

**CROSS-SECTOR RATING
 METHODOLOGY**

Narrowing the gap – a clarification of Moody's approach to local versus foreign currency government bond ratings

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This report updates "[Sovereign Bond Ratings](#)", September 2008 (109490)

Introduction

This update seeks to clarify Moody's methodological approach to rating governments in local currency (LC) versus foreign currency (FC). Historically, Moody's often made distinctions between a government's LC bond rating and FC bond rating, with any gap usually in favour of the LC rating. However, this practice has gradually changed over time and today such rating gaps are infrequent. Moody's current approach is to move towards a position of maintaining rating gaps in selected cases only and subject to certain criteria. These criteria, which are fully explained in this report, are the degree of a country's capital mobility, the pliancy of a government's local investor base, the existence of any balance of payments constraint, and any material difference between a government's willingness and ability to service its debt in LC versus FC.

The evolution of this approach reflects global economic and market developments, as well as our empirical research on recent patterns of sovereign defaults. As both current and capital account mobility have increased, as currency markets (especially those in emerging markets) have deepened, and as governments' investor bases have broadened, the justifications for distinguishing between LC and FC government bond ratings have weakened. Crucially, it is far more likely than it used to be that a problem servicing debt in one currency will spill over and affect a government's ability to service its debt in another. This conclusion is supported by the recent history of sovereign defaults, which does not offer a strong justification for a rating bias in favour of either LC or FC debt.

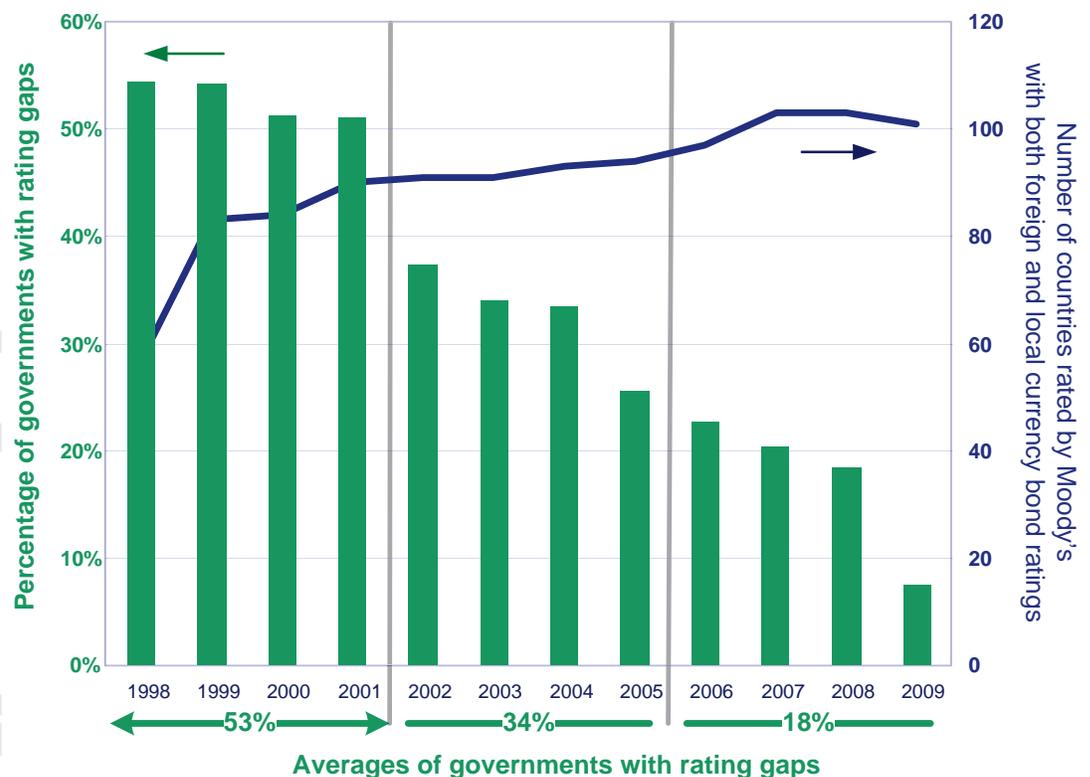
This methodology is no longer in effect. For information on rating methodologies currently in use by Moody's Investors Service, visit www.moodys.com/methodologies

The Average Rating Gap, Generally Biased Towards LC, Has Narrowed Since 2001

Moody's sometimes makes notching distinctions between a government's LC bond rating and FC bond rating, especially in emerging markets. Today, Moody's rates 109 governments around the world. Of these, 101 have both LC and FC bond ratings. Of the 101 with both ratings, eight governments (8% of the total) had rating gaps at the end of 2009. All but one of these rating gaps are in favour of LC. India is the only country that has an FC government bond rating that is higher than its LC government bond rating (this case is explained in Box 1 below). Typically, all of Moody's sovereign rating gaps occur in emerging markets.

Moody's assigned the bulk of its LC government bond ratings in the late 1990s. In 1996, only 21% of governments for which we rated FC bonds also had LC bond ratings. By 2000, the proportion had risen to 88% and today, 95% of rated governments have both ratings. Up until 2001, Moody's usually made a distinction between FC and LC government bond ratings. Between 1998 and 2001, 50% or more of those governments for which we had both FC and LC bond ratings had rating gaps between the two ratings (see Graph 1).

