



Challenges with Assessing Sovereign Debt Sustainability

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December 2018

Agenda

1. Sovereign defaults likely to pick up in the more challenging credit environment to come
2. Moody's sovereign credit ratings
3. Challenges with assessment, communication and transparency in sovereign debt sustainability analysis

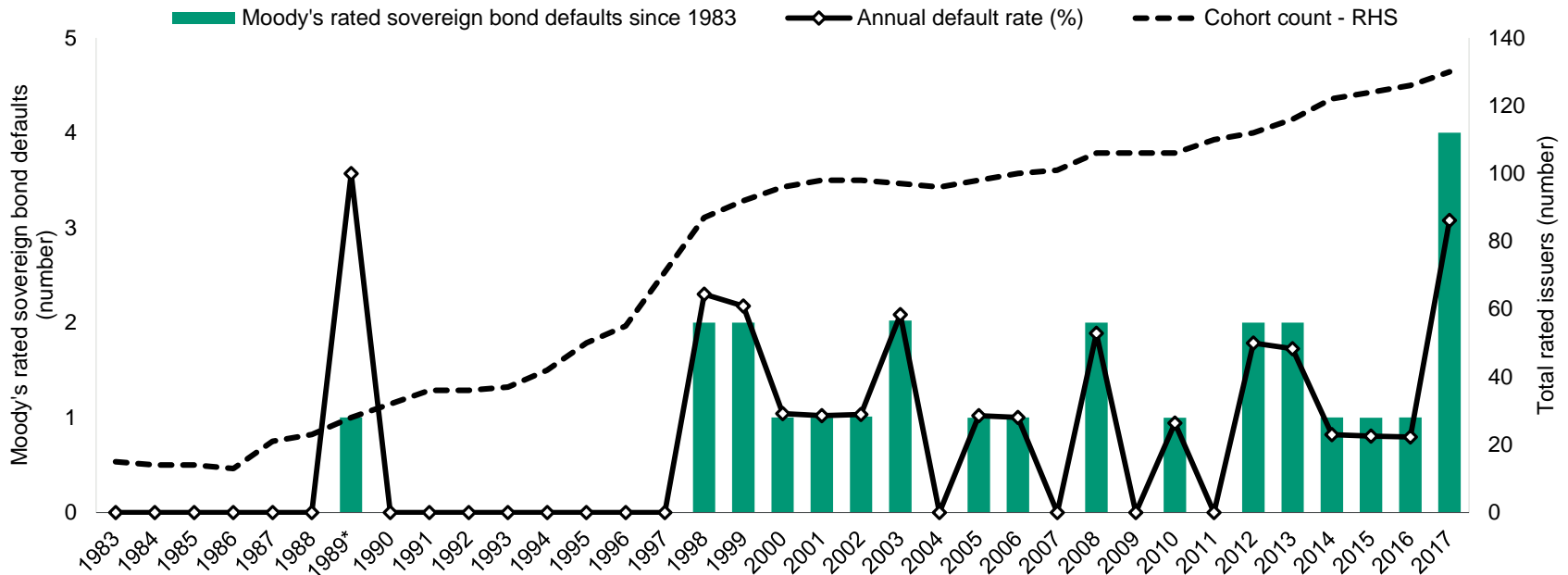
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Credit environment
will be more
challenging going
into 2019-2020

The sovereign default rate spiked in 2017

- » As of the end of 2017, the one-year default rate stood at 3.1%, four times higher than the average default rate in the 1983-2017 period
- » In 2017, the Republic of the Congo (ROC), Mozambique and Venezuela missed interest payments on their government bonds, while Belize undertook a distressed bond exchange. Barbados defaulted in 2018

Rated sovereign bond defaults since 1983



* There is only one rated sovereign bond default before 1998. The high annual default rate in 1989 is the result of small cohort size.

Source: Moody's Investors Service, [Sovereign Default and Recovery Rates, 1983-2017](#), Jul. 2018

Global credit conditions will weaken in 2019 amid slowing growth and rising risks

GROWTH

Economic growth will decelerate, inflation will firm, trade growth will slow in 2019



TRADE TENSIONS

Trade tensions will intensify in 2019. US trade policy is the most potent, far-reaching source of global risk with significant sector and regional impacts

FINANCIAL STABILITY

Financial conditions and liquidity will gradually tighten, spreads and market volatility will rise. Risks of sharper financial markets adjustment and capital outflows

POLITICAL RISKS

Rising political and geopolitical risks take center stage in 2019. Heightened political risks will pose the greatest source of uncertainty

