MOODY'S INVESTORS SERVICE

SPECIAL COMMENT

Sovereign Defaults Series:

Investor Losses in Modern-Era Sovereign Bond Restructurings

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Analyst Contacts:

NEW YORK +1.212.553.1653

Elena Duggar +1.212.553.1911
Group Credit Officer-Sovereign Risk
elena.duggar@moodys.com

Richard Cantor +1.212.553.3628
Chief Risk Officer
richard.cantor@moodys.com

Summary

This report analyzes the modern history of sovereign bond defaults, focusing on the features of the debt restructurings and the losses experienced by investors. The report complements our 2010 study on the causes of sovereign defaults,[1] and is the first in a series of special comments investigating the aftermath of sovereign defaults.[2] We have adopted a case study approach to analyzing the modern-era sovereign bond defaults since 1997. Our findings include:

» There have been 30 distressed exchanges on sovereign bonds since 1997, by 22 Moody's-rated and unrated sovereigns.

» Sovereign bond defaults typically started as missed payment and involved a sequence of default events before being resolved via a distressed exchange.

» When the initial debt exchanges were small in relation to total debt, they were followed by further exchanges of private or official debt, even when haircuts in the initial exchange were large.

» Thirty-seven percent of the 30 sovereign distressed exchanges were followed by further default events. This is not dissimilar to the experience in the global corporate sector, where historically about 41% of distressed exchanges resulted in re-default events. These high rates of re-default explain why ratings often remain low, in the Caa-C rating range, following distressed exchanges in both the sovereign and corporate sectors.

» For all exchanges in our sample, the average loss, as measured by trading prices where available and the net present value of cash flows otherwise, was 47% -- comparable to the average loss in global corporate defaults. The standard deviation around the average loss was large at 26%, with losses varying from 5% to 95%, but comparable to the experience in the global corporate sector.

» Maturity extension was a much more common feature than imposing nominal haircuts on the principle: the terms of the restructuring for all but one debt exchange included maturity extension, 81% involved reduction in interest rates, while 48% involved nominal haircuts.

[1] The Causes of Sovereign Defaults: Ability to Manage Crises Not Merely Determined by Debt Levels, 2 November 2010.

[2] The *Sovereign Defaults Series* will investigate topics related to the aftermath of sovereign defaults, including questions such as the extent of debt relief provided by sovereign debt exchanges, the role of official sector debt, and the evidence on international market re-access after a default.

» In nominal amount, the Greek bond exchange of March 2012 represented the largest sovereign bond exchange in history, with US$273bn of debt caught in the exchange. The amount far surpassed the US$144bn of the Argentinean debt exchanges and the US$39bn of the Russian bond exchanges.

» The Greek debt exchange also imposed one of the largest investor losses in history. With a trading prices-implied loss of 76%, the Greek exchange implied larger losses than the Argentinean external debt exchange of 2005.

» Interestingly, in the overall sample, the loss in sovereign restructurings does not seem to correlate well with the size of the debt exchange, but is somewhat correlated with the level of the country's debt-to-GDP ratio.

» Losses have depended on a number of factors, including the economic conditions at the time of default, the debt maturity structure, the features of the bond contracts, the presence of official debt, the involvement of multinationals, and the concentration of debt holders.

I. Sovereign Defaults Typically Started as Missed Payments and Involved a Sequence of Default Events

There have been 24 sovereign defaults on government bonds since 1997

In this report we analyze the history of modern era sovereign bond defaults, starting after the Asian financial crisis of 1997-98. The modern era of sovereign defaults reflected a general switch in sovereign financing from predominantly foreign currency-denominated bank loan financing in the 1970s and 1980s to foreign and local currency bond financing in the 1990s and the current decade. Local currency bond financing in emerging markets rose markedly over the second half of the 1990s and was spurred by the development of domestic capital markets – in terms of both increased volume and liquidity and increased transparency – and by improved quality of economic policies. As a result, the share of defaults on local currency bonds in the period since 1997 has risen, to be roughly equal to the share of defaults on foreign currency bonds.[3]

Since 1997, there have been 24 sovereign defaults on government bonds, including both events rated by Moody's at the time as well as unrated defaults. Nine of the defaults were on both local and foreign currency government bonds, 8 were on local currency government bonds and 7 on foreign currency government bonds.