GRAPH 1
Rating gaps – a clear pattern over the last decade



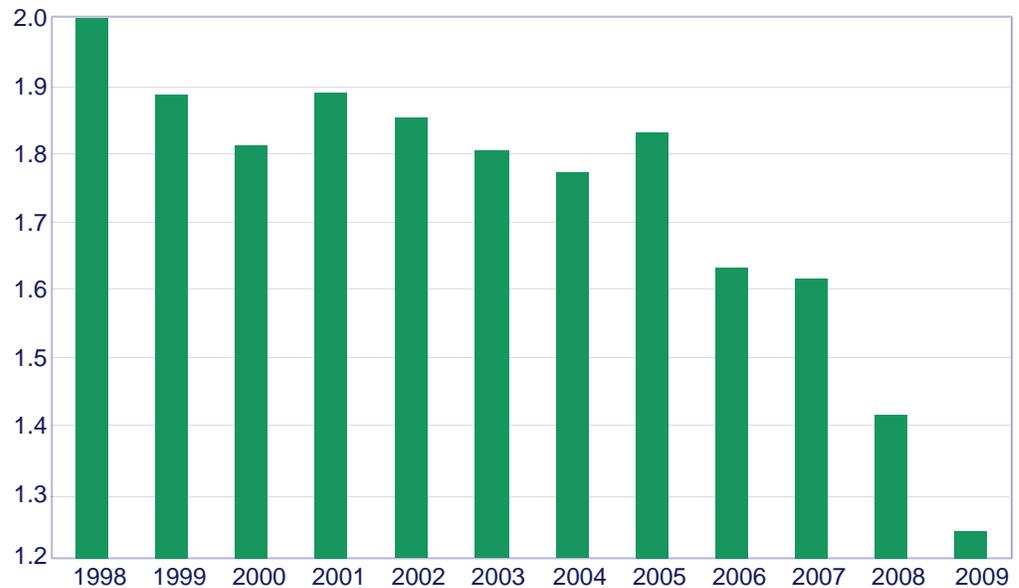
Source: Moody's

Since 2001, both the incidence and size of rating gaps has declined. Today, only 8% of governments with both FC and LC bond ratings have rating gaps and the size of the rating gap, when it occurs, has fallen to just over 1.2 notches in absolute terms, from a peak of 2 notches in 1998 (see Graph 2). Rating gaps, when they do occur, have tended to be biased in favour of LC (see Graph 3).

GRAPH 2

Average notch size of the rating gap when it occurs

(in absolute terms)

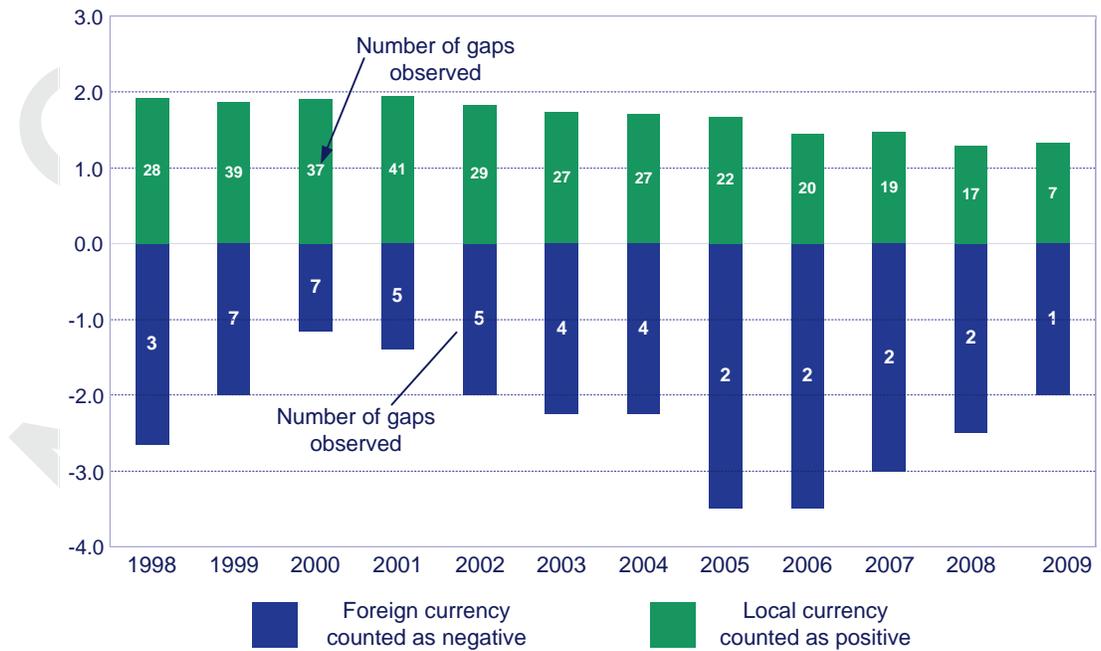


Source: Moody's

GRAPH 3

Average notch size of the rating gap when it occurs

— Gap in favour of foreign currency counted as negative
 — Gap in favour of local currency counted as positive



Source: Moody's

Contraction of Rating Gap is Supported by Developments in Emerging Markets

The imposition of rating gaps and the rating bias in favour of LC bonds has historically been driven by the following considerations:

