

GEMs FI Strategy Viewpoint

Emerging Market Sovereign Defaults Primer – A survival guide

Primer

Key takeaways

- This Primer provides investors with the most important considerations about distressed and defaulted EM sovereign debt.
- We review the frequency of default and compensation for default risk. We review precedents about the restructuring process, including bond exchanges, preferential treatments, use of CACs, exit yields, recovery values, and regaining market access.

What investors need to know about EM sovereign defaults

This Primer report provides investors with what we believe are the most important considerations investors should know about distressed and defaulted emerging market (EM) sovereign debt. We outline important historical precedents, share valuable lessons from recent restructurings, and answer the questions we are most frequently asked.

Defaults: How frequent? Am I paid enough for the risk?

As an asset class, EM sovereign bonds have defaulted at an average annual rate of 2% since 2000, measured as a percent of outstanding debt. By rating, the historical 5-year default risk of a given country is 2% for BBBs, 5% for BBs, and 14% for Bs, according to rating agency data. Generally, EM spreads exceed the compensation needed for this historical default risk, though investors should also expect compensation for non-default risks such as uncertainty, volatility risk, liquidity risk, etc.

The restructuring process

We review what determines the type of new bond investors are offered in a restructuring, why bondholders today resist principal haircuts, what debt is included in the restructuring envelope, how past due interest (PDI) has been treated, which bonds received preferential treatment and the size of the premium, the history and use of collective action clauses (CACs), the “carrots and sticks” to obtain consent from investors, and China’s evolving role in EM restructurings.

Recovery values and life after default

Exit yields following defaults have ranged from 9-15%. Today’s low bond prices for some distressed sovereigns may signal that exit yields will be high in the future, pushing down recovery values. Sovereigns typically regain market access after four years, but there is significant variability. We review Argentina’s and Ecuador’s performance before and after their 2020 defaults for bondholders that tendered in the exchange.

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GEM Fixed Income Strategy
Global

Jane Brauer
Sovereign Debt FI Strategist
BofA
jane.brauer@bofa.com

Lucas Martin, CFA
Sovereign Debt FI Strategist
BofA
lucas.martin@bofa.com

Merveille Paja
EEMEA Sovereign FI Strategist
MLI (UK)
merveille.paja@bofa.com

See Team Page for List of Analysts

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Contents

Historical EM sovereign default rates?	3
Default definitions: What's in a name?	4
Do bonds provide enough compensation for default risk?	5
Do low bond prices mean lower bond recoveries than in the past?	6
Restructuring envelope: Who's in and who's out?	7
Exit yields: Where do bonds trade post-restructuring?	9
How quickly do countries regain market access?	10
Exchange bonds: What type of new bond?	12
What determines your new bond and relative recovery rate?	14
Preferential treatments for bonds in restructurings?	14
Past due interest: How is it treated?	17
Collective action clauses: How do they work and how do they affect valuations?	19
Exchange mechanism: "Carrots or sticks" to obtain bondholder consent?	21
Principal haircuts: Why do bondholders resist them?	22
Performance of distressed bonds?	24
Credit Default Swaps (CDS)	28
China's role in debt restructurings?	29
Seizing central bank reserves?	32
Involuntary defaults: Sanctions and lawsuits	33
Voluntary defaults: Ecuador (2008)	34
Geopolitics: Iraq's precedent	34
Appendix	36
Research Analysts	42



Historical EM sovereign default rates?

2% average sovereign default rate over last 22 years

The average annual sovereign default rate on external bonds, measured in face value terms and as a proportion of outstanding debt, has been 2% since 2000 (Exhibit 1). As a proportion of high-yield debt alone, the average annual sovereign default rate has been 3% (Exhibit 2). In most years, the default rate was quite low, but it was particularly high in 2001 (Argentina) and 2020 (6 countries). Notably, 2008 was a year of high EM and developed market corporate defaults, but not a year of high sovereign defaults.

The asset class has become more diversified over time and most investors are now benchmarked to diversified indices. These indices limit the size of larger issuers and reduce the impact of a large default on global emerging market portfolios, as happened in 2001 when Argentina represented 9% of external sovereign bonds and 24% of the EUR-denominated index-eligible external sovereign bonds.

2020: Record year for sovereign defaults in number and face value

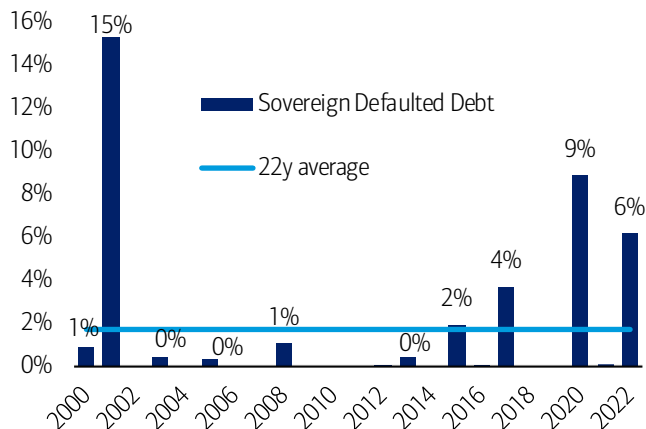
2020 set a recent record for EM sovereign defaults and reprofiling in terms of face value (\$107bn), number of issuers (6), percent of issuers (8%), and percent of outstanding face value (9%). Six countries defaulted or restructured: Argentina (\$61.5bn), Ecuador (\$17.4bn), Lebanon (\$24.1bn), Belize (\$0.5bn), Suriname (\$0.7bn) and Zambia (\$2.3bn).

2022: Russia-Ukraine war triggers further defaults

Four countries defaulted in 2022 as of September: Russia (\$37.1bn), Ukraine (\$22.8bn), Sri Lanka (\$12.6bn) and Belarus (\$3.25bn). Russia defaulted due to sanctions applied to the country following their invasion of Ukraine. Belarus was also affected by sanctions. As the war continued, Ukraine received approval from creditors to defer payments for two years given the ongoing conflict. Finally, Sri Lanka, an energy importer while Brent oil was averaging about \$110, became the first Asian country in decades to default on its sovereign debt.

Exhibit 1: Default rate - 6% of the EM sovereign index defaulted in 2022 YTD vs. 9% in 2020 and 15% in 2001

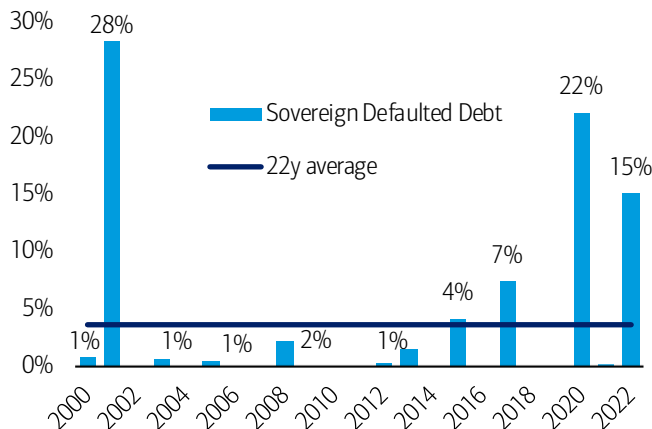
EM sovereign default rates as % of the face value of all EM EXD outstanding sovereign debt (both investment grade and high yield)



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC. Note: Index used for all EM EXD is EMGB.

Exhibit 2: Default rate - 15% of the EM high-yield sovereign index defaulted in 2022 YTD vs. 22% in 2020 and 28% in 2001

EM sovereign default rates as % of the face value of only EM high yield outstanding sovereign debt

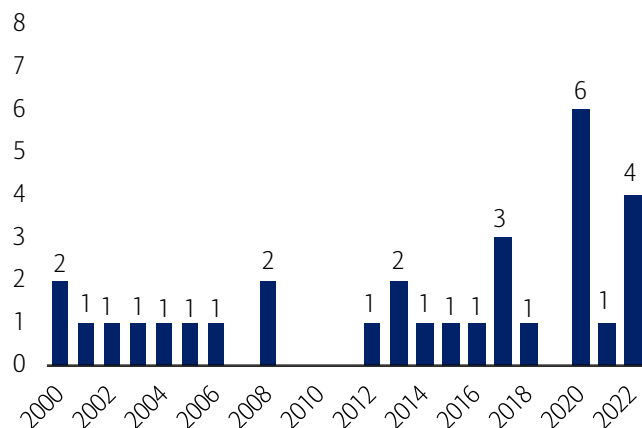


Source: BofA Global Research, Bloomberg, ICE Data indices, LLC. Note: Index used for all EM HY EXD is IG00.



Exhibit 3: Default numbers - 4 sovereigns defaulted in 2022 YTD. In 2020, a record number of 6 sovereigns defaulted.

Number of sovereign defaults since 2000

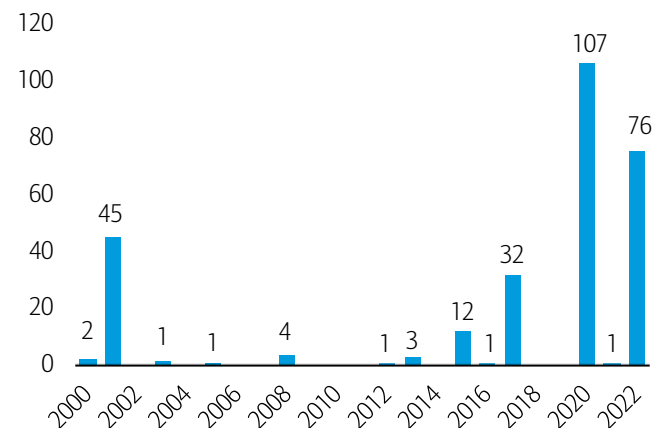


Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Exhibit 4: Default size - Defaults totaled \$76bn for sovereigns in 2022 YTD. In 2020, record amount of \$107bn of sovereign bonds defaulted.

Face value (\$bn) of sovereign defaults since 2000



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC.

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Default definitions: What's in a name?

Failure to pay grace periods: Shorter for principal than for coupon payments

A sovereign is not usually considered to be in default until it misses a payment and the grace period on that payment expires. Typically, coupon payments enjoy a grace period of 30 calendar days. However, principal payments often have a shorter grace period of 5-10 days. The exact grace period is specified in the bond documentation.

Once the grace period expires, bondholders may have the right to accelerate their payments (even on bonds that have not yet missed a payment due to cross-default clauses). However, in practice bondholders generally do not accelerate their claims but instead negotiate with the countries on a debt restructuring that reduces the cash flows of the existing bonds.

Soft vs. hard defaults

A "soft default" happens when a country obtains permission from its bondholders to postpone its payments. The permission is obtained through a consent solicitation, as happened for example with Ecuador in 2020 and Ukraine in 2022. In contrast, a "hard default" happens when a country misses a payment without first obtaining permission. Such preemptive "soft" pre-default exchanges and restructurings have become more common.

CDS default event may be triggered by use of CACs

Although bondholders sometimes agree to postpone payments and there is no contractual default, a country's credit default swap (CDS) may nevertheless be triggered. This happens because the use of collective action clause (CACs) may constitute a triggering event because it may be deemed a "restructuring." The ultimate decision about triggering CDS is made by the Determinations Committee of ISDA (International Swap and Derivatives Association).

Rating agencies could assign Selective Default rating

Rating agencies may assign sovereigns that have missed payments with a D (Default) or SD (Selective Default) rating. Sometimes, this decision is prompted by a failure to pay on domestic debt rather than external debt. A rating agency default rating does not affect the contractual terms of the bond nor the credit default swap criteria.



Do bonds provide enough compensation for default risk?

Spreads generally exceed compensation needed for historical default risk

EM spreads generally exceed what would be required to compensate investors for historical default risks. Nevertheless, default risk is not the only risk that EM investors face. Compensation is also required for non-default risks such as uncertainty, price volatility, liquidity, and correlations with risky assets, among others.

Historical 5-year default risk by rating: 2% for BBBs, 5% for BBs, 14% for Bs

The historical 5-year rate of default on foreign currency debt by rating, based on data through 2021 published by rating agencies, is shown in Exhibit 5. The historical probability of default over 5 years is around 2% for BBB-rated countries and is similar for countries with higher ratings as well. In contrast, as expected, the probability of default for high-yield countries increases significantly as credit quality declines, reaching 5% for BB-rated countries and 14% for B-rated countries over a 5-year period.

Though these historical estimates are useful benchmarks, they should be treated with caution. Unlike corporate defaults, sovereign default rates are based on a small sample of sovereigns, very few of which have defaulted.

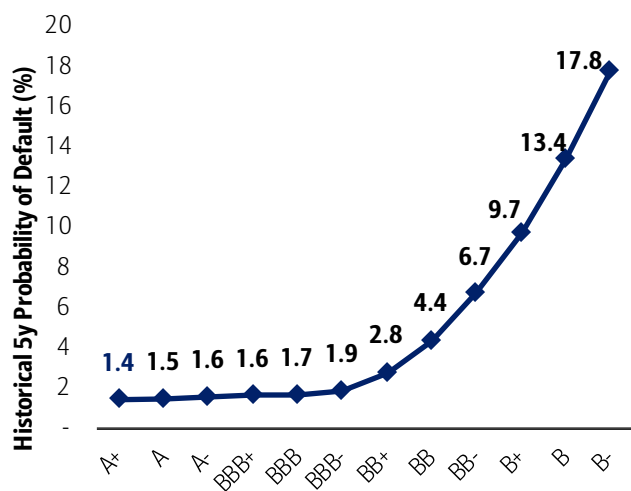
Compensation for default risk: What spreads are required?

The 5-year spreads required to compensate for the historical probability of default given a country's rating are shown in Exhibit 6. For investment-grade countries, 5-year spreads of about 20-30bp would be required to compensate for the historical probability of default. The required compensation is higher for high-yield countries: about 65bp for BB-rated and 215bp for B-rated sovereigns.

For high-yield sovereigns, downgrades imply large increases in the spread required to compensate for the incremental risk of default. For example, a downgrade from BB to B would increase the required spread from about 65bp to 105bp, equivalent to a 40bp increase.

