



WP/08/261

IMF Working Paper

Strategic Considerations for First-Time Sovereign Bond Issuers

*Udaibir S. Das, Michael G. Papaioannou,
and Magdalena Polan*

IMF Working Paper

Monetary and Capital Markets Department

Strategic Considerations for First-Time Sovereign Bond Issuers

Prepared by Udaibir S. Das, Michael Papaioannou, and Magdalena Polan¹

Authorized for distribution by Udaibir S. Das

November 2008

Abstract

This Working Paper should not be reported as representing the views of the IMF.

The views expressed in this Working Paper are those of the author(s) and do not necessarily represent those of the IMF or IMF policy. Working Papers describe research in progress by the author(s) and are published to elicit comments and to further debate.

The recent round of debt relief has restored debt sustainability in many low-income countries (LICs). This, along with a continued search for yield and desire for portfolio diversification by investors, has increased the range of viable financing options, including international bonds, for many emerging market (EM) economies and LICs. This paper presents some of the advantages and disadvantages of international debut bonds, within a debt sustainability framework. It outlines key preconditions and discusses strategic considerations that countries need to take into account when contemplating bond issuance in international markets for the first time. In this context, the paper also discusses some typical pitfalls in accessing international capital markets, including excessive issue size relative to the intended use of bond proceeds, issuance of bullet bonds, and inadequate preparation for accessing the markets.

JEL Classification Numbers: F34, G12, G15, G24

Keywords: Sovereign debt, external debt, international bonds, market access, emerging markets, low-income countries

Author's E-Mail Address: udas@imf.org; mpapaioannou@imf.org; mpolan@imf.org

¹ The authors would like to thank Myrvin Anthony, Robert Cocker, Tomislav Galac, Herve Joly, Yan Liu, and Perry Perone for helpful comments and suggestions. The usual disclaimer applies.

Contents	Page
I. Introduction	3
II. Recent Trends in EM and LIC Sovereign Bond Issuance.....	4
III. International Issuance: Advantages and Risks.....	11
A. Advantages of International Issuance	11
B. Risks of International Issuance	12
IV. Strategic Considerations for Sovereign Debut Issuers	12
A. Debt-Sustainability Aspects of Issuance.....	13
B. Practical and Operational Aspects of Issuance	18
V. Pitfalls of First Time Sovereign Issuance	22
VI. Concluding Remarks	25
References.....	26
Tables	
1. Selected Debut Issues by EM Countries.....	5
2. Credit Ratings and EMBI Global Spreads for Selected EM Countries	15
Figures	
1. Characteristics of Selected Debut EM and LIC Issues	6
2. Trends in Concessional and Non-Concessional Financing in Sub-Saharan Countries.....	8
3. Recent Debut Issues and Risk Appetite.....	9
4. Composite Credit Ratings of Debut Sovereign Issuers and Spreads at Issue.....	23
5. Relative Cost of Recent Debut Issues.....	24
Boxes	
1. Fund Policy on Non-Concessional External Debt Financing for Program and Post-Debt Relief Countries	7
2. Considerations for a Successful Issuance of a Sovereign Debut International Bond.....	21

I. INTRODUCTION

Over the last decade, a growing number of EM and LIC sovereigns entered the international capital markets for the first time (Bahrain, Bulgaria, Czech Republic, Egypt, Gabon, Georgia, Ghana, Hungary, Indonesia, Kazakhstan, Poland, Sri Lanka, Vietnam, and Ukraine). Improved domestic macroeconomic conditions, including debt sustainability, enhancements in debt management frameworks, ample international financial liquidity and strong investor appetite for new asset classes and higher-risk instruments, have allowed many debut sovereign bond issuers to access international financial markets with increasingly higher sizes and relatively lower coupon rates (Klassen, 2004). The proceeds of these bonds have been used for a variety of purposes, including funding of infrastructure development projects (Bahrain and Sri Lanka), easing budget financing pressures (Ecuador and Egypt), and financing in part the country's repayment of existing debt (Indonesia, Poland, and Ukraine) or Paris Club debt (Gabon).

The main benefit of international bond issuance is the augmentation of domestic savings. When a bond issuance is undertaken in the context of a sustainable debt framework, it can significantly enhance a country's available resources and, hence, its prospects of sustainable growth and prosperity. Other benefits include: (i) the additional incentive to increase macroeconomic discipline and move forward with structural reforms as a result of the intense scrutiny of the domestic economy by international market participants; (ii) establishment of the sovereign's presence in the international capital markets, which could also allow local corporates to access international markets in the future; and (iii) substantial broadening of the country's investor base (Agenor, 2001; Dittmar and Yuan, 2007).

However, international bond issuance also entails several risks. The key challenge for all sovereign bond issuers, including first-time issuers, is to maintain sound macroeconomic policies, especially fiscal sustainability. This is needed to ensure sovereign creditworthiness, as international investors' confidence in many EM countries and LICs is often fragile and quickly reversible. Other risks include the sovereign's foreign currency risk exposure from an international bond issue, possible refinancing needs—especially in periods of tight international financial liquidity conditions—and adverse terms-of-trade shocks.

To reduce the risk of unfavorable developments related to a debut issue, sovereigns need to make appropriate preparations before accessing the markets. Judging by past successful cases of sovereigns that accessed capital markets, most countries' preparations had primarily focused on issuing and utilizing the proceeds of a debut bond without compromising the sovereign's creditworthiness. Before a debut bond was issued, appropriate analysis was undertaken to examine its balance sheet implications within a medium-term macroeconomic framework. This was to ensure that additional fiscal and debt-related vulnerabilities, as well as adverse effects on international reserve dynamics, did not arise (Steneri, 2004). In this process, the sovereign had also to decide about the specific strategic considerations of a

debut issue, including its size, maturity, choice of fixed versus flexible interest rate and currency of denomination. Further, tactical issues, including the choice of legal and financial advisors, underwriters and jurisdiction of issuance, were of paramount importance in deciding about a sovereign debut debt issue.

This paper addresses critical aspects surrounding the decision process relating to sovereign international bond issuance. It is organized as follows: section II presents recent trends in EM and LIC debut bond issuance; section III analyzes the main advantages and risks of international bond issuance; section IV presents strategic and tactical considerations in deciding about an external debut bond issue; section V outlines some common mistakes of first-time sovereign issuers; and section VI offers concluding remarks on some additional considerations and future directions.

II. RECENT TRENDS IN EM AND LIC SOVEREIGN BOND ISSUANCE

During the last decade, a number of EM countries and LICs have successfully issued international bonds for the first time (Table 1), with the most recent cases being those of Georgia (US\$500 million; early April 2008), Gabon (US\$1 billion; mid-December 2007), Sri Lanka (US\$500 million; October 2007), and Ghana (US\$750 million; late September 2007). Ghana's issue was the first by a Sub-Saharan country (other than South Africa). Notably, the geographic distribution of first-time issuers was diverse. Moreover, several other EM countries and LICs have expressed their intention to access international capital markets with debut issues.² The size, coupon, maturity and spread in percent of total issues of debut EM and LIC issues is schematically presented in Figure 1 (based on Table 1).

Recent debut sovereign issues were the latest manifestation of a more general move away from concessional financing to non-concessional and non-traditional sources (Box 1), as well as a result of increased "borrowing space" due to improved debt sustainability. This trend has been particularly notable in countries that benefited from debt relief, such as post-HIPC countries. Moreover, the non-concessional sources tapped by EM countries or LICs included the official sector, e.g., regional development banks, bilateral creditors, and the private sector, especially banks, and now also bond investors. Interestingly, the trend in non-HIPC countries has been the opposite. Figure 2 presents these trends in sub-Saharan countries between 1990 and 2005³ (we use only sub-Saharan countries for comparison purposes, accounting for 18 out of the 22 post-completion-point HIPC countries).

² For example, Azerbaijan, Cameroon, Kenya, Mongolia and Uganda.