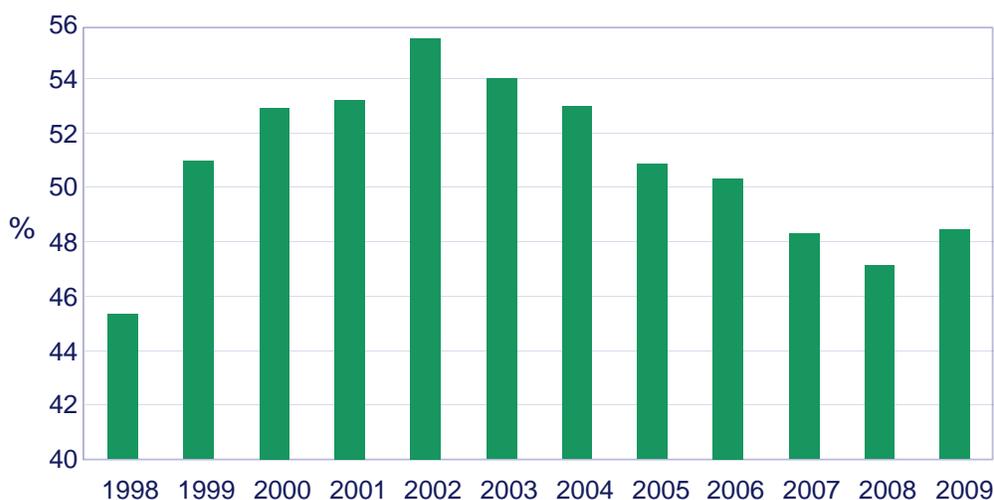
- » Governments with fiat currencies tend to have easier access to LC than FC because central banks can “print” money. The availability of FC is, by contrast, constrained by the balance of payments and the changeable attitude of external creditors.
- » Emerging market governments tended to have a larger proportion of their marketable bond debt denominated in FC than LC because their domestic capital markets were not well developed and external creditors were unwilling to accept the exchange rate and liquidity risk involved in holding LC bonds.
- » There was often a higher political and economic cost for governments to default on their LC debt (which tended to be held by residents) than their FC debt (which tended to be held by non-residents).

Over time, however, a number of developments have reduced the force of these arguments:

- » Central banks in emerging markets have tended to become more independent from governments and the focus of monetary policy, which has generally improved in its sophistication, has shifted in favour of inflationary targeting. This has reduced the scope for emerging market governments to monetize their LC debt.
- » The line between currency and residency has become more blurred. As the volume, liquidity and transparency of domestic capital markets has improved, along with the quality of economic policies, foreign investors have become more willing to purchase LC government bonds in emerging markets. Likewise, residents have developed a greater willingness and capacity to purchase the FC bonds of their governments. This has made it more difficult for governments to confine the effects of an FC bond default to non-residents and vice versa.

GRAPH 4

Developing countries' average share of total general government debt denominated in foreign currency

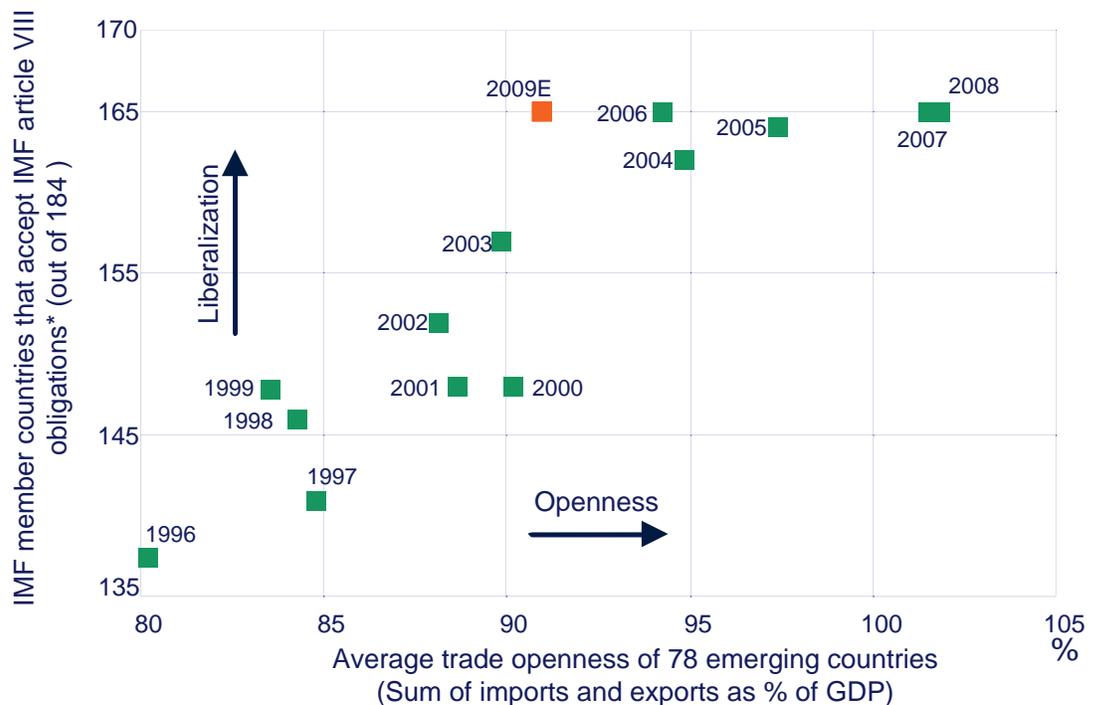


Source: Moody's

- » The development of domestic capital markets has led to a shift in the mix of LC versus FC government debt in emerging markets. The average percentage of gross general government debt denominated in FC in emerging markets declined from around 55% in 2002 to 48% in 2009 (see Graph 4). Although data is patchy, the decline in the FC portion of total emerging market sovereign bonds seems to have fallen more rapidly. This has reduced the incentive for governments to selectively default on FC bonds first.
- » The accumulation of foreign exchange reserves by many emerging market countries (notwithstanding the adverse effects of the recent global economic crisis) has strengthened their governments' relative ability to service debt in FC.

GRAPH 5

Increasing trade openness and liberalization in emerging economies



*Under Article VIII, Sections 2, 3 and 4, IMF members undertake not to impose restrictions on the making of payments and transfers for current international transactions, and not to engage in, or permit any of their fiscal agencies to engage in, any discriminatory currency arrangement or multiple currency practice, except with IMF approval. They will pursue economic policies which will make restrictions on the making of payments and transfers for current international transactions unnecessary, and will contribute to a multilateral payments system free of restrictions.