ESG RISKS

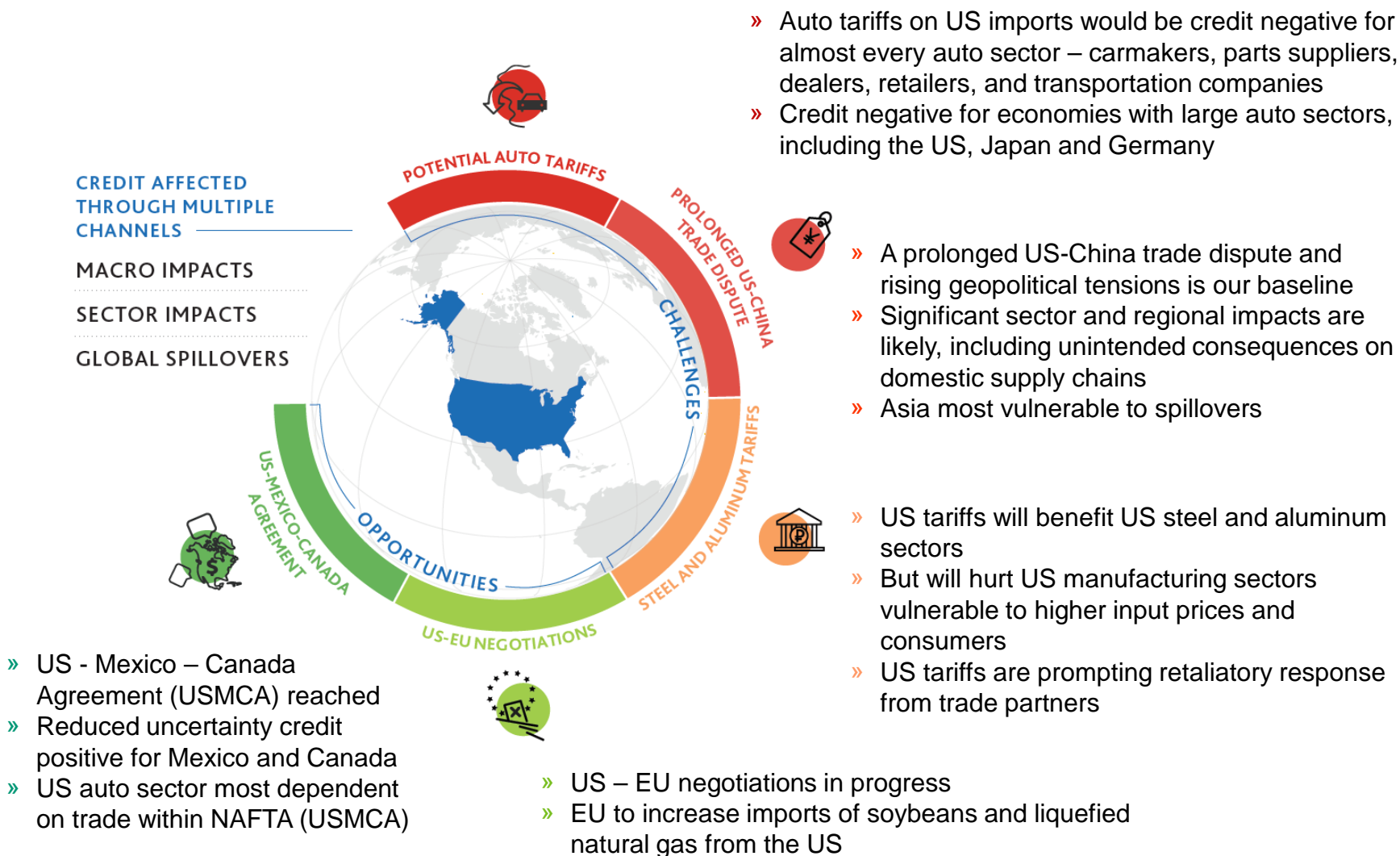
Environmental, social and governance risks will become more prominent in 2019. The transition to a low-carbon economy will most materially influence credit in 2019

TECHNOLOGY AND INNOVATION

Technology and innovation have the potential to reshape the credit landscape. Digital technologies can lead to productivity improvements but also disruptions

Source: Moody's Investors Service, [2019 Outlook – Global credit conditions to weaken amid slowing growth and rising risks](#), November 2018