The majority of sovereign bond defaults started as missed payments

As Exhibit 1 shows, 67% of the defaults started as 'missed payments' – that is, the initial default event was a missed or delayed disbursement of a contractually obligated interest or principal payment, as defined in credit agreements and indentures (excluding missed payments cured within a contractually allowed grace period).

Further 29% of defaults started as 'distressed exchanges' where the issuer offered creditors a new or restructured debt, or a new package of securities, cash or assets, that amounted to a diminished financial obligation relative to the original obligation (i.e., it subjected the debt holder to an economic loss).

[3] See Sovereign Defaults and Interference: Perspectives on Government Risks, August 2008 and Narrowing the Gap – a Clarification of Moody's Approach to Local versus. Foreign Currency Government Bond Ratings, Sovereign Methodology Update, February 2010.

EXHIBIT 1

Sovereign Bond Defaults Since 1997

Initial Default Date	Country (NR=not rated at the time)	Sequence of Default Events (DE=Distressed Exchange)
1997	Mongolia (NR)	Missed payments
1998	Venezuela	Missed payments
Aug-1998	Russia	Missed payments, DE, Missed payments, DE, DE
Sep-1998	Ukraine	DE, DE, DE, Missed payment, DE, Missed payments, DE
Jul-1999	Pakistan	Grace period missed payment, Missed payment, DE
Aug-1999	Ecuador	Missed payments, DE
Nov-1999	Turkey (NR)	Imposed tax
Mar-2000	Cote d'Ivoire (NR)	Grace period missed payments, Missed payment, DE
Nov-2001	Argentina	Debt swap, DE, Missed payment, Pesoization, DE, Re-open DE
Jun-2002	Moldova	Grace period missed payment, Missed payment, DE
Jan-2003	Paraguay (NR)	Missed payments, DE
May-2003	Uruguay	DE
Jul-2003	Nicaragua	DE, DE
Jul-2003	Dominica (NR)	Missed payments, DE
H2-2004	Cameroon (NR)	Missed payment, DE
Dec-2004	Grenada (NR)	Missed payments, DE
Apr-2005	Dominican Republic	Grace period missed payments, DE
Dec-2006	Belize	Missed payment, DE
Jul-2008	Seychelles (NR)	Missed payments, DE
Dec-2008	Ecuador	Missed payments, DE
Feb-2010	Jamaica	DE
Jan-2011	Cote d'Ivoire (NR)	Missed payment, DE, Developing
Nov-2011	St. Kitts and Nevis (NR)	Missed payment, DE, Debt-land swap
Mar-2012	Greece	Retroactive insertion of CACs, DE, Developing

Source: Moody's.

Note: Blue shading denotes defaults starting as distressed exchanges.

In addition, four of the defaults, namely the cases of Pakistan in 1999, Cote d'Ivoire in 2000, Moldova in 2002 and the Dominican Republic in 2005, started as 'grace period missed payments' where the initial missed payment was cured within the contractually-allowed grace period. Subsequently, however, the sovereign either missed another bond payment or announced a distressed exchange.

Irrespective of how they start, sovereign defaults are typically resolved via a distressed exchange. It is noteworthy, however, that almost three quarters of defaults involved a sequence of default events: the countries experienced a series of missed payments and/or distressed exchanges on different types of debt instruments (and sometimes even on the same debt instruments). It was rare that defaults were resolved quickly and in one round.

Risk of re-default frequently remained high after a distressed exchange

Further, even within the time span of this study, there were two instances of serial defaults – by Ecuador and Cote d'Ivoire. Ecuador became the first country to default on Brady bonds in 1999. It

then defaulted again in 2008, on the 2012 and 2030 global bonds issued as part of the previous debt exchange, following a government announcement that the debt was considered "illegal" and "illegitimate". Similarly, Cote d'Ivoire defaulted in 2000, missing payments on its Brady bonds as a result of the civil conflict and the coup d'etat at the time. After being in default for a decade, the Brady bonds were restructured in 2010. In 2011, however, Cote d'Ivoire missed the interest payments on the same Eurobond issued as part of the 2010 debt exchange.