Source: Moody's IMF

- » Over time, the effects of globalization, higher levels of trade openness in emerging markets (see Graph 5), and a loosening of capital account restrictions has increased the potential economic cost to the private sector of a withdrawal by foreign creditors that could be triggered by a sovereign bond default. Although we note that experiences during the recent global economic crisis have prompted some emerging markets to impose mild capital restrictions in order to slow potentially damaging flows of “hot money”.

Empirical Evidence of Sovereign Defaults Suggests That Credit Distinction Between LC and FC Bonds Should Not Be Exaggerated

There have been 19 sovereign bond defaults over the past 12 years (see table below; for more detail on the major defaults see appendix).

In five cases – Venezuela in 1998, Turkey in 1999, Dominica in 2003, Cameroon in 2004 and Jamaica in 2010 – governments defaulted on LC bonds but not FC bonds (although in the case of Venezuela, it should be noted that the default was merely technical: a bureaucratic delay in processing payments).

In seven cases, governments defaulted both on LC and on FC bonds. Russia and Ukraine defaulted on their local currency bonds in 1998 shortly before defaulting on their foreign currency bonds. In the cases of Ecuador in 1999, Argentina in 2001 and Uruguay in 2003, the respective government defaulted on its LC and FC bonds virtually simultaneously. When governments have defaulted on both LC and FC bonds, there was little systematic difference in loss given default between LC and FC (see appendix).

Sovereign Bond Defaults (1998 to present)

DEFAULT YEAR	COUNTRY	FC GOV BONDS	LC GOV BONDS
1998	Venezuela*	no	LC ¹
1998	Russia*	FC	LC
1998, 2000	Ukraine*	FC	LC
1999	Pakistan*	FC	no
1999	Ecuador*	FC	LC
1999	Turkey ²	no	LC
2000	Ivory Coast	FC	no
2001	Argentina*	FC	LC
2002	Moldova*	FC	no
2003	Uruguay*	FC	LC
2003	Dominica	no	LC
2004	Cameroon	no	LC
2004	Grenada	FC	LC
2005	Dominican Republic*	FC	no
2006	Belize*	FC	no
2008	Seychelles	FC	no
2008	Ecuador*	FC	no
2010	Jamaica ³	--	LC

* Bonds rated by Moody's at time of default.

1 Default on LC bonds which did not have a grace period. Default caused by administrative errors. Default was cured within a short period of time.

2 Technical default only and as such is not included in Moody's default studies or statistics.

3 At the time of the publication, Jamaica is in the process of restructuring its domestic debt.

There were seven cases over the past 12 years of governments defaulting on FC bonds but not LC bonds. However, it must be borne in mind that there were strong incentives in some of these cases

given the relative strengths of the governments' FC versus LC debt metrics. For example, in the cases of Belize in 2006 and the Dominican Republic in 2005, neither government had any LC bonds to default on. In the case of Moldova in 2002, the government's FC-denominated debt had dwarfed its LC debt for several years prior to default. In the case of Pakistan, the government was compelled by multilateral institutions to "bail-in" private external creditors.

Hence, the recent history of sovereign defaults is mixed and does not point strongly in favour of a rating bias one way or the other. In fact, we have learnt over time that, beyond the central issue of how costly it is to service the debt, both in economic and political terms, which predominantly drives the rating, both the timing and the conditions of sovereign defaults (including relative loss given default) are hard to foresee.

Rating Gaps Should Be Infrequent and Occur Only in Specific Circumstances

This is not to say that the case for a rating gap is invalid. It would seem too extreme, despite the empirical evidence, to say that the risk of default on LC and FC government bonds is indistinguishable in all countries. However, given the developments outlined above and the implications of the history of sovereign defaults, it seems appropriate that a rating gap, whether in favour of LC or FC, should be imposed infrequently and only in particularly compelling cases. In Moody's opinion, the most important considerations when assessing the case for a gap between a government's LC and FC bond ratings are as follows:

Necessary Condition 1: Limited Capital Mobility

In a context of fluid capital flows, there is likely to be a risk of a spill-over from the LC side to the FC side of a government's balance sheet and vice-versa.

For instance, concerns that the LC debt may not be repaid could prompt capital outflows, triggering a foreign exchange crisis and an abrupt increase in the government's FC debt burden in LC terms. Conversely, a default on FC debt would be an ominous signal for LC creditors, which could sell off LC debt, leading to a rise in interest rates and strains on the government's ability to repay its LC debt. Another potential channel of contagion is that a default by the government on its FC debt would likely deprive private companies, corporations and banks from external financing, thereby causing instances of financial distress that may necessitate government bail-outs (weakening further the public finances).

Of course, contagion from one side of the government's balance sheet to the other need not be instantaneous (a default by the government in FC would not necessarily trigger an instant default in LC), but the probability of a joint default increases substantially enough to justify identical LC and FC government bond ratings. In a financially integrated world, the idea that there would be a government LC balance sheet that is distinct and separate from its FC balance sheet is tenuous.

It follows that, to justify a gap between a government's LC and FC bond ratings, elements of stickiness in capital flows such as capital account restrictions or a pliant and committed domestic investor base must be present. If capital mobility is high, the risk of contagion dominates and there is no case for a gap. Moody's considers the presence of restrictions on capital mobility to be a necessary condition for a rating gap.

Necessary Condition 2: Evidence of Bias in a Government's Ability and/or Willingness to Service Debt in LC or FC

Assuming that there are limitations on capital mobility, Moody's next consideration is whether a government would be more able and willing to repay its debt in FC than in LC, or vice versa. There are two main reasons why this may be the case: (1) the government faces difficulties in accessing hard currency; and (2) a political and economic cost/benefit analysis supports treating investors differently.

