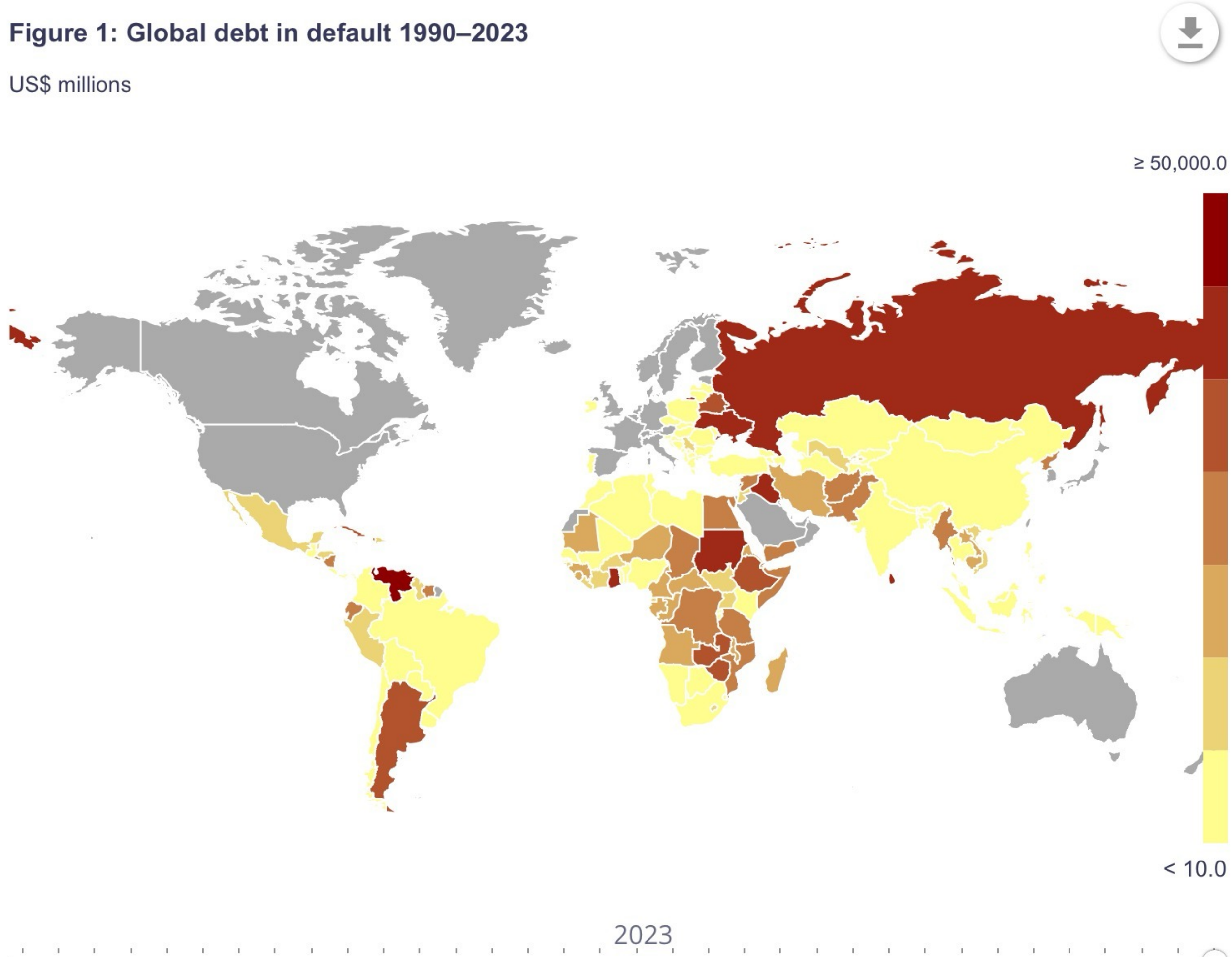
THE MOODY'S US RATINGS DOWNGRADE: CAUSES & CONSEQUENCES

Aaa no more!