In addition, many of the countries included in this study previously defaulted on bank loans during the 1980s, including Argentina, Venezuela and Uruguay. Likewise, recent negotiations in Belize around potential new restructuring of the 'superbond' issued as part of the 2007 debt exchange indicate the possibility of further serial defaults.[4]

It is worth pointing out the contrast in default resolution via a distressed exchange and via a bankruptcy. While the vast majority of corporate defaults are resolved via bankruptcy, this option is not available to sovereign issuers and sovereign defaults are typically resolved via a distressed exchange. In particular, many corporate bankruptcies result in creditors being given equity – creditors are therefore willing to deleverage the entity on exit from bankruptcy. In distressed exchange situations, however, creditors typically deleverage the entity to the smallest possible degree that allows current debt service to be paid. As a result, re-default risk often remains high post distressed exchange. For example, in our sample, 37% of the 30 distressed exchanged were followed by further default events. Consistent with the re-default events that we observe for sovereign issuers, historically re-default risk after a distressed exchange has been high for corporate issuers as well: over the 1983-2011 period, as much as 41% of global corporate distressed exchanges have been followed by further re-default events.[5] These high rates of re-default explain why ratings often remain low, in the Caa-C rating range, following distressed exchanges in both the sovereign and corporate sectors.

II. Maturity Extensions Were Much More Common in Sovereign Bond Restructurings than Principal Haircuts

Sovereign debt exchanges typically involve three transformations of the debt: i) extension of the maturity of the debt instruments, ii) reduction in the coupon, and iii) nominal haircut on the principal.

Maturity extensions are a much more common feature of sovereign bond exchanges than haircuts on the nominal face value of the bonds. As Exhibit 2 shows, from the 21 sovereign bond restructurings since 1997,[6] all but one involved maturity extension. Further, 81% involved reduction in the coupon, and 48% of exchanges involved nominal haircut on the principal.

The largest nominal haircuts were imposed as part of the Argentinean debt exchange in February 2005 (66%), the Ecuador debt buyback in May 2009 (65%) and the Greek debt exchange of March 2012 (53.5%). The debt exchange of the Seychelles in January 2010 and St. Kitts and Nevis of March 2012 also involved 50% nominal haircuts (Exhibit 3 below presents further details).

[4] See Belize Prime Minister Suggests Changes to Bond Payments, a Credit Negative, 6 February 2012.

[5] Statistic is based on corporate family level analysis. Over the 1983-2011 period, 17% of initial corporate default events were distressed exchanges, 32% bankruptcy filings and 51% payment defaults.

[6] Three of the sovereign defaults, Mongolia in 1997, Venezuela in 1998 and Turkey in 1999, did not involve a restructuring.

EXHIBIT 2

Summary of the Terms of Modern-Era Sovereign Bond Exchanges

		Terms of Distressed Exchange		
Initial Default Date	Country (NR=not rated at the time)	Maturity Extension	Reduction in Coupon	Principal Haircut
Aug-1998	Russia	yes	yes	yes
Sep-1998	Ukraine	yes	yes	yes
Jul-1999	Pakistan	yes	yes	no
Aug-1999	Ecuador	yes	yes	yes
Mar-2000	Cote d'Ivoire (NR)	yes	yes	yes
Nov-2001	Argentina	yes	yes	yes
Jun-2002	Moldova	yes	yes	no
Jan-2003	Paraguay (NR)	yes	yes	no
May-2003	Uruguay	yes	no	no
Jul-2003	Nicaragua	yes	yes	no
Jul-2003	Dominica (NR)	yes	yes	yes
H2-2004	Cameroon (NR)	yes	n.a.	n.a.
Dec-2004	Grenada (NR)	yes	yes	no
Apr-2005	Dominican Republic	yes	no	no
Dec-2006	Belize	yes	yes	no
Jul-2008	Seychelles (NR)	yes	yes	yes
Dec-2008	Ecuador	no	no	yes
Feb-2010	Jamaica	yes	yes	no
Jan-2011	Cote d'Ivoire (NR)	yes	yes	no
Nov-2011	St. Kitts and Nevis (NR)	yes	yes	yes
Mar-2012	Greece	yes	yes	yes

Source: Moody's.

