared to just 2 of 35 upper middle-income countries (figure 23).<sup>23</sup> The average grant element of (official and private) new debt commitments exceeds 50 percent in 36 of 43 low-income countries (figure 24) with an average interest rate of less than two percent (figure 25) with an average maturity structure of over 20 years (figure 26).

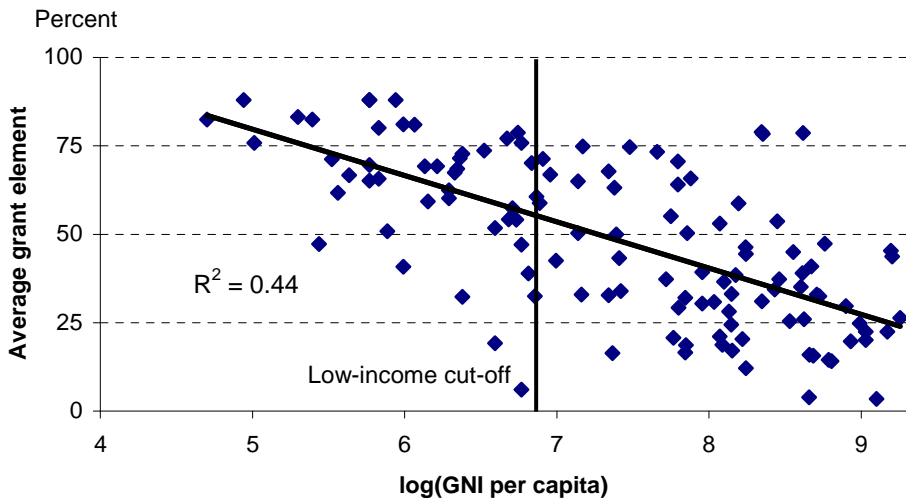
<sup>23</sup> The two exceptions are Botswana and Montenegro. Montenegro declared independence in June 2006 and has cumulated little private debt, while Botswana has a very low external debt burden.

Figure 23 Share of external debt owed to official creditors versus GNI per capita, 2007



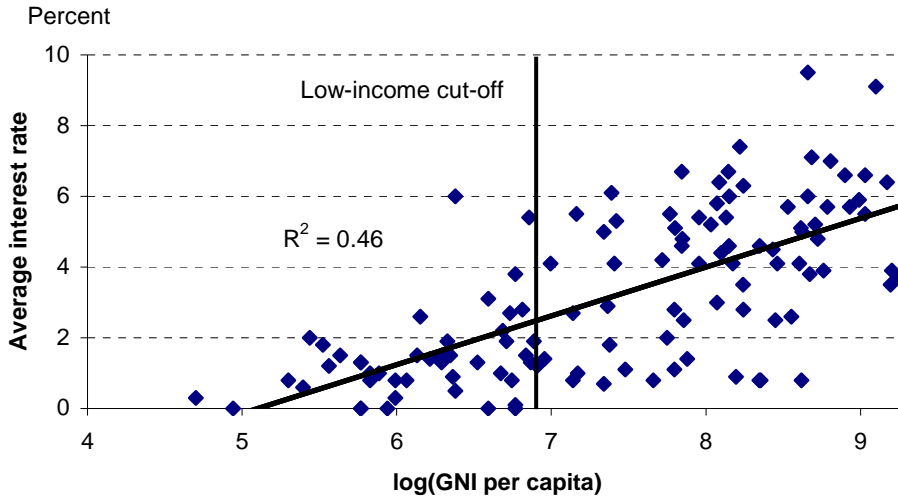
Source: World Bank Debtor Reporting System and World Development Indicators.

Figure 24 Average grant element of new external debt commitments versus GNI per capita, 2007



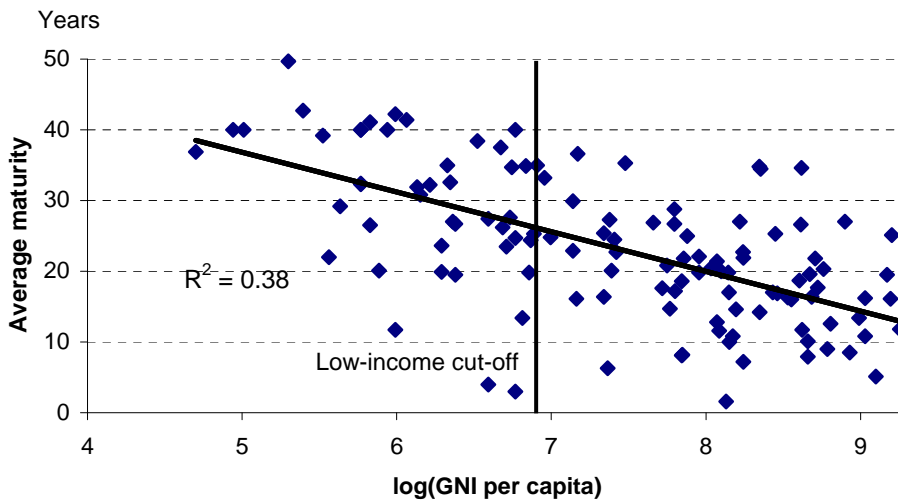
Source: World Bank Debtor Reporting System and World Development Indicators.

Figure 25 Average interest rate on new external debt commitments and GNI per capita, 2007



Source: World Bank Debtor Reporting System and World Development Indicators.

Figure 26 Average maturity on new external debt commitments and GNI per capita, 2007



Source: World Bank Debtor Reporting System and World Development Indicators.

Low-income countries' ability to access private debt market will depend on how well they can manage the risks entailed in borrowing on commercial terms. The debt sustainability framework developed by the IMF and the World Bank is designed to help ensure that debtors and creditors assess the risks effectively (IMF and World Bank 2004). Countries that are able sustain robust growth within a stable macroeconomic environment, while making progress on key reforms to improve governance and build sound institutions will be able to take on more private debt over time without endangering debt sustainability.



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