Exhibit 5: Historical probability of default on foreign currency debt is only 2% for BBB-rated countries, but rises significantly for high-yield countries

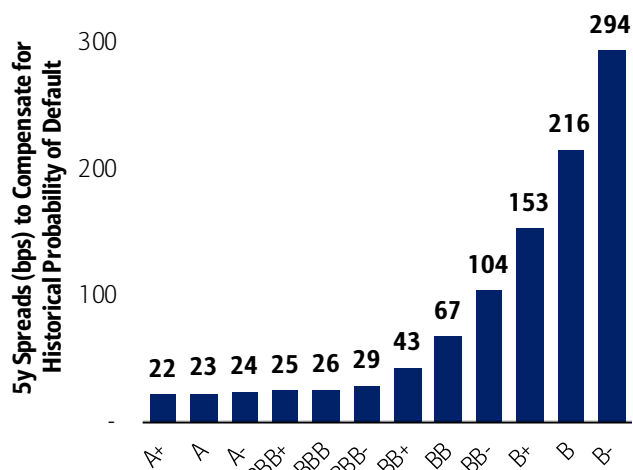
Historical cumulative probability of default over 5y by rating



Source: BofA Global Research, Moody's, S&P, Fitch. Note: Probabilities of default are averaged by rating bucket (A/BBB/BB/B), as published by Moody's (1983-2021), Fitch (1995-2021), and S&P (1975-2021). For intermediate rating notches, a linear trend is used to interpolate ratings above BBB and a quadratic trend is used to interpolate ratings below BBB.

Exhibit 6: Spread of only about 25bp needed to compensate for historical probability of default of BBB-rated countries

5y spreads to compensate for historical probability of default by rating



Source: BofA Global Research. Note: Required spread calculated with simplified formula: Spread = $[-(1-RR)/T] \ln(1-PD)$, where RR=Recovery Rate (in percent) and PD=Probability of Default (in percent). Calculation uses 25% Recovery Rate.



Do low bond prices mean lower bond recoveries than in the past?

Performing bonds traded in the \$20s-\$40s in June-July 2022

In June-July 2022, it was remarkable that the bonds of some performing sovereigns traded in the \$20s-\$40s, prices traditionally viewed as deeply distressed and signaling imminent default. Do such low prices signal that future defaults could have much lower recoveries than in the past?

Signal about exit yields and not necessarily about amount of debt relief

Low bond prices today could signal lower recoveries in the future due to high exit yields. We believe that very low bond prices seen recently are probably a better signal about expectations about future exit yields than on the amount of debt relief (haircuts, extensions, etc.) that could be required in future restructurings.

Indeed, applying historical post-restructuring spreads to current Treasury yields and the yields of comparable EMs could result in exit yields of 9-17%, compared to 9-15% in prior major restructurings (see section on exit yields for details). Higher exit yields could reflect a high probability of a subsequent default or simply high risk premiums.

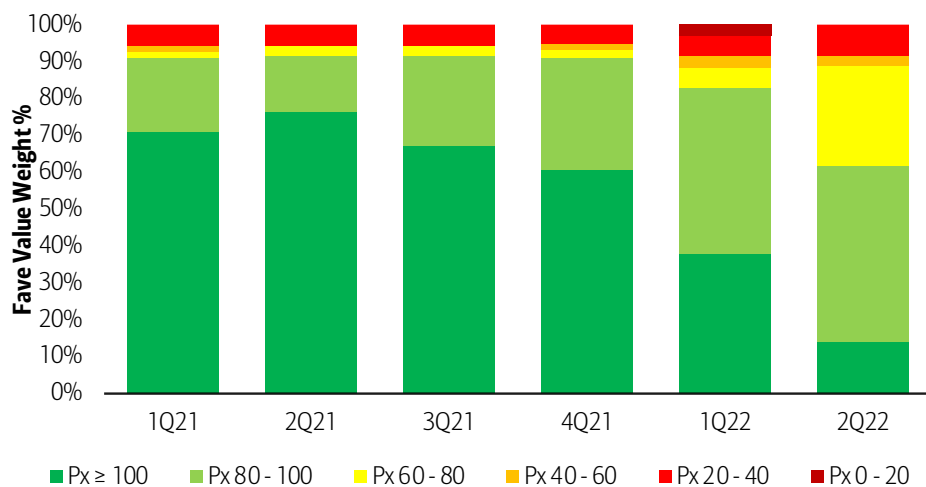
Low dollar prices are a trend across all sovereigns, not just those experiencing distress. Indeed, the share of EM sovereign bonds with low dollar prices has increased across the board in 2022 due to the effect of high EM yields on higher duration and lower coupon bonds, which were issued in greater numbers in recent years than in the past (Exhibit 7). Specifically, the average coupon has steadily declined from 8.5% to 4.5% in the last 20 years while the duration has extended from 4.8 in 2002 to a high of 8.7 in 2021. In the last year, EM sovereign yields have risen from 3.5% in September 2021 to 6.5% today.

Exit yields expectations are very sensitive to market conditions

Exit yields following a restructuring are very sensitive to the yields of comparable sovereigns and thus very sensitive to market conditions (see section on exit yields for more details). The exit yield can have a very significant effect on the recovery rate because restructured bonds tend to have high duration due to the new longer maturities and lower coupons designed to provide near-term debt service relief.

Exhibit 7: Share of EM sovereign bonds with low dollar prices has increased in the past 4 quarters

Stacked bar chart showing the share of EM sovereign bonds with low dollar prices in the EM Sovereign Index of bonds by price level, by quarter since 2021.



Source: BofA Global Research, Bloomberg, ICE Data indices, LLC (EMGB Index: EM External Debt Sovereigns). Note: The index excludes defaulted bonds.

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Restructuring envelope: Who's in and who's out?

Which creditors will provide debt relief?

After determining how much debt relief is needed, usually done in consultation with the International Monetary Fund (IMF), the next step in a restructuring process is determining which creditors will provide debt relief and under what terms. We outline some rules of thumb for what is known as the “restructuring envelope”.

IMF and multilaterals: Super-senior creditors

The IMF and other multilaterals are almost always treated like super-senior creditors, because they are seen as lenders of last resort. If the country is already borrowing from the IMF, the IMF may agree to a new program to rollover existing maturities, but it has not generally accepted principal haircuts.

An exception to the IMF avoiding principal haircuts was the HIPC (Highly Indebted Poor Country) initiative, which provided principal relief to some very poor countries. However, most emerging markets that issue external bonds are not poor enough to qualify.

Moreover, the terms of lending from the IMF (maturity, rates) are standardized for all borrowers and not customized (Argentina sought, but failed, to negotiate a customized program in 2021). Note that the IMF will not disburse funds to a country's whose debt it considers unsustainable. As a result, it will wait for a country to reach an agreement with its creditors on debt relief before it disburses funds. Nevertheless, a staff-level agreement on an IMF program is possible prior to the debt restructuring.

Finally, there is precedent for bonds partially guaranteed by multilaterals to be exempt from a restructuring, such as Ecuador's social bond in 2020.

Loans from other governments: Paris Club process or bilateral negotiations

Loans from other governments are discussed through the Paris Club or through bilateral negotiations (historically the case with China, see our section on China's role later in the report). The Paris Club is an informal group of official creditors whose role is to find coordinated and sustainable solutions to the payment difficulties experienced by debtor countries. The Paris Club process requires that countries seek “comparable treatment” from its private creditors and other bilateral lenders (comparable does not mean identical and is evaluated holistically).

Domestic debt: Case by case decision and balancing act

Domestic debt is typically reviewed on a case-by-case basis, with countries balancing the political and economic ramifications of a domestic restructuring with the burden of domestic debt compared to external debt and the ease of restructuring under domestic law. Debt owned by banks can be particularly sensitive, given that it could transform a debt crisis into a banking crisis. Banking crisis may require that the sovereigns recapitalize them, which would require that the countries obtain more financing.

Beware of repo loans: Argentina and Ecuador

In practice, repo loans were treated as senior debt during the recent restructurings of Argentina and Ecuador because they were repaid in full with scarce reserves before the countries defaulted on other creditors.

Repo loans are collateralized bank loans where the borrowers secure the loan with sovereign bonds or sometimes with gold (in that case, the central bank might be the borrower). Typically, the loan must be significantly over-collateralized and countries must pay margin if the value of the collateral declines below a threshold (if the sovereign fails to do so, the banks may sell the collateral, flooding the market with bonds). In addition, banks may have the right to terminate the loans early if the bond price falls below a threshold (as happened in Argentina in 2019 and Ecuador in 2020).



When a repo loan is terminated early or the collateral required to maintain it becomes too large, countries may prefer to repay the repo loan rather than default, provided they have the liquidity to do so, since the default could have knock-on effects.

Precedents: Restructurings in countries with low proportion of external debt

What happens when external debt represents only a small portion of the total debt? In this case, the countries may balance the political ramifications of exempting foreigners with the relative debt burden of external debt, the possibility of losing access to external bond markets, and the complexity of restructuring foreign law bonds (for example, do the bonds have collective action clauses?).

Recent precedents are mixed in countries with high proportion of domestic debt such as Jamaica, Greece, and Barbados. External creditors were exempted in Jamaica and Greece, but included in the restructuring in Barbados (see details below).

Jamaica: No CACs for many global bonds

In Jamaica (2010, 2013), external debt represented about 30% of the debt stock and external debt was excluded from two rounds of domestic debt restructurings. The Jamaican debt swap focused on domestic debt securities and one of the reasons cited for excluding external debt was that many global bonds lacked collective action clauses (CACs), which would have complicated the negotiations.

Greece: Foreign law bonds invited to exchange, but holdouts were still paid

In Greece (2012), foreign law external debt represented 10% of the debt stock. Greece invited foreign law bondholders to participate in its debt exchange. Although its bonds had CACs, “vulture funds” had become large holders and the Greek government chose to continue servicing foreign law bond holdouts that did not participate in the debt restructuring. In total, 16 foreign law bonds rejected the proposed amendments. In addition, the government did not even attempt to restructure 7 Japanese and Italian law bonds.

Barbados: Very high debt, political decision to share creditor burden “fairly”

In Barbados (2018), external debt represented about 20% of the debt stock. When Prime Minister Mottley announced a debt moratorium, she said that “the burden of adjustment has to be fairly shared”. Although external debt was a small proportion of total debt, Barbados’ debt/GDP ratio was so large (175%) that external debt still represented a sizeable 35% of GDP. Barbados aimed to reach a debt/GDP target of 60% with its restructuring. It would have been very difficult to achieve that goal without restructuring external debt alongside domestic debt.



Exit yields: Where do bonds trade post-restructuring?

Exit yields of 9-15% for restructurings since 2000

When investors assess the fair value of distressed debt, the expected exit yield of the restructured bonds is a key part of the analysis. The expected exit yield is used to discount the cash flows of the restructured bonds.

The exit yields of recent notable EM external debt restructurings are shown in Exhibit 8. We also compare the exit yields to prevailing US Treasury yields and the yields of BB-rated EM sovereigns. Note that the median rating is only B3 five years after default, according to Moody's.

- **Spread over USTs:** Since 2000, exit yields have ranged from 1,395bp (Argentina 2020) to 600bp (Argentina 2005, Ivory Coast 2010) over prevailing 10y US Treasuries.
- **Spread over BB sovereigns:** Since 2000, exit yields have ranged from 300bp (Argentina 2005) to 1,005bp (Argentina 2020) over prevailing yields of BB-rated EM sovereigns.

Drivers of exit yields: External and domestic factors

External environment: Treasury yields and EM comparable spreads

Externally, exit yields are affected by the prevailing US Treasury yields and the prevailing spreads of comparable EM countries (usually B-rated countries).

Domestic factors: Credibility and composition of debt relief

Domestic factors affecting the exit yields include the credibility of the proposed fiscal adjustment, the composition of debt relief, and the prospects of regaining market access to issue debt in the primary markets again.

Exit yields should be lower if the restructuring results in a larger debt relief, particularly if debt relief comes from principal haircuts and coupon reductions. On the other hand, if debt relief comes primarily from maturity extensions, exit yields could be higher.

Another consideration could be the reputational effect of the restructuring and whether the government was perceived to negotiate in good faith. The reputational (credibility) effect is likely larger for serial defaulters.

High exit yields imply unsuccessful restructuring

If exit yields remain very high after a restructuring, this signals that investors remain skeptical that the country has improved the sustainability of its debt. Crucially, high exit yields imply no market access, which means that the country is at high risk of another default once amortizations on the new debt begin. This dynamic can be self-reinforcing.

Exhibit 8: Exit yields of 9-15% in recent EM restructurings for larger countries

Yield and spread level where bonds first traded post restructuring

Country, Date of Restructuring	First Yield of New EM Bond	10y UST Yield	Spread to 10y UST	BB EM Sov Yield	Spread to EM BB's
Ecuador Aug 2000	18.5	6.0	1,250	10.2	830
Russia Aug 2000	20.0	6.0	1,400	10.2	980
Uruguay May 2003	12.0	3.5	850	6.6	535
Argentina June 2005	10.0	4.0	600	7.0	300
Ivory Coast April 2010	10.0	4.0	600	5.3	470
Ukraine Nov 2015	9.0	2.3	675	4.4	465
Ecuador Aug 2020	10.5	0.7	982	4.6	590
Argentina Aug 2020	14.7	0.7	1,395	4.6	1,005
Post-2000 Summary Statistics					
Max	14.7		1,395		1,005
Avg	11.0		850		560
Median	10.3		765		505
Min	9.0		600		300
Possible Exit Yields (Current Yields Plus Historical Post-2000 Spreads)					
Current Yield			3.4		6.4
Plus Max Spread			17.4		16.5
Plus Avg Spread			11.9		12.0
Plus Median Spread			11.1		11.5
Plus Min Spread			9.4		9.4

Source: BofA Global Research, Bloomberg, ICE Data indices, LLC (11GV Index: USD BBs EM Sovereigns, USGG10YR: US Generic Govt 10y).

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How quickly do countries regain market access?

Market access: What is it and why does it matter?

Recovering market access means that a country can once again issue bonds in the primary bond markets and refinance its maturing debt. Typically, countries are locked out of primary external markets during a debt crisis and they stay locked out for several years following a debt restructuring. Usually, access to domestic markets is recovered earlier than access to external markets, oftentimes because domestic funding is trapped by capital controls.

One of the goals of a success debt restructuring is to restore access to primary external markets at reasonable yields. If market access cannot be restored, then another restructuring is likely only a matter of time.

Typical loss of market access is around 4 years

A typical loss of market access is around 4 years, but there is a significant variability. Some countries regain market access relatively quickly while some defaulters in the last several years have yet to regain market access on a consistent basis.

We show the time it took to recover access to external bond markets for the most important EM defaults since 1998 in Exhibit 9. For that sample, the average time was 4.6 years (median of 4.2 years). Note that the average may be understated due to a reverse "survivorship bias" since countries that have not recovered market access are not included in the analysis.

Consistent with some academic literature, there seems to be a correlation between the time it takes to recover market access and the loss to bondholders caused by the default (Exhibit 10). This correlation could be due to a combination of reputational damage and that larger losses signal deeper debt sustainability issues that take longer to resolve.