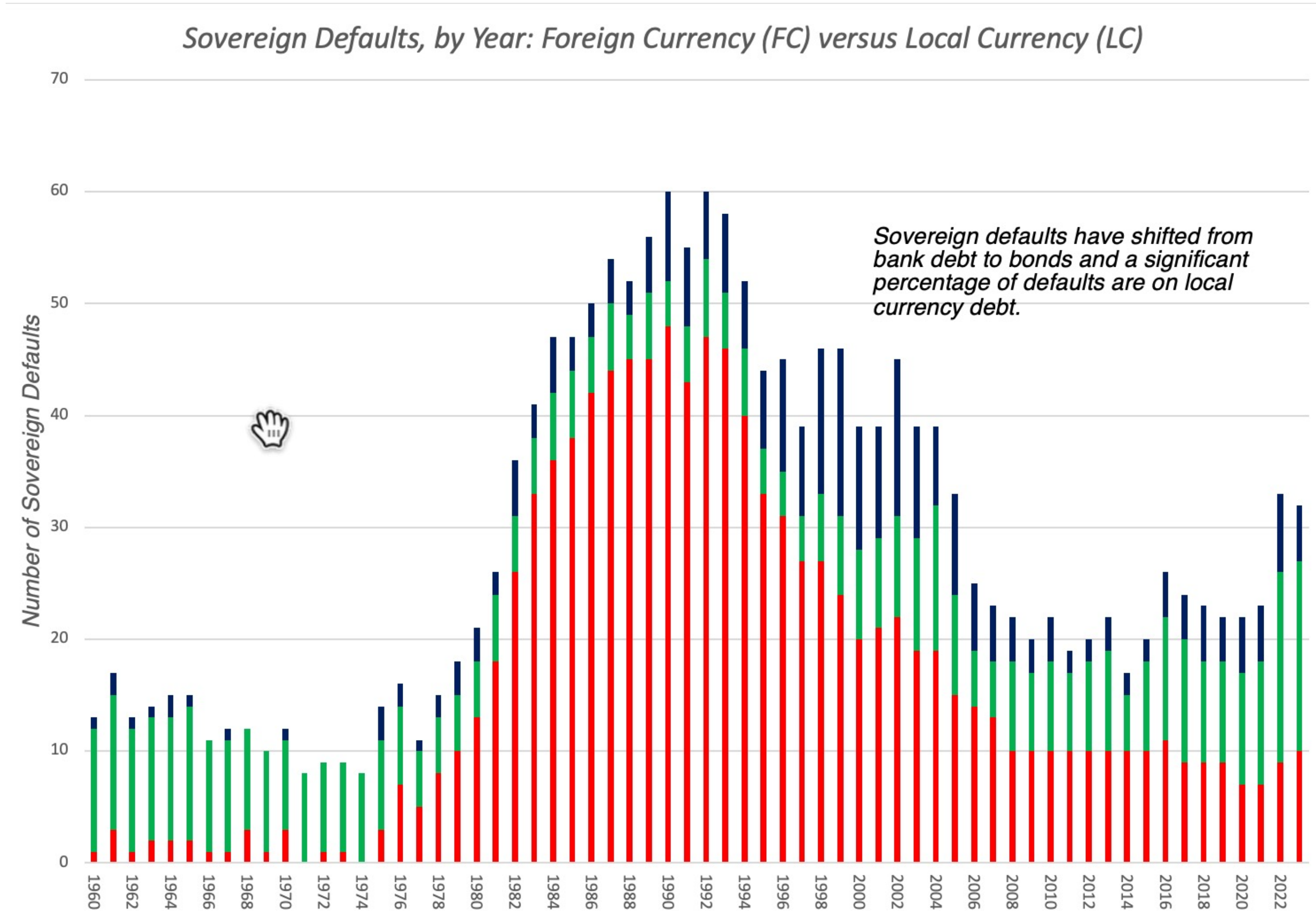
THE RATINGS DOMINOES…

- I was on vacation with my family in August 2011 when I received an email from a journalist asking me what I thought about the S&P ratings downgrade for the US from AAA, the highest sovereign rating that can be granted to a country, to AA+, reflecting their concerns about both the fiscal challenges faced by the country, with mounting trade and budget deficits, as well as the willingness of its political institutions to flirt with the possibility of default.
- For more than a decade, S&P remained the outlier, but in 2023, Fitch joined it by also downgrading the US from AAA to AA+, citing the same reasons.
- That left Moody's, the third of the major sovereign ratings agencies, as the only one that persisted with a Aaa (Moody's equivalent of AAA) for the US, but that changed on May 16, 2025, when it too downgraded the US from Aaa (negative) to Aa1 (stable). Since the ratings downgrade happened after close of trading on a Friday, there was concern that markets would wake up last Monday (May 19) to a wave of selling, and while that did not materialize, the rest of the week was a down week for both stocks and US treasury bonds, especially at the longest end of the maturity spectrum.