The only example of a debt exchange that did not involve some type of maturity extension was the case of Ecuador. In November 2008 and in February 2009, Ecuador defaulted on its 2012 and 2030 global bonds, following the government's announcement that it considered the debt "illegal" and "illegitimate". The default was atypical in that it occurred in the context of relative macroeconomic strength, despite some downturn in commodity prices. The default resolution was also not a typical debt exchange, but a buyback transaction, during which the government bought back the defaulted bonds at a price of US$0.35 per dollar of outstanding principal.

III. Investor Losses in Sovereign Restructurings Have Often Been Very Large

The average loss for sovereign bond exchanges was 47%

The losses imposed on creditors in sovereign bond restructurings have frequently been very large. Exhibit 3 shows that the average loss on sovereign bond restructurings since 1997, measure by trading prices where available and the net present value of cash flows otherwise, was 47.2%. This is comparable to the average loss observed in the global corporate sector in the 1982-2011 period: specifically, the average loss on sovereign bonds has been very similar to the average historical loss on

senior unsecured corporate bonds as measured by ultimate recoveries (51.5%) and slightly lower than the historical loss on senior unsecured corporate bonds as measured by trading prices (63.2%).[7]

Further, the variation around the average sovereign loss has been extremely large – losses have varied from as low as 5% to as high as 95%. Indeed, the standard deviation of losses on sovereign bonds was 26.7%. The variation is comparable to the variation of losses for corporate defaults – the historical standard deviation of global corporate family recovery rates as measured by ultimate recoveries was 28.7% - however, the size of the sample of sovereign bond defaults is much more limited compared to the global corporate sample.

Our preferred method of estimating losses at default is to use trading prices where available. We report the loss implied by the average issuer-weighted trading price on sovereign's bonds 30-days after default or, in cases of distressed exchanges, the average price one day before the closing of the distressed exchange. Moody's Sovereign Default Study provides more detail on the sovereign bond prices used to estimate the recovery and loss rates.[8] In cases where trading prices are not available, an alternative method of estimating losses is based on the ratio of the net present value of the new securities to the face value of the old securities, obtained by discounting the promised cash flows using market yields at the time of the exchange. (Please see the notes to Exhibit 3 for more details.) As net present value loss estimation can be sensitive to the yield employed, the estimates should be taken as approximate.

Losses have varied from 5% to 95%

The largest losses of 90%-95% were experienced by investors during the Russian debt exchanges in 1999-2000. These were followed by the 71-83% losses in the Argentinean debt exchanges in 2005 and 2001, the 82% loss in the Cote d'Ivoire Brady bond exchange of 2010, and the 79% loss in the Greek debt exchange of March 2012. Two other exchanges also involved losses of 70% or more: Ecuador in 2009 (72%) and the Seychelles in 2010 (70%). All these cases incorporated a nominal haircut on the principal as part of the terms of the restructuring.

Further, given the serial defaults of Cote d'Ivoire and Ecuador where the second default was on instruments issued as part of the first debt exchange, the cumulative loss suffered by the initial investors was 87% in the case of Cote d'Ivoire and 88% in the case of Ecuador.

On the other hand, the lowest losses were experienced during the 2005 debt exchange of the Dominical Republic (about 5%), Paraguay in 2004 (about 8%), and Jamaica in 2010 (10%). The terms of these three debt exchanges incorporated maturity extension and reduction in interest rate, but did not include a haircut on the principal.

We do not find a particular trend in the size of the losses over time. Separating the sample of sovereign bond exchanges into three equal time periods, we find that the average loss over 1998-2002 was 51.0%, the average loss over 2003-2007 was 32.9% and the average loss over the 2008-2012 period was 50.4%, comparable to the loss in the first time period. The lower average loss level in the intermediate period was due to the lower losses in the Caribbean restructurings, but the most recent debt exchanges have reversed this trend.

[7] See Annual Default Study: Corporate Default and Recovery Rates, 1920 – 2011, February 2012.

[8] See Sovereign Default and Recovery Rates, 1983-2012H1, July 2012.