Exhibit 9: Recovering market access after default – Typically takes around 4 years to issue in primary external markets, but with significant variability.

Dates for defaults, restructurings, and recovery of market access after restructuring is completed

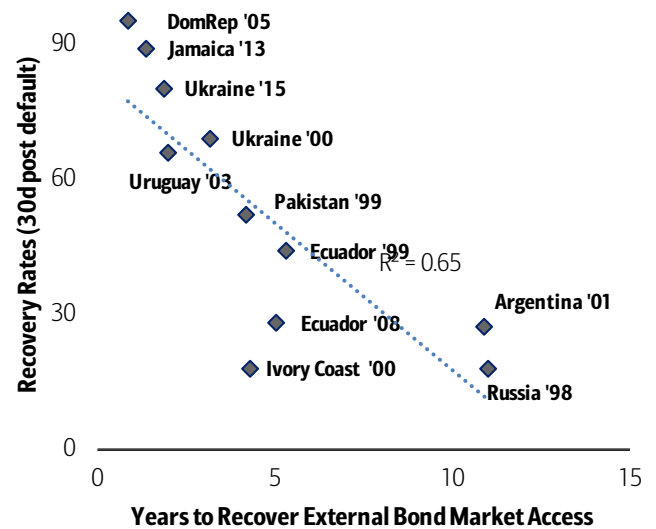
Country	Default Date	Restructuring Date	Market Access Recovery	Years to Recover
				External Bond Market Access
Russia	Aug-98	May-99	Apr-10	11.0
Ukraine	Sep-98	Sep-98	Jun-03	4.7
Pakistan	Jul-99	Dec-99	Feb-04	4.2
Ecuador	Aug-99	Aug-00	Dec-05	5.3
Ukraine	Jan-00	Apr-00	Jun-03	3.2
Ivory Coast	Mar-00	Apr-10	Jul-14	4.3
Argentina	Nov-01	Jun-05	Apr-16	10.9
Uruguay	May-03	May-03	May-05	2.0
DomRep	May-05	May-05	Mar-06	0.9
Ecuador	Dec-08	Jun-09	Jun-14	5.0
Jamaica	Feb-13	Feb-13	Jul-14	1.4
Ukraine	Oct-15	Nov-15	Sep-17	1.9
Average				4.6
Median				4.2

Source: BofA Global Research, Bloomberg, Moody's, and Cruces, Trebesch 2011 (*Price of Haircuts*). Note: Russia and Jamaica defaulted on domestic debt.

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Exhibit 10: Correlation between time to recover market access and the post-default trading price

Time to recover market access after the restructuring is completed compared to post-default trading price



Source: BofA Global Research, Bloomberg, Moody's, and Cruces, Trebesch 2011 (*Price of Haircuts*). Notes: Russia and Jamaica defaulted on domestic debt. Recovery rate refers to trading price 30 days after default (Moody's data).

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Implications for first post-default amortization

The goal of a post-default debt restructuring is to give the debtor some period of relative protection with debt service relief in the earlier years. The debt relief takes the form of lower coupons, maturity extensions, no amortizations for several years and possibly a haircut in the face value of the debt.

Since countries usually take time to recover market access, this means that the first amortization of the new restructured bonds will typically be several years in the future. Recent exchanges have had quite short window with no amortizations. For example, the first amortizations were in 3.8 years for Argentina (2020), 5.4 years for Ecuador (2020), and 3.8 years for Ukraine (2015). In contrast, in exchanges a decade earlier, newly restructured bonds did not begin to amortize for 10 years after issue, such as in Argentina (2005).

Other considerations for the timing of the first amortization include the repayment of IMF loans (which would likely need to be at least partially refinanced with market financing) and electoral cycles. For example, in Ecuador the first amortization was scheduled to happen in 2026 because investors were concerned that a market-unfriendly president could be elected for the 2021-2025 term.

Other costs of default: Growth and poverty

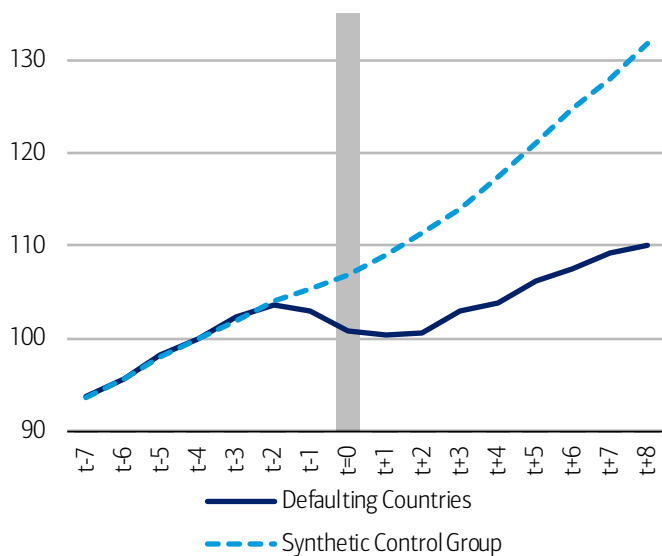
In addition to being locked out of primary external markets for several years, sovereign defaults often have significant negative repercussions on growth and other social indicators.

A 2022 World Bank working paper (*The Social Costs of Sovereign Defaults*) quantified the costs of sovereign defaults by employing a synthetic control group technique to construct a theoretical counterfactual for the defaulting country. The authors concluded that sovereign defaults have resulted on average in a cumulative 8 percentage point decline in GDP per capita over three years compared to the synthetic counterfactual (Exhibit 11). The gap is even larger when considering the divergence that happens in the years prior to the default.



Exhibit 11: Sovereign defaults associated with cumulative 8pp decline in GDP per capita in the first 3 years following the default, with additional loss prior to the default

GDP per capita, comparison between defaulting countries and synthetic control group.

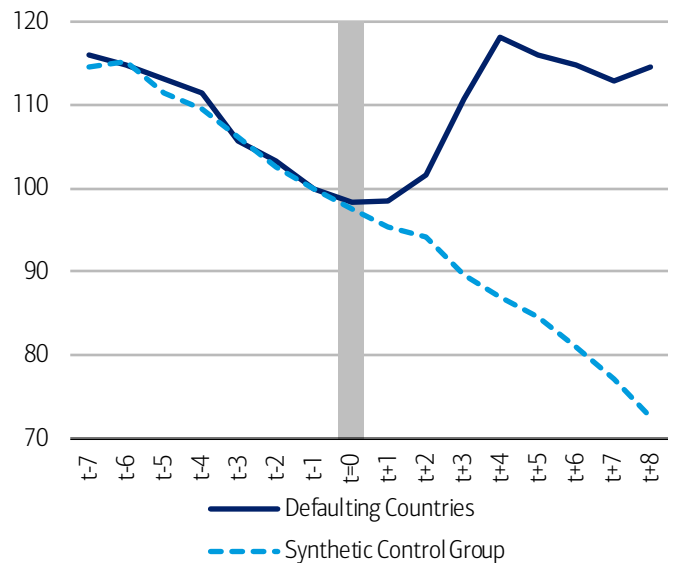


Source: Farah-Yacoub, Juan P.; Graf von Luckner, Clemens; Ramalho, Rita; Reinhart, Carmen. 2022. The Social Costs of Sovereign Default. Policy Research Working Papers,10157. World Bank, Washington, DC.

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Exhibit 12: Sovereign defaults are associated with large increases in poverty rates shortly after a default

Poverty (indexed to 100 at t=0), comparison between defaulting countries and synthetic control group.



Source: Farah-Yacoub, Juan P.; Graf von Luckner, Clemens; Ramalho, Rita; Reinhart, Carmen. 2022. The Social Costs of Sovereign Default. Policy Research Working Papers,10157. World Bank, Washington, DC.

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In addition, sovereign defaults are associated with significant and persistent increases in poverty rates and deteriorations in other social indicators, such as food availability, electricity consumption, and child mortality (Exhibit 12).

Exchange bonds: What type of new bond?

Amortizing bonds with step-up coupons are typical

The bonds offered in a debt exchange typically share two features:

- Coupon rates that step-up over time so that interest expense increases gradually.
- Sinkers (amortizing bonds) to reduce rollover risks (an alternative is for investors to receive a package of bullet bonds, such as happened in Ukraine (2015)).

Argentina 2005: Choice of “Par” or “Discount” bond

Bondholders were offered a choice between a low-coupon Par bond (exchangeable for 100% of the value of the investor’s claim) and a high-coupon Discount bond (exchangeable for 33.7% of the value of the investor’s claim, i.e. a 66.3% haircut). The notional of Par bonds issued as part of the exchange was capped and depended on what percentage of bondholders participated in the exchange.

Both bonds were sinkers (amortizations started in 2024 for Discounts and 2029 for Pars) and had step-up coupons (during the early years, a portion of the Discount’s coupon was paid in kind by capitalizing the interest).

In addition, GDP warrants were attached to the bonds as a recovery value instrument. One unit of GDP warrant was granted per eligible unit of claim tendered. As a result, each Par bond had attached to it 1 unit of the GDP warrant and each Discount bond had attached to it 2.97 units of the GDP warrant (i.e. $1/[0.337 \text{ exchange ratio}] = 2.97$).

Pars initially traded at prices in the \$30s and Discounts initially traded with prices in the \$80s in April 2005 (both prices inclusive of GDP warrants).



Ukraine 2015: Package of bullet bonds with fixed coupons

Ukraine's 2015 restructuring offered bondholders a package of nine bullet bonds with fixed coupons (7.75% compared to 7.2% average on the old bonds). Except for short-end bond holders (see next section), all bondholders received ratable allocations of a strip of new bonds. There was a four-year maturity extension and bonds matured from 2019 to 2027. Principal claims were subject to a 20% haircut (for which investors received a GDP warrant) and past due interest claims were compensated via capitalization (higher face value for the strip of bonds).

Argentina and Ecuador 2020: Step-up coupon sinkers

Bondholders were offered similar new instruments in both of the restructurings of Argentina and Ecuador (for details, see our September 2020 analysis on Argentina and July 2020 analysis on Ecuador). In Argentina, principal haircuts were either 0% or 3% (depending on original bond documentation, see next section) and in Ecuador, principal haircuts were 8.9%.

For their principal claims, Argentina and Ecuador bondholders were offered amortizing bonds with coupons that stepped up over time. Each new bond had a different coupon step-up schedule. In Ecuador's case, short-end bonds stepped up the fastest to the terminal coupon rate, while in Argentina the step-up schedule varied more significantly across the bonds.

The first amortizations for the new bonds were in 5.4 or 3.8 years for Argentina and Ecuador, respectively. For Argentina, the amortization rates varied across the bonds and the amortization periods overlapped. In Ecuador, all of the bonds all amortized over 5 years and the amortization periods were sequential and non-overlapping.

For their claims of accrued or past due interest, both countries offered bondholders amortizing bonds with a 1% fixed coupon in Argentina or zero coupon in Ecuador. In Ecuador's case, the accrued interest was also subject to a haircut, which was larger than the principal haircut.

Exhibit 13: Investors are typically offered amortizing step-up bonds in debt restructurings, though investors received bullet bonds in Ukraine (2015)

Summary of bond terms offered in debt restructurings

	Ukraine (2015)	Argentina (2020)	Ecuador (2020)
New Bonds Offered for Principal Claim	Bullet Bonds and GDP Warrant	Amortizing Bonds with Step-Up Coupons	Amortizing Bonds with Step-Up Coupons
New Bonds Offered for Interest Claim	N/A (Interest Capitalized)	Amortizing Bond with Fixed Coupon	Amortizing Bond with Zero Coupon
Principal Haircut	20%	0% or 3%	8.9%
Accrued Interest Haircut	0%	0%	14%
Coupon Type	Fixed	Step-Up	Step-Up
Initial Coupon Rates*	7.75%	0.125%	0.50%
Terminal Coupon Rates*	7.75%	1.75% to 5.00%	6.90%
First Amortization	2019 (in 3.8yrs)	2024 (in 3.8yrs)	2026 (in 5.4yrs)
Last Amortization	2027 (in 11.8yrs)	2046 (in 25.9yrs)	2040 (in 19.9yrs)

Source: BofA Global Research. *Note: Coupon rates does not include bonds offered for past due interest (PDI).



What determines your new bond and relative recovery rate?

Bonds grouped by original maturity and documentation

In recent major restructurings (Argentina 2020, Ecuador 2020, Ukraine 2015), defaulted bonds were grouped together and offered different packages of new bonds. Defaulted bonds were generally grouped by original maturity and by bond documentation (bonds with favorable collective action clause thresholds).

During these recent restructurings, a broad array of hedge funds and sophisticated distressed investors targeted their bond holdings and sought bonds with advantageous documentation. These investors had a view such bonds would be provided with preferential treatment.

- **Argentina (2020):** New bonds were allocated according to their original indenture (2005 or 2016, with 2005 indenture bonds featuring favorable collective action clauses) and also grouped by their original maturity (short-end, belly, and long-end).
- **Ecuador (2020):** Short-end bonds (22s, 23s) and 24s (favorable documentation) received unique allocations of new bonds. All other bonds maturing after 2024 received the same allocation of new bonds for their principal claims.
- **Ukraine (2015):** Bonds maturing in 2015 (“priority bonds”) were allocated new bonds maturing exclusively in 2019. All other bonds were given the same allocation of new bonds maturing from 2019 to 2027.

Recovery rate driven by documentation and maturity and not coupon

The most important determinants of relative recovery value on the principal claim in these more recent restructurings has become bond documentation and original maturity and not the original coupon rate (high-coupon bonds did not receive any additional consideration on their principal claim to compensate for the loss of future higher coupons). However, the coupon rate and the payment date of the last coupon affected the claim of accrued and past due interest (PDI).

Preferential treatments for bonds in restructurings?

Higher recovery for short-end bonds or stronger documentation

There is a strong precedent in the last decade for short-end bonds and bonds with stronger documentation (lower thresholds for collective action clauses) to receive preferential treatment via bonds with better cash flows and thus higher recovery values. The first exchange that gave preferential treatment was in 2015 (Ukraine). As is often the case, once there is a precedent for a preferential treatment, investors may come to expect it again. As a result, investors may be willing to pay more for short-end defaulted bonds.

In this section, we compare the pre-exchange and post-exchange recovery rates on the *principal claims* for bonds in the 2020 restructurings of Argentina and Ecuador and compare their relative compensation. To avoid potential distortions, we calculate the pricing one week prior to the debt exchange deadline (pre-exchange) and one week after the new bonds began to trade (post-exchange). Recall that bondholders were additionally compensated for their claims of past due and accrued interest and received PDI bonds for those claims.