SOVEREIGN DEFAULTS: HISTORY



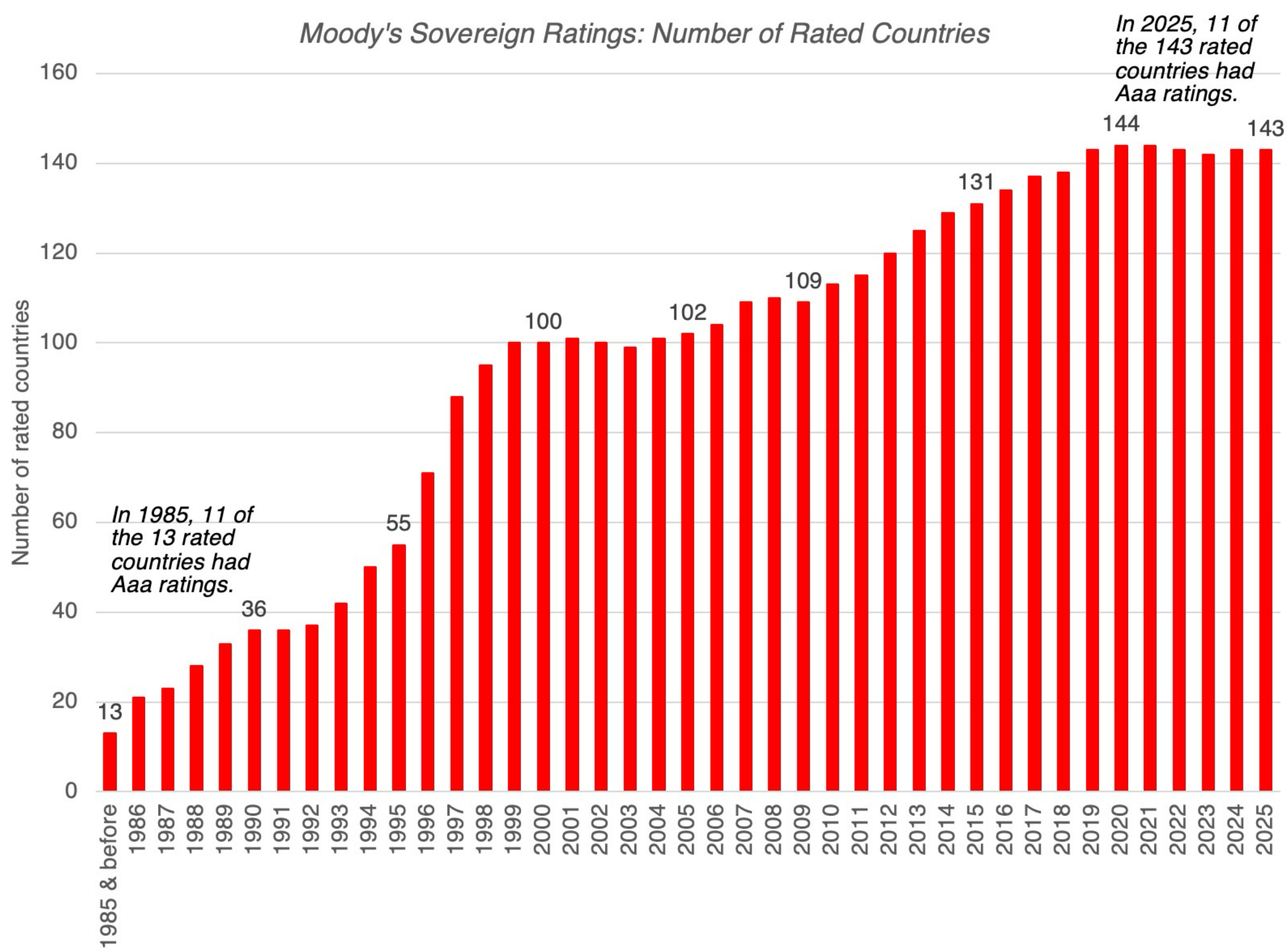
FOREIGN VS LOCAL CURRENCY DEFAULT



THE CONSEQUENCES OF DEFAULT

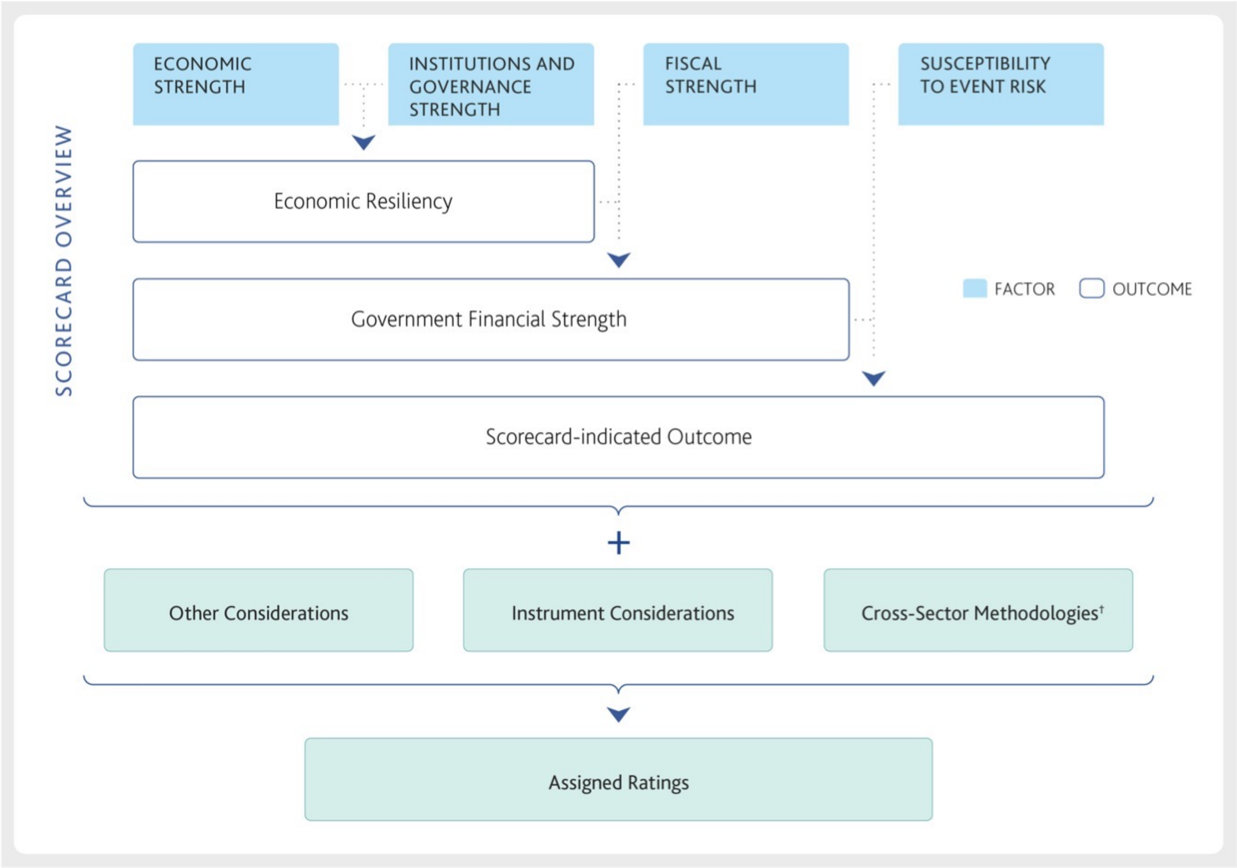
- Default has a **negative impact on the economy**, with real GDP dropping between 0.5% and 2%, but the bulk of the decline is in the first year after the default and seems to be short lived.
- Default does affect a country's **long-term sovereign rating and borrowing costs**. In the same vein, defaulting countries have borrowing costs that are about 0.5 to 1% higher than countries that have not defaulted. Here again, though, the effects of default dissipate over time.
- **Sovereign default can cause trade retaliation**. One study indicates a drop of 8% in bilateral trade after default, with the effects lasting for up to 15 years, and another one that uses industry level data finds that export-oriented industries are particularly hurt by sovereign default.
- **Sovereign default can make banking systems more fragile**. A study of 149 countries between 1975 and 2000 indicates that the probability of a banking crisis is 14% in countries that have defaulted, an eleven percentage-point increase over non-defaulting countries.
- **Sovereign default also increases the likelihood of political change**.. A study of devaluations between 1971 and 2003 finds a 45% increase in the probability of change in the top leader (prime minister or president) in the country and a 64% increase in the probability of change in the finance executive (minister of finance or head of central bank).