Condition 2a: The External Liquidity Constraint

In order to repay its LC debt, a government must raise taxes, cut spending or sell assets – with resources accruing to the government in LC. To repay its FC debt, the government can take two measures: proceed as above and exchange the resources generated against FC on the foreign exchange market; or go directly to the central bank and obtain the foreign reserves against public debt (monetization). The difference between repaying the debt in LC and in FC is that, for the FC-denominated debt, there is an additional step in the payment sequence: obtaining FC. And this “additional step” depends on parameters that go beyond the balance sheet of the government.

For most (advanced) countries, this additional step is virtually effortless as there is a deep foreign exchange market. However, for some emerging market economies, this is more complicated. The reason is that the market may be reluctant to take on the exchange rate risk or transferability risk. Hence, the first port of call for a government in such a case is the central bank because the government has a privileged claim on official foreign exchange reserves. Yet such a privileged claim can only be exerted if there are official foreign reserves, which ultimately depends on the balance of payments situation of the country.

In light of this, there will be a difference in a government's ability to service its debt in LC versus FC, all variables being equal, if the country is constrained in terms of external liquidity because the ability to access hard currency can be a binding constraint. Accordingly, a positive rating gap (where the LC government bond rating is higher than the FC government bond rating) can be permitted in an environment of limited capital mobility and when the country is constrained in terms of external liquidity.

Condition 2b: A Cost-Benefit Analysis That Favours Payment Differentiation

It is possible to envisage an exceptional situation where a government, faced with a shortage of resources, would choose to prioritize repaying its debt in one currency rather than another. This could be for political or economic reasons.

For example, a government that has access to ample FC resources may conclude that the reputational and practical costs of defaulting on FC debt – when FC resources are readily available – are higher than the political cost of prioritizing foreign debt holders over domestic ones. Note that in this case, a negative rating gap (where the FC government bond rating is higher than the LC government bond rating) is only justifiable if the FC resources are sufficiently ample, stable and readily available to cover the FC debt even in the event of capital flight caused by a LC default. In such cases, the reputational and practical costs of defaulting on a small FC debt – given abundant, stable and readily available FC resources – is higher than the political cost of treating foreigners more favourably. In this regard, please refer to the explanatory box below on India – the only current example of a negative rating gap.

FIGURE 6

Governments with Different FC and LC Ratings, as of 27 January 2010

	GOVERNMENT BOND RATINGS	
	FOREIGN CURRENCY	LOCAL CURRENCY
Barbados	Baa3 / STA	Baa2 / STA
Colombia	Ba1 / STA	Baa3 / STA
Guatemala	Ba2 / STA	Ba1 / STA
India	Baa3 / STA	Ba2 / POS
Jamaica	Caa1 / STA	Caa2 / STA
Jordan	Ba2 / STA	Baa3 / STA
Nicaragua	Caa1 / STA	B3 / STA
Suriname	B1 / STA	Ba3 / STA
Venezuela	B2 / STA	B1 / STA

What Explains India's Negative Ratings Gap?

The gap between the Indian government's Baa3 FC bond rating and its Ba2 LC bond rating is unique and reflects a segmentation of sovereign risk. The gap is predicated on a combination of: (1) the government's low stock of FC debt (about 5% of GDP in the form of long-tenor loans owed mostly to multilateral creditors); (2) the absence of any marketable FC debt, or meaningful amounts of foreign-held Indian Rupee-denominated (INR) sovereign debt; (3) statutory regulations that ensure a domestic, long-tenor and captive LC source of fiscal financing and government debt holding; and (4) large official FC reserves (close to \$300 billion) that are nearly three times as large as the maturing external obligations of the government as well as the private sector. In our view, these factors signal that – in the event of distress – an emerging market government such as that of India could prioritize its FC obligations, owed predominantly to preferred creditors, relative to its vast stock of domestic obligations. The bulk of its domestic obligations are owed either to domestic banks that are subject to statutory government bond-holding requirements – which are alterable – or to state-owned insurance companies and financial institutions, and small savings/deposits, wherein government credit risk can be socialized.

The ratings gap is supported by two further observations. The first is the exceptional willingness of the government to prioritize repayments of external obligations, as demonstrated during India's 1991 balance of payments crisis. This stance is backed by substantial FC reserve adequacy, as noted above. The second observation is the policy choice, since the 1991 crisis, of not incurring any commercial (or bonded) debt owed in FC, or to foreign creditors. Such obligations, if incurred, could be more politically difficult to exclude from any domestic debt restructuring process, or alteration of statutory liquidity ratios. However, it should also be noted that ratings gaps are rare across countries and over time. This implies that when debt sustainability worsens, or as countries' distance to debt insolvency narrows, shifting socio-political dynamics may not allow debt restructuring choices to discriminate between senior (preferred) and subordinated (socializeable) claims.

Conversely, a government that has ample FC resources may conclude that it is politically less acceptable to favour FC creditors (who in this case are predominantly non-residents) over LC creditors (who in this case are predominantly residents) despite the adverse reputational and practical costs of defaulting on its FC debt. The relative disadvantage of FC creditors could be reflected in a positive rating gap.