Argentina 2020

Argentina's exchange offered a premium for short-end bonds (7% pre-exchange and 9% post-exchange vs. belly bonds on average) while long-end bonds received lower recoveries rates (discounts of 5% pre-exchange and 4% post-exchange on average) (Exhibit 14).

Note that there was a procedure to prioritize the allocation of new short-end bonds (new 30s and new 35s) and that those shorter bonds were subject to an issuance cap. As a result, tendering investors did not know exactly which bonds they would receive in the exchange.

Bonds with older 2005 indentures (with higher CAC thresholds) were provided with preferential treatment compared to bonds with newer 2016 indentures (with lower CAC thresholds). The high-coupon Discount bonds received the highest premium (15% pre-exchange and 13% post-exchange vs. the belly bond average). Low-coupon Par bonds received a much more modest premium (1% pre-exchange and 0% post-exchange vs. the belly bond average).

Note that 2016 indenture bonds were subject to a 3% principal haircut while 2005 indenture bonds were not subject to any principal haircut.

For additional details on the calculations, see the Appendix.

Exhibit 14: Argentina 2020 - Debt exchange offered a premium for short-end bonds and bonds with older indentures (Discos and Pars)

Comparison of pre-exchange and post-exchange recovery rates for principal claims

	Pre-Exchange		Post-Exchange	
	Recovery on Principal Claim	% Difference vs. Belly (2016 Indenture)	Recovery on Principal Claim	% Difference vs. Belly (2016 Indenture)
Short-End Average (21, 22, 23)	\$45.7	7%	\$48.1	9%
Belly Average (26, 27, 28N, 28, 36)	\$42.7	0%	\$44.0	0%
Long-End Average (46,48,17)	\$40.5	-5%	\$42.0	-4%
Discos 33	\$49.1	15%	\$49.8	13%
Pars 38	\$43.2	1%	\$44.0	0%

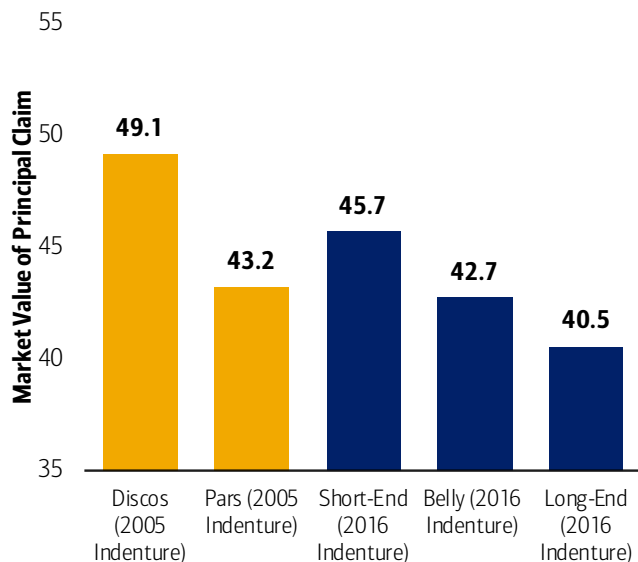
Source: BofA Global Research, Bloomberg.

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Exhibit 15: Argentina 2020 – Prior to debt exchange, investors priced in a 7% premium for short-end bonds and 15% premium for Discos

Pre-exchange recovery rates for principal claims (1 week prior to debt exchange expiration)

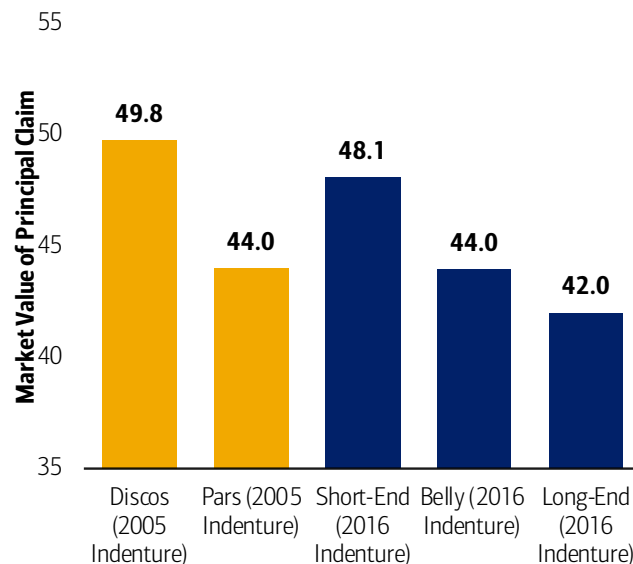


Source: BofA Global Research, Bloomberg.

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Exhibit 16: Argentina 2020 – After the debt exchange, implied market premium of 9% for short-end bonds and 13% for Discos

Post-exchange recovery rates for principal claims (1 week after new bonds traded)



Source: BofA Global Research, Bloomberg.

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Ecuador 2020

In Ecuador's exchange, tendering bondholders were offered pre-determined allocations of new bonds. 22s, 23s, and 24s were offered special allocations, with slightly higher weights for more valuable bonds, while bonds maturing after 2024 were all offered the same allocation of new bonds. Note that 24s had older documentation and more favorable collective action clauses (with higher thresholds and without aggregated voting across multiple series).

Prior to the exchange, investors priced in a larger premium for the prioritized bonds than was realized after the exchange closed and the new bonds began to trade. Investors priced in a premium of 5% for 22s pre-exchange, but this declined to 3% post-exchange. Investors priced in a premium of 5% for 23s pre-exchange, but this declined to 1% post-exchange (Exhibit 17). Finally, investors priced in a premium of 10% for 24s pre-exchange, but this declined to 3% post-exchange.

For additional details on the calculations, see the Appendix.

Exhibit 17: Ecuador 2020 - Debt exchange offered a premium for short-end bonds and 24s, which had better collective action clauses

Comparison of pre-exchange and post-exchange recovery rates for principal claims

	Pre-Exchange		Post-Exchange	
	Recovery on Principal Claim	% Difference vs. Belly & Long-End	Recovery on Principal Claim	% Difference vs. Belly & Long-End
Ecu22	\$51.2	5%	\$58.9	3%
Ecu23	\$51.2	5%	\$57.7	1%
Ecu24	\$53.5	10%	\$58.9	3%
Other bonds	\$48.6	0%	\$57.0	0%

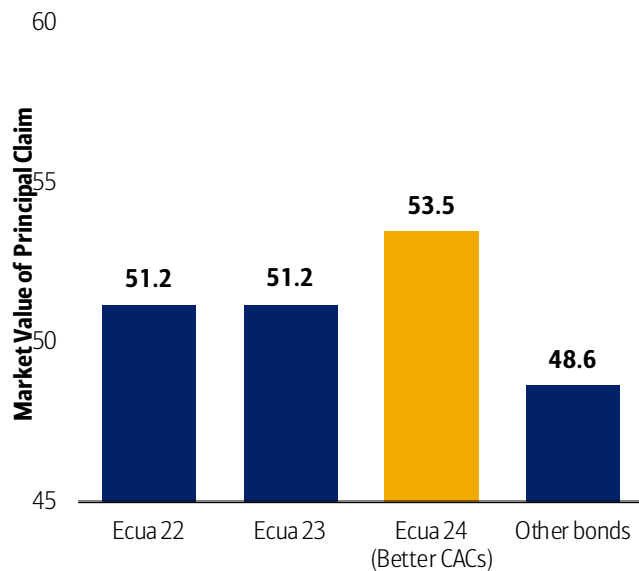
Source: BofA Global Research, Bloomberg.

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Exhibit 18: Ecuador 2020 - Prior to debt exchange, investors priced in a 5% premium for short-end bonds and 10% premium for 24s

Pre-exchange recovery rates for principal claims (1 week prior to debt exchange expiration)

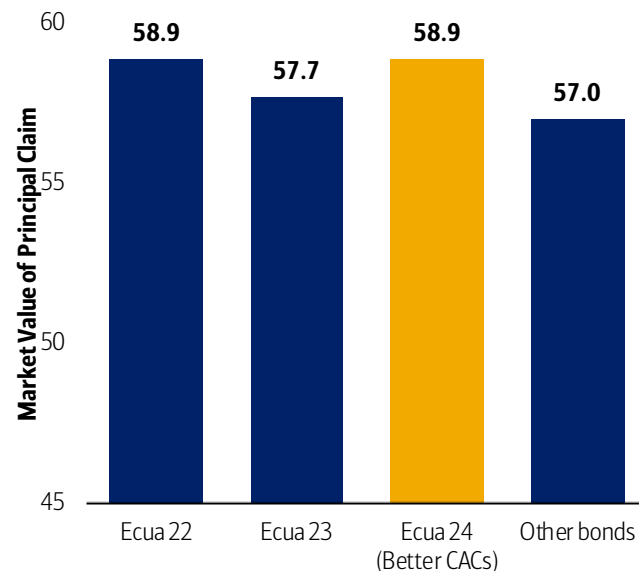


Source: BofA Global Research, Bloomberg.

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Exhibit 19: Ecuador 2020 – After the debt exchange, implied market premium of 3% for 22s and 24s and 1% for 23s

Post-exchange recovery rates for principal claims (1 week after new bonds traded)



Source: BofA Global Research, Bloomberg.

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IMF policy: Neutral on inter-creditor equity

The IMF's policy is to remain neutral on issues of inter-creditor equity. Typically, the IMF's role is to request a certain level of total debt relief to ensure debt sustainability. The government retains discretion on how to meet the debt relief target.

But there is a limit: Debt relief is a zero-sum game

Debt relief is a zero-sum game so there is a limit to how much preferential treatment some bondholders could receive at the expense of the other bondholders. Typically, bonds that could be subject to preferential treatment trade at higher prices after a default. Some investors could have concentrated positions in such bonds and seek validation of that price premium. However, too much preferential treatment for some bonds could jeopardize support for the entire deal.

Past due interest: How is it treated?**Mixed precedents for treatment of accrued interest**

Recent precedents for the treatment of accrued interest are mixed. Accrued interest was given a relatively favorable treatment in the Argentina 2020 and Ukraine 2015 restructurings, but unfavorable treatment in the Ecuador 2020 and Argentina 2005 restructurings. See a summary in Exhibit 20.

Good treatment: Argentina 2020, Ukraine 2015

In the Argentina 2020 and Ukraine 2015 restructurings, accrued interest claims were treated more favorably than principal claims.

Argentina bondholders were provided with an amortizing bond with a 1% fixed coupon to compensate for their accrued interest claim. The bond provided to compensate for past due and accrued interest (29s) traded at a higher price than the bonds provided for principal claims and the interest claim was not subject to a haircut (whereas principal was subject to a 0% or 3% haircut, depending on the original bond).



Ukraine bondholders received a package of bonds to compensate for their total claims of both principal and interest. Principal claims were subject to a 20% haircut, substituting a GDP warrant for the 20% principal haircut, while accrued interest claims were not subject to a haircut.

Bad treatment: Ecuador 2020

Ecuador's treatment of PDI in the 2020 restructuring was notably inferior compared to its treatment of principal. Accrued interest claims were subject to a larger haircut than principal claims (14% vs. 8.9%) and interest claims were paid with the bond that had the lowest market price (30s zero-coupon).

Ugly treatment: Argentina 2005

The treatment of PDI in Argentina's 2005 restructuring was very unfavorable to bondholders. The value of the bondholder claim recognized in the 2005 exchange was equal to (1) outstanding principal amount as of December 31, 2001, plus (2) any accrued but unpaid interest up to but excluding December 31, 2001.

Past due interest accrued from December 31, 2001 onwards was not recognized as a claim. However, interest for the new exchange bonds began accruing at the new much lower coupon rate from December 31, 2003, prior to the settlement of the exchange bonds. Interest due in cash prior to the settlement date of the exchange bonds was paid in cash on the settlement date.

Recall that the 2005 exchange offered by President Cristina Kirchner was not considered market-friendly and had very limited negotiation. At the time, Congress also passed the "lock law" to communicate to bondholders that this would be the only opportunity to exchange their defaulted debt.

Exhibit 20: Treatment of past due and accrued interest - Recent precedents are mixed

How PDI claims were addressed in prominent restructurings (ranked from best to worst treatment)

Country	Year	PDI claim fully recognized?	Treatment of PDI claim vs. principal claim	Instrument to pay compensation
Ukraine	2015	Yes	Better	Same bond as principal
Argentina	2020	Yes	Better	PDI bond
Ecuador	2020	Yes	Worse	PDI bond
Argentina	2005	No	Worse	Cash

Source: BofA Global Research.

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Implications for unresolved defaults

Large PDI claims could face large haircuts

Defaults that are unresolved for a long time can result in large claims for past due interest (and would have for Argentina in 2005, with very high coupon debt). High coupon bonds in particular could accumulate significantly larger past due interest claims compared to low coupon bonds.

For example, Venezuela, which defaulted in November 2017, has accumulated a substantial past due interest claim of around \$25bn on about \$57bn of external bonds (which includes both the sovereign bonds and PDVSA). PDI is accruing at a pace of about \$5bn per year. Lebanon, which defaulted in 2020, has about \$4.7bn in past due interest on \$27bn of external bonds. Zambia, which defaulted in 2020, has \$300mn of past-due interest (PDI) outstanding on \$3bn of Eurobonds (for more details, see Zambia Viewpoint: Not so friendly debt restructuring proposals).

The disparity of treatment for past due interest shows that those potentially large claims could be subject to significant effective haircuts, reducing the appeal of defaulted high-coupon bonds.



In some cases defaults remain outstanding due to lack of political engagement (as seen in Lebanon) or lack of creditor support for the proposed restructuring. In addition, sanctions could prevent creditors from negotiating (as seen in Venezuela, Russia).

Collective action clauses: How do they work and how do they affect valuations?

CACs allow bond amendments without unanimity

Since there is no bankruptcy court for sovereign issuers, collective action clauses (CACs) allow bondholders to provide debt relief by agreeing to modify the material terms of the bonds. Relief measures include coupon reductions, maturity extensions, and principal reductions.

CACs define how many bondholders (in terms of percent of holdings) must consent to the amendments. If the vote exceeds the threshold, then the changes apply to all bondholders, even those that did not consent to the amendments. In complex restructurings, bondholders typically vote to modify their old bonds and then tender them for new bonds.

CACs can affect market pricing during times of distress

CACs have evolved over time to reduce the rights of holdout creditors and make it easier to approve debt relief. As a result, some bond series issued by distressed sovereigns may trade at a premium if they have older CACs or CACs with lower voting thresholds. Investors might price in favorable treatment due to lower CAC thresholds, as was observed in the 2020 restructurings of Argentina and Ecuador.