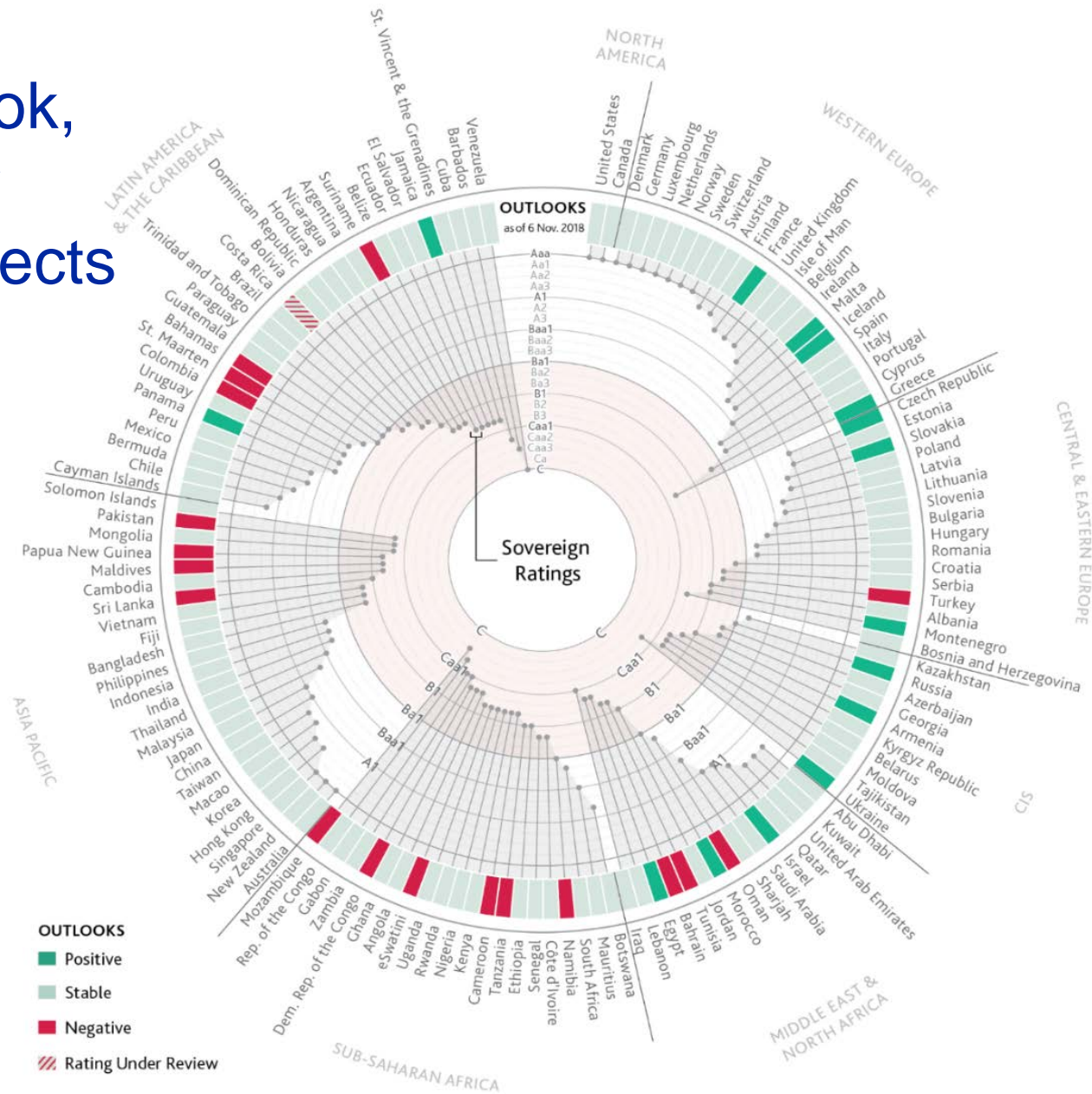
Trade tensions likely to be prolonged



Source: Moody's Investors Service, [Cross-Sector – Global: Global Trade Monitor: Escalating tensions will have unintended consequences for supply chains](#), Oct. 2018

Stable global sovereign outlook, but increasingly divergent prospects

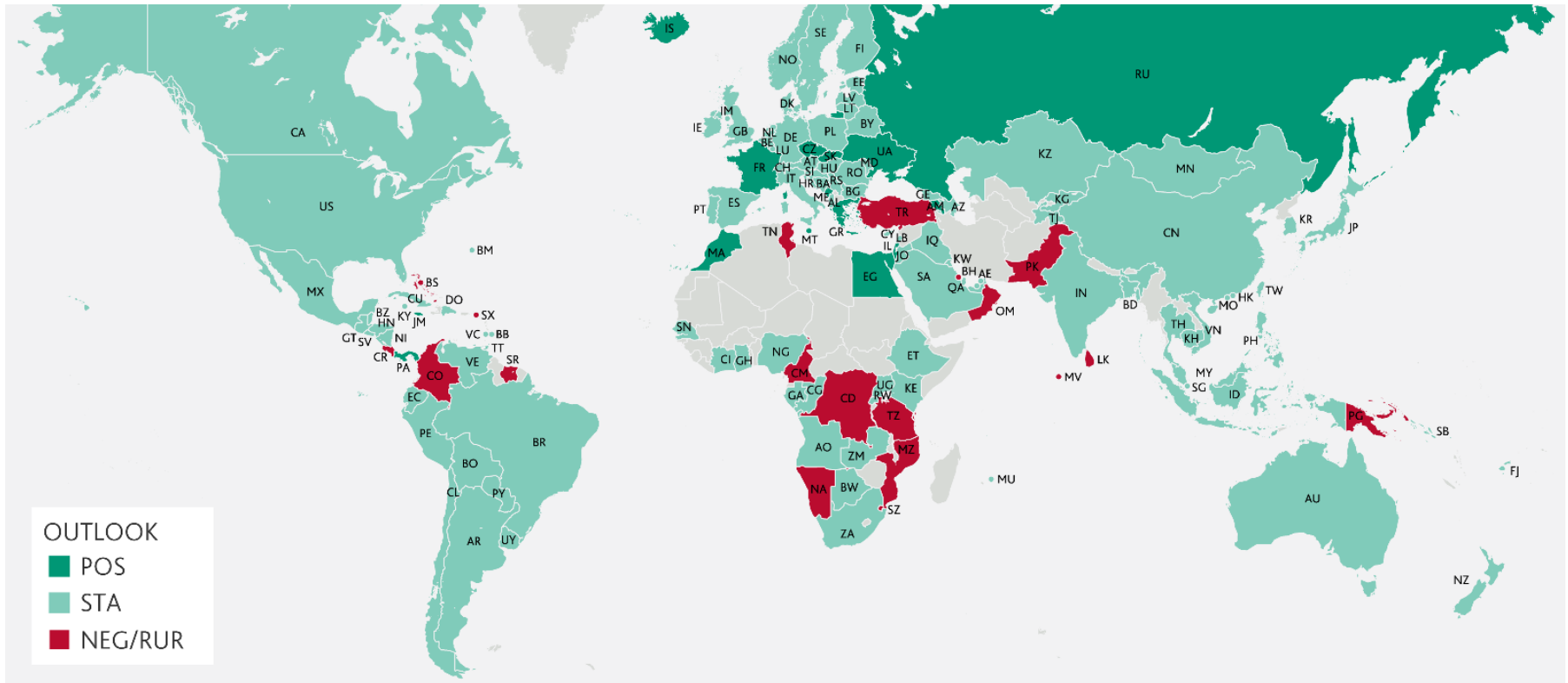
- » 75% of sovereigns have a stable outlook
- » 14% have a negative outlook (or are on review for downgrade)
- » 11% have a positive outlook



Source: Moody's Investors Service, [Sovereigns – Global: 2019 outlook still stable, but slowing growth signals increasingly diverging prospects](#), November 2018

Positive, negative outlooks regionally concentrated

- » The overall stable outlook balances the continued but slowing growth in the global economy against rising uncertainty over longer-term economic and financial stability
- » Negative outlooks are mainly in the regions that exhibit the broadest range of fundamental weaknesses – Sub-Saharan Africa, Latin America and the Caribbean – and at the low end of the rating scale