EXHIBIT 3

Debt in Exchange and Losses in Sovereign Bond Restructurings

				Debt in Exchange			Loss (%)		
Initial Default Date	Country (NR=not rated at the time)	Distressed Exchange Details	Distressed Exchange Date	In US$ billion	In % of total Debt	In % of GDP	Nominal Haircut [1]	Loss [2]	Loss as Measured By
Aug-1998	Russia	LC debt (GKO and OFZ)	May-1999	8.3	4.5	3.1	29 [3]	46 res., 62 non-res.; with devaluation 95	NPV of cash flows
	Russia	FC debt (MIN FIN III)	Feb-2000	1.3	0.7	0.7		75	trading prices
	Russia	FC debt (PRIN and IAN)	Aug-2000	29.1	16.4	16.3	36	90	trading prices
Sep-1998	Ukraine	LC T-bills held domestically	Sep-1998	4.5	30.0	9.0	34	18	NPV of cash flows
	Ukraine	LC T-bills held by non-residents	Sep-1998	0.4	2.8	0.8		59	NPV of cash flows
	Ukraine	FC Chase-Manhattan loan	Oct-1998	0.1	0.7	0.2		31	NPV of cash flows
	Ukraine	FC ING bond and Merrill Lynch bond	Aug-1999	0.4	2.0	1.0	45	38	NPV of cash flows
	Ukraine	FC Eurobonds	Mar-2000	1.6	8.3	5.1	5	31	trading prices
Jul-1999	Pakistan	Eurobonds	Dec-1999	0.6	1.2	0.9		48	trading prices
Aug-1999	Ecuador	External private debt (Eurobonds and Brady bonds) and FC domestic bonds	Aug-2000	7.0	49.5	41.5	40	56 external, 9 domestic	trading price external, NPV domestic
Mar-2000	Cote d'Ivoire (NR)	Brady bonds	Apr-2010	2.8	18.7	12.4	20	82	trading prices
Nov-2001	Argentina	Domestic debt	Nov-2001	64.4	49.6	22.6		83	trading prices
	Argentina	External debt	Feb-2005	79.7	41.7	52.0	66	71	trading prices
Jun-2002	Moldova	Eurobond	Oct-2002	0.04	3.2	2.7		40	trading prices
Jan-2003	Paraguay (NR)	Domestic debt due in 2003-06	Jul-2004	0.1	6.5	2.6		8	NPV of cash flows
May-2003	Uruguay	All tradable FC securities with maturity over 12 months (external and domestic)	May-2003	5.4	56.8	39.6		34	trading prices
Jul-2003	Nicaragua	CENI bonds FC-denominated payable in LC	Jul-2008	0.3	12.5	5.4		51	NPV of cash flows
Jul-2003	Dominica (NR)	LC bonds (domestic and external)	Jun-2004	0.1	44.5	42.4	30	53	NPV of cash flows
H2-2004	Cameroon (NR)	Domestic debt	H1-2005	1.0	10.5	6.5		n.a.	n.a.
Dec-2004	Grenada (NR)	Global bond and domestic debt	Nov-2005	0.3	65.1	48.9		35	trading prices
Apr-2005	Dominican Rep.	International bonds	May-2005	1.1	16.7	5.1		5	trading prices
Dec-2006	Belize	Private external debt	Feb-2007	0.5	51.6	45.8		24	trading prices
Jul-2008	Seychelles (NR)	External debt	Jan-2010	0.3	34.2	37.2	50	70	trading prices
Dec-2008	Ecuador	Global bonds	May-2009	3.2	25.3	5.9	65	72	trading prices
Feb-2010	Jamaica	Domestic debt	Feb-2010	7.9	56.5	63.7		10	trading prices
Jan-2011	Cote d'Ivoire (NR)	Treasury bills (short-term)	Dec-2011	1.3	8.5	5.4		5	NPV of cash flows
	Cote d'Ivoire (NR)	Eurobond coupon	in progress	0.1	0.6	0.4		25	trading prices
Nov-2011	St. Kitts and Nevis (NR)	Domestic bonds and external debt	Mar-2012	0.1	12.8	19.7	50	62	NPV of cash flows
	St. Kitts and Nevis (NR)	Domestic loans (debt-land swap)	Apr-2012	0.3	30.3	46.6		n.a.	n.a.
Mar-2012	Greece	Greek and foreign law bonds	Mar-2012	273.4	59.4	98.2	54	76	trading prices