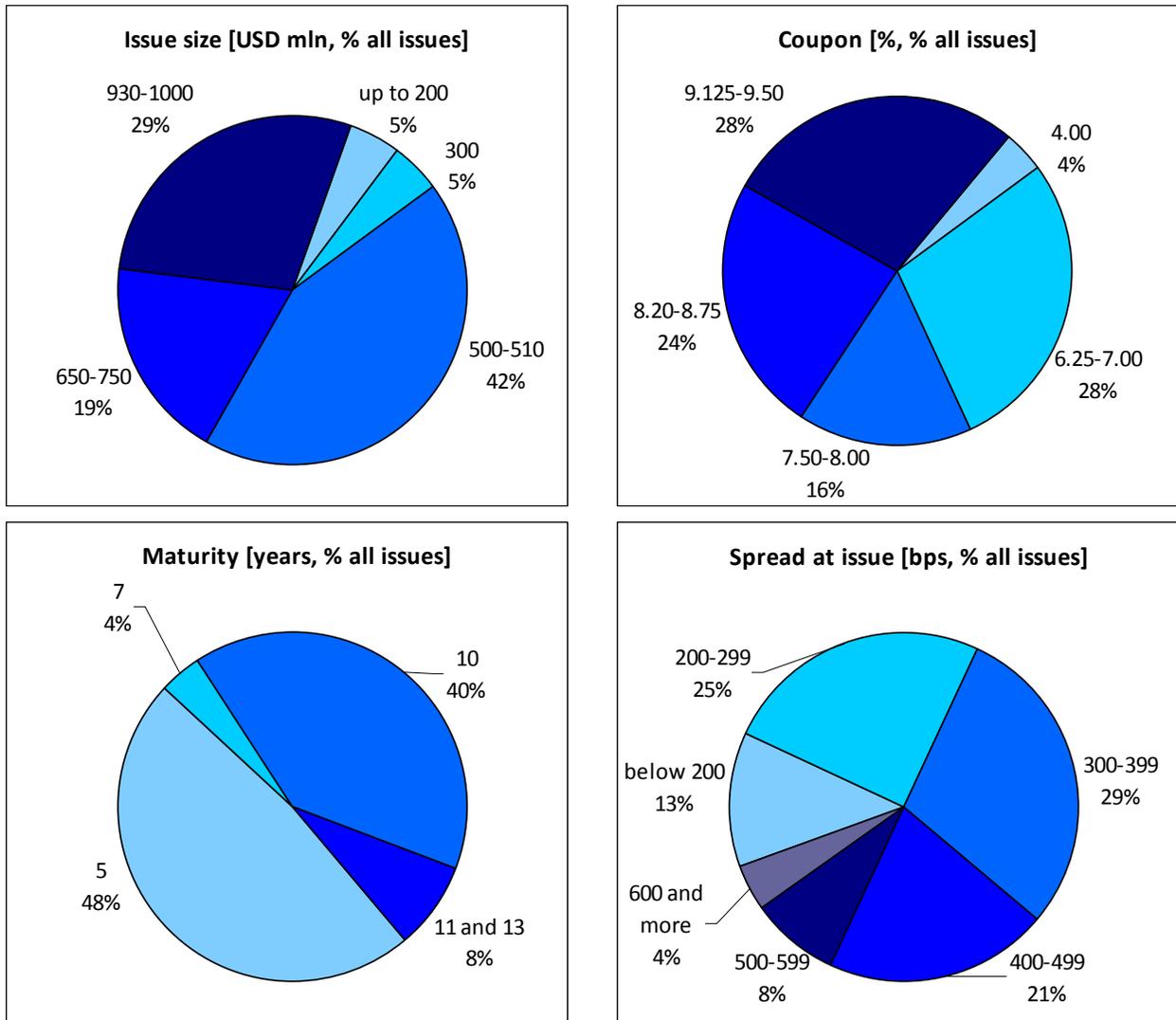
³ Sub-Saharan countries had several financing options available, including non-traditional creditors with concessional (sometimes with not full concessional) finance, project financing, securitized financing of some infrastructure, Public Private Partnerships, and sovereign issues.

Table 1. Selected Debut Issues by EM Countries

Country	Date	Currency	Size [USD mil]	Size [in % GDP]	Coupon [%]	Price	Spread [bps]	Maturity [years]	Rating (composite)
Bahrain	Jan-03	USD	500	5.15%	4.00	99.311	75 ⁽⁶⁾	5	NR
Bulgaria	Mar-02	USD	510	3.27%	8.25	93.681	369	13	BBB
Bulgaria	Mar-02	EUR	738	4.73%	7.50	96.617	275	11	BBB
Chile	Apr-99	USD	500	0.68%	6.875	99.864	175	10	A
Costa Rica	Apr-98	USD	200	1.42%	8.00	100.000	250	5	BB
Croatia ⁽¹⁾	Dec-96	HRK	60	0.06%	12.50	98.500	--	2	--
Croatia	Feb-97	USD	300	1.49%	7.00	99.917	80	5	BBB
Dom Rep.	Sep-01	USD	500	2.03%	9.50	100.000	566	5	B-
Ecuador	Dec-05	USD	650	1.75%	9.375	91.692	623	10	B-
Egypt	Jun-01	USD	500	0.55%	7.625	99.631	275	5	BB+
Egypt	Jun-01	USD	1,000	1.11%	8.75	99.881	335	10	BB+
Egypt ⁽²⁾	Jul-07	EGP	1,000	0.14%	8.75	99.504	--	5	--
El Salvador	Aug-99	USD	150	1.20%	9.50	92.196	500	7	BB+
Fiji	Sep-06	USD	150	5.00% ⁽⁴⁾	7.00	99.480	225	5	B+
Gabon	Dec-07	USD	1000	9.80%	8.2	100.000	426	10	BB-
Georgia	Apr-08	USD	500	4.86%	7.50	100.000	474	5	B+
Ghana	Sep-07	USD	750	4.99%	8.50	100.000	387	10	B+
Indonesia	Mar-04	USD	1,000	0.39%	6.75	99.285	277	10	BB-
Latvia	May-99	EUR	159	2.18%	6.25	98.750	330	5	BBB
Pakistan	Feb-04	USD	500	0.52%	6.75	100.000	370	5	B+
Peru	Feb-02	USD	500	0.88%	9.125	97.732	455	10	BB-
Peru ⁽³⁾	Feb-02	USD	930	1.64%	9.125	97.732	455	10	BB-
Qatar	May-99	USD	1,000	8.07%	9.50	99.936	395	10	AA-
Seychelles	Sep-06	USD	200	28.64% ⁽⁵⁾	9.125	99.508	470	5	B (S&P)
Sri Lanka	Oct-07	USD	500	1.85% ⁽⁴⁾	8.25	100.000	397	5	BB-
Vietnam	Oct-05	USD	750	1.42%	6.875	98.223	256	10	BB-

Source: Bloomberg, Dealogic. Notes: (1) Croatia's first international bond was denominated in its domestic currency. It was soon followed by an Euro-dollar bond. (2) Egypt issued its first international bond in domestic currency in July 2007. (3) Peru's \$930 million bond was issued in exchange of older Brady bonds. (4) In terms of 2006 GDP. (5) In terms of 2005; also, the government reopened the bond later by issuing additional \$30 million. (6) Priced over mid-rate swaps.