Source: Moody's Investors Service

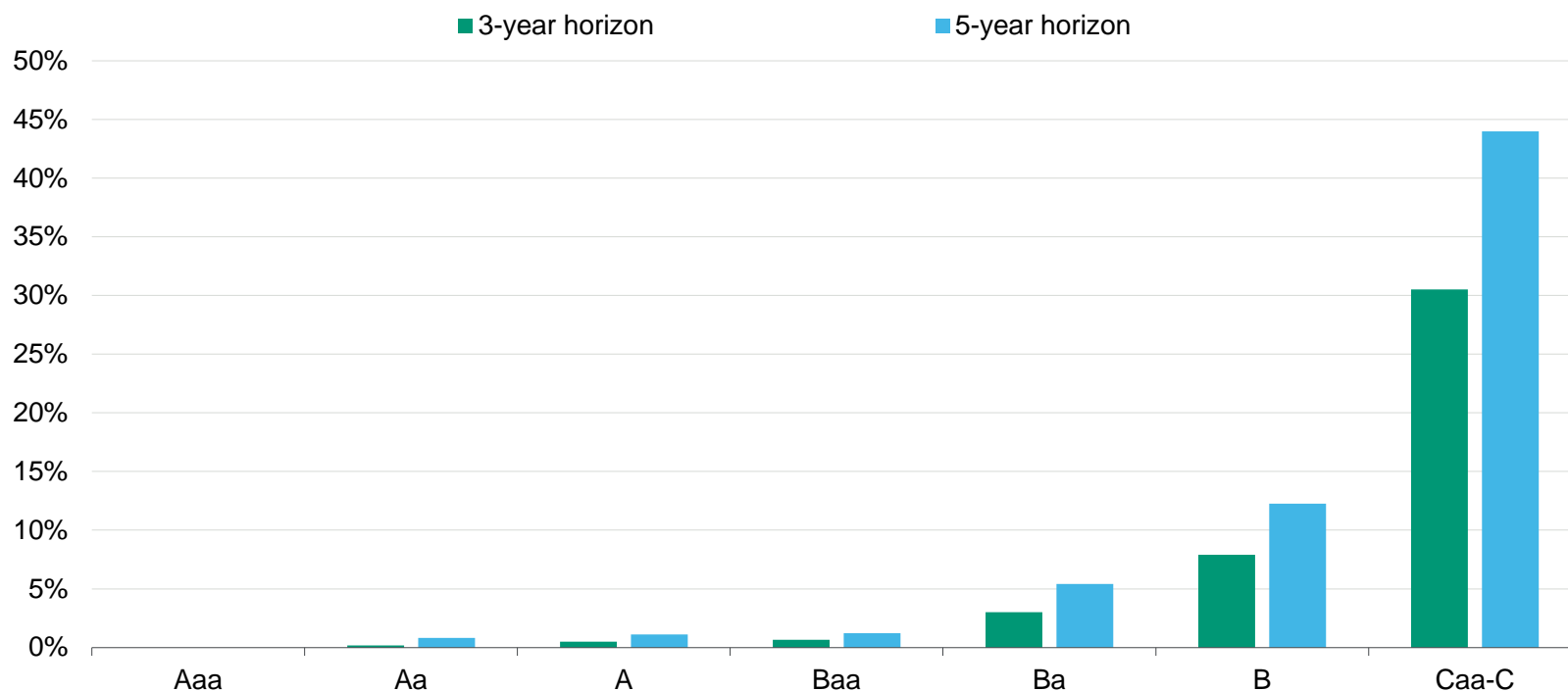
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Sovereign credit
ratings rank order
default risk

Probability of default rises with lower ratings

- » The likelihood of default for rated sovereign issuers increases monotonically as one moves down the rating scale

Issuer-weighted cumulative sovereign default rates at the 3-year and the 5-year horizon (1983-2017)



Source: Moody's Investors Service, [Sovereign Default and Recovery Rates, 1983-2017](#), July 2018

Sovereign ratings balance accuracy and stability

- » In addition, sovereign ratings offer a relatively stable risk measure, as they respond only to enduring changes in fundamental credit risk
- » In contrast, about 83% of all moves in market opinion are reversed within a year

Average annual volatility statistics (as a percentage of issuers (1999-2018))

	Moody's Ratings	Bond Yield-Implied Ratings
Share Experiencing One or More Rating Change	23%	86%
Share Experiencing Large Rating Changes (more than 2 notches)	3%	37%
Share Experiencing a Rating Change Reversal within 12 Months	0.5%	83%

Source: Moody's Investors Service, [Sovereign Default and Recovery Rates, 1983-2017](#), July 2018

In default, Moody's positions ratings to reflect expected recoveries

Moody's ratings refer to the probability of default and loss given default

Quality of credit	Long-term rating		
Highest quality, lowest level of credit risk	Aaa	Aa1	Investment Grade
High quality, very low credit risk	Aa	Aa2	
		Aa3	
		A1	
Upper-medium grade, low credit risk	A	A2	
		A3	
		Baa1	
Medium-grade, moderate credit risk	Baa	Baa2	
		Baa3	
		Ba1	Speculative Grade
Speculative, substantial credit risk	Ba	Ba2	
		Ba3	
		B1	
Considered speculative, high credit risk	B	B2	
		B3	
		Caa1	
Poor standing, very high credit risk	Caa	Caa2	
		Caa3	
		Ca	
Highly speculative, likely in or near default	Ca		
Lowest rated, in default	C		

Approximate expected recoveries associated with ratings for defaulted securities

Expected recovery rate	Fundamental
99 to 100%*	B1
97 to 99%*	B2
95 to 97%*	B3
90 to 95%	Caa1
80 to 90%	Caa2
65 to 80%	Caa3
35 to 65%	Ca
Less than 35%	C