CACs were introduced to deal with holdout creditors

CACs were introduced to deal with holdout creditors, who did not accept debt restructurings and litigated for payment under the original bond terms. Without CACs, unanimous consent may have been required to amend the terms, which is nearly impossible in practical terms given some bondholders may not respond to consent solicitations. CACs have long been present in bonds sold under UK law. Under New York law, these clauses began to be included ever since Mexico introduced them in 2003. Most sovereign external debt is governed by New York law.

Amendments to financial terms require higher thresholds

Different thresholds usually apply for changes to financial terms (such as payment dates and amounts) compared to non-financial terms, with higher thresholds needed for financial terms. The typical structure allows 75-85% of bondholders to amend a bond's financial terms, as long as no more than 10% of the bondholders object.

Non-financial terms might be amended with the support of just 66 2/3% of the bondholders. Certain provisions that relate to the ability of creditors to sue to collect on their bonds cannot be amended at all (though some can be weakened, see "exit consents" discussion in next section).

First generation CACs: Each bond series voted individually

CACs initially applied to each bond series individually. However, these single-series CACs (sometimes called "first generation" or regular CACs) were thought to be insufficient to prevent a small number of bondholders from purchasing enough bonds to reach a voting block that could obstruct the entire debt restructuring process in one or more bond series.

Second generation CACs: Aggregated voting across multiple series

By 2014, most sovereign bonds additionally incorporated aggregated CACs (sometimes called "second generation" or enhanced CACs) (Exhibit 21). An aggregated CAC allows

bondholders to vote in aggregate, instead of voting individually series-by-series, on a proposal applied to multiple series of bonds¹.

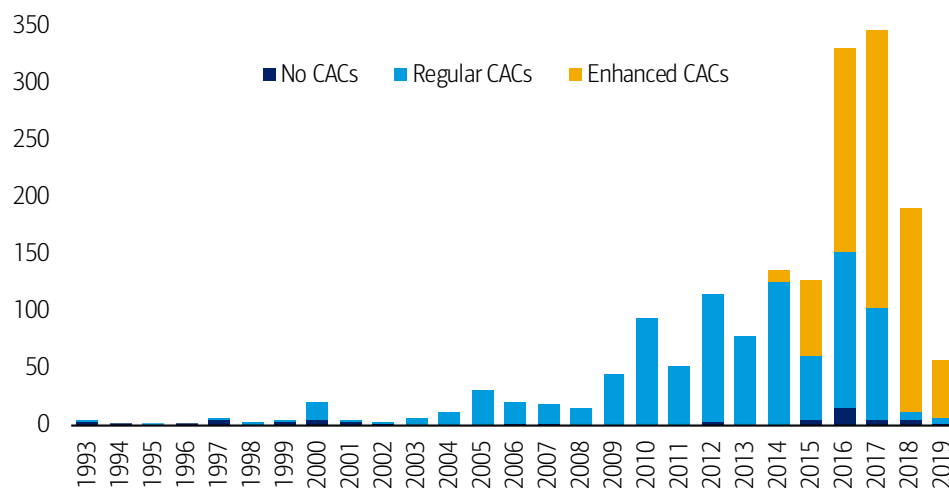
Aggregated CACs do not guarantee that there will not be any holdouts, but they make obtaining a blocking share much more difficult. It is more difficult to obtain a blocking share with aggregated CACs compared to single-series CACs because a larger amount of bonds must be purchased (the holdouts must purchase bonds across all bond series, not just one bond series).

There are two types of aggregated CACs:

- **Double-Limb CACs:** The vote must satisfy two voting thresholds (hence, “double” limb). Typically, the vote succeeds if there is consent from holders of 66 2/3% of the aggregate amount of all bonds and 50% of the amount of each individual series.
- **Single-Limb CACs:** The vote must satisfy one voting threshold (hence, “single” limb). Typically, the vote succeeds if there is consent from holders of 75% of the aggregate amount of all bonds provided that the offer is “uniformly applicable” (generally understood to mean that the same instrument is offered).

Exhibit 21: Enhanced CACs with aggregated voting were initially incorporated in sovereign foreign law debt in 2014. Prior to that, regular CACs with single-series voting became more common after 2003.

Outstanding stock by issue year (\$bn)



Source: International Monetary Fund, “Do Enhanced Collective Action Clauses Affect Sovereign Borrowing Costs?” By Kay Chung and Michael G. Papaioannou. Working paper 20/162 (2020). Note: CACs were common in English law bonds before 2003, but became common in New York law bonds starting in 2003.

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Argentina and Ecuador used double-limb CACs in 2020

First test of the effectiveness of CACs

Argentina and Ecuador’s restructurings in 2020 were the first significant tests of the effectiveness of CACs. As hoped, the CACs were indeed essential and effective in reducing holdouts in these two restructurings.

Both Argentina and Ecuador used double-limb aggregation collective action clauses (CACs) to restructure their bonds (except for Ecuador 24s, which was an older issue and thus had older CACs that required only a single-series vote).

¹ Sample standard language from ICMA can be found here:

<https://www.icmagroup.org/assets/documents/Resources/ICMA-Standard-CACs-Pari-Passu-and-Creditor-Engagement-Provisions---May-2015.pdf>



Double-limb CACs require the exchange to receive a minimum level of support from each bond series and minimum level of aggregated support across all affected bonds. Single-limb aggregation CACs (which only require a minimum level of aggregated support across all affected bonds) were available for some bonds, but this method was ultimately not employed.

CACs successfully addressed holdout risks

Compared to historical restructurings, holdout investors were not a significant concern in the 2020 restructurings implemented by Argentina and Ecuador.

- **Ecuador** obtained a 98% consent rate, which resulted in 100% of bonds being restructured.
- **Argentina** obtained a 94% consent rate, which resulted in 99% of bonds being restructured. Argentina subsequently announced that it would continue to pay the unmodified bonds under their original terms. The unmodified bonds were mostly small issue EUR Par bonds, issued during the previous restructuring, and which already featured low coupons and long maturities.

Exchange mechanism: “Carrots or sticks” to obtain bondholder consent?

Sovereigns usually provide incentives to bondholders that consent to debt relief

To incentivize bondholders to consent to the debt restructuring, sovereigns may provide consenting bondholders with benefits such as a cash payment (consent fee). In some recent cases, only bondholders that consented to the restructuring were given consideration for their past-due interest (PDI) claims.

But non-consenting bondholders can also be punished with “exit consents”

A more aggressive approach to obtain bondholder consent is the use of “exit consents.” In this case, consenting bondholders vote to modify the non-financial terms of the old bonds to make them less attractive to the holdouts. Examples of exit consents are changes to the waiver of immunity, submission to foreign jurisdiction, financial covenants, or listing requirements. Recall that the threshold for non-financial amendments are typically lower than the threshold for financial amendments.

Ecuador’s aggressive approach in 2020

The restructuring mechanism used by Ecuador in 2020 was considered by many investors to be very aggressive. The consent solicitation featured a simultaneous request to amend the old bonds and a tender offer to exchange those modified bonds for new bonds. However, only consenting bondholders received consideration for their past-due interest claim (PDI bond) and only consenting bondholders could participate in the tender.

Non-consenting bondholders received significantly lower recovery rate

Besides not receiving a consideration for interest, non-consenting bondholders would be unable to tender for new bonds and would instead have their original bond modified. The modified bond had a much lower net present value than the package of new bonds offered to consenting bondholders. At the time, we estimated that the penalty could total at least \$12 (see our report, Prisoner’s dilemma intensified by unusual CAC approach).

Mechanism created a prisoner’s dilemma that boosted participation

The exchange mechanism created a “prisoner’s dilemma” for bondholders that were dissatisfied with the offer or the government’s negotiating tactics, since voting against the offer could only succeed if a large proportion of bondholders also voted against the offer. If a bond holder voted against the restructuring and it passed anyway, the rejecting bondholder would receive a much lower recovery. In our view, the prisoner’s



dilemma likely encouraged high participation in the offer, but also triggered a more contentious relationship with some creditors.

Carrot or a stick depends on perspective

The design of the Ecuador's restructuring could be seen as creating very strong incentives (carrots) or improperly coercing minority creditors (sticks). Some investors viewed the mechanism's design as too aggressive, unilateral, and setting a bad precedent. At the same time, the government and tendering bondholders had a strong incentive to maximize participation and conclude the restructuring quickly.

Principal haircuts: Why do bondholders resist them?

No principal haircut does not guarantee high recovery

Bondholders are generally very resistant to accepting large principal haircuts, but they are more accepting of coupon reductions and maturity extensions. Yet this does not guarantee a high recovery rate. In fact, in net present value (NPV) terms, coupon reductions and maturity extensions can be equivalent to significant principal haircuts.

Why do investors avoid principal haircuts even though this does not guarantee a high recovery rate? We see at least two explanations for this behavior.

Explanation 1: Institutional constraints

The aversion to principal haircuts could be explained by the institutional incentives of asset managers. For example, maturity extensions and coupon reductions may be perceived as less severe by their clients, despite the significant loss in NPV terms.

Explanation 2: Investors prefer higher duration bonds

Another explanation is that some investors prefer a restructuring that produces higher duration bonds. Avoiding a haircut may not produce an immediately higher post-restructuring NPV, but dramatically extending the maturities instead produces higher duration bonds which could have more upside if the restructuring is very successful and exit yields subsequently decline. No haircuts would also preserve the investor's par claims on low price bonds, which could be desirable in case of a subsequent restructuring. Low price bonds could also limit the downside price risk. On the other hand, more duration would also increase downside risk if yields later increase.

For issuer, principal haircuts reduce financial vulnerability

In contrast to bondholders, sovereigns have an incentive to seek principal haircuts in restructurings. Although debt sustainability can be improved solely with coupon reductions and maturity extensions, principal haircuts reduce financial vulnerabilities due to rollover risks and the risks of higher interest rates on future debt issuance.

Indeed, a 2014 paper by Christoph Schröder² concluded that principal haircuts reduced the probability of serial defaults compared to the equivalent net-present value debt relief provided by maturity extensions or coupon reductions.

In theory, lower interest rates can offset higher debt stocks

In theory, debt sustainability can be improved without resorting to principal haircuts. A debt restructuring can improve debt sustainability—defined as the ability of the country to keep its debt/GDP ratio constant—by either reducing interest expense or by reducing the stock of debt with principal haircuts, so that its debt-stabilizing primary balance is easier to achieve. Lower interest rates can compensate for a relatively high stock of debt and lower debt stocks can compensate for relatively high levels of interest rates

² See *Haircut Size, Haircut Type and the Probability of Serial Sovereign Debt Restructurings*, Discussion Paper No. 14-126, Centre for European Economic Research (ZEW).



(see our stylized example below).

But higher debt levels = higher vulnerability for issuer

But higher debt levels introduce at least three important vulnerabilities:

- **Interest rate risk:** A restructuring can reduce interest expense by producing low coupon bonds. However, policymakers cannot control the interest rates that investors will demand in the future when it is time to refinance maturing debt. A stock of debt which may be sustainable today with low interest rates may not be sustainable with higher interest rates in the future.
- **Rollover risks:** High debt/GDP ratios are usually associated with higher rollover needs, introducing future vulnerabilities if there is a sudden stop in the willingness of investors to rollover debt.
- **Exchange rate risks:** If a significant portion of a country's debt is denominated in a foreign currency, then that country is vulnerable to a jump in its debt ratio due to a real depreciation of the domestic currency.

Compromise: No principal haircuts can require longer maturities

If debt relief comes primarily from lower interest rates rather than principal reductions, then amortizations may need to be delayed for longer. Longer maturities would give the country a longer time to demonstrate an improved track record that reduces the interest rate demanded by investors on newly issued debt.

Stylized example of improving debt sustainability

We illustrate the argument that lower interest rates can offset a high debt stock with a simple exercise shown in Exhibit 22.

Assume that a country is experiencing a debt crisis and that its government wants to restructure its debt so that is easier to achieve the fiscal surplus that stabilizes its debt/GDP ratio (known as the debt-stabilizing primary balance).

Currently, a 3.1% primary fiscal surplus is required to stabilize the country's debt ratio (the country has a debt ratio of 80%, growth of 2.0% per year, real effective interest rates of 6%). The government would like to restructure its debt so that the debt-stabilizing primary surplus falls to an easier target of 1.5% of GDP.

This goal could be accomplished in two ways (Exhibit 22):

- **Option 1:** Reduce interest rates from 6% to 3.9%, but keep principal amounts unchanged.
- **Option 2:** Haircut principal so that the debt ratio falls from 80% to 38% (52% haircut), but keep interest rates unchanged.

Exhibit 22: Two ways to reduce a country's debt-stabilizing primary balance: 3.1% -> 1.5%

Option 1 reduces interest rates and Option 2 applies a principal haircut

Macroeconomic variables	Starting point	Restructuring Alternatives	
		(1) No principal haircut, but with lower rates	(2) Principal haircut, unchanged rates
Real interest rate	6%	drop to 3.9%	6%
Real GDP growth rate	2%	2%	2%
Debt/GDP ratio	80%	80%	drop to 38%
Debt-stabilizing primary balance*	3.10%	drop to 1.5%	drop to 1.5%

Source: BofA Global Research. *Debt-stabilizing primary balance (PB) is calculated from the following simplified formula, using the variables real interest rates (r), real GDP growth (g), and debt/GDP (D): $PB = [(r-g)/(1+g)] \cdot D$.

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Performance of distressed bonds?

In this section, we track the price performance of distressed bonds that recently defaulted or pre-emptively restructured. We analyze the bonds of Argentina and Ecuador, starting with the first month in which spreads exceeded 1000bp (typical marker of distress), through the restructuring process, and in the months since.

Argentina: Restructuring did not regain market confidence

Bonds bottomed in the mid-\$20s during the pandemic

Argentina's 28Ns traded in the \$70s prior to the August 2019 primary election and sold off significantly after the result signaled a political shift in the upcoming presidential election (Exhibit 23). Bonds then traded in a high-\$30s to high-\$40s range because investors anticipated a default during the next administration.

When the pandemic arrived in March 2020, bonds bottomed in the mid-\$20s. The actual default happened in May, after the grace period expired on an April coupon payment. Bonds eventually recovered to the mid-\$40s prior to the debt exchange in August 2020.