Figure 1. Characteristics of Selected Debut EM and LIC Issues
(in percent of all issues)

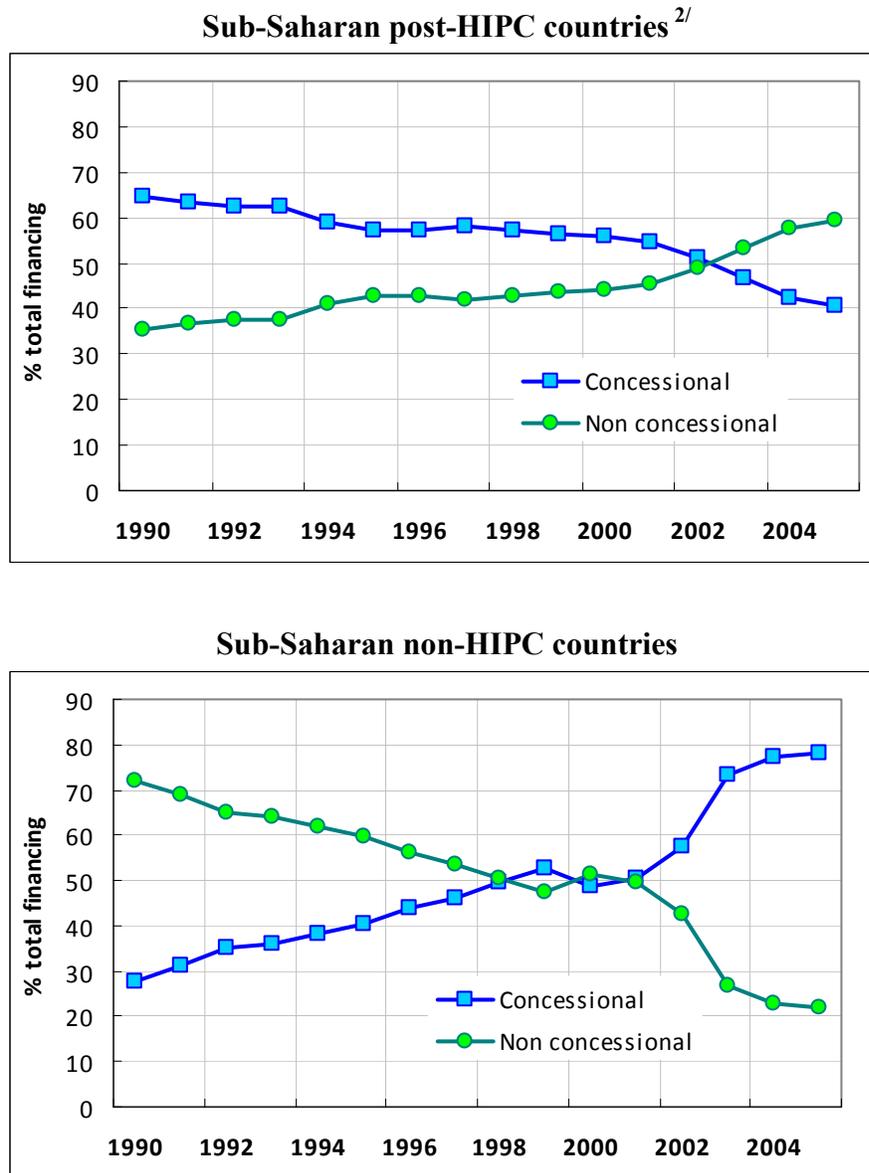


Box 1. Fund Policy on Non-Concessional External Debt Financing for Program and Post-Debt Relief Countries

In general, the Fund maintains that concessional financing is the best source for all LICs, while it imposes limits on non-concessional external debt—both market and non-market—in the context of Fund arrangements. In the case of non-program and non-Policy Support Instrument (PSI) countries, the Fund provides advice on the appropriate level of concessional financing in the context of regular Fund surveillance. The objective is to prevent the build-up of external debt to levels that may lead to debt-servicing problems in the medium term; ensure that restraint on domestic demand is not threatened by unanticipated recourse to external financing; and reduce a country's external vulnerability. In Fund programs, non-concessional borrowing is usually limited to zero (this may also apply to Policy Support Instruments). However, there is no critical need for a zero limit on non-concessional external borrowing in countries with a low risk of debt distress, a decreasing debt level, improving expenditure management and increasing debt management capacity.

In the case of countries that received debt relief, the Fund's policy, reaffirmed by the Executive Board in the discussion of the debt sustainability framework for LICs post-debt relief (BUFF/06/174), is that grants and concessional borrowing remain the most appropriate forms of financing. Exceptions can be considered, on a case-by-case basis, if concessional financing is not available. Further, exceptions to the limit are possible on a case-by-case basis. Criteria for exceptions include the impact on debt sustainability, the overall strength of the country's policies and institutions, and the quality of the investment to be financed, as well as that of the overall public expenditure program. For example, exceptions can be made if the non-concessional borrowing supports a financially viable project that otherwise would not be undertaken, or if borrowing helps avoid immediate social hardship. However, exceptions must not affect debt sustainability, as determined by the Debt Sustainability Framework.

Figure 2. Trends in Concessional ^{1/} and Non-Concessional Financing in Sub-Saharan Countries



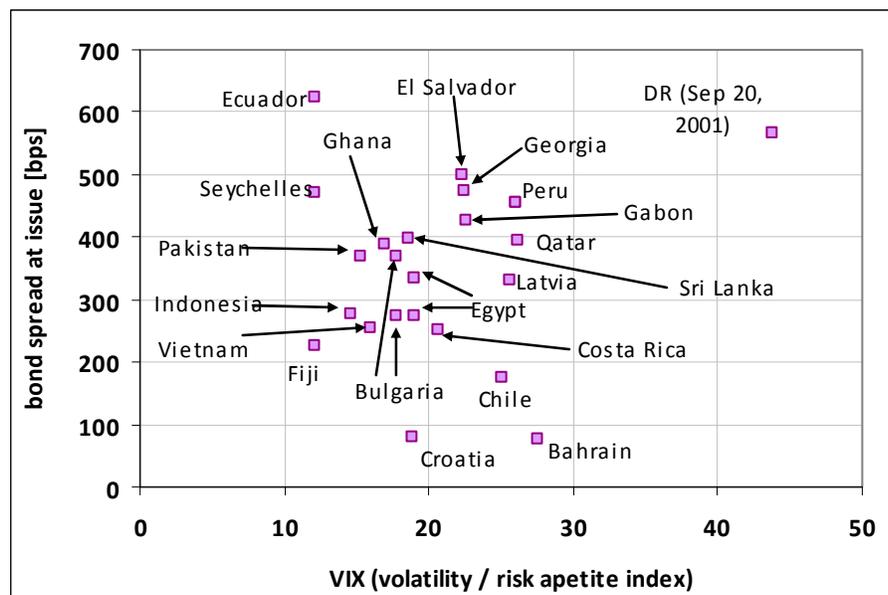
Source: World Bank, Global Development Finance.

1/ Loans from major regional development banks, the IMF, and the World Bank are classified as concessional according to each institution's classification. Otherwise, concessional status of flows is as defined by DAC.

2/ 18 sub-Saharan countries that have reached HIPC completion point as of December 4, 2007.

Most debut issuers accessed international markets under generally favorable external conditions. There was ample liquidity and strong risk appetite on the part of the international investors (Figure 3). In particular, the then-prevailing low interest-rates had led many investors to search for higher yield and diversification opportunities for their portfolios.⁴ Moreover, investor demand for new sovereign debt was high, resulting, in part, from a decrease in the supply of sovereign external debt by many advanced EM countries that were replacing external debt with domestic currency issues. On the real side, the global growth outlook was positive, and prices of commodities—often major exports of debut issuers—were high.

Figure 3. Recent Debut Issues and Risk Appetite
(as measured by VIX 1/ index of volatility)



Source: Bloomberg, Dealogic. Country selection as in Table 1.

1/ The VIX is an S&P 500-based implied volatility index, used to approximate investors' risk appetite. Recent studies show that the VIX is a strong determinant of emerging market spreads, with lower VIX or higher risk appetite being correlated with lower spreads (IMF 2004a and 2004b)

On the domestic front, most of these countries had fulfilled prior to issuance a number of preconditions considered necessary to attract investors to debut international issues. These preconditions, which allowed most of them to obtain the best possible credit ratings well in advance of their planned issues, included:

⁴ Correlation between debt markets in the more advanced EM countries and mature economies has substantially increased over the last years. Debut issuers and 'frontier' markets are relatively disconnected from other markets, offering a chance for higher diversification in investors' portfolios.