EXHIBIT 3

Debt in Exchange and Losses in Sovereign Bond Restructurings

Initial Default Date	Country (NR=not rated at the time)	Distressed Exchange Details	Distressed Exchange Date	Debt in Exchange: In US$ billion	Debt in Exchange: In % of total Debt	Debt in Exchange: In % of GDP	Loss (%): Nominal Haircut [1]	Loss (%): Loss [2]	Loss (%): Loss as Measured By
Exchange Average				17	24	21		47	
Country Average				24	34	31			

Source: Moody's, IMF country reports, and Sturzenegger and Zettelmeyer, Haircuts: Estimating Investor Losses in Sovereign Debt Restructurings, 1998-2005, IMF Working Paper 05/137, July 2005. See notes below for sources on loss estimates.

Notes:

[1] Largest nominal haircut shown if new instruments had different haircuts.

[2] Loss measured by trading prices where available and the net present value of promised cash flows otherwise: NPV loss = 1-(NPV of cash flows of the new instrument)/(Face value of old instrument), discounted by the market-implied interest rate. Source for trading prices-implied loss: Moody's, Sovereign Default and Recovery Rates, 1983-2012H1, July 2012. Source for NPV loss: Moody's and Sturzenegger and Zettelmeyer (2005) (for Russia, Ukraine, Pakistan, Ecuador, Argentina and Uruguay).

[3] Holders of GKOs or OFZs had their scheduled payments discounted to 19 August 1998 at the rate of 50% per annum. Based on the resulting adjusted nominal claims, they then received a package of cash and new securities.

The debt in exchange on average represented 31% of GDP

The amount of debt participating in the bond exchange on average represented 34% of the country's total debt and 31% of GDP. In a few cases, the bond restructurings were small, for example representing 1.2% of total debt in the case of Pakistan in 1999 and 3.2% of total debt in the case of Moldova in 2002. In many of these cases, however, a large portion of the country's debt was official sector debt which was restructured separately.

In a number of the more recent restructurings in the Caribbean region, the bond exchanges represented over 50% of total debt: for example, in Jamaica in 2010, Belize in 2007 and Grenada in 2005.

The recent debt exchange by Greece dwarfed any previous sovereign bond exchange both by the nominal amount of the debt involved and as a share of total debt and GDP. In nominal amount, the March 2012 Greek bond exchange represented the largest sovereign bond exchange in history, with US$273bn of debt caught in the exchange. The amount far surpassed the US$144bn of the Argentinean debt exchanges and the US$39bn of the Russian bond exchanges. Further, Greece exchanged as much as 59% of total debt, representing 98% of its GDP.

As Exhibit 3 illustrates, when the initial debt exchange was small in terms of the amount of debt included, it was followed by further debt exchanges. This was the case even when the haircuts in the initial exchange were relatively large. A particular example represents the case of Ukraine. During 1998 and 1999, Ukraine experienced four consecutive restructurings, focusing on specific types of domestic and international bonds and loans. The domestic exchange was relatively larger, but the international debt exchanges proved insufficient in providing debt relief and were eventually followed by a comprehensive restructuring in 2000 of the entire stock of international bonds. What has been important, was the amount of debt relief provided by the exchange.