**For instruments rated B1, B2, or B3, the uncertainty around expected recovery rates should also be low. For example, if a defaulted security has a higher than a 10% chance of recovering less than 90%, it would generally be rated lower than B3.*

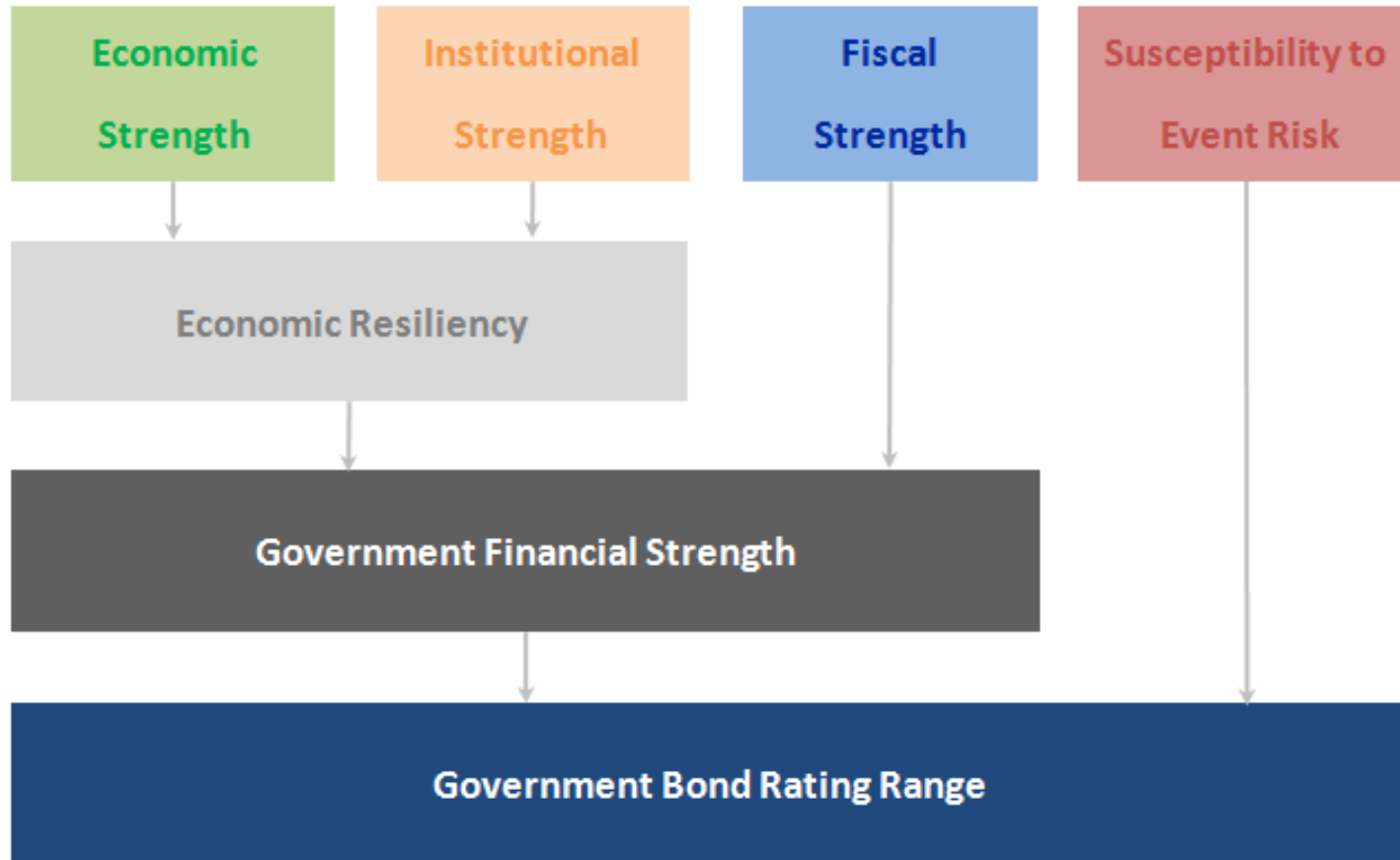
Source: Moody's [Rating Symbols & Definitions](#), November 2018

Moody's sovereign bond ratings incorporate four key factors

Factor 1: Economic Strength	Factor 2: Institutional Strength	Factor 3: Fiscal Strength	Factor 4: Susceptibility to Event Risk
<ul style="list-style-type: none">• Growth dynamics<ul style="list-style-type: none">• Growth• Volatility• Competitiveness• Scale of the economy<ul style="list-style-type: none">• Nominal GDP• National income<ul style="list-style-type: none">• PPP GDP per capita	<ul style="list-style-type: none">• Institutional framework and effectiveness<ul style="list-style-type: none">• Government effectiveness• Rule of law• Control of corruption• Policy credibility and effectiveness<ul style="list-style-type: none">• Inflation level and volatility• Quality of fiscal policy implementation• Track record of default	<ul style="list-style-type: none">• Debt burden<ul style="list-style-type: none">• Debt to GDP• Debt to revenue• Debt affordability<ul style="list-style-type: none">• Interest payments to revenue• Interest payments to GDP• Ability to deploy resources to face current and expected liabilities<ul style="list-style-type: none">• Debt trend• Share of foreign currency debt• Contingent liabilities• SWF	<ul style="list-style-type: none">• Political Risk<ul style="list-style-type: none">• Domestic political risk• Geopolitical risk• Government liquidity risk<ul style="list-style-type: none">• Fundamental metrics• Market funding stress• Banking sector risk<ul style="list-style-type: none">• Strength of banking system• Size of banking system• Funding vulnerabilities• External vulnerability risk<ul style="list-style-type: none">• (CA + FDI) / GDP• EVI; NIIP/GDP