- Building a record of good economic performance over the preceding few years, maintaining a positive medium-term outlook, and demonstrating that their debut issues were part of their debt management framework and did not distort their debt sustainability;
- Maintaining robust growth, keeping inflation under control, and ensuring that the external current account deficit was being financed without any difficulty;
- Adopting prudent fiscal stances and servicing existing public debt without any difficulty. In some countries, public debt had been lowered to sustainable levels following substantial debt relief packages;
- Making progress in data dissemination, transparency in the conduct of their macroeconomic policies, and in carrying out structural reforms; and
- Having a political situation that was also supportive of the pursuit of appropriate economic policies.

In addition, many EM debut issuers had improved their public debt management capabilities before accessing the international capital markets. In particular, they had strengthened the institutional capacity for debt management by developing a comprehensive risk management framework, often with the help of external advisors (IMF and World Bank 2007). In this framework, priority had been given to the relevant hiring and training of personnel at their debt management offices, as well as to the appropriate investment in information technology (IT). Enhancement of debt management capabilities reflected the realization of the need to carefully evaluate and monitor these bond issues, as they may have a significant impact on the country's debt indicators and debt sustainability (IMF 2003a).

Although the size of the initial bonds varied widely across first-time issuers, other characteristics of debut bonds tended to be similar. The majority of EM sovereigns issued at least 500 million U.S. dollars, the minimum size for a bond to be included in a bond index (e.g., JP Morgan EMBI Global) (see Table 1). In addition, almost all recent first-time sovereign issuers placed fixed coupon, bullet bonds, with maturities of 5 or 10 years. Also, most of the initial bond issues were denominated in U.S. dollars and offered relatively high coupons to attract greater investor interest. Further, most recent initial issues included collective action clauses (CACs)⁵ and were privately placed or issued as Eurobonds rather than as global bonds (Grigorian, 2003).

⁵ CACs in bond contracts consist of the majority enforcement provisions and the majority restructuring provision. The majority enforcement provisions (including acceleration and de-acceleration clauses) are designed to limit the ability of a minority of bondholders to disrupt the restructuring process by enforcing their claims after a default but before a restructuring agreement, while the majority restructuring provision allows a qualified majority of bondholders of an issuance to bind all holders of that issuance to the financial terms of a restructuring, either before or after a default.

III. INTERNATIONAL ISSUANCE: ADVANTAGES AND RISKS

A. Advantages of International Issuance

External issuance can bring numerous macroeconomic benefits to the issuer. First, as with other forms of external borrowing, international issuance supplements domestic savings. It may reduce the risk of crowding out domestic private sector borrowers in the domestic market, and thus may support domestic investment and growth, and help develop the local capital market (Feldstein and Horioka, 1980). Second, by raising financing in capital markets, governments diversify sources of capital and reduce reliance on bank financing from abroad and official financing, often associated with conditionality. Third, in principle, external market financing can help strengthen incentives for maintaining macroeconomic discipline (IMF, 2003).

External issuance may also improve the risk profile of the government debt portfolio and help corporate issuers and para-statals to access external markets. Especially for first-time issuers that issue in foreign currency, debt raised in international markets usually carries a lower coupon and has a longer maturity than domestic debt⁶. This is due to lower risk being assumed by investors (especially foreign exchange and political risk), stronger investor protection,⁷ and more reliable depository and settlement systems available to international investors, as well as lower currency and inflation risk of, say, Euro- or U.S. dollar-denominated debt. By issuing abroad, a government may also establish an interest rate benchmark, against which corporate issues can be priced. This can facilitate the access of corporate issuers to international markets; however, the experience of a number of EM countries shows that the existence of a sovereign benchmark is not a necessary prerequisite or sufficient requirement for successful corporate issuance abroad⁸ (e.g., Brazil and Nigeria).

An important but less quantifiable benefit of international issuance is the increase in transparency and closer market monitoring. The prospectus or the offering memorandum of a bond issue requires disclosure of a substantial amount of data, allowing investors a close look at the current economic situation of the issuing country and a better assessment of the

⁶ Until now, some EM sovereign issuers cannot issue long-term domestic bonds (e.g., beyond 10 years maturity), and/or pay a high premium on their domestic debt (even correcting for expected exchange rate appreciation.)

⁷ This is mostly due to the fact that external bonds are issued under foreign law (for instance, the New York, English, or Luxembourg law that applies to any matters related to the bond). This ensures that the issuing government cannot, for example, without legal consequences, forcibly restructure the bond or declare it illegal, or change the bond contract without the consent of the investors.

⁸ In addition to the existence of a sovereign benchmark, other factors may also be important, such as legal and tax frameworks, market conditions (e.g., international demand for corporate debt), or domestic liquidity. Further, the opposite may also hold true, i.e., sovereign international bond issuance may follow international private sector (e.g., corporate) bond issuance.

country's prospects for successfully meeting its debt service payments. The successful issue of an international bond gives a signal of approval of current and planned economic policies, and may help maintain a steady momentum in maintaining prudent macroeconomic policies and carrying out critical structural reforms, especially because markets subject issuers to close scrutiny and monitor economic developments on a regular basis.

B. Risks of International Issuance

Notwithstanding the numerous benefits, external debt issuance may bring considerable foreign currency risks. As in the case of other forms of external borrowing, external issuance may worsen the currency mismatch of government liabilities and revenues, increasing the risk of a depreciation of the currency leading to high ex post debt servicing costs. Also, the sovereign can become more vulnerable to abrupt changes in international financial conditions. For example, should global financial liquidity decrease, interest rates in the country of placement may change, the exchange rate between the issuing country and that of placement may move substantially and international investors' perceptions about the performance of the economy may deteriorate.

In particular, negative or inaccurate international market perceptions about a sovereign issuer's economy may develop due to a lack of comprehensive and timely information on the pursuit of appropriate policies, fears of instability stemming from political developments and unfavorable interpretations of economic or political pronouncements. This could undermine the sovereign's ability to secure access to international capital markets on a sustained basis, thus significantly increasing refinancing risk. Finally, the issuer may fall victim to contagion or panic that could affect all EM countries or LICs, regardless of their performance and ability to service debt.

These risks tend to pose a greater problem for small economies or economies subject to swings in their terms of trade. For example, if a small economy has issued a relatively large bullet bond, it may experience difficulty in repaying/refinancing the face value at maturity after adverse changes in its exchange rate or international market conditions. Similarly, a country subject to swings in its terms of trade, as is often the case for commodity-dependent developing economies, may face similar debt-servicing problems.

IV. STRATEGIC CONSIDERATIONS FOR SOVEREIGN DEBUT ISSUERS

When planning for an initial international bond issue, the country will need to make a number of decisions at various points in the process. Some are broader and more strategic in nature, which can be best addressed in the context of an asset-liability management framework and a medium-term debt management strategy, while others are primarily tactical and related to the execution of the issue, although no less important. Regardless of the nature of these considerations, laying this groundwork early improves the chances of meeting the

objectives of the issue, lowering its costs, and helping achieve a more stable investor base (IMF 2003; 2003a; 2007).

A. Debt-Sustainability Aspects of Issuance

Size of issue and use of proceeds

In principle, the key factor in deciding about the size of a debut international bond issue is whether it endangers the country's debt sustainability. Using the Debt Sustainability Framework (DSF) for the country, it should be ensured that the size of the first-time issue would not push the net present value (NPV) of the public external debt-to-GDP ratio up to unsustainable levels.⁹ Further, the issue's debt service payments should be assessed to ensure that they do not create budgetary difficulties. In this regard, to attract investors to purchase a relatively large issue, the debut issuer may need to consider various ways to reduce the risk premium associated with higher repayment risk, including an agreement with the IMF on a Policy Support Instrument. This would offer investors a reassurance that the country's macroeconomic policies remain sound, thus reducing repayment risk.

The size of the first-time issue is a critical consideration. In determining the appropriate size, principal consideration must be given to how much funds will need to be raised from markets in, say, the next few years, with the main question being whether to divide this total into more than one bond issue. When proceeds are to be used only slowly, the total desired funding can be obtained either by new issues or by re-opening the first issue in order to minimize the negative carrying costs. These matters are often decided within the framework of a comprehensive debt management strategy.