THE GROWTH IN SOVEREIGN RATINGS



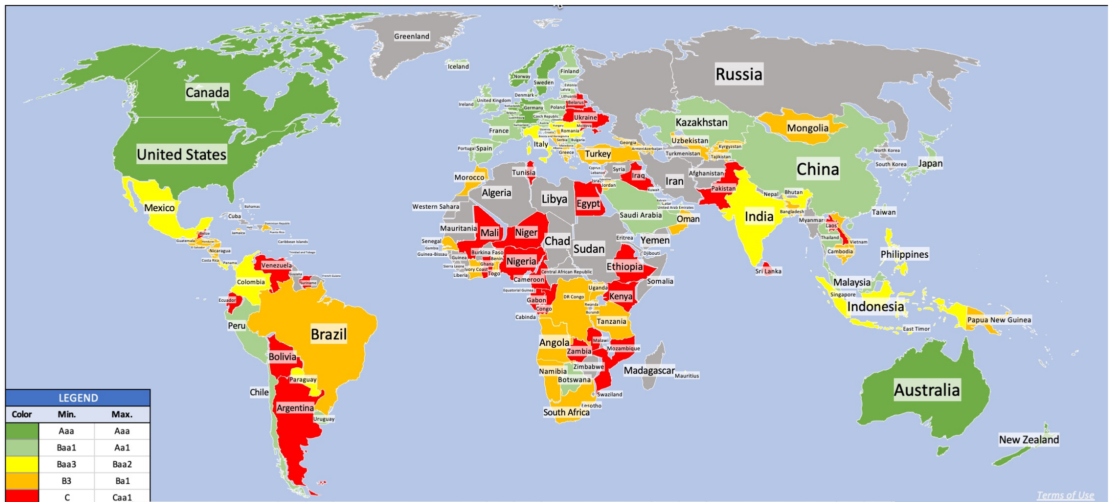
THE SOVEREIGN RATING PROCESS

Illustration of the sovereign methodology framework



† Some of the methodological considerations described in one or more cross-sector rating methodologies may be relevant to ratings in this sector. A link to a list of our sector and cross-sector methodologies can be found in the "Moody's related publications" section.
Source: Moody's Investors Service

SOVEREIGN RATINGS: START OF 2025



Country	FC	LC	Country	FC	LC	Country	FC	LC	Country	FC	LC
Abu Dhabi	Aa2	Aa2	Czech Republic	Aa3	Aa3	Kyrgyz Republic	B3	B3	Russia	WR	WR
Albania	Ba3	Ba3	Democratic Republic of the Cong	B3	B3	Laos	Caa3	Caa3	Rwanda	B2	B2
Andorra	Baa1	Baa1	Denmark	Aaa	Aaa	Latvia	A3	A3	Saudi Arabia	Aa3	Aa3
Angola	B3	B3	Dominican Republic	Ba3	Ba3	Lebanon	C	C	Senegal	B1	B1
Argentina	Ca	Ca	Ecuador	Caa3	Caa3	Liechtenstein	-	-	Serbia	Ba2	Ba2
Armenia	Ba3	Ba3	Egypt	Caa1	Caa1	Lithuania	A2	A2	Sharjah	Ba1	Ba1
Aruba	Baa3	Baa3	El Salvador	B3	B3	Luxembourg	Aaa	Aaa	Singapore	Aaa	Aaa
Australia	**Aaa**	**Aaa**	Estonia	A1	A1	Macao SAR, China	Aa3	Aa3	Slovakia	A3	A3
Austria	Aa1	Aa1	eSwatini	B2	B2	Malaysia	A3	A3	Slovenia	A3	A3
Azerbaijan	Ba1	Ba1	Ethiopia	Caa3	Caa2	Maldives	Caa2	Caa2	Solomon Islands	Caa1	Caa1
Bahamas	B1	B1	Fiji	B1	B1	Mali	Caa2	Caa2	South Africa	Ba2	Ba2
Bahamas-Offshore Banks	-	-	Finland	Aa1	Aa1	Malta	A2	A2	Spain	Baa1	Baa1
Bahrain	B2	B2	France	Aa3	Aa3	Mauritius	Baa3	Baa3	Sri Lanka	Caa1	Caa1
Bahrain-Offshore Banks [1]	-	-	Gabon	Caa2	Caa2	Mexico	Baa2	Baa2	Sint Maarten	WR	WR
Bangladesh	B2	B2	Georgia	Ba2	Ba2	Moldova	B3	B3	St. Vincent & the Grenadine	B3	B3
Barbados	B3	B3	Germany	Aaa	Aaa	Mongolia	B2	B2	Suriname	Caa1	Caa1
Belarus	C	C	Ghana	Caa2	Caa2	Montenegro	Ba3	Ba3	Sweden	Aaa	Aaa
Belgium	Aa3	Aa3	Greece	Ba1	Ba1	Morocco	Ba1	Ba1	Switzerland	Aaa	Aaa
Belize	Caa1	Caa1	Guatemala	Ba1	Ba1	Mozambique	Caa2	Caa2	Taiwan, China	Aa3	Aa3
Benin	B1	B1	Guernsey (Channel Islands)	A1	A1	Namibia	B1	B1	Tajikistan	B3	B3
Bermuda	A2	A2	Honduras	B1	B1	Netherlands	Aaa	Aaa	Tanzania	B1	B1
Bolivia	Caa3	Caa3	Hong Kong SAR, China	Aa3	Aa3	New Zealand	Aaa	Aaa	Thailand	Baa1	Baa1
Bosnia and Herzegovina	B3	B3	Hungary	Baa2	Baa2	Nicaragua	B2	B2	Togo	B3	B3
Botswana	A3	A3	Iceland	A1	A1	Niger	Caa3	Caa3	Trinidad and Tobago	Ba2	Ba2
Brazil	Ba1	Ba1	India	Baa3	Baa3	Nigeria	Caa1	Caa1	Tunisia	Caa2	Caa2
Bulgaria	Baa1	Baa1	Indonesia	Baa2	Baa2	Norway	Aaa	Aaa	Turkey	B1	B1
Cambodia	B2	B2	Iraq	Caa1	Caa1	Oman	Ba1	Ba1	Uganda	B3	B3
Cameroon	Caa1	Caa1	Ireland	Aa3	Aa3	Pakistan	Caa2	Caa2	Ukraine	Ca	Ca
Canada	Aaa	Aaa	Isle of Man	Aa3	Aa3	Panama	Baa3	Baa3	United Arab Emirates	Aa2	Aa2
Cayman Islands	Aa3	Aa3	Israel	Baa1	Baa1	Panama-Offshore Banks	-	-	United Kingdom	Aa3	Aa3
Cayman Islands-Offshore Bank	-	-	Italy	Baa3	Baa3	Papua New Guinea	B2	B2	United States of America	Aaa	Aaa
Chile	A2	A2	Jamaica	B1	B1	Paraguay	Baa3	Baa3	Uzbekistan	Ba3	Ba3
China	A1	A1	Japan	A1	A1	Peru	Baa1	Baa1	Uruguay	Baa1	Baa1
Colombia	Baa2	Baa2	Jersey (Channel Islands)	NR	NR	Philippines	Baa2	Baa2	Venezuela [2]	C	C
Costa Rica	Ba3	Ba3	Jordan	Ba3	Ba3	Poland	A2	A2	Vietnam	Ba2	Ba2
Cote d'Ivoire	Ba2	Ba2	Kazakhstan	Baa1	Baa1	Portugal	A3	A3	Zambia	Caa2	Caa2
Croatia	A3	A3	Kenya	Caa1	Caa1	Qatar	Aa2	Aa2			
Cuba	WR	WR	Korea	Aa2	Aa2	Republic of the Congo	Caa2	Caa2			
Cyprus	A3	A3	Kuwait	A1	A1	Romania	Baa3	Baa3			