Conclusion

- » A rating gap (a notching between a government's LC and FC bond ratings) can only be permitted in cases where there is: (1) limited capital mobility and (2) either a government is "external liquidity constrained" or, in exceptional cases, there is a material and observable difference in a government's ability and willingness to repay creditors in LC versus FC or vice versa (fulfilment of the latter criterion in favour of FC creditors can give rise to a negative ratings gap in rare cases, e.g. in India).
- » However, even if these two necessary conditions are met, the opening of a ratings gap is not automatic. Given that our ratings are forward-looking, we may be reluctant to permit a gap if we believe that the two conditions could evolve over the foreseeable future – for instance, if a government were likely to open up the capital account of the balance of payments, or if a country's external position were likely to improve considerably.
- » The size of any positive ratings gap in most cases depends on the severity of the external liquidity constraint. Any gap larger than two notches (either positive or negative) would in Moody's opinion be rather difficult to justify, because it would suggest a stark segregation between a government's LC and FC operations. The potential for fungibility between LC and FC should not be under-estimated. For example, severe external liquidity tensions – reflected in a weak currency – may translate into weaker LC credit conditions, if only because more LC resources would be necessary to repay a given level of FC debt.
- » The higher a government's rating, the less likely a rating gap. This is because relative loss-given-default between local and foreign currency bonds becomes harder to judge the further a government is from default. Consequently, rating gaps should be much rarer among investment grade than sub-investment grade governments.

Two Case Studies Where We Have Closed Rating Gaps

Japan:

In the case of Japan, the closing of the rating gap between the government's FC and LC bond ratings was part of a broader re-alignment of the rating architecture of the public sector. The process was initiated with the unification of the government bond ratings at Aa2 in May 2009, from an FC bond rating at Aaa and an LC bond rating at Aa3. The realignment was completed in July with the lowering to Aa2 – the same rating as that of the government – of the Aaa or Aa1-rated government-related issuers (GRIs), regional governments and local governments. Our previous approach rested on assumptions about repayment priorities and was consistent with what we saw as the most likely type of default scenario for the central government: an orderly one where the FC creditors of the government would de facto be "senior" to its LC creditors, and where some entities – local governments for instance – would be supported, while the government would restructure its own debt. The rationale for the previous gap between the LC and the FC bond ratings of the government of Japan was based on the considerable difference between external credit metrics that are exceptionally strong and the domestic balance sheet of the government that, after almost two decades of ever-increasing public debt, is the most debt-burdened by far of any advanced country. Nevertheless, the decision to unify and

realign the government's and public sector ratings was prompted by experience gathered from the ongoing international financial crisis. This suggests that it is extremely difficult to foresee how a sovereign crisis will unfold. The crisis also demonstrates that it is the creditworthiness of the government's own balance sheet – its safe-haven features – that ultimately anchors the credit worthiness of intrinsically weaker public sector entities, and that the ability of a government to provide system-wide support converges with and is constrained by the national government's own debt capacity. Although we still believe that such an orderly scenario is plausible, we now also consider that the uncertainty surrounding such hypothetical events justifies the application to Japan of the same approach that is applied to similarly rated countries – in other words, the exact way in which a default would play out is too difficult to predict. Therefore, the risks should be unified at one rating for the government as for public-sector entities which receive a very high degree of support from the government.

South Africa:

The unification of the South African government's FC and LC ratings at A3 occurred in July 2009. The process was gradual, having started in December 2005 when the gap was narrowed from three to two notches, in acknowledgment of the country's strengthening external liquidity. At that time, and also later, when a positive outlook was assigned to the FC rating in June 2007, we emphasized that the main reason for the upward pressure on the lower FC rating was that the vulnerabilities once posed by weak external liquidity were diminishing. Meanwhile, the domestic currency rating – then at A2 – seemed solid given the government's good fiscal performance: not only did the government have very good debt affordability ratios relative to other A-rated countries, but its own susceptibility to currency risk was shrinking as it kept down the proportion of its debt denominated in local currencies to very low levels. If the improvement on the external side continued, our expectation was that the government's ratings would eventually be unified at the A2 LC rating level. Earlier this year, however, an evaluation of the government's ratings led to a decision to review the A2 LC rating for possible downgrade while maintaining the positive outlook on the Baa1 FC rating. This would imply that the two ratings could be unified at A3 instead of A2. Our reasoning had to do with the mounting fiscal pressures faced by the government given demands to redress the country's deep socio-economic problems (poverty, unemployment, crime, HIV/AIDS, education), which a new administration promised to tackle more quickly. It also reflected the contingent debt burden that would materialize because of the government's need to provide support for its parastatals' massive borrowing programs in a much more risk-averse capital market. Moreover, bringing the government's ratings together at a slightly lower level seemed more appropriate because there was some concern that the government's ability to narrow the budget gap again over the medium term would be difficult given both local and external circumstances. The prospects for debt reversibility, that is, reversing the upward debt trajectory and stabilizing debt affordability, appeared to be better captured at A3 than at A2.

Appendix – Sovereign Default History

Summary Points

- » An analysis of recent sovereign defaults and debt restructurings supports our caution over rating governments differently in LC versus FC. The economic crises surrounding the larger sovereign defaults have been so severe that they have tended to spill over from the external to the domestic sector or vice versa. In cases where sovereigns have defaulted only on FC debt, they have either had very little LC debt or the default was guided by political considerations.
- » When sovereigns have defaulted on both LC and FC instruments, the defaults have occurred either at the same time or very close in time: in three of the six cases listed below, both defaults have occurred together; in two cases the LC default preceded the FC default; and in the remaining case the FC default was the first one.

CRISIS	DEFAULT TIMING
1998 Russia	LC bond default in August 1998, then FC bond default (MIN FIN III) in May 1999.
1998, 2000 Ukraine	LC bond default in August 1998, FC bonds default in September 1998. Followed by another FC default in January 2000.
1999 Ecuador	Default on both FC and LC bonds in August 1999.
2001 Argentina	Intention to restructure both domestic and external debt announced in November 2001; then default on domestic debt in November 2001 and restructuring in December 2001, followed at end-December 2001 by attempts to restructure both FC and LC external debt.
2003 Uruguay	Default on both FC and LC bonds in April 2003.
2004 Grenada	FC bond default in December 2004, LC bond default in January 2005.