IV. Factors Explaining the Size of Haircuts

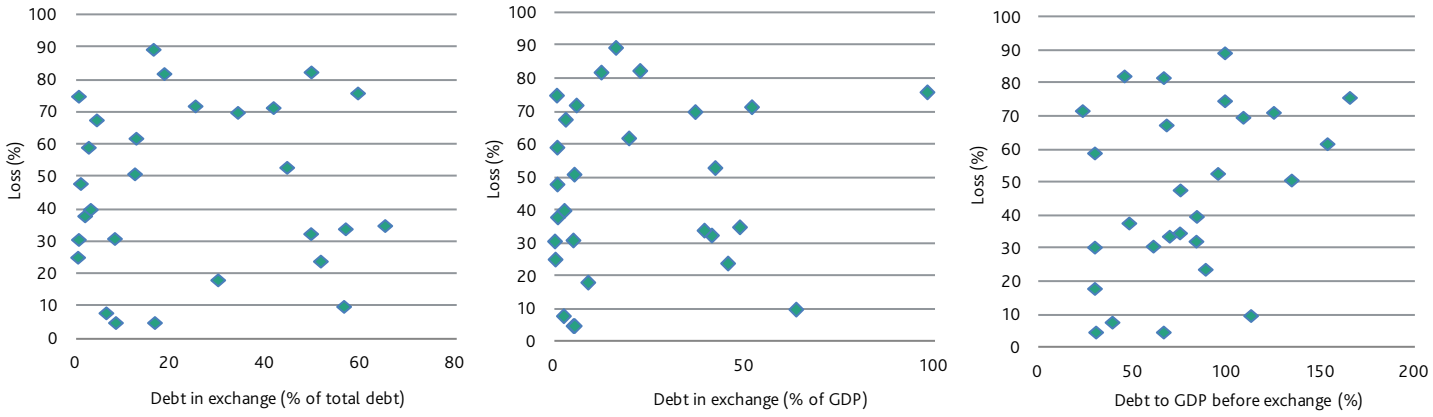
Level of country's debt-to-GDP ratio

Interestingly, in the overall sample, the loss in sovereign restructurings does not seem to correlate with the size of the debt exchange. However, there is some correlation between the loss and the level of country's debt-to-GDP ratio before the exchange.

Exhibit 4 plots the losses experienced in the debt exchanges against i) the debt participating in the exchange as percentage of total debt, ii) the debt participating in the exchange as percentage of GDP, and iii) the debt-to-GDP ratio in the year-end before the exchange. The first two charts show no systematic relationship. The third chart shows that there is some correlation (34%) between losses and the debt-to-GDP ratio before the exchange.[9]

EXHIBIT 4

Losses in Sovereign Bond Exchanges Did Not Correlate Strongly with the Amount of Debt Participating In the Exchange But Correlated Somewhat with Debt-to-GDP before the Exchange



Source: Moody's.

Note: Exhibits include all bond exchanges as per Exhibit 3. Losses as measured by trading prices where available and by the net present value of cash flows otherwise.

Losses have depended on the particular conditions in each country at the time of default and the dynamics of the debt restructuring negotiations – including factors such as the involvement of multinationals, whether there has been official debt to reschedule along with the private commercial debt, attempts to discriminate between types of creditors, the particular debt maturity structure of the country, the concentration of debt holders, the complexity of the bond instruments involved and the features included in the bond contracts.

Macroeconomic conditions at the time of default

Debt exchange negotiations typically need to achieve a balance between the country's ability and willingness to service forthcoming debt and the creditors' ability and willingness to take losses. Thus the macroeconomic conditions at the time, the extent of capital outflows and the run on the currency a country is facing influence the size of haircuts. The largest losses were experienced during the debt exchanges of Russia, Argentina and Greece as these three countries experienced some of the worst economic crises at the time, including several years of deep recessions preceding the defaults. In

[9] Multivariate regression analysis also implies that a 10% higher debt-to-GDP ratio before the exchange is associated with about 3% higher loss, however regression analysis is limited by the small sample size.

addition, Russia and Argentina experienced massive capital outflows which caused banking crises and made servicing foreign currency debt exceedingly difficult for the sovereign.

Debt negotiations process

Defaults that were due to political factors such as unwillingness to pay in the case of Ecuador or civil conflicts as in the case of Cote d'Ivoire also involved larger losses as the sovereign took a non-negotiable stance vis-à-vis creditors.

On the other hand, in a number of the recent debt exchanges in the Caribbean region where the sovereign undertook several-months-long negotiations with creditors leading up to the debt exchange, the stance of the sovereign was intended to be more cooperative and creditor-friendly. As a result, these restructurings involved smaller losses and generally did not involve haircuts on the principal.

Involvement of multinational institutions

Further, the involvement of multinational institutions and in particular an accompanying restructuring of official debt can also have an impact on the loss experienced in the private debt restructuring. Restructurings of official debt, especially under the umbrella of the Paris Club, frequently include the so-called comparability of treatment clause, which requires that commercial private sector creditors are subject to the same haircut that is offered by the restructuring of the official sector debt. The first time the comparability of treatment clause was formally invoked was in the case of Pakistan in 1999, causing Pakistan to become the first country to restructure Eurobonds even though the amount of Eurobonds outstanding at the time was relatively small. More recently, the comparability of treatment clause was also invoked as part of the Dominican Republic restructuring in 2005.