RATINGS CHANGES IN 2025

Country	Action	Old Rating	New Rating
Argentina	Upgrade	Ca	Caa3
Senegal	Downgrade	B1	B3
Tunisia	Upgrade	Caa2	Caa1
Greece	Upgrade	Ba1	Baa3
Mozambique	Downgrade	Caa2	Caa3
Barbados	Upgrade	B3	B2
Bolivia	Downgrade	Caa3	Ca
United States	Downgrade	Aaa	Aa1

Sovereign ratings are highly correlated with default risk..

Issuer-weighted cumulative default rates

1983-2024

	Average Count	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Sovereign Issuers											
Aaa	14	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%	0.000%
Aa	12	0.000%	0.000%	0.129%	0.356%	0.592%	0.713%	0.713%	0.713%	0.713%	0.713%
A	12	0.000%	0.052%	0.352%	0.573%	0.803%	1.166%	1.672%	2.205%	2.764%	3.351%
Baa	14	0.175%	0.650%	1.019%	1.227%	1.425%	1.718%	1.934%	2.365%	2.837%	3.338%
Ba	13	0.393%	1.135%	2.214%	3.338%	4.726%	5.827%	7.256%	8.715%	9.986%	11.207%
B	17	2.563%	5.904%	9.243%	12.417%	15.062%	17.643%	20.032%	22.505%	24.773%	26.876%
Caa-C	5	15.013%	25.008%	31.937%	37.450%	42.266%	46.968%	50.950%	53.078%	54.418%	55.505%
Investment-Grade	52	0.047%	0.187%	0.384%	0.542%	0.700%	0.888%	1.059%	1.291%	1.537%	1.796%
Speculative-Grade	35	3.351%	6.518%	9.386%	11.993%	14.354%	16.537%	18.678%	20.656%	22.362%	23.935%
All Rated	86	1.369%	2.712%	3.957%	5.061%	6.057%	6.991%	7.885%	8.746%	9.509%	10.225%