Implied recovery rate traded below pandemic lows in July 2022

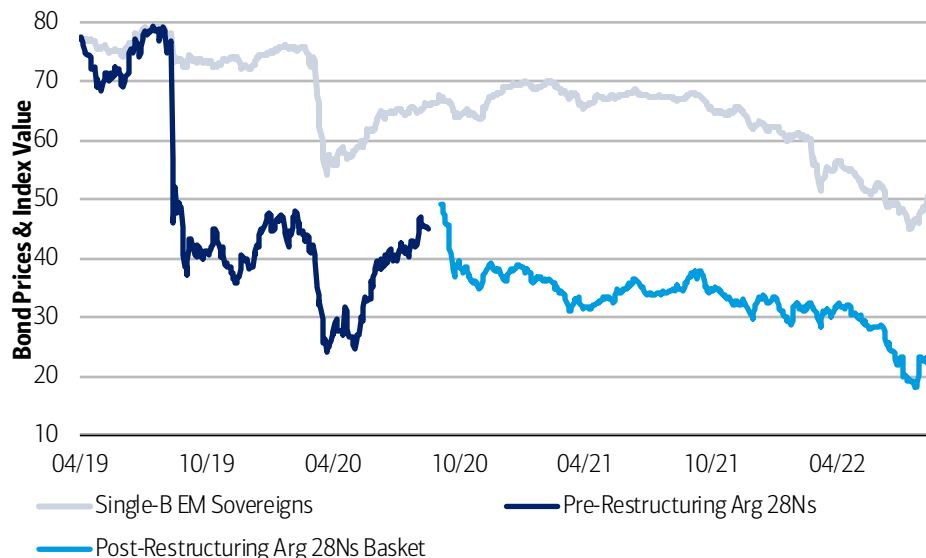
Exhibit 23 shows the implied price performance of an investor that exchanged 28Ns for a package of new bonds (new 30s, new 35s, and PDI bond). Once the new bonds began trading in September 2020, the implied recovery was in the high-\$40s.

However, enthusiasm was short-lived and the recovery rate then traded down to a \$30s to \$40s range. The global backdrop was generally not supportive, with B-rated sovereigns generally declining from September 2021 onwards. The recovery rate fell below the \$20 mark following the resignation of Economy Minister Guzman in July 2022, before recovering after the nomination of Minister Massa.



Exhibit 23: Argentina's bonds plummeted in 2019 on surprise election outcome, bottomed in the mid-\$20s during pandemic and recovered to mid-\$40s prior to the restructuring in August 2020. Post-restructuring, implied recovery traded below \$20 after resignation of Economy Minister in July 2022.

Bond prices and normalized price index of B-rated sovereigns (set to equal the starting bond price)



Source: BofA Global Research, Bloomberg, ICE Data Indices LLC

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Summary of Argentina's debt restructuring process

Sudden stop in '18, political shift in '19, and pandemic in '20 prior to default

Argentina's economy faced recurrent financial shocks since 2018 ahead of its ultimate debt restructuring in 2020. The crisis began in April 2018 due to capital flight. The peso depreciated significantly after global investors became concerned about the riskiness of financing EM countries with wide current account deficits such as Argentina.

The gradual fiscal adjustment policy of the Macri administration, financed with capital inflows from foreigners, became untenable and the government sought an IMF program to finance its deficit and capital outflows. It was one of the largest loans ever given by the IMF in such a short time period.

Another sharper financial shock occurred after the surprising primary elections in August 2019, which investors interpreted as signaling a high probability that Alberto Fernandez would be elected president. In response to the crisis, the Macri administration tightened capital controls and re-profiled domestic law debt. Fernandez was elected in October 2019 and was inaugurated in December 2019.

The Fernandez administration signaled its intention to restructure Argentina's debt, but initially continued to pay external debt coupons. With the COVID-19 pandemic spreading worldwide, the last coupon paid on external debt was on 31 March. Coupon payments due in April were not paid and their grace period expired in May, resulting in a default and triggering CDS.

Restructuring succeeded in its third offer, but without IMF program

The government launched two unsuccessful invitations to exchange \$65bn of bonds (in April and July) before a third invitation in August 2020 succeeded (99% of bonds were restructured).

Argentina lacked an IMF agreement that could have required structural reforms and a commitment by Argentina to greater fiscal discipline. It was an unusual and ultimately



unsuccessful strategy to restructure before an IMF agreement driven by a bondholder base that was too eager to restructure, take profits, and move on. The debt exchange failed to restore investor confidence and Argentina's bonds continued to trade at distressed prices after the restructuring.

In March 2021, Argentina entered into a new IMF program to refinance repayments from its 2018 program. In retrospect, this new IMF program did not restore investor confidence or provide investors with the spending oversight that might have improved sentiment. As of September 2022, bond prices in the \$20s suggest that investors assign a high probability of a second restructuring, despite relatively low debt service.

Ecuador: Optimism on Lasso disrupted by protests

Bonds bottomed in the low-\$20s during the pandemic

Ecuador's 30s traded in the low-\$20s during the early phase of the pandemic, as investors expected the shock from the pandemic and low oil prices would require a debt restructuring. Ecuador avoided a "hard default" and obtained consent to postpone payments while it negotiated on a debt restructuring, a new phenomenon since 2020 that provides the sovereign with more time to design a plan without a formal default. Bonds recovered into the low-\$50s ahead of the debt exchange in July 2020.

Election risks loomed, but Lasso's victory produced rally towards \$70s

Exhibit 24 shows the implied price performance of an investor that exchanged 30s for a package of new bonds (new 30s, new 35s, new 40s, and PDI bond). The implied recovery rate was in the low-\$60s immediately following the restructuring, but the recovery rate trended lower towards the low-\$40s ahead of the 2022 presidential election. Lasso's unexpected victory in April produced a large rally towards the \$70s, which was basically sustained for months despite a challenging global backdrop.

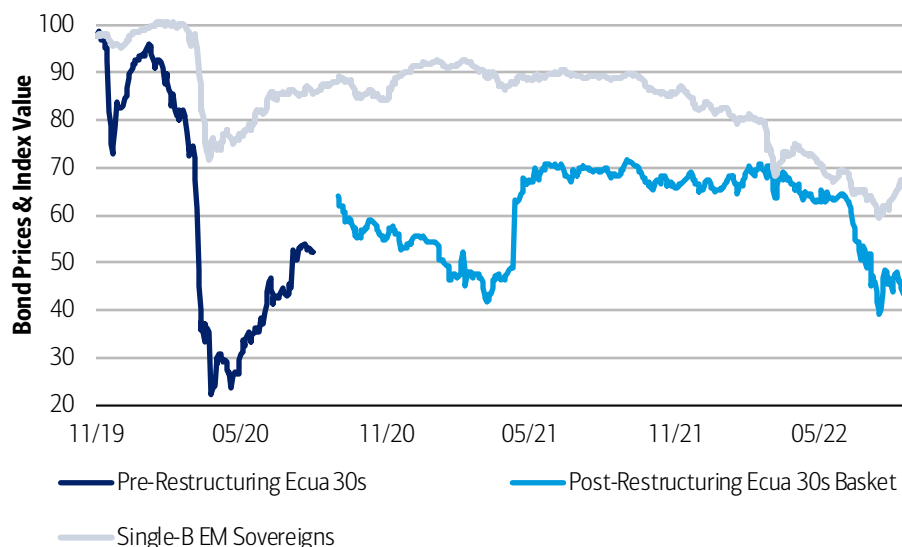
Protests in June-July 2022 led to sharp sell-off

Ecuador benefited from higher oil prices after the Russia-Ukraine conflict and it performed relatively well in a difficult global backdrop, with the recovery rate trending towards the low-\$60s. However, large social protests in June-July 2022 led to a sharp sell-off in bonds towards the low-\$40s once again.



Exhibit 24: Ecuador's bonds bottomed in the low-\$20s during the early pandemic days and recovered to low-\$50s prior to the restructuring in July 2020. Post-restructuring, bonds were weak into election, but rallied after Lasso's election in April 2021, yet social protests led to a sharp sell-off in June 2022.

Bond prices and normalized price index of B-rated sovereigns (set to equal the starting bond price)



Source: BofA Global Research, Bloomberg, ICE Data Indices LLC

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Summary of Ecuador's debt restructuring

Perfect storm of negative shocks in 2020

Ecuador initiated a restructuring of \$17.4bn of Eurobonds after its economy was hit by an exceptionally strong combination of negative shocks: large COVID-19 outbreak, low oil prices, sharp recession, and limited room to maneuver due to dollarization and tight liquidity.

The government announced that it would restructure its debts while negotiating with the IMF on a new program to replace the Extended Fund Facility (EFF) program that began in 2019. In April 2020, the government obtained consent from bondholders to defer coupon payments due in H1 until mid-August.

Quick negotiation with bondholders and IMF backing

After about a month of negotiations with bondholders, Ecuador announced in July 2020 an agreement in principle with major creditors and announced a bond exchange. Two investors filed suit in the US District Court for the Southern District of New York against Ecuador alleging securities fraud. But the court denied the request for an injunction and allowed the debt exchange to proceed.

In August 2020, the government announced that 98% of bondholders consented to the restructuring and that 100% of eligible bonds were restructured after applying collective action clauses (CACs). The debt exchange was effective in September 2020 once Ecuador reached a staff-level agreement on a new IMF program.

Credit Default Swaps (CDS)

CDS is an active trading tool during times of debt distress

When large sovereign issuers are in distress, CDS becomes an active trading tool with a deeper market than bonds. In addition, EM CDS is among the most actively traded of all CDS contracts, including the CDS of large US corporates and CDS attracts cross asset market participants more efficiently than bonds. However, only the larger countries have enough liquidity to have actively traded CDS contracts.

Although the 5 year CDS is the most liquid maturity for high-quality credits, investors of distressed sovereign credits often take views on the timing of the potential default. Thus, the short-dated CDS of distressed sovereigns (1-2 years) can trade much more actively. After bonds become distressed with very high yields and spreads approaching 1000bp, the market convention shifts to quoting CDS as an upfront price rather than as a spread (the quotation convention does not affect how the CDS contract works).

CDS prices ahead of default

For example, Argentina's 1-year CDS default protection rose from \$7 upfront in 2019 to \$68.5 upfront just before default. This is equivalent to a 1-year bond price dropping from \$93 to \$31.5.

CDS activity in distressed sovereigns

Investors may sell CDS if they think markets are pricing in too much distress, i.e., risk premiums are too high. For example, Argentina upfront 1y CDS, which rolls to a new contract every 6 months as it ages, was as high as \$75 and as low as \$55 in the 6 months before default.

Market participants use distressed CDS to gain credit exposure, take short credit views, take a view on potential timing of default with CDS curve trades, take a view on relative value (RV) of bonds compared to CDS or a view on the shape of the CDS curve.

CDS recovery values

Once the CDS is triggered, it may be physically settled (buyer of protection exchanges a bond for \$100, seller of protection receives a bond and pays \$100) or it may be cash-settled. If the contract is cash-settled, the settlement price is determined in a CDS

Exhibit 25: CDS recovery values since 2008 average \$37 (median \$32).

CDS auction prices

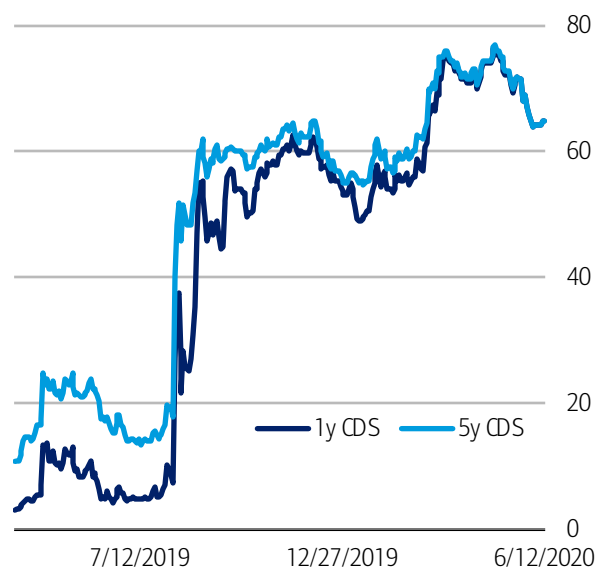
Date	Country	CDS Auction Price
Jan-09	Ecuador	31.375
Mar-12	Greece	21.500
Sep-14	Argentina	39.500
Oct-15	Ukraine	80.625
Dec-17	Venezuela	24.500
Apr-20	Lebanon	14.125
May-20	Ecuador	34.875
Jun-20	Argentina	31.500
Sep-22	Russia	56.125
	Average	37.1
	Median	31.5

Source: BofA Global Research, ISDA. Notes: First sovereign CDS auction was Ecuador in 2008. Russia's bonds were trading at substantially lower prices compared to the auction final price.

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Exhibit 26: Argentina's 1-year CDS default protection rose from \$7 upfront in 2019 to \$68.5 upfront just before default

Argentina CDS upfront prices



Source: BofA Global Research.

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auction. Although CDS recovery values determined in the auction are not the same as eventual recovery values for bondholders that participate in the debt exchange, CDS auction clearing prices can be instructive about market expectations at the time. That said, CDS auctions typically happen within a few weeks of default, when uncertainty is relatively high about the amount of debt relief that could be needed.

China's role in debt restructurings?

China has become single largest creditor to EMs

Since the early 2000s, China grew to become by far the largest single creditor to emerging market countries. There are some estimates that Chinese global development projects total close to \$900bn. China's Belt & Road initiative is about half that, with \$400bn of loans lent in less than 10 years to over 60 countries. China's lending has been more prominent in Asia and Africa³, though in Latin America it was a relevant creditor to oil-exporters Venezuela and Ecuador. China's new lending to EMs seems to have been significantly scaled back recently and several borrowers are facing debt distress.

China geopolitical influence and lack of transparency

China imposes unique conditions on debtor sovereigns, and there is concern that this could give Beijing undue influence over their economic and foreign policies. In general, China seems to seek preferred creditor status, similar to official lenders such as the IMF that are considered lenders of last resort. But China also tends to lend at higher commercial interest rates instead of low concessional interest rates like the other multilateral lenders. Typically, China lends through its state-owned banks, especially EXIM Bank and China Development Bank.