Attempts to discriminate between different groups of creditors

Further, sovereigns have sometimes attempted to discriminate between different groups of creditors: for example, offering a smaller haircut on domestic debt largely held by the domestic banking system, while offering a larger haircut on externally-held debt. Indeed, in the case of Ukraine in 1998-2000 and Ecuador in 2000, domestic creditors experienced smaller losses than external creditors. On the other hand, in the case of Uruguay in 2003, domestic creditors experienced a larger loss than external ones. However, attempts to discriminate between creditors have often proved unsuccessful – Argentina and Russia being examples - and more recent debt restructurings have proceeded under the principle of inter-creditor equality where all investors were offered the same terms.

Creditors' ability and willingness to take losses

Additionally, the creditors ability and willingness to take losses has played a major role in the restructurings as well. In both the cases of Russia and Argentina the initial exchange offer of the sovereign was rejected by creditors. The first restructuring offer on local currency debt by the government of Russia in August 1998 was rejected by debt holders (a debt swap launched in July 1998 had proven unsuccessful as well). Following a lengthy negotiation process with a steering committee composed of Western creditor banks, a second offer was finalized in March 1999 and was successful. Similarly, Argentina's first exchange offer for external debt launched in September 2003, which entailed a net present value loss of close to 90% was rejected by creditors (it offered 75% nominal haircut with no recognition of past-due interest). After a series of meetings with bondholders, the terms of the exchange were softened and past-due interest was partially recognized; the second and successful offer launched in January 2005 and ultimately entailed around 70% loss.

Similarly, the type and concentration of debt holders have influenced debt negotiations and resulting losses as well. For example, in the case of Jamaica's restructuring in 2010, the majority of the debt was held by a few large domestic banks. Thus the relatively low loss of the restructuring and the absence of a nominal haircut on the principle balanced off the need to provide liquidity relief for the sovereign with the need to limit the negative impact on the banking system.

Specific features of the bond contracts

Finally, the existence of specific features in the bond contracts, in particular the presence of collective action clauses (CACs), could help a sovereign implement a less attractive exchange offer by forcing participation in the exchange and avoiding holdouts. CACs allow a supermajority of creditors to amend the instrument's payment terms and other essential provisions and have been invoked more often in recent debt exchanges: CACs were invoked in the restructurings of Ukraine, Moldova, Uruguay, Belize, the Seychelles, St. Kitts and Nevis, and Greece.

Moldova used the CACs to amend the terms of payment according to the restructuring offer after an agreement was reached with its major bondholder – who held 78% of the outstanding bonds, while the CACs required 75% majority vote. Uruguay used the CACs contained in its Samurai bonds, the first use of CACs in Japan. Ukraine applied a hybrid approach: first, it invited the investors – mainly investment banks and hedge funds – to tender their bonds by granting an irrevocable proxy vote for the restructuring offer; second, it called a bondholder meeting where the proxy votes were automatically cast in favor of modifying the terms of the old bonds. Belize's government used the CAC embodied in one of its bonds to force 1.3% of non-complying or non-responding creditors to accept the terms of the exchange, increasing the acceptance rate to 98%. Finally, Greece took an unconventional approach to using CACs. Before the launching of the exchange offer, CACs were retroactively inserted in Greek law bonds by an Act of Parliament. Subsequently, after the participation threshold was reached, the activation of CACs drew in the vast majority of remaining bondholders, raising the participation rate to 97%. Greece's use of the CACs was certainly unconventional. It followed a trend in recent sovereign bond restructurings where CACs have been invoked more and more often in order to bind non-participating creditors and minimize hold-outs. It does, however, raise a new possibility for use of CACs in domestic law bond restructurings.

Haircuts, therefore, have depended on the interaction of economic and political considerations at the time of default and on the particular circumstances of both debtor countries and their bondholders during the debt negotiations process.

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Author
Elena Duggar

Senior Production Associate
Diana Brimson

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