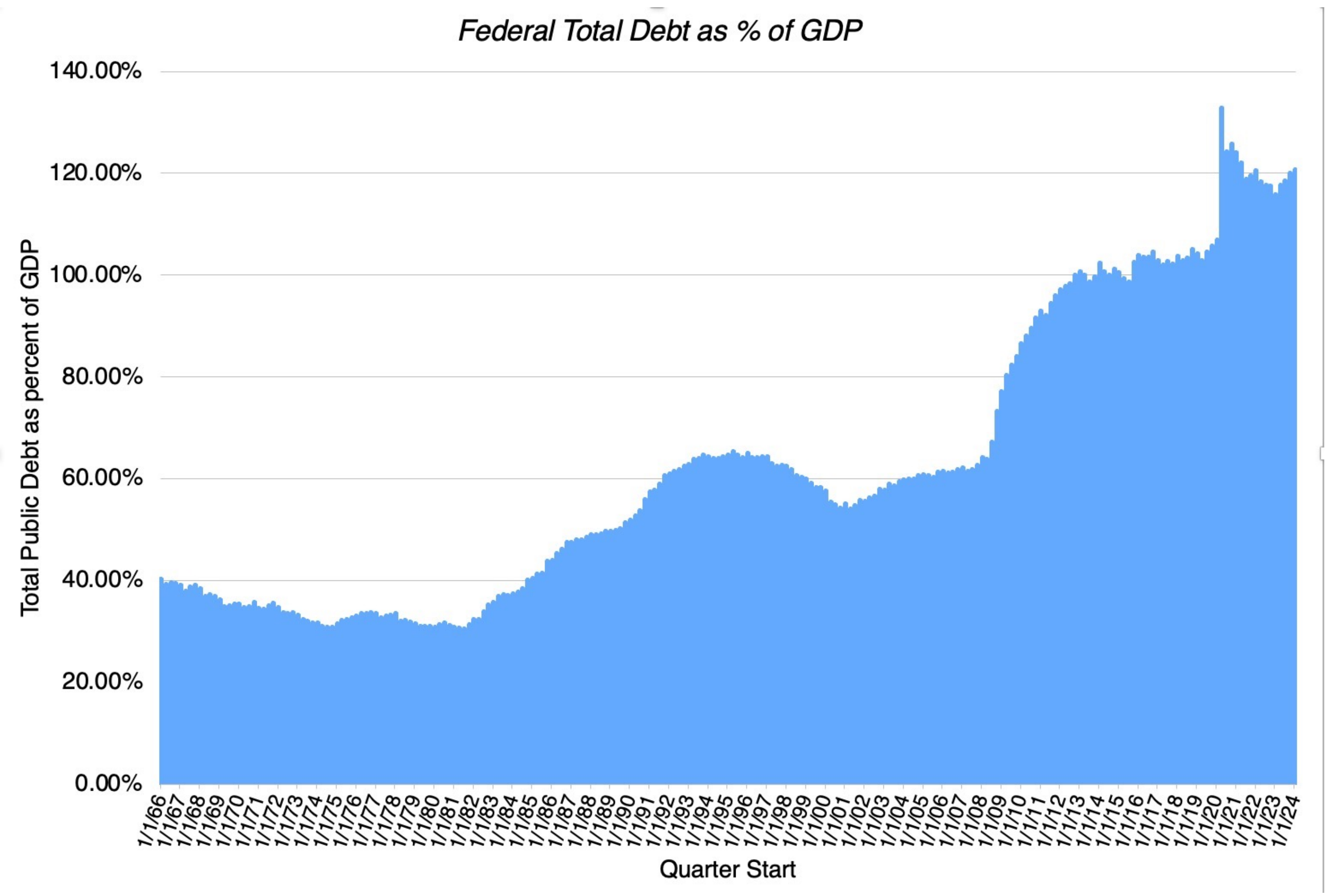
WITH THE CAVEATS…

- **Ratings are upward biased**: Ratings agencies have been accused of being far too optimistic in their assessments of both corporate and sovereign ratings.
- **There is herd behavior**: When one ratings agency lowers or raises a sovereign rating, other ratings agencies seem to follow suit.
- **Too little, too late**: To price sovereign bonds (or set interest rates on sovereign loans), investors (banks) need assessments of default risk that are updated and timely.
- **Vicious Cycle**: Once a market is in crisis, there is the perception that ratings agencies sometimes overreact and lower ratings too much, thus creating a feedback effect that makes the crisis worse. This is especially true for small countries that are mostly dependent on foreign capital for their funds.
- **Regional biases**: There are many, especially in Asia and Latin America, that believe that the ratings agencies are too lax in assessing default risk for North America and Europe, overrating countries in those regions, while being too stringent and narrow in their assessments of default in Asia, Latin America and Africa, underrating countries in those regions.

A MARKET-BASED ALTERNATIVE…

Country	CDS	Net of US	Country	CDS	Net of US	Country	CDS	Net of US
Abu Dhabi	0.76%	0.35%	Greece	1.17%	0.76%	Pakistan	16.49%	16.08%
Algeria	1.47%	1.06%	Guatemala	2.33%	1.92%	Panama	3.08%	2.67%
Angola	6.74%	6.33%	Hong Kong	0.64%	0.23%	Peru	1.47%	1.06%
Argentina	10.84%	10.43%	Hungary	1.79%	1.38%	Philippines	1.21%	0.80%
Australia	0.18%	-0.23%	Iceland	0.31%	-0.10%	Poland	1.05%	0.64%
Austria	0.26%	-0.15%	India	0.95%	0.54%	Portugal	0.58%	0.17%
Bahrain	2.51%	2.10%	Indonesia	1.31%	0.90%	Qatar	0.77%	0.36%
Belgium	0.43%	0.02%	Iraq	4.15%	3.74%	Romania	2.39%	1.98%
Brazil	3.23%	2.82%	Ireland	0.31%	-0.10%	Russia	NA	NA
Bulgaria	1.43%	1.02%	Israel	1.44%	1.03%	Rwanda	4.55%	4.14%
Cameroon	7.07%	6.66%	Italy	1.18%	0.77%	Saudi Arabia	1.05%	0.64%
Canada	0.38%	-0.03%	Japan	0.33%	-0.08%	Senegal	6.23%	5.82%
Chile	1.17%	0.76%	Kazakhstan	1.36%	0.95%	Serbia	1.26%	0.85%
China	0.97%	0.56%	Kenya	5.92%	5.51%	Slovakia	0.55%	0.14%
Colombia	3.37%	2.96%	Korea	0.48%	0.07%	Slovenia	0.72%	0.31%
Costa Rica	2.45%	2.04%	Kuwait	0.94%	0.53%	South Africa	3.00%	2.59%
Croatia	1.26%	0.85%	Latvia	0.85%	0.44%	Spain	0.67%	0.26%
Cyprus	0.99%	0.58%	Lebanon	NA	MNA	Sri Lanka	NA	NA
Czech Republic	0.50%	0.09%	Lithuania	0.96%	0.55%	Sweden	0.20%	-0.21%
Denmark	0.18%	-0.23%	Malaysia	0.85%	0.44%	Switzerland	0.14%	-0.27%
Dubai	1.00%	0.59%	Mexico	2.22%	1.81%	Thailand	0.70%	0.29%
Ecuador	19.08%	18.67%	Mongolia	2.89%	2.48%	Tunisia	10.24%	9.83%
Egypt	6.35%	5.94%	Morocco	1.51%	1.10%	Turkey	3.62%	3.21%
El Salvador	4.20%	3.79%	Namibia	3.44%	3.03%	Ukraine	NA	NA
Estonia	0.81%	0.40%	Netherlands	0.25%	-0.16%	United Kingdom	0.39%	-0.02%
Ethiopia	32.97%	32.56%	New Zealand	0.20%	-0.21%	United States	0.41%	0.00%
Finland	0.33%	-0.08%	Nicaragua	6.57%	6.16%	Uruguay	1.27%	0.86%
France	0.69%	0.28%	Nigeria	6.44%	6.03%	Venezuela	10.08%	9.67%
Gabon	9.61%	9.20%	Norway	0.19%	-0.22%	Vietnam	1.65%	1.24%
Germany	0.28%	-0.13%	Oman	1.63%	1.22%			