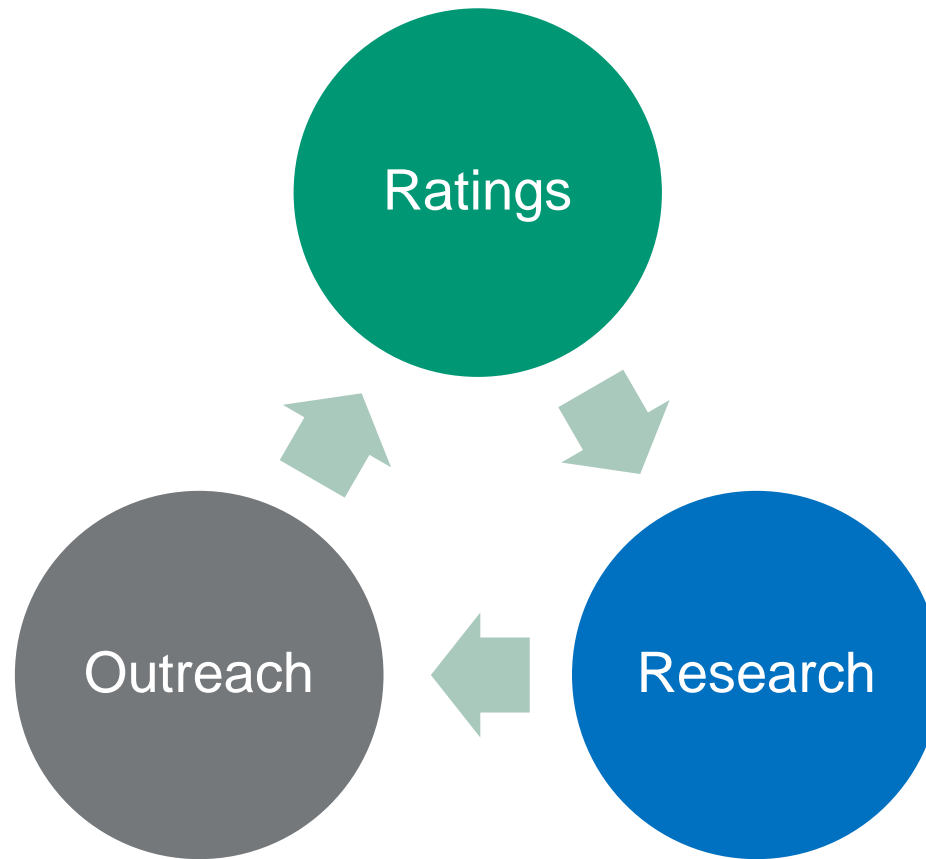
Source: Moody's [Sovereign Bond Ratings Methodology](#), November 2018

The four key factors in Moody's Sovereign Bond Rating Methodology combine in a non-linear fashion



Source: Moody's [Sovereign Bond Ratings Methodology](#), November 2018

Moody's communication strategy



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Challenges with
assessment,
communication and
transparency in
sovereign debt
sustainability analysis

Challenges with sovereign debt sustainability analysis

- » The role of uncertainty
 - Scenario analysis vs. debt thresholds

- » The realism of underlying assumptions
 - Economic and fiscal assumptions
 - Feedback loops
 - Hidden linkages between sectors

- » The materialization of contingent liabilities
 - Banking sector
 - Government-related enterprises
 - Government guarantees

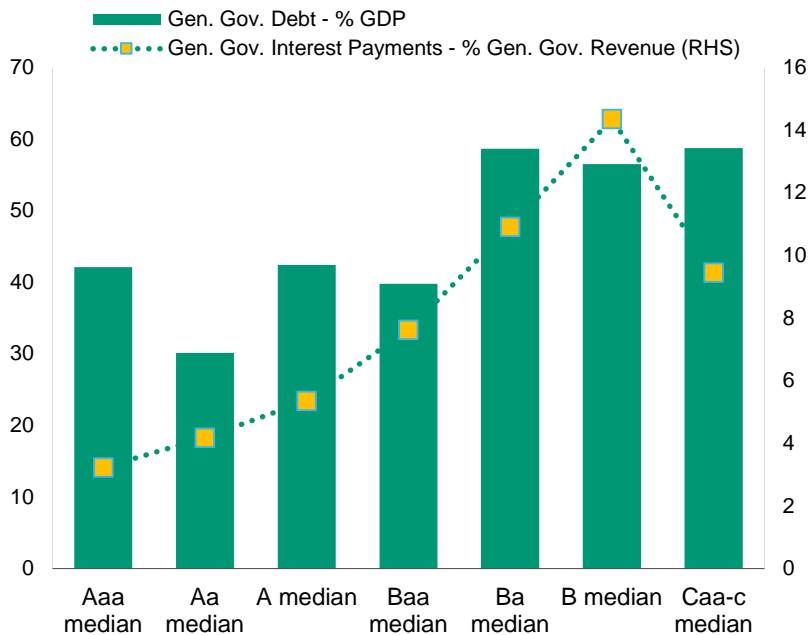
- » Transparency of information about the full debt stock and structure