Nevertheless, the issue should be large enough to assure market liquidity, especially if the issuer plans to either establish this particular bond as a benchmark (minimum \$200 million to \$250 million) and avoid the illiquidity premium, or include it in a bond index (minimum \$500 million). Higher liquidity and participation in an index are both generally attractive to investors and can result in better pricing for the issuer.¹⁰ While deciding on the size, the issuer should also take into account the demand conditions in the international capital

⁹ In the DSF, there are indicative thresholds for various debt ratios, which are used in the Debt Sustainability Analysis of LICs. However, there are no debt thresholds for assessing the sustainability of Middle Income Countries. Further, several academic studies consider the public external debt sustainable if the ratio of total general government external debt to GDP is below a certain level. For example, for EM and developing countries, some studies set this threshold at 50 percent for countries without debt crises and at 15 percent to 30 percent for countries where debt crises emerge frequently (Reinhart, Rogoff, and Savastano, 2003), while other studies maintain a limit of 40 percent (Manasse, Roubini, and Schimmelfenning, 2003).

¹⁰ Because indices are usually tracked by institutional investors, participation in the index guarantees interest and long-term holdings by this group of investors. Further, investors who do not track the index may become interested in a debut issue if they know that the bond will be held by a stable group of investors.

markets. In particular, favorable demand for EM or LIC bonds, and/or reduced volatility in mature markets, can positively affect potential demand for new bonds.

However, a larger-size issue tends to increase the risk and cost of the issue. It can increase the rollover or repayment risk, as the issuer has to raise more funds before the maturity date under uncertain future market conditions.¹¹ Also, larger issues, in excess of immediate financing needs, could add to the government's costs, while "excess" funds are held in international reserves that yield less than the interest rate on the new bonds.¹² If the initial bond issue is insufficient for its intended purpose, the issuer can reopen the issue in the future (see above), or opt for issuing one or more bonds later in order to build a yield curve. In this context, the issuer should think about raising funds as a dynamic process, not a static event. Finally, if the size of the initial issue is seen as too large relative to the size of the issuer's economy, raising questions about future debt sustainability, markets could charge a penalty rate outweighing possible liquidity benefits. In fact, a very small economy may not be able to issue an international bond of minimum size without drastically increasing its debt-to-GDP ratio, which could adversely effect its debt-related vulnerabilities.

Maturity, repayment structure and currency of denomination

The repayment profile of a bond is another important choice for the issuer. This involves deciding both the date of final payment (final maturity) and the amounts of any intermediate principal repayments before that date (IMF, 2003).

Generally, debut bonds have shorter maturities than outstanding bonds issued by other countries that have regularly borrowed externally. Markets prefer a rather short final maturity—5 to 7 years—due to insufficient knowledge of the country and an unproven repayment history.¹³ Also, debut issuers frequently prefer to issue at relatively short maturities because they often expect that their credit spreads (country risk premia) will be able to come down before refinancing is needed, as economic performance improves and a record in servicing external debt is established (see Table 2). Thus, on cost grounds, issuing shorter-term debt reduces the risk of locking in higher interest rates (Mauro, Sussman and Yafeh, 2006). However, depending on the use of proceeds and market conditions, it may be

¹¹ This presupposes that reopening(s) of a bond issue will not be frequent enough to cause similar rollover risks.

¹² This is referred to as "negative carry". However, some EMs or LICs may prefer to pay a negative carry if it is outweighed by potential higher funding costs in the future. In this case, the negative carry is viewed as an up-front insurance premium that the issuer is willing to pay against future higher borrowing costs or the risk of not being able to easily access external markets.

¹³ However, the recent debut issue of a 10-year bond by Ghana has shown that investors can be interested in even longer maturities, especially when the supply of external sovereign debt is relatively low.

Table 2. Credit Ratings and EMBI Global Spreads for Selected EM Countries

Country	Moody's Rating	S&P Rating	Average spread in August 2008	Average spread in September 2008	Spread at debut issue [bps]
Argentina	B3	B	668	792	
Belize	Caa1	B	729	755	
Brazil	Ba1	BBB-	235	290	
Bulgaria	Baa3	BBB+	233	259	369 (USD) and 275 (EUR)
Chile	A2	A+	173	187	175
China	A1	A+	151	172	
Colombia	Ba1	BB+	222	271	
Croatia	Baa3	BBB			80
Dominican Republic	B2	B+	509	537	566
Ecuador	B3	B-	700	880	623
Egypt	Ba1	BB+	221	279	275 (5Y) and 335 (10)
El Salvador	Baa3	BB+	0	0	500
Fiji	Ba1	B	312	342	225
Gabon	NR	BB-	394	454	426
Ghana	NR	B+	466	558	387
Hungary	A2	BBB+	158	157	
Indonesia	Ba3	BB-	350	395	277
Latvia	A2	BBB+	0	0	330
Lebanon	B3	B-	477	503	
Mexico	Baa1	BBB+	199	242	
Pakistan	B2	B	883	1240	370
Panama	Ba1	BB+	220	262	
Peru	Ba1	BBB-	195	255	455
Philippines	B1	BB-	263	292	
Poland	A2	A-	133	136	
Qatar	Aa2	AA-	0	0	395
Russia	Baa1	BBB+	211	308	
Serbia	NR	BB-	342	453	
Seychelles	NR	SD			470
South Africa	Baa1	BBB+	235	295	
Sri Lanka	NR	B+	0	0	397
Tunisia	Baa2	BBB	225	273	
Turkey	Ba3	BB-	307	346	
Ukraine	B1	B+	551	666	
Uruguay	B1	BB-	321	366	
Venezuela	B2	BB-	681	817	
Vietnam	Ba3	BB	368	388	256
EMBI Global			321	382	

Source: Bloomberg. EMBI Global spreads and credit ratings as of September 30, 2008.

feasible and advantageous for the issuer to consider a longer maturity, even if the coupon rate is slightly higher. Especially if the proceeds are used to finance projects, repayment should start only after the projects are expected to begin generating returns.

Another important choice that a new issuer has to make is to decide between issuing a bullet bond and an amortizing bond. Bullet bonds tend to increase the rollover risk for the issuer as they create a ‘hump’ in the debt repayment profile. Similarly, reopening such a bond at a later date only increases the size of the payment due on the maturity date, while debt management operations to smoothen debt service humps (e.g., pre-funding or debt buybacks and debt exchanges) are often costly and not always easy to conduct.

In particular, small countries and issuers who anticipate going to the markets relatively infrequently should weigh very carefully the advantages of an amortizing structure rather than the more common bullet bond. Amortizing bonds smoothen the repayment profile, make reopening easier (issuer can reopen the bond while avoiding a substantial increase in the bullet payment), and decrease information asymmetry between the issuer and investors. Regular payments help investors monitor the issuer, and reassure them that the issuer is able to honor the payments. This can lead to a more rapid reduction in risk spreads. Also, amortizing bonds have a shorter duration than bullet bonds, thus making them less risky and, in turn, contributing to a lower cost of the issue. Moreover, there is no evidence that issuers pay a yield or liquidity premium for issuing amortizing bonds. However, callable bonds, an alternative, are generally less preferred due to the difficulty in their pricing and the relative aversion of investors towards these bonds.

The issuer may also consider including a sinking-fund provision, where the issuer systematically commits funds that, depending on the market conditions, will be used to repay part of the outstanding debt. These funds can be used to service debt (when prices are above par) or to buy back outstanding bonds (if prices are below par).¹⁴ In general, issuers should attempt to issue bonds with simple features and avoid bonds with complicated enhancements, including various forms of options.