- » There is no significant systematic difference in loss given default between FC versus LC bonds. Moreover, sovereigns were generally unsuccessful in limiting restructurings to one kind of debt instrument or currency.
- » In addition, new historical evidence on domestic debt and the frequency of domestic debt defaults since 1800, compiled by Reinhart and Rogoff (2008)¹ reveals that domestic debt defaults have been much more common than previously thought. Indeed, if both explicit and implicit (e.g. through inflation) defaults on domestic debt are included, there is no statistically significant difference in the incidence of default on local versus foreign debt in the period since World War II.² Overall, the research concludes that there is no broad support for the view that governments always honour domestic debt over external debt.

The two largest sovereign defaults in history are Russia in 1998-99 and Argentina in 2001-02.

Russia 1998

The Russian default of 1998-99 was the first default of a major sovereign borrower since the 1980s. Russia's sovereign default occurred in the context of general and severe economic distress. Stagnating economic activity and chronic budget deficits in the years preceding the crisis coupled with weak oil and nonferrous metals prices, and unfavourable market sentiment after the Asian financial crisis of

1 Reinhart, C. and Rogoff, K., "The Forgotten History of Domestic Debt", NBER Working Paper w13946, April 2008.

2 The incidence of external default is higher in the period before World War II. Also, output declines and rise in inflation in the run-up to default on domestic debt have typically been significantly worse than they were for external debt.

1997. A significant drop in oil prices in late 1997 and early 1998 led to a serious shortfall in federal budget revenues, while the stock of short-term treasury bills grew rapidly. With East Asian economies in crisis and uncertainty about the sustainability of domestic policies building up, market sentiment shifted and non-resident investors decided to pull out from the Russian treasury bill market. The pressures in the domestic market spilled over to the external sector. Capital outflows led to a rapid fall in foreign exchange reserves as the central bank intervened to support the domestic currency.

Russia defaulted on both LC and FC debt. Russia stopped payments first on LC treasury obligations in August 1998, which represented the larger payment coming due, and later defaulted on its domestic FC obligations (MIN FIN III bonds) in May 1999. Russia did not default on Eurobonds in 1998 since the service of Eurobonds did not require many outlays until the principal on the first issue was due in 2001. Also, Russia did not wish to default on external debt for historical and reputational reasons. By this time, however, the liberalization of the capital markets had blurred the distinction between domestic and external debt as most of the domestically-issued foreign currency debt was held by foreigners. Debts were restructured in August 1999 and February 2000. The loss given default was similar for both LC and FC instruments held by non-residents. Sturzenegger and Zettlemeyer (2005) estimate the NPV haircut on the local currency treasury bills held by residents to be at 45% (40-55% range), NPV haircut on local currency treasury bills held by non-residents at 61% (50-75% range), and NPV haircut on the foreign currency instruments of 63%.³

Argentina 2001

Argentina's default in 2001-2002 represented the largest sovereign default in history. The 2001 Argentinean crisis involved banking, currency and debt crises in the middle of a severe political crisis. Argentina had operated under a currency board arrangement pegging the peso to the dollar since 1989, which had provided price stability in the context of memories of past hyperinflations and financial stability given the degree of dollarization of the economy. However, after the devaluation of the Brazilian real in 1999 and the international revaluation of the dollar, the peso had become overvalued against its major trading partners, leading to a drying-up of exports and foreign investment. The combination of the hard peg, growing public debt and an enduringly weak fiscal position proved unsustainable in the context of the fourth year of an economic recession and the capital flow reversal of 2001.

With very high and rising spreads (the country risk premium exceeded 2,000 bps) making it increasingly difficult to meet debt-service on rolled-over debt, in November 2001 Argentina announced its intention to restructure both local currency and foreign currency debt. Phase 1 of the restructuring was carried out in December 2001. It was aimed at domestic resident investors and involved the exchange of US dollar and Argentine peso bonds into new government-guaranteed loans. Phase 2 was aimed at restructuring foreign-held debt over 2002. The idea was to segment local and foreign bondholders in order to protect domestic financial institutions and pension funds. However, due to the deterioration in the financial and political situation in the meantime, Phase 2 never materialized and instead a "pesoization" of all domestic contracts took place. A successful foreign debt restructuring was not concluded until 2005.

The recovery rates on local and foreign currency securities were very similar. Based on trading prices after default, Moody's estimates an 82% loss rate for local currency bonds and 71% loss rate for foreign currency bonds.⁴ Using an NPV approach, Sturzenegger and Zettlemeyer (2005) estimate an NPV haircut on the Phase 1 restructuring of debt held by residents of 42% (25-60% range) and a

³ Sturzenegger, F. and Zettlemeyer, J, "Haircuts: Estimating Investor Losses in Sovereign Debt Restructurings, 1998-2005", IMF Working Paper 05/137, July 2005.

⁴ Moody's Special Comment, "Sovereign Default and Recovery Rates, 1983-2008", March 2008. The data sample for local currency bonds is limited.

haircut from the pesoization of dollar contracts of 46% (30-65% range). However, the haircut on the 2005 restructuring of international debt was 73% (64-82% range).⁵

The other recent large sovereign defaults by debt volume are Ecuador in 1999, Uruguay in 2003, Ecuador again in 2008, Pakistan in 1999, the Dominican Republic in 2005 and Ukraine in 1998.

Ecuador 1999

The Ecuadorian case presented the first default on international sovereign bonds and, moreover, the first default on already restructured Brady bonds. The crisis in Ecuador started with a banking crisis which escalated into a debt crisis. A banking collapse, domestic institutional weaknesses, loose macroeconomic policies, and a succession of exogenous shocks – mainly damages from El Niño-induced storms, an oil price drop, and capital markets turmoil spilling over from Russia – combined in the late 1990s to trigger a severe financial crisis. Liquidity problems among banks were followed by a currency crisis, the floating of the currency, a systemic deposit freeze, a government default and a second currency crisis.