- » Understanding the investor base
 - Assumptions about market access

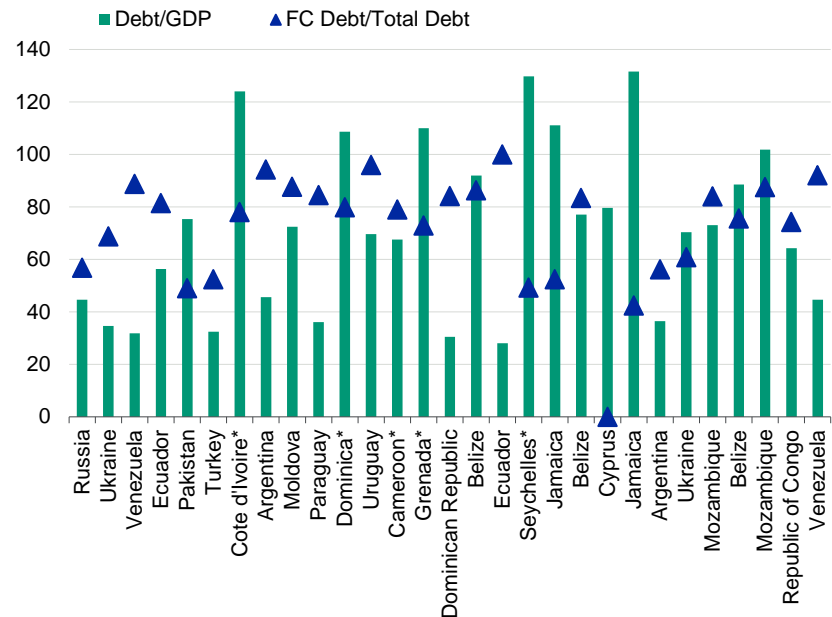
There is no clear debt-to-GDP threshold

- » While defaults are correlated with rising debt burden, a high debt-to-GDP ratio is neither necessary nor sufficient condition for a default
- » Significant amounts of foreign-currency debt can be a major source of vulnerability
- » Debt affordability is better correlated with past defaults than debt-to-GDP
- » A lack of economic strength and weak institutions are decisive factors

Debt-to-GDP and interest payments-to-revenue across broad rating categories (%)



Sovereign defaults have occurred at high as well as low debt to GDP ratios (%)



Source: Moody's Investors Service, [Sovereign Defaults Series - The Aftermath of Sovereign Defaults](#), October 2013

The causes of modern-era sovereign defaults underscore the need for a holistic analysis

High debt burden

Persistent external and fiscal imbalances build up to an unsustainably high debt burden. Slow build-up of debt and deterioration in debt affordability over many years due to terms-of-trade shocks or unsustainable fiscal policies. *Defaults occur at high debt-to-GDP and interest payments-to-revenue levels*

Pakistan (1999), Belize (2006, 2012, 2017), Jamaica (2010, 2013), Greece (twice in 2012)

Chronic economic stagnation

Stagnating economic conditions, weak fiscal position and domestic vulnerabilities combine with large external shocks and loss of investor confidence. Vicious circle of economic distress, capital outflows, currency crisis, and banking crisis culminates into sovereign default *even at initially low debt-to-GDP which spikes after currency depreciation*

Russia (1998), Ukraine (1998, 2000), Argentina (2001), Venezuela (2017)

Political and institutional weaknesses

Political instability, unwillingness to pay, weak governance. *Debt-to-GDP could be low and interest payments-to-revenue vary*

Venezuela (1998), Ecuador (2008), Argentina (2014), Ukraine (2015), Mozambique (2016, 2017), Republic of Congo (2017)

Banking crisis

Systemic banking crises and capital outflows contribute to a large and sudden build-up of public debt. *Debt levels and interest payments rise sharply over couple of years before default*

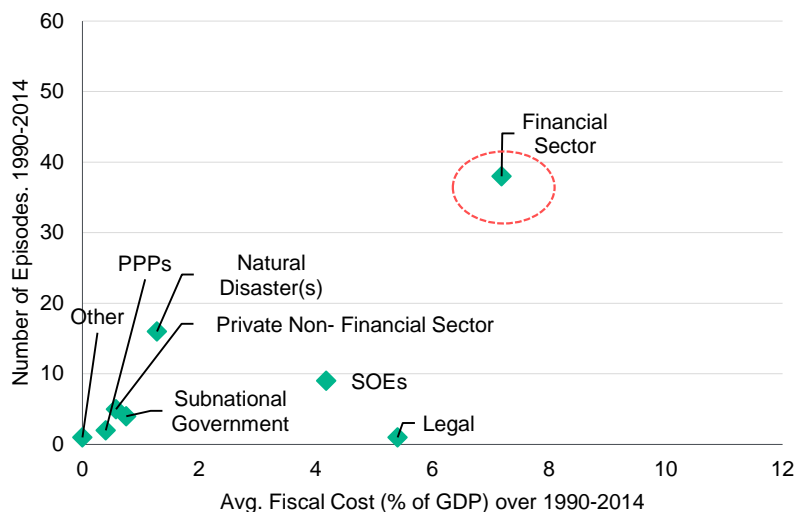
Ecuador (1999), Uruguay (2003), Dominican Republic (2005), Cyprus (2013)

Source: Moody's Investors Service, [The Causes of Sovereign Defaults: Ability to Manage Crises Not Merely Determined by Debt Levels](#), Nov. 2010

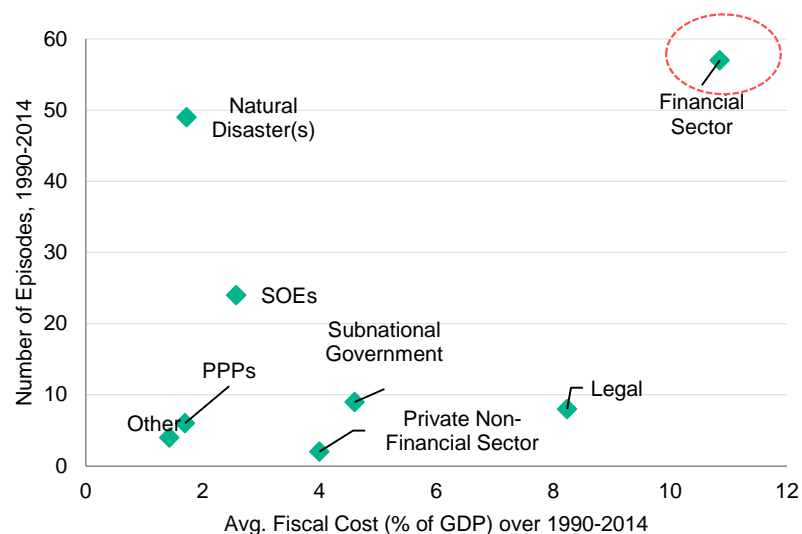
Realizations of contingent liabilities can have a significant fiscal impact