An additional consideration is the currency denomination of the issue. Generally, first-time bond issues have been denominated in U.S. dollars since the market for U.S. dollar-denominated fixed income instruments is the deepest and most liquid. However, the choice can be affected by sovereign asset-liability management factors such as a currency mismatch between government revenue and liabilities, or the currency composition of the country’s foreign trade and debt, the use of the proceeds, the investor base to be targeted, and the borrowing costs. Further, if the objective is to establish a sovereign benchmark in a foreign currency that would support private issuance, the government should also take into account

¹⁴ Countries can also issue bullet bonds and simultaneously commit to set aside resources annually in a sinking fund to meet the principal repayment. This structure is analytically equivalent to an amortizing bond.

investor preferences and the currency composition of the government balance sheet. In principle, there should be no need to issue in other currencies than the U.S. dollar or the Euro, since governments and private issuers can use swaps to manage currency risk. A few EM countries have also become first-time issuers of external debt in their domestic currency (e.g., Brazil, Colombia, Egypt, and Turkey). This type of issuance has developed quite rapidly as investors have been willing to take on more foreign exchange risk in return for the extra yield typically offered by EM countries, especially when the currency appears to be appreciating (e.g., Colombia during 2004–2006, or Egypt in 2007). The potential benefits to the country include reduced balance sheet risks, including foreign exchange risk. However, the disadvantages of “purchasing” such insurance are higher domestic yields and potentially lower supply of government debt domestically, which could adversely affect the development of the local debt market.

It must be stressed that, the currency of denomination of a new issue should be decided only after it has been carefully discussed with both the country’s financial advisors and investors in non-deal roadshows.

Asset and liability management implications

Before issuance, the implications of an international bond issue on the assets and liabilities of the sovereign’s balance sheet should also be carefully assessed. The decision to access international capital markets should be consistent with the country’s asset and liability management objectives, as well as with its plans to develop domestic capital markets. From the asset management perspective, the assessment of an international bond issue should take into consideration, in the context of the prevailing exchange rate regime, whether the foreign exchange proceeds will augment the country’s foreign exchange reserves and would warrant sterilization. Also, the assessment should consider longer-term implications, i.e., the requirements that the issuance imposes on the size, volatility and currency structure of reserves for servicing and repaying the bond.

From the debt management perspective, an international bond issue should be assessed within a country’s debt strategy framework. This would entail an evaluation in terms of the constraints that it places on the country’s debt structure, management and sustainability. In particular, the size and terms of an issue should be consistent with the country’s medium-term fiscal policy objectives. In this context, an international bond issue should be consistent with the country’s debt management framework and not endanger the country’s debt sustainability. Especially for developing countries, it is imperative that the public debt burden remains low and the risk of external debt distress is kept minimal by avoiding excessive increases in external debt servicing. From an integrated asset/liability management perspective, an international bond issue should also be evaluated with regard to whether it improves possible interest rate and currency mismatches in the sovereign’s asset and liability structures.

Finally, it should be stressed that an international bond issue may not necessarily be the best available source for many EMs and LICs to finance planned projects, and that alternative sources of financing should be considered. In particular, when financing needs for projects are spread over a rather long time period, the repayment options are uncertain and the servicing of an international bond issue is expensive given the country's current credit rating, the authorities may need to resort to means of financing that are more flexible and, to the extent possible, least costly. Such alternatives include the use of the resources of sovereign wealth or development funds, external concessional financing that is significantly less costly than external commercial borrowing, and issuance in the domestic capital markets. Some EM countries and LICs may also opt for private sector financing of the intended project by, for example, attracting FDI or entering into partnerships with the private sector.

B. Practical and Operational Aspects of Issuance

The execution of the issue and its technical aspects will be determined by the issuer's strategic choices, including future issuance plans, prevailing market conditions, choice of the preferred investor base, and intended role for the lead managers. In particular, these choices should support the main objectives of the debut issue, such as establishing a presence in international markets or creating a sovereign benchmark. At this stage, the issuer needs to focus on reaching preferred investors, building demand for the new bond, deciding on legal characteristics of the bond and selecting lead managers.

Investor relations and building demand

The issuer needs to decide the proper balance in targeting potential classes of investors. The choice of target investors will in turn influence the choice of certain characteristics of the debut issue. In particular, the issuer must decide whether it wants to focus on global investors or investors in one region (who may already be familiar with the country), or on institutional or retail investors (including immigrants willing to invest in their home country). Also, the issuer must decide whether there should be any initial sales to local financial institutions who often have high demand for high-yielding, low-risk weighted foreign currency assets. These decisions typically are best made in consultation with financial advisors.

Regardless of the chosen investor base, it is best to take time to build potential demand before issuing by properly introducing the country to international investors. One important way is to obtain a rating well before issuance from preferably two credit rating agencies, while maintaining public websites with adequate economic statistics and appropriate data transparency. Demand can also be effectively built through roadshows that can be conducted before the bond issue and/or during the issue (pre-deal or deal roadshows). In these, senior officials from the country would attempt to inform potential investors about the country's economic performance, stability, and creditworthiness. Financial advisors, including

potential lead managers, can help in preparing materials for the credit ratings agencies and in organizing pre-deal roadshows.

Legal issues and documentation

The issuer should decide on the legal terms of the new bond, most importantly the law that will govern the bond, and the market in which it will be issued. The choice largely depends on the target investor group, currency of denomination, demand of investors, and other strategic objectives of the issuer. Hence, the issuer may choose to issue a global bond under the New York law, a Eurobond under English law, or an exotic bond (including an Islamic Sukuk bond), and select the modalities of the issuance (e.g., a public offering or a private placement where the bond is sold to a narrow group of qualified institutional investors (IMF, 2003)).

The issuer should keep in mind that different types of bonds imply different costs and requirements regarding data disclosure and transparency, with global bonds being the most expensive to issue and requiring the most disclosure. However, global bonds can reach the widest group of investors. Consequently, sovereign bonds are frequently issued under the New York law with restrictions limiting their sale to retail investors.

The issuer will have to decide on additional legal terms. These comprise the inclusion of CACs, possible inclusion of call options, and whether to use a trust structure or fiscal agency structure¹⁵ to intermeditate between the issuer and investors during the life of the bonds.

Selection of legal advisors and lead managers

A debut issuer will most likely require extensive legal advice in the early stages of the bond issuing process, and thus should engage a legal advisor very early in the process. Preferably, the legal advisor (e.g., a law firm) should have a strong presence in the major jurisdictions such as the U.S. and the U.K., and a thorough knowledge of the relevant laws (e.g., New York and English law). It should also have strong experience in advising on sovereign bond issuance, and other aspects of sovereign debt management.

The issuer will also need to hire a lead manager (or managers), usually an investment bank, with international and domestic financial experience. In particular, investors tend to be more comfortable when the lead manager has an established presence in the issuing country, or is

¹⁵ Under a trust structure, the right of individual bondholders to initiate litigation is effectively delegated to the trustee, who is required to act only if, among other things, it is requested to do so by bondholders holding a requisite percentage of outstanding principal. Significantly, the terms of the trust deed will also ensure that the proceeds of any litigation are distributed by the trustee on a pro rata basis among all bondholders. By contrast, under a fiscal agency structure, individual bondholders have the right to initiate legal proceedings against the issuer following a default and can keep any recoveries from such proceedings.

able to provide research and information about the issuer on a regular basis. Smaller countries may decide to work with only one lead manager. The choice of a lead manager can be done once the country has decided on its debt and basic issuance strategy. First-time issuers might find it advantageous to hire, at an earlier stage, independent financial advisors to help develop the issuance strategy, obtain ratings, and select the lead manager, but who would not earn fees from the sale of the new bonds. In deciding about hiring a lead manager, countries should seek competitive offers from potential lead managers.

While selecting the lead manager, the issuer should go beyond the cost (fees) and consider and agree on other important factors. These include the way in which the lead manager will market the issue, whether it will prepare a specific distribution plan of the new bond to investors, and its commitment to provide post-issue market support. Although post-issue support may increase the direct cost (fees), it may decrease the cost of servicing and managing debt in the longer term and prove extremely valuable if markets experience a downturn.¹⁶ The extra implicit fee for these services may at the end be very well worth it, as experience shows that a bond issued with relatively low administrative costs may be sold at a discount (i.e., priced at a yield higher than the relevant one from the benchmark yield curve), resulting in a higher debt service cost for the issuer.