In September 1999, Ecuador became the first country ever to default on its Brady bonds, and a few months later the source was dropped in favour of the dollar as the national legal tender. Ecuador launched the most comprehensive debt restructuring in 2000 of all Brady and Eurobond debt, all domestic debt in both local and foreign currencies, external credit lines in closed banks and official bilateral Paris Club loans. The total debt restructured was equivalent to about 50% of GDP, of which one tenth was held by residents and the bulk by institutional investors in London and New York. Even though the terms of the domestic debt restructuring were more favourable than those offered for the external debt,⁶ Ecuador did not succeed in limiting the scope of the restructuring to specific categories of debt (e.g. Discount Brady bonds) as was intended at the outset of the debt crisis, and was forced to carry out a comprehensive restructuring involving domestic and bilateral official debt as well.

Uruguay 2003

The crisis in Uruguay was a result of severe contagion from the Argentinean crisis. Large capital outflows triggered a run on the banking system, making the banks insolvent and triggered a devaluation of the peso. The restructuring of the banking sector created a liquidity problem for the government. Uruguay launched an extensive exchange offer in the spring of 2003 covering almost all of the bond debt and including both domestic and international bonds. The exchange was designed to reduce financing needs during the following years. The loss implied by the exchange was similar for both local currency and foreign currency instruments. Sturzenegger and Zettlemeyer (2005) estimate a 23% haircut (10-40% range) on domestic debt and a 13% haircut (5-20% range) on external debt.

Ecuador 2008

Ecuador defaulted on foreign currency debt again in late 2008. Even though the default involved foreign currency bonds only, it was not motivated by traditional external liquidity constraints and it discriminated not between foreign and local currency instruments, but between particular foreign currency instruments. Ecuador announced that it will not honour the payments due on its 2012 and 2030 global bonds after the findings of an audit declared these debts “illegal” and “illegitimate”. It continued to service its 2015 global bonds. Thus the decision to default was based on ideological and political grounds and was not related to liquidity and solvency issues.

⁵ Sturzenegger, F. and Zettlemeyer, J., “Haircuts: Estimating Investor Losses in Sovereign Debt Restructurings, 1998-2005”, IMF Working Paper 05/137, July 2005.

⁶ According to the IMF, the domestic debt exchange involved very little NPV loss (IMF, Policy Development and Review Department, “Sovereign Debt Restructurings and the Domestic Economy: Experience in Four Recent Cases”, February 21, 2002). Sturzenegger and Zettlemeyer (2005) estimate a 27% (19-47% range) haircut on the restructuring of international bonds.

Pakistan 1999

Pakistan's foreign currency bond default in 1999 is another example of a default on foreign currency bonds that was guided by external and political factors. A serious balance of payments crisis in 1998 – resulting from lax fiscal policy over time, high indebtedness, large currency account deficits and declining worker remittances – was exacerbated as the international community imposed economic sanctions in response to a series of nuclear tests in May 1998. To avoid capital flight, the government imposed a generalized deposit freeze. As a side effect, however, foreign exchange sources dried up and reserves started declining, leading to the slow accumulation of arrears. Pakistan sought a restructuring of official bilateral debt with the Paris Club of lenders. The Paris Club agreement imposed unprecedented conditions on the country before they would grant a Paris Club restructuring, requiring comparability of treatment for private creditors. As a result, Pakistan restructured a relatively small amount of Eurobonds falling due between December 1999 and February 2002, of which one third is estimated to have been resident holdings, 11% was held by domestic banks and the remainder by financial institutions and retail investors in the Middle East.

Dominican Republic 2005

A number of Caribbean countries suffered considerably from natural disasters and a decline in tourism after 2001. Two of these countries, the Dominican Republic in 2005 and Belize in 2006, defaulted on foreign currency debt only, but this was due to the fact that there were almost no local currency bonds at the time. The Dominican Republic faced a significant currency depreciation after 2001, which was followed by a severe banking crisis in 2003 -- a result of mismanagement, fraudulent banking practices, insufficient levels of capitalization, concentration of loans to a small group of borrowers, currency mismatches and overall weak banking supervision. The resolution of the banking crisis came at a large cost to public finances, causing public debt to double and leading to macroeconomic instability. Besides decisive structural reforms in the context of an IMF program, a bond restructuring was initiated to provide cash flow relief over 2005-2006. The rescheduled foreign currency bonds represented most of the country's debt and there were almost no local currency bonds at the time.

Ukraine 1998-2000

Ukraine's debt burden turned fatal in the wake of the Russian crisis of 1998, when external capital flows dried up. Following a devaluation of the hryvnia, the government sought a restructuring of both local and foreign currency instruments as low levels of reserves, a spike in debt-service payments through 2001, and an inability to issue new debt meant that rolling over past debt became problematic. The selective restructuring of domestic debt held by banks in August 1998 was followed by the restructuring of two bond-like instruments held by non-residents in September and October 1998. Continuing negotiations with creditors resulted in two further restructurings of external bonds in June 1999 and February 2000. The haircut from the restructuring on foreign currency bonds was in the middle of the range between the haircut on local currency instruments held by residents, and the local currency instruments held by non-residents. Sturzenegger and Zettlemeyer (2005) estimate a 7% haircut (5-9% range) on treasury bills held by residents, a 56% haircut (54-58% range) on treasury bills held by non-residents, and a 28% haircut (22-35%) on international bonds. Moreover, residents avoided a higher overt haircut only at the price of obtaining local currency instruments that exposed them to capital controls, while non-residents received Eurobonds.

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