There are other concerns with Chinese bilateral debt:

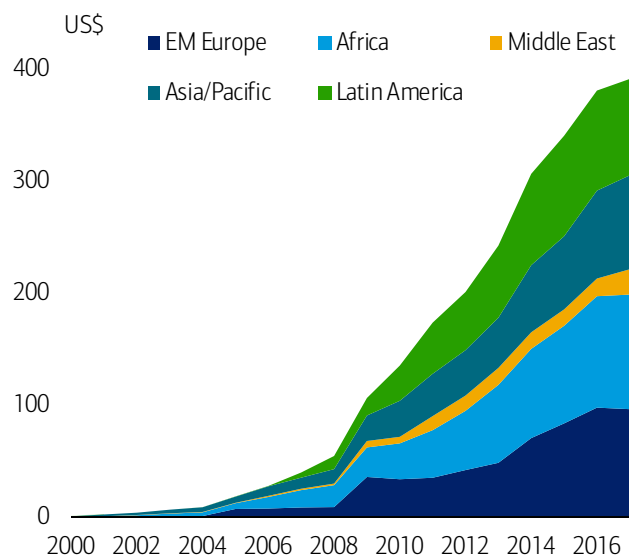
- There is virtually no transparency and most debtor countries are not allowed to disclose the terms in the Chinese documents (Exhibit 28).
- China has not been a part of the Paris Club, so it has historically negotiated independently of other countries.
- The loan terms and the restructuring terms are thought to be better for China, which generally does not take a haircut on the face value of the loans.
- Lack of transparency on Chinese debt can make it difficult for other creditors (IMF, Paris Club, private creditors) to perform a proper debt service analysis.

³ Boston University maintains a database of China's loans to Africa (<https://www.bu.edu/gdp/chinese-loans-to-africa-database/>).



Exhibit 27: Bilateral lending from China to EMs has risen sharply in the past 10 years, especially to African countries

Debt stock owed to China by year in \$bn



Source: Horn, Sebastian, Carmen M. Reinhart, and Christoph Trebesch. 2019. "China's Overseas Lending." NBER Working Paper No. 26050. BofA Global Research.

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Exhibit 28: Lack of transparency about China's lending to EMs is a significant concern

Use of confidentiality clauses in Chinese bilateral loan contracts



Source: Gelpert, A., Horn, S., Morris, S., Parks, B., & Trebesch, C. (2021). How China Lends: A Rare Look into 100 Debt Contracts with Foreign Governments. Peterson Institute for International Economics, Kiel Institute for the World Economy, Center for Global Development, and AidData at William & Mary.

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China increasingly involved in debt restructurings

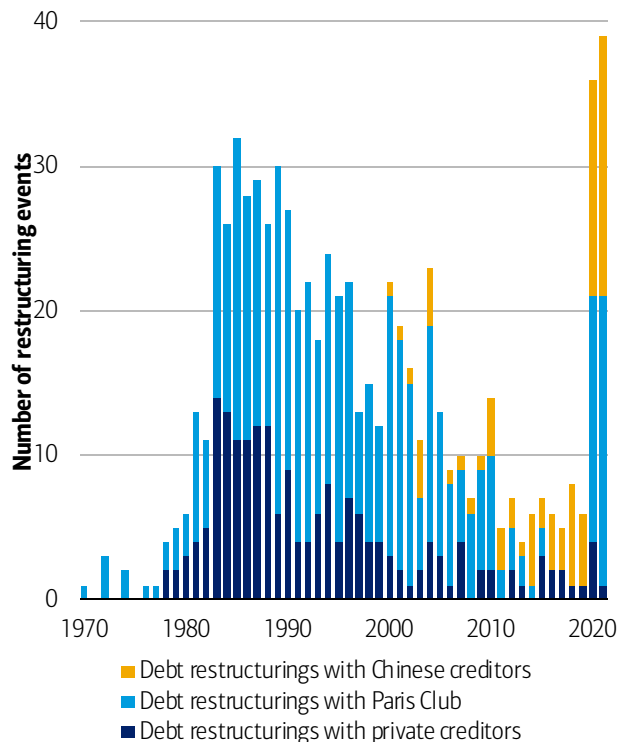
China has become increasingly involved in debt restructurings to distressed emerging market borrowers. There have been at least 84 credit events and distressed debt restructurings from 2000-2021 involving Chinese lenders, according to a 2022 paper by Horn, Reinhart, and Trebesch (*Hidden Defaults*) (Exhibit 29).

Those credit events include 30 debt payment suspensions under the G20's Debt Service Suspension Initiative (DSSI), a program announced in 2020 to address the impacts of the pandemic. Notably, China has generally avoided principal haircuts and has provided mostly reprofiling (Exhibit 30). Until the 2000s, the Paris Club and private creditors also tended to avoid principal haircuts, but over time they have become more common. The downside to China's concentration on reprofiling is that without principal reductions, distressed countries may fail to recover debt sustainability.



Exhibit 29: China increasingly involved in sovereign debt restructurings

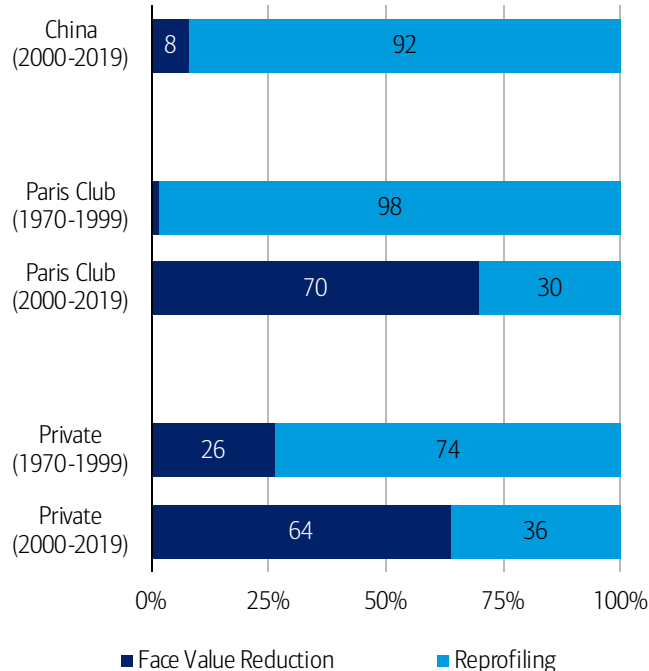
Number of restructuring events by creditor



Source: Horn, Sebastian, Carmen M. Reinhart, and Christoph Trebesch. 2022. Hidden Defaults. World Bank Policy Research Working Paper Series No. 9925. Asonuma, Tamon, and Christoph Trebesch. 2016. Sovereign Debt Restructurings: Preemptive or Post-Default? Journal of the European Economic Association, 14(1), 175-214. Asonuma, Tamon, Dirk Niepelt and Romain Ranciere. 2017. Sovereign Bond Prices, Haircuts and Maturity. IMF Working Paper No. 17/119. BofA GLOBAL RESEARCH

Exhibit 30: China has historically provided debt relief through reprofiling instead of face value reductions. Paris Club and private creditors have increasingly accepted face value reductions.

Type of debt relief provided by creditor



Source: Horn, Sebastian, Carmen M. Reinhart, and Christoph Trebesch. 2022. Hidden Defaults. World Bank Policy Research Working Paper Series No. 9925. Asonuma, Tamon, and Christoph Trebesch. 2016. Sovereign Debt Restructurings: Preemptive or Post-Default? Journal of the European Economic Association, 14(1), 175-214. Asonuma, Tamon, Dirk Niepelt and Romain Ranciere. 2017. Sovereign Bond Prices, Haircuts and Maturity. IMF Working Paper No. 17/119. BofA GLOBAL RESEARCH

Common Framework: Effort to collaborate with China

To deal with China’s growing influence as a bilateral lender, a Bretton Woods committee was formed and developed the Common Framework. This was an effort to enlist China to participate along with other nation’s creditors in restructuring and offering debt relief to the low income countries to help them restructure their debt and deal with insolvency and protracted liquidity problems exacerbated by the Covid pandemic.

China, a G20 member, agreed to the G20 endorsement of the Common Framework in 2020. But in practice, China has not yet agreed to become a full member of the Paris Club. Given how big China’s loans are, the Bretton Woods committee is making every effort for China to be a part of restructuring discussions.

On 13 November 2020, the G20 and Paris Club countries agreed to coordinate and cooperate on debt treatments for low-income countries. This agreement is designed for low-income countries in high risk of debt distress looking for ways to reduce the size of debt repayments through restructuring. The emphasis is on equal and comparable treatment of all creditors, including the private sector. Countries that participate do so voluntarily and are treated on a case-by-case basis. The Common Framework is tied to the IMF-World Bank debt-sustainability analysis and linked to funded programs.

Only three countries - Chad, Ethiopia, and Zambia - have formally sought debt restructuring under this framework. Although it has experienced some delays, Chad is ahead of the other two in the process. The thrust of the Common Framework is reductions in nominal debt service per annum, haircuts in net present value terms, where applicable, and maturity extensions.



Zambia: In April 2022, China made a major step in the negotiations on Zambia's \$30bn debt restructuring when it agreed to join Zambia's creditor committee (China holds about 20% of the debt). Progress was slow, but in late July 2022 China and other official creditors declared that they would negotiate some debt relief for the country. The declaration was well received by the IMF, noting that it facilitates a \$1.4bn program for Zambia. The government plans to start negotiations by end of 2022, and reach an agreement with creditors by then, likely becoming the first restructuring within the Common Framework.

The committee is co-chaired by China and France. China is the single largest bilateral lender to Zambia. This group of creditors includes the Chinese government - through state banks - China Eximbank, China Development Bank, Industrial and Commercial Bank of China (ICBC) - plus many other private Chinese banks. Consequently, China's participation has been important to reach agreement and move the process forward. China's role is vital for Zambia and any other SSA (Sub-Saharan African) countries with substantial Chinese debt exposure contemplating the common framework route: Ethiopia, for instance, has formally requested the common framework approach.

Sri Lanka: China has been heavily involved in Sri Lanka, a low income country. In April 2022, China agreed to discuss Sri Lankan debt after the country declared a moratorium on \$13bn of foreign currency bonds. Sri Lanka was facing one of the worst economic crises in decades with violence in the streets. As of shortly after the moratorium declaration, China was believed to be the largest bilateral creditor, with about \$3.5bn of the \$30bn total debt. China said that it wants to play a key role and agreed to discuss Sri Lankan debt, but it has not so far allowed Sri Lanka to tap a \$1.5bn credit line.

Ecuador: China's role in Ecuador's restructuring in 2020 provides some caution about the willingness of China to provide debt relief. Ecuador is a middle income country and not a Common Framework candidate. At the time of the default, about 10% of Ecuador's debt stock was composed of bilateral loans, mostly owed to China. During the restructuring process, China could be characterized as one of the least generous creditors. Multilaterals including the IMF provided fresh funds at concessional rates and private bondholders accepted significant debt relief on their bonds. In contrast, China primarily agreed to rollover maturing debt and did not accept lower interest rates.

Seizing central bank reserves?

Freezing of Russia's reserves opens debate about their potential uses

The freezing of Russia's international reserves held in the United States and in allied countries opened debate about whether those frozen reserves could eventually be used for humanitarian aid, reconstruction, or even payment to bondholders of Russia or Ukraine, as was an aspiration of numerous bondholders at the start of the Russian invasion in 2022.

As of now, the assets are frozen overseas but remain the property of Russia. Despite increasing calls to use reserves to compensate Ukraine for its damages or for military needs and humanitarian assistance, the situation seems unlikely to change soon, especially after comments by US Secretary of the Treasury Janet Yellen that this would be illegal. When deciding how to proceed with Russia's reserves, Western governments are likely to consider the implications of this precedent on the rule of law and on the incentives of other countries to hold their reserves in the West.

FSIA states that central bank reserves are immune from attachment

Central bank reserves are generally thought to be immune from attachment by creditors due to an exemption in the Foreign Sovereign Immunities Act (FSIA). This exemption was reaffirmed in a 2011 court decision (*NML Capital, Ltd. v. Banco Central de la República Argentina*), which ruled that the plaintiffs, which were creditors of Argentina, could not seize Argentina's central bank reserves held in New York.



The plaintiffs in that case argued that the central bank's exemption did not apply because the central bank was the "alter ego" of the government. However, the court ruled in favor of Argentina and the reserves could not be attached.

Afghanistan's reserves: Precedent to watch?

A potentially important precedent was the Biden administration's decision in February 2022 to allocate the frozen reserves of the central bank of Afghanistan towards humanitarian aid and to the payment of a court judgment in favor of the families of victims from the 9/11 terrorist attacks. This is significant because the 9/11 families are essentially private creditors holding a court judgment against the country. The final outcome of these funds is currently pending.

Involuntary defaults: Sanctions and lawsuits

Sanctions can stop payments and prevent a restructuring

Sanctions can have multiple consequences on the ability of sovereigns to service their external debt. As happened to Russia in 2022, sanctions can stop payments from being processed, which can lead to a default despite there being both capacity and willingness to pay. Sanctions can also weaken the sovereign's ability to service its debts by weakening its economy, a primary goal of the sanctions. Sanctions may also prevent bondholders from negotiating with the country to restructure defaulted debt, such as in Venezuela.

Argentina's *pari passu* lawsuit (2014)

Several lawsuits prevented Argentina from being able to issue new bonds in the international markets without resolving its disputes with holdouts from its 2001 default. For the first time, many disparate foreign bondholders united in an organized committee in the U.S. and Europe, with strong objections to the restructuring framework proposed by Argentina. The most vocal and large hedge funds that specialized in distressed assets owned bonds and won court judgments from U.S. courts against Argentina that totaled more than \$2.3bn.

During the litigation in *NML Capital Ltdv. The Republic of Argentina*, it was up to a U.S. judge to determine if Argentina had shown enough fairness and effort in these multiple exchange offers to keep these funds from exercising those judgments and receiving compensation. Although the court ruled in favor of the distressed bondholders in October 2012, Argentina refused to pay.

Applying the wording of the *pari passu* clause in these specific defaulted bonds, a federal judge ruled that if Argentina made any more payments on the exchange bonds issued during the 2005 and 2010 restructurings, then it had to pay what it owed to the holdouts (*pari passu* is a Latin phrase that means "on equal footing").

Appeals to higher courts over several years failed to overturn the decision and in June 2014, the US Supreme Court refused to hear Argentina's appeal on this case. In addition, the judge's ruling prohibited financial intermediaries from helping Argentina to pay the exchange bonds if Argentina did not also pay the holdouts.

Argentina chose to default on the June 30 payment of the 2005 and 2010 exchange bonds rather than negotiate a settlement with the holdouts. CDS was triggered in July 2014. The matter was only resolved in 2016 after Mauricio Macri was elected president.

The ghosts of *pari passu*?

Following Argentina's default in 2014, the industry proposed a new standard *pari passu* clause. The new clause explicitly stated that it did not prevent the sovereign from paying one bond but not others. Nevertheless, older bonds may still have older clauses.

Voluntary defaults: Ecuador (2008)

Ecuador: Selective default (no willingness) despite ability to pay

Ecuador established the precedent of defaulting on external debt despite having the capacity to pay. In 2008, the government claimed that the restructured 2012s and 2030s (issued to resolve the 1999 default) were illegally issued by a prior administration and therefore illegitimate. The government selectively defaulted on the 2012 and 2030 bonds, but not on the 2015 Eurobond that had later been issued under the current government in 2005. Later, the government repurchased bonds in the secondary market at a deep discount.