With respect to the fees, the issuer and lead manager should decide whether the issuer will pay for manager's "best efforts" (to place the bond and create a market for the instrument), partial underwriting, or full underwriting. Each of these options is progressively more expensive, and paying for full underwriting may turn out to be an unnecessary and costly choice. Under favorable market conditions, paying for "best efforts" should be sufficient. The key considerations for a successful placement of a sovereign debut issue are summarized for easy reference in Box 2.

¹⁶ For example, if the lead manager maintains post-issue support by providing market-making services or enhancing liquidity, it could be easier for the issuer to engage in debt buybacks or swaps at a later date.

Box 2. Considerations for a Successful Issuance of a Sovereign Debut International Bond

To place successfully their debut bonds in international capital markets, sovereigns need to carefully design and execute their bond issues. In particular, proper attention should be given to the following considerations:

- **Size of the debut issue.** The size should be determined in the DSA framework for the country. Also, sovereigns should not place larger size bonds than they require for liquidity purposes. Larger bond issues entail payment of higher “carry” costs and higher exchange rate and repayment risks.
- **Use of the debut bond proceeds.** The intended use of the bond proceeds should be publicly announced, especially if the purpose of the bond issuance is to fund infrastructure projects or buy back expensive government debt. In general, investors tend to offer better terms for such bond issues.
- **Repayment structure of the debut bond.** The maturity and repayment structure should be decided so that refinancing/rollover risks are minimized. Also, small countries and infrequent sovereign issuers may consider an amortizing structure rather than a bullet bond to ensure a smoother debt repayment profile.
- **Currency of denomination of the debut issue.** In recent years, U.S. dollar-denominated debut bond issues have been placed more easily as U.S. dollar fixed-income markets are the deepest and most liquid.
- **Asset and liability management implications of the debut bond.** A debut international bond issue should be evaluated in terms of its asset and liability implications for the sovereign’s balance sheet and, in general, should be consistent with the country’s asset and liability management objectives.
- **Jurisdiction and law that will govern the debut bond.** The issuer needs to decide about the legal jurisdiction in which the debut bond will be issued mainly on the basis of the target investor base and currency of denomination.
- **Execution of the debut issue.** Sovereigns should pay particular attention to the establishment of strong investor relations and building of demand well before issuance. This may entail the proper introduction of the country to international investors through pre-deal roadshows and obtaining a credit rating, preferably from more than one credit rating agency.
- **Selection of financial and legal advisors.** In the design and execution of debut issues, sovereigns need to employ financial and legal advisors from the very early stages. Financial advisors help sovereigns to obtain a credit rating and prepare economic and financial reports, while legal advisors help them with legal issues (e.g., the laws that will govern the bond, inclusion of CACs, use of a trust structure), the type of bond (e.g., global bond versus Eurobond) and documentation. Reputation and experience should matter the most for their selection.
- **Hiring of a lead manager (or managers).** Lead managers should be selected independently of financial advisors, and should primarily help first-time sovereign issuers with the execution of the issue. In principle, lead managers should be hired after decisions have been made regarding the level of debt and basic issuance strategy. Also, lead managers should be chosen competitively and on the basis of the services that they will offer to the issuer, e.g., marketing and distribution of the debut bond, and commitment to provide market support after issuance.

V. PITFALLS OF FIRST TIME SOVEREIGN ISSUANCE

In recent years, many issuers have succeeded in placing their debut bonds in international markets and achieving their goals. However, some issuers have encountered significant difficulties, and may not have fully attained their objectives. Due to insufficient preparations or certain mistakes in execution, some debut issuers did not choose an efficient balance between the costs and benefits of the issue, worsened their debt profiles, were not able to establish a benchmark, or could not stimulate corporate issuance. It is obvious that some of these bond issues could have been designed or executed better. Thus, to avoid common mistakes, it is important for prospective issuers to learn from the experience of others (Kremer and Jayachandran, 2002).

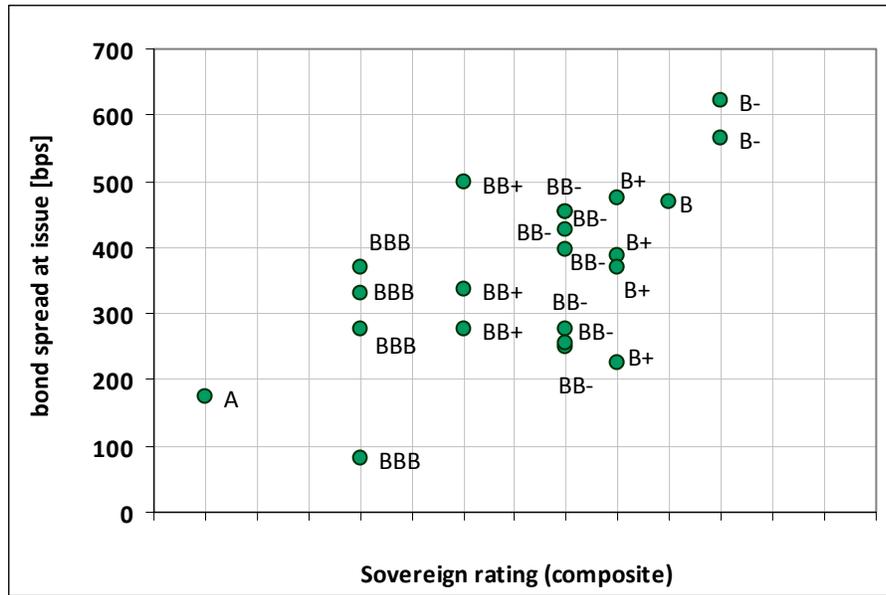
The three most common mistakes have been:

- The size of the issue was too large in relation to the intended use of proceeds. The issues were large enough to support liquidity, but larger than what could be put to near-term use by the issuer. This resulted in high carrying costs, as the unused portion of the funds produced returns that were lower than their costs (e.g., were invested in external government bonds with yields lower than those of the new bond). Several issues have also been very large in comparison with the size of the economy, sometimes in excess of 20 percent of its GDP, resulting in high levels of risk and cost for the country, including risks to debt sustainability.
- Bullet bonds were issued. In small economies, the repayment and rollover risks were magnified by the bullet structure of bonds. These risks could have been reduced by using an amortizing bond.
- Preparations were inadequate. A number of first-time issuers could have achieved better pricing by preparing more thoroughly and providing more precise information on the intended use of the proceeds. A few issuers have come to market without strong fundamentals or at periods of unfavorable market conditions, or without pre-deal roadshows (in some cases without any roadshows) and shortly after obtaining a credit rating. This resulted in a higher cost of the raised funds (higher interest rates) than could have been achieved through more careful fulfillment of economic preconditions for debut issuance, concerted efforts to obtain a better rating and more patient building of investor demand (Figures 4 and 5).^{17 18} Also, a number of new

¹⁷ Figure 4 indicates that, despite the fact that spreads correspond to different issuance periods, bond spreads at issue tend to increase with the deterioration of the issuer's credit rating. This is consistent with the relevant literature, which finds that credit ratings – used as proxies for macroeconomic fundamentals and credit quality – are significant and strong determinants of spreads (IMF 2004a and 2004b).

issues have specified only “general governmental use” as the intended use of proceeds, when in fact proceeds were used to pay down expensive debt or to fund investment projects or other expenses that did not increase the issuer’s ability to repay debt. This possibly led to under-pricing of the debut bonds.¹⁹

Figure 4. Composite Credit Ratings of Debut Sovereign Issuers and Spreads at Issue