THE TRIGGER FOR THE DOWNGRADE…



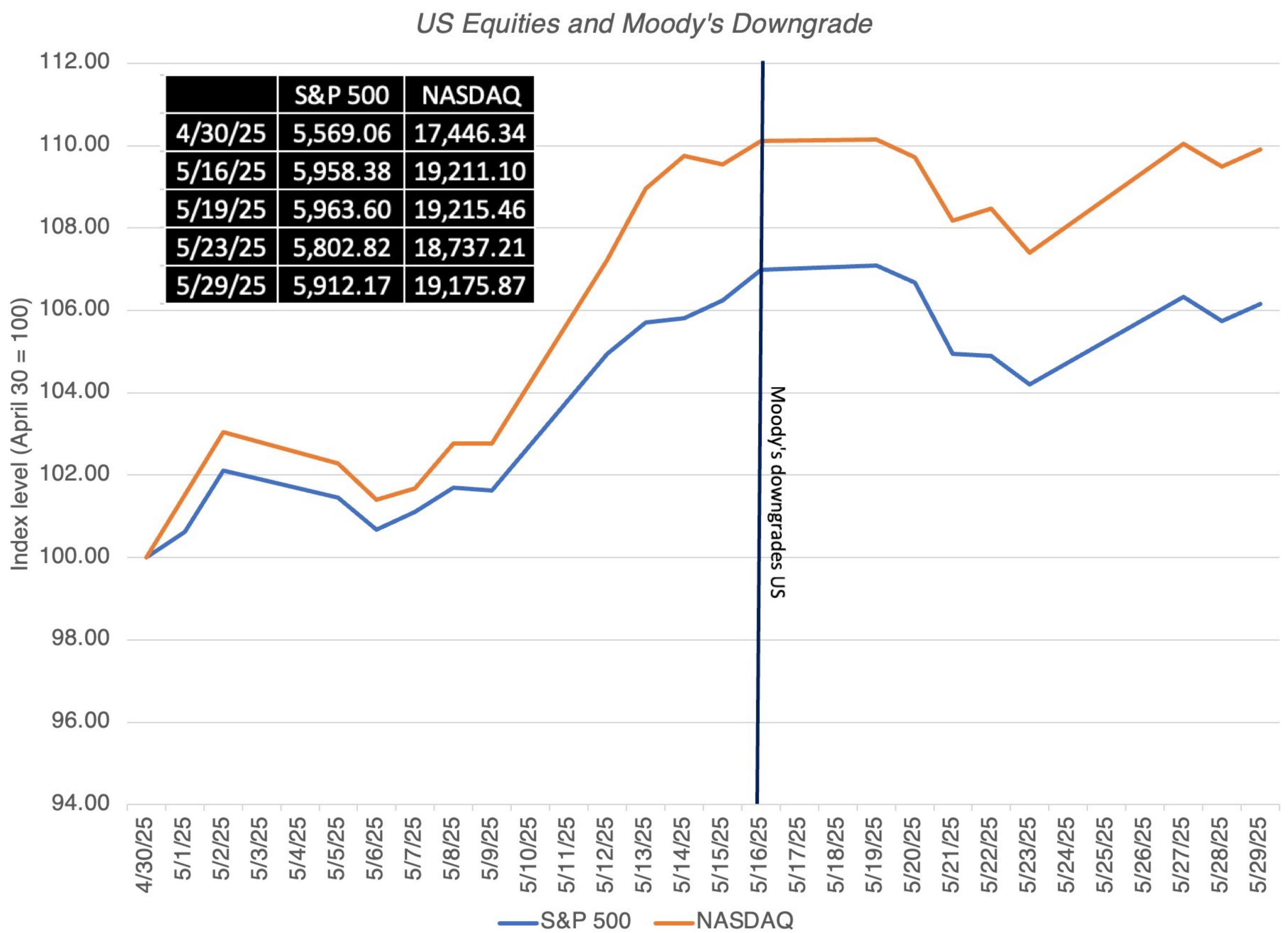
AND WHY DEBT TO GDP IS A FLAWED MEASURE…

Highest Debt to GDP		Lowest Debt to GDP	
Country	*Debt as % of GDP*	*Country*	*Debt as % of GDP*
Japan	249.67%	Turkmenistan	4.67%
Greece	168.87%	Kiribati	11.72%
Venezuela	146.26%	Micronesia, Fed. States of	12.42%
Italy	134.79%	Congo, Dem. Rep. of the	14.37%
United States	123.01%	Kosovo	17.52%
France	110.64%	Marshall Islands	18.67%
Canada	107.49%	Estonia	19.31%
Belgium	105.17%	Russian Federation	19.55%
Spain	105.03%	Nauru	20.11%
United Kingdom	101.15%	Luxembourg	25.67%
Portugal	99.08%	Cambodia	25.73%
Egypt	95.93%	Taiwan Province of China	29.11%
Saint Vincent and the Grenadines	87.14%	Türkiye, Republic of	29.26%
El Salvador	84.68%	Denmark	29.66%
Brazil	84.68%	Tajikistan	30.93%
China, People's Republic of	84.38%	Peru	31.17%
India	83.02%	Bosnia and Herzegovina	32.22%
Mauritius	82.90%	United Arab Emirates	32.44%

THE SYMBOLIC EFFECT?

- A sovereign default has both economic and political roots, since a government that is intent on preserving its credit standing will often find ways to pay its debt and avoid default.
- For decades now, the US has enjoyed special status with markets and institutions (like ratings agencies), built as much on its institutional stability (legal and regulatory) as it was on its economic power.
- The Moody's downgrade seems to me a signal that those days might be winding down, and that the United States, like the rest of the world, will face more accountability for lack of discipline in its fiscal and monetary policy.