- » Financial sector crises, natural disasters and support for state-owned enterprises (SOEs) account for the three most common causes of contingent liability materializations
- » Underscores the importance of scenario analysis to deal with uncertainty and with hidden interlinkages and feedback loops across sectors and across analytical assumptions

Developed markets



Emerging markets



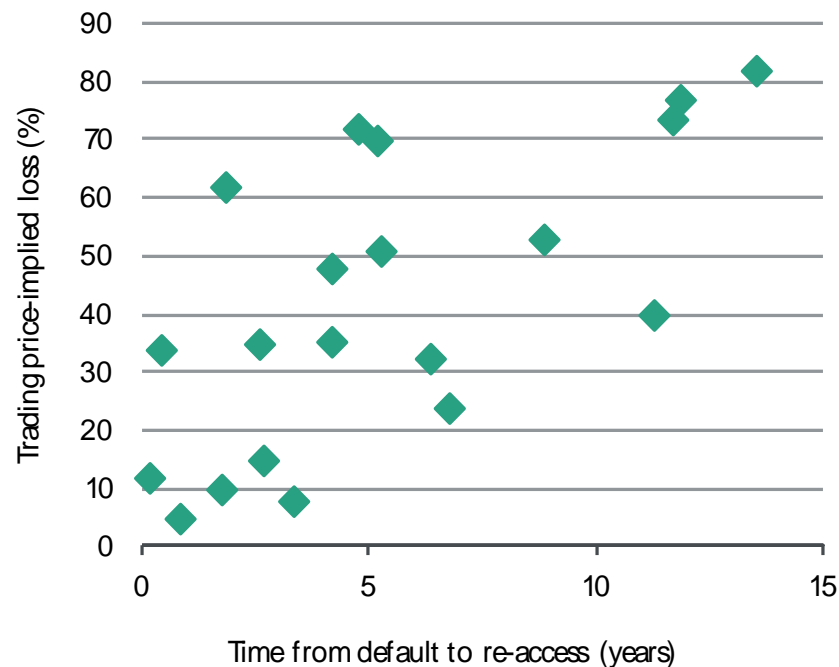
Note: Contingent liabilities are categorized into seven categories: financial sector, state-owned enterprises (SOEs), subnational government, natural disasters, private non-financial sector, and public-private partnerships (PPPs). Fiscal costs are defined as gross fiscal outlays and immediate changes in the government financial position directly due to the contingent liability realization, for example a government bailout of a bank, emergency assistance after an earthquake, or debt assumption of a troubled SOE.

Source: IMF, 2016, Bova et al., The Fiscal Costs of Contingent Liabilities: A New Dataset, IMF Working paper WP/16/14

Market re-access can be many years after default

- » Market access can remain impaired for many years after default. On average, sovereign governments remained out of international capital markets for 5.6 years after default and 4.4 years after final default resolution
- » Further, over 1997-2013, 45% of defaulters never regained market access
- » Length of market exclusion was highly correlated with the loss experienced by investors during the debt restructuring
- » Default resolution was relatively quick, taking slightly over one year on average
- » Length of market exclusion was generally not driven by inability to resolve the default but by the time it took for the country to rebuild ability and reputation to service debt

Market exclusion is highly correlated with investor losses



Sources: Moody's Investors Service, [Market Re-Access and Credit Standing After Sovereign Default](#), Oct. 2013



Appendix

Moody's default definition

- » A missed or delayed disbursement of a contractually-obligated interest or principal payment (excluding missed payments cured within a contractually allowed grace period), as defined in credit agreements and indentures
- » A bankruptcy filing or legal receivership by the debt issuer or obligor that will likely cause a miss or delay in future contractually-obligated debt service payments
- » A distressed exchange whereby 1) an issuer offers creditors a new or restructured debt, or a new package of securities, cash or assets, that amount to a diminished value relative to the debt obligation's original promise and 2) the exchange has the effect of allowing the issuer to avoid a likely eventual default
- » A change in the payment terms of a credit agreement or indenture imposed by the sovereign that results in a diminished financial obligation, such as a forced currency redenomination (imposed by the debtor, or the debtor's sovereign) or a forced change in some other aspect of the original promise, such as indexation or maturity

Moody's related publications

Global Outlook

- » [2019 Outlook – Global credit conditions to weaken amid slowing growth and rising risks](#), November 2018
- » [Global Macro Outlook 2019-2020: Global growth to decelerate amid tightening global liquidity and elevated trade tensions](#), November 2018
- » [Sovereigns – Global 2019 outlook still stable, but slowing growth signals increasingly diverging prospects](#), November 2018
- » [Cross-Sector – Global: Global Trade Monitor: Escalating tensions will have unintended consequences for supply chains](#), October 2018

Sovereign Defaults Research

- » [Sovereign Default and Recovery Rates, 1983-2017](#), July 2018
- » [Myths and Facts about Sovereign Debt Restructurings \(Presentation\)](#), January 2016
- » [Sovereign Defaults Series - The Aftermath of Sovereign Defaults](#), October 2013
- » Topic Page: [Sovereign Default Research](#)

Methodology

- » [Moody's Rating Symbols & Definitions](#), November 2018
- » [Sovereign Bond Ratings](#), November 2018

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