Geopolitics: Iraq's precedent

Iraq 2004 showed US has tools to reduce bargaining power of creditors

We believe that the most important lesson from the Iraqi restructuring is that the US government has important tools at its disposal to reduce the bargaining power of creditors. The Iraqi restructuring established the precedent of using US executive orders to immunize Iraq's foreign assets and oil sales. As a result, potential holdout creditors were not able to use the US legal system to attach Iraqi assets to enforce their rights.

Parallels for Ukraine 2022 or Venezuela

The Iraqi restructuring could be relevant for Ukraine or Venezuela because both of those countries represent foreign policy and national security interests of the United States. In addition, the US played a decisive leadership role in the Iraqi restructuring, giving us insight into a restructuring in the event of a pro-Western government remaining in Ukraine or if there is sanctions relief for Venezuela.

Iraq: What happened?

Iraq's debts were primarily official and bilateral

Following the end of the Iraq war, the US coordinated efforts to restructure Iraq's Saddam Hussein-era debt. After the war ended, Iraq owed approximately \$130bn, comprised of (1) official Paris Club bilateral loans (\$42.5bn—largest lenders were Japan, Russia, France, Germany, US), (2) official non-Paris Club bilateral loans (\$67.4bn—largest lenders were Saudi Arabia, Kuwait, China), (3) commercial loans (\$20 billion) and (4) multilateral loans (\$0.5 billion), according to the Congressional Research Service. No Eurobonds were outstanding.

US lobbied for Paris Club agreement

After a debt sustainability analysis by the IMF concluded that Iraq's debt was not sustainable, the US lobbied for and obtained an agreement among Paris Club governments to reduce Iraq's debt by 80%. The agreement with the Paris Club creditors prohibited Iraq from offering better terms to other creditors. Small commercial claims were bought back at a discount in cash, while larger claims were redeemed at a discount with a newly-issued \$2.7bn Eurobond, with a price of about \$50, making the haircut in market value effectively 90%.

US sponsored UNSC Resolution and issued Executive Order to immunize assets

To insulate Iraq from the claims of potential holdout creditors, the US sponsored United Nations Security Council Resolution 1483, which immunized Iraqi oil sales and its proceeds from any form of attachment, garnishment, or execution. Resolution 1483 was binding on all member states of the United Nations. In the US, the resolution was enforced through Executive Order 13303, which was renewed until 2014.

The executive order stated that:

"the threat of attachment or other judicial process against the Development Fund for Iraq, Iraqi petroleum and petroleum products, and interests therein, and proceeds, obligations, or any financial instruments of any nature whatsoever arising from or related to the sale or



marketing thereof, and interests therein, obstructs the orderly reconstruction of Iraq, the restoration and maintenance of peace and security in the country, and the development of political, administrative, and economic institutions in Iraq. This situation constitutes an unusual and extraordinary threat to the national security and foreign policy of the United States and I hereby declare a national emergency to deal with that threat.”

Resolution 1483 and Executive Order 13303 thus restricted the ability of holdout creditors in enforcing their rights by attaching Iraqi assets abroad. The Executive Order was renewed until 2014.



Appendix

Sovereign default history since 1998

Exhibit 31: In 2020 there were six sovereign defaults, highly unusual: Argentina, Lebanon, Ecuador, Suriname, Belize and Zambia

Default or Distressed Exchange of foreign currency (FC) and local currency (LC) debt

Default Date	Country	Recovery Rates 30d after default * (% of PAR)	Total Defaulted Debt (\$bn)	Sequence of Default Events (DE=Distressed Exchange)	Foreign Currency or Local Currency Bonds
Aug-98	Russia	18	72.7	Missed payments, DE, Missed payments, DE,DE	FC, LC
Sep-98	Ukraine	na	1.3	DE, DE, DE, Missed payments, DE	FC, LC
Jul-99	Pakistan	52	1.6	(Grace period missed payments), Missed payment, DE	FC
Aug-99	Ecuador	44	6.6	Missed payments, DE	FC, LC
Jan-00	Ukraine	69	1.1	Missed payments, DE before maturity	FC
Mar-00	Ivory Coast	18	0.4	Missed payments	FC
1-Nov	Argentina	27	82.3	Debt swap open to locals only, DE, Missed payment, Pesoization, DE, Re-open DE	FC, LC
2-Jun	Moldova	60	0.1	(Grace period missed payments), DE, Missed payment, DE	FC
3-May	Uruguay	66	5.7	DE	FC
4-Sep	Grenada	65	0.1	Missed payments, DE	FC, LC
5-May	Dominican Rep	95	1.6	(Grace period missed payments), DE	FC
6-Dec	Belize	76	0.2	Missed payment, DE	FC
8-Jul	Seychelles	30	0.3	Missed payments, DE	FC, LC
8-Dec	Ecuador	28	3.2	Missed payment, DE	FC
12-Sep	Belize	40	0.5	Missed payments, DE	FC
13-Feb	Jamaica	89	9.1	DE	FC, LC
13-Mar	Grenada	36	0.2	Missed payments	FC, LC
14-Jul	Argentina	68	29.4	Missed payments	FC
15-Oct	Ukraine	80	13.3	Missed payments, DE	FC
16-Apr	Mozambique	88	0.7	DE	FC
17-Feb	Mozambique	61	0.7	Missed payments, DE	FC
17-Mar	Belize	65	0.5	DE	FC
17-Nov	Venezuela	28	31.1	Missed payment, ongoing	FC, ongoing
18-Jun	Barbados	55	3.4	Missed payment, DE	FC, LC
20-Feb	Argentina	47	1.4	Missed payment, DE	FC, LC
20-Mar	Lebanon	17	6.6	Missed payment, DE, ongoing	FC, ongoing
20-Apr	Ecuador	27	17.3	DE	FC
20-Jul	Suriname	64	0.7	Missed payments, DE, ongoing	FC, ongoing
20-Aug	Belize	44	0.5	DE	FC
20-Nov	Zambia	55	2.3	Missed payment, ongoing	FC, ongoing
21-Sep	Belize	51	0.6	Missed payment, DE	FC
22-May	Sri Lanka	36	12.6	Missed payment, ongoing	FC, ongoing
22-Jun	Russia	40	37.1	Missed payment, ongoing	FC, ongoing
22-Jul	Belarus	na	3.3	Missed payment, ongoing	FC, ongoing
22-Aug	Ukraine	na	22.8	Missed payment, ongoing	FC, ongoing

Source: Moody's Investors Service. Note: Prices (Moody's calls them recovery rates) are % of the par value of the bond at the time of the initial default event, 30-day post-default for missed payments or around the close of an exchange for distressed debt exchanges. When the trading price is not available, Moody's calculates an equivalent measure estimating the recovery as the ratio of the present value of the cash flows of the new debt instruments received as a result of the distressed exchange versus the outstanding face value of those initially promised, discounted by an approximated market yield at the time of default. For Argentina, the trading price-based recovery rate at the time of default in 2014 was 68%. The ultimate recovery as of the time of default resolution in 2016 was about 97% as the missed interest payments were repaid in full. For Barbados, the recovery rate was based on the trading price of its defaulted foreign-currency bonds only. Argentina defaulted on short-term debt in August 2019 and on long-term debt in February 2020. Only included the recovery rate of the defaulted long-term debt in February 2020.

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Argentina's 2020 Recovery Rates

Exhibit 32: Argentina's bond-by-bond pre-exchange recovery rate

Premium for short-end bonds and bonds with 2005 indentures (Discos and Pars)

Bond	Indenture	Original Coupon	Bond's			Principal Value (A)-(B)	Premium to Belly (2016 Indenture)
			Market Price (8/17/20) (A)	PDI Claim	PDI Value (B)		
Arg 21	2016	6.9	48.7	6.0	3.3	45.4	6%
Arg 22	2016	5.6	47.7	3.4	1.9	45.8	7%
Arg 23	2016	4.6	47.4	3.0	1.7	45.7	7%
Arg 26	2016	7.5	46.2	6.5	3.6	42.6	0%
Arg 27	2016	6.9	45.1	4.2	2.3	42.8	0%
Arg 28N	2016	5.9	44.8	3.8	2.1	42.7	0%
Arg 28	2016	6.6	45.0	3.8	2.1	42.9	0%
Arg 36	2016	7.1	44.7	3.8	2.1	42.6	0%
Arg 46	2016	7.6	44.4	6.6	3.7	40.7	-5%
Arg 48	2016	6.9	43.5	6.6	3.7	39.9	-7%
Arg 17	2016	7.1	43.8	4.9	2.7	41.1	-4%
Arg Disco 33	2005	8.3	53.5	7.9	4.4	49.1	15%
Arg Par 38	2005	3.8	44.1	1.7	0.9	43.2	1%

Source: BofA Global Research, Bloomberg. Note: PDI Value is the PDI claim multiplied by the value of the PDI bond (55%) when it first began to trade.

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Exhibit 33: Argentina's bond-by-bond post-exchange recovery rate

Premium for short-end bonds and bonds with 2005 indentures (Discos and Pars)

Bond	Allocation of New Bonds					Recovery Rates	
	2030s (\$49.7)	2035s (\$43.3)	2046s (\$43.1)	2038s (\$49.8)	2041s (\$44)	Principal Claim Recovery	Premium to Belly (2016 Indenture)
Arg 21	98%	2%	0%	0%	0%	48.1	9%
Arg 22	97%	3%	0%	0%	0%	48.0	9%
Arg 23	99%	1%	0%	0%	0%	48.1	9%
Arg 26	33%	67%	0%	0%	0%	44.0	0%
Arg 27	33%	67%	0%	0%	0%	44.0	0%
Arg 28N	33%	66%	1%	0%	0%	44.1	0%
Arg 28	31%	68%	1%	0%	0%	43.9	0%
Arg 36	28%	71%	1%	0%	0%	43.8	0%
Arg 46	0%	96%	4%	0%	0%	42.0	-4%
Arg 48	0%	97%	3%	0%	0%	42.0	-4%
Arg 17	0%	92%	8%	0%	0%	42.0	-4%
Arg Disco 33	0%	0%	0%	99%	1%	49.7	13%
Arg Par 38	0%	0%	1%	0%	99%	44.0	0%

Source: BofA Global Research, Bloomberg. Note: For bonds with 2016 indentures (all bonds except Discos and Pars), the principal claim recovery is multiplied by 97% to account for the 3% principal haircut.

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Ecuador's 2020 Recovery Rates

Exhibit 34: Ecuador's bond-by-bond pre-exchange recovery rate

Premium for short-end bonds and 24s (better documentation)

Bond	Original Coupon	Bond's Market Price (7/24/20)			Principal Value (A)-(B)	Premium to Belly & Long End
		(A)	PDI Claim	PDI Value (B)		
Ecu 22	10.8	55.7	8.5	4.5	51.2	5%
Ecu 23	8.8	54.1	5.6	2.9	51.2	5%
Ecu 24	8.0	56.0	4.7	2.5	53.5	10%
Ecu 25	7.9	52.1	6.2	3.3	48.8	0%
Ecu 26	9.7	51.6	5.9	3.1	48.5	0%
Ecu 27	9.6	51.8	6.1	3.2	48.6	0%
Ecu 27N	8.9	51.7	6.5	3.4	48.3	-1%
Ecu 28	7.9	50.9	4.1	2.1	48.7	0%
Ecu 29	10.8	51.6	5.4	2.8	48.7	0%
Ecu 30	9.5	52.8	7.5	4.0	48.8	0%

Source: BofA Global Research, Bloomberg. PDI Value is the PDI claim multiplied by the value of the PDI bond (53%) when it first began to trade.

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Exhibit 35: Ecuador's bond-by-bond post-exchange recovery rate

Premium for short-end bonds and 24s (better documentation)

Bond	Allocation of New Bonds			Recovery Rates	
	2030s (\$72.8)	2035s (\$61.7)	2040s (\$56)	Principal Claim Recovery	Premium to Belly & Long End
Ecu 22	30.00%	49.53%	11.60%	\$58.9	3%
Ecu 23	22.90%	49.53%	18.70%	\$57.7	1%
Ecu 24	30.00%	49.53%	11.60%	\$58.9	3%
Ecu 25	18.90%	49.53%	22.70%	\$57.0	0%
Ecu 26	18.90%	49.53%	22.70%	\$57.0	0%
Ecu 27	18.90%	49.53%	22.70%	\$57.0	0%
Ecu 27N	18.90%	49.53%	22.70%	\$57.0	0%
Ecu 28	18.90%	49.53%	22.70%	\$57.0	0%
Ecu 29	18.90%	49.53%	22.70%	\$57.0	0%
Ecu 30	18.90%	49.53%	22.70%	\$57.0	0%

Source: BofA Global Research, Bloomberg.

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Ukraine's 2015 debt restructuring process

During Ukraine's 2015 restructuring, a debt-exchange operation was announced in January 2015 and launched in September, with the main objectives in line with the IMF requirements below:

- generate US\$15bn in public sector financing over the next three years;
- lower the debt-to-GDP ratio from almost 80% to under 70% by 2020;
- limit gross financing needs to an average of 12% of GDP in 2015-18 and 10% of GDP in 2019-25.



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Research Analysts

LatAm FI Strategy & Economics

BofAS

Claudio Irigoyen

LatAm FI/FX Strategy/Economist
BofAS
claudio.irigoyen@bofa.com

David Beker >>

Bz Econ/FI & LatAm EQ Strategy
Merrill Lynch (Brazil)
david.beker@bofa.com

Jane Brauer

Sovereign Debt FI Strategist
BofAS
jane.brauer@bofa.com

Carlos Capistran

Canada and Mexico Economist
BofAS
carlos.capistran@bofa.com

Pedro Diaz

Caribbean Economist
BofAS
pdiaz2@bofa.com

Christian Gonzalez Rojas

LatAm Economist
BofAS
christian.gonzalezrojas@bofa.com

Lucas Martin, CFA

Sovereign Debt FI Strategist
BofAS
lucas.martin@bofa.com

Alexander Müller

Andean(ex-Ven) Carib Economist
BofAS
alexander.muller@bofa.com

Natacha Perez

Brazil Economist
Merrill Lynch (Brazil)
natacha.perez@bofa.com

Sebastian Rondeau

LatAm FI/FX Strategist
BofAS
sebastian.rondeau@bofa.com

Merveille Paja

EEMEA Sovereign FI Strategist
MLI (UK)
merveille.paja@bofa.com

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