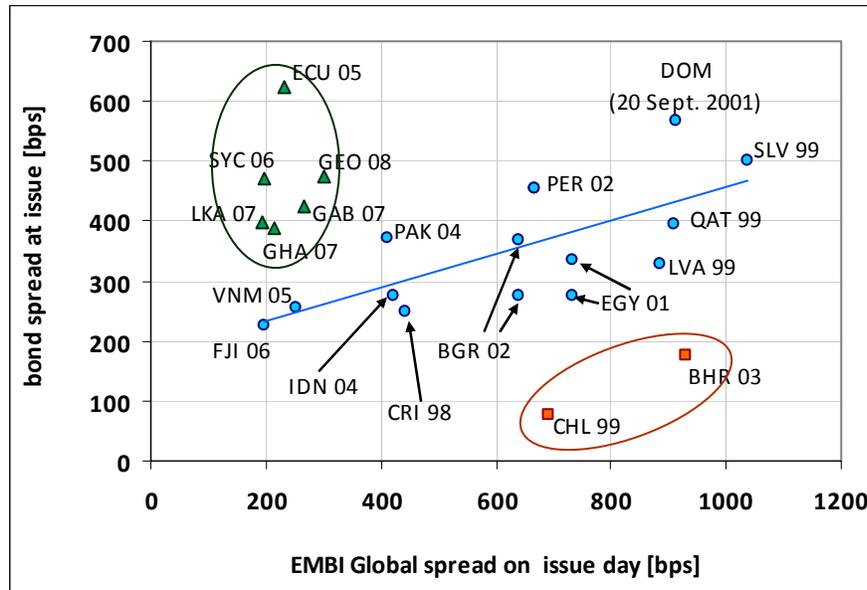


Source: Bloomberg.

¹⁸ In Figure 5, the upward-sloping line shows a relatively strong positive relationship between the bond spread at issue and the EMBI Global spread on the issue day. Further, the circled data points in the upper left side represent recent entrants to the international financial markets with possibly inadequate preparation, while those in the lower right side represent countries with appropriate preparation and/or high credit rating.

¹⁹ Lack of specific knowledge on the creditors’ side on the use of funds often leads to some “adverse selection” premium charged to an issuer.

Figure 5. Relative Cost of Recent Debut Issues
(bond spread at issue compared to EMBI Global spread on the issue day)



Source: Bloomberg.

In several cases, an inappropriate choice of lead manager and a failure to solicit independent opinion raised the cost of the issue, and led to poor initial pricing, high volatility and low liquidity in the secondary market. In a few countries, there was no competitive process to select the lead manager. This resulted in higher fees than necessary, prevented the government from getting the benefit of a wider set of opinions, and perhaps led to higher debt service costs. Also, selecting a lead manager only on the basis of fees and issuing ‘on the cheap’ led in some cases to poor initial pricing and additional volatility in secondary trading. This discouraged trading in the secondary market and hindered establishing a sovereign benchmark.²⁰

In this context, it is important that debut issuers seek independent opinion before accessing the markets. While advice from lead managers is invaluable, first time issuers who have also sought the opinion of independent financial advisors and/or international financial institutions have found it beneficial, resulting in most cases in better structured bonds and better deal execution. Similarly, in the early stages of preparation, issuers have benefited from advice on maintaining debt sustainability, formulating a debt strategy, and creating capacity to manage new types of risks associated with issuing international bonds.

²⁰ In some cases, corporate issuers had successfully accessed the markets ahead of the sovereign (e.g., Brazil). Further, in other countries, the issuance of a benchmark bond was not followed by higher corporate issuance.

VI. CONCLUDING REMARKS

In light of recent experience, countries contemplating a debut issue should carefully consider its benefits and associated risks, and prepare well ahead, before attempting to raise funds in the international markets. To maximize the benefits and minimize the risks of an international bond issue, governments should consider a number of factors, ranging from broad macroeconomic considerations to details of the market access mechanics.

Governments should plan their actions within a timeframe that extends beyond the date of first-time market access, and contemplate a bond issue within a wider, medium-term debt sustainability framework. In this context, issuers should view market access as a multi-faceted process, not a single event. These considerations are especially important for LICs, given the small size of their economies, and potentially less sophisticated fiscal and debt management settings.

Further, if the debut issuer wants to establish its presence in international markets or create a sovereign benchmark, it should opt for issuing a bond with characteristics that would ensure a large investor base, liquidity in the secondary market, and, if possible, inclusion in at least one of the major bond indices used by investors and asset managers. This can be achieved if the country issues a standard instrument (a global bond or a Eurobond), without enhancements or complex optionality features, targeted to a wide range of institutional investors. To attract a large demand, the use of proceeds should be well specified and the ensuing returns sufficiently high to guarantee a timely service of the bond. To improve liquidity in the secondary markets, the agreement with lead managers could include provisions for post-issue support.

Finally, if economic conditions in EMs and LICs continue to improve, and the global liquidity squeeze and reduced appetite for high-yield assets developed in the second half of 2007 turn around and give way to more favorable investment conditions, these countries will continue to become increasingly attractive options for international investors. Under favorable conditions, many African, Asian and European LICs are expected to become debut issuers in the international capital markets in the next few years (e.g., Azerbaijan, Belarus, Botswana, Georgia, Kenya, Mongolia, Romania, and Zambia). However, if international investors' risk aversion continues to deteriorate, sovereign bond issuers with unfamiliar profiles or lower credit ratings will likely face increased scrutiny and possible worsening of issuance terms (e.g., smaller sizes and higher spreads, if not a total inability to access the markets). In such circumstances, prospective EM and LIC first-time sovereign bond issuers will need to persevere with prudent macrofinancial policies and necessary preparations such as setting up appropriate debt management systems. This would raise the international community's confidence in these economies and the likelihood of quick access to international capital markets when international financial conditions improve.

REFERENCES

- Agenor, Pierre-Richard, 2001, "Benefits and Costs of International Financial Integration: Theory and Facts," Working Papers in International Economics, Trade and Capital Flows, No. 2699, World Bank: Washington, DC.
- Dittmar, Robert F. and Kathy Yuan, 2007, "Do Sovereign Bonds Benefit Corporate Bonds in Emerging Markets?" mimeograph, University of Michigan, April.
- Feldstein, Martin, and Charles Horioka, 1980, "Domestic Saving and International Capital Flows," *Economic Journal*, Vol. 90, No. 358, pp. 314–29.
- Grigorian, David, 2003, On the Determinants of First-Time Sovereign Bond Issues, IMF WP/03/184 (September).
- International Monetary Fund, International Capital Markets Department, 2003, Access to International Capital Markets for First-Time Sovereign Issuers, November 17, Washington DC: International Monetary Fund.
- _____, 2003a, Access to International Capital Markets for First Time Sovereign Issuers—Country Cases, November 17, Washington DC: International Monetary Fund.
- _____, 2004a, Global Financial Stability Report, April, Washington DC: International Monetary Fund.
- _____, 2004b, Global Financial Stability Report, September, Washington DC: International Monetary Fund.
- International Monetary Fund and World Bank, 2007, Strengthening Debt Management Practices - Lessons from Country Experiences and Issues Going Forward, March 2007, DC: International Monetary Fund.
- Klassen, S., 2004, "Asian Government Issuance 2004," JPMorgan, 15 January.
- Kremer, Michael, and Seema Jayachandran, 2002, "Odious Debt," *Finance and Development*, Vol. 39, No. 2, pp. 36-39.
- Manasse, Paolo, Nouriel Roubini, and Axel Schimmelpfenning, 2003, "Predicting Sovereign Debt Crises," IMF Working Paper 03/221, International Monetary Fund, Washington, D.C.
- Mauro, Paolo, Nathan Sussman, and Yishay Yafeh, 2006, *Emerging Markets and Financial Globalization: Sovereign Bond Spreads in 1870-1913 and Today*, Oxford: Oxford University Press.

Reinhart, Carmen M., Kenneth S. Rogoff and Miguel A. Savastano, 2003, "Debt Intolerance," *Brookings Papers on Economic Activity*, Vol. 2003(1), pp. 1-74.

Steneri, Carlos, 2004, "Uruguay Debt Reprofilng: Lessons from Experience," *Georgetown Journal of International Law*, July 1.