THE US DOWNGRADE: STOCK MARKET REACTION



	S&P 500	NASDAQ
4/30/25	5,569.06	17,446.34
5/16/25	5,958.38	19,211.10
5/19/25	5,963.60	19,215.46
5/23/25	5,802.82	18,737.21
5/29/25	5,912.17	19,175.87

AND US TREASURIES…

Date	3 month	2 year	10 year	20 year	30 year
12/31/24	4.37%	4.25%	4.58%	4.86%	4.78%
1/31/25	4.31%	4.22%	4.58%	4.88%	4.83%
2/28/25	4.32%	3.99%	4.24%	4.55%	4.51%
3/31/25	4.32%	3.89%	4.23%	4.62%	4.59%
4/30/25	4.31%	3.60%	4.17%	4.68%	4.66%
5/1/25	4.31%	3.70%	4.25%	4.75%	4.74%
5/2/25	4.33%	3.83%	4.33%	4.81%	4.79%
5/5/25	4.33%	3.83%	4.36%	4.84%	4.83%
5/6/25	4.33%	3.78%	4.30%	4.82%	4.81%
5/7/25	4.34%	3.78%	4.26%	4.78%	4.77%
5/8/25	4.34%	3.90%	4.37%	4.86%	4.83%
5/9/25	4.34%	3.88%	4.37%	4.86%	4.83%
5/12/25	4.42%	3.98%	4.45%	4.92%	4.89%
5/13/25	4.41%	4.02%	4.49%	4.97%	4.94%
5/14/25	4.41%	4.05%	4.53%	5.00%	4.97%
5/15/25	4.38%	3.96%	4.45%	4.93%	4.91%
5/16/25	4.37%	3.98%	4.43%	4.92%	4.89%
5/19/25	4.39%	3.97%	4.46%	4.95%	4.92%
5/20/25	4.38%	3.97%	4.48%	4.99%	4.96%
5/21/25	4.36%	4.00%	4.58%	5.08%	5.08%
5/22/25	4.37%	4.00%	4.54%	5.05%	5.05%
5/23/25	4.36%	4.00%	4.51%	5.03%	5.04%
5/27/25	4.35%	3.92%	4.43%	4.95%	4.94%
5/28/25	4.35%	3.96%	4.47%	4.99%	4.97%
5/29/25	4.36%	3.92%	4.43%	4.94%	4.92%
Change in rates					
	3 month	2 year	10 year	20 year	30 year
12/31- 4/30	0.00%	-0.62%	-0.41%	-0.20%	-0.17%
4/30- 5/16	0.06%	0.38%	0.26%	0.24%	0.23%
5/17-5/29	-0.01%	-0.06%	0.00%	0.02%	0.03%

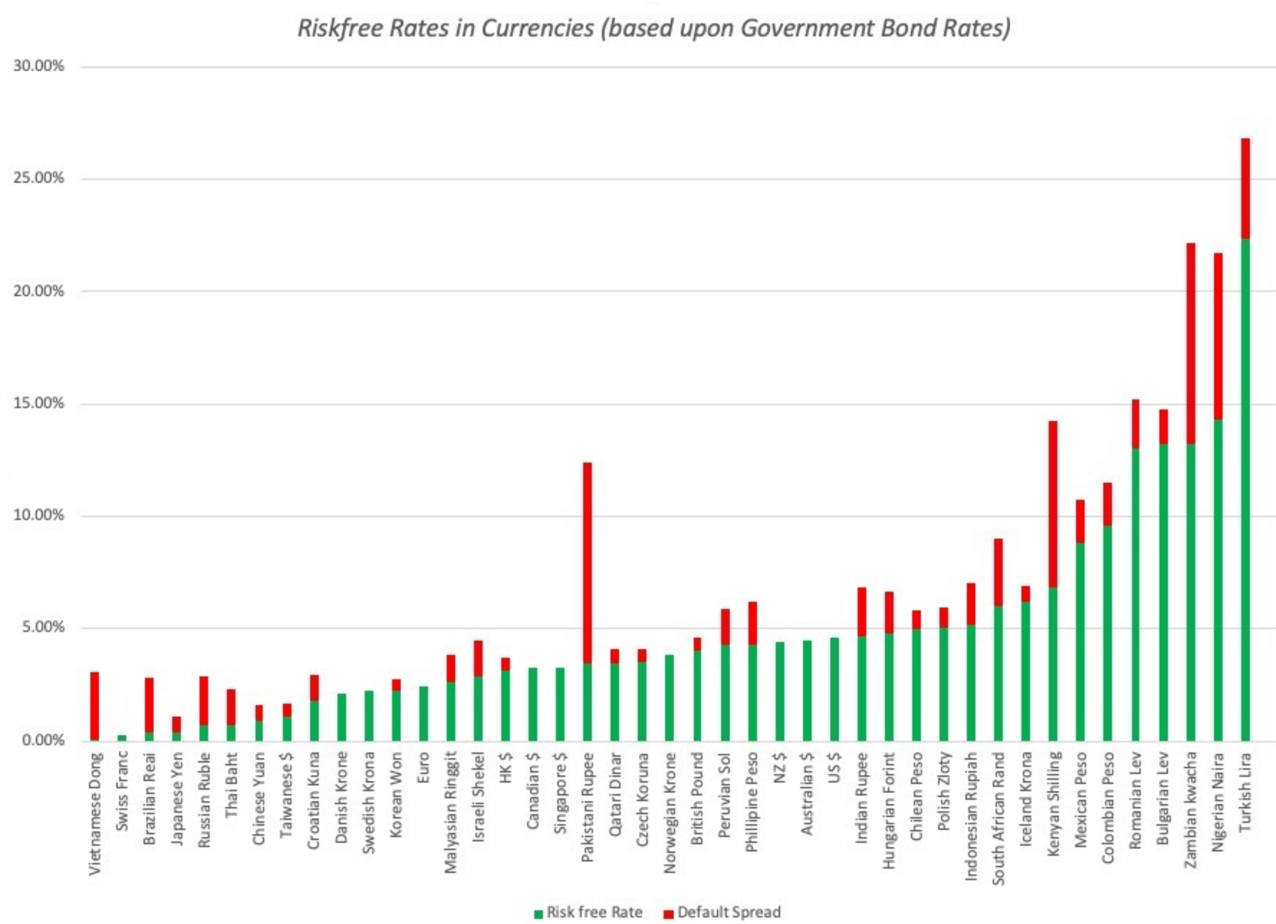
WHY THE MUTED REACTION?

- **Lack of surprise effect**: While the timing of the Moody's downgrade was unexpected, the downgrade itself was not surprising for two reasons. First, since S&P and Fitch had already downgraded the US, Moody's was the outlier in giving the US a Aaa rating, and it was only a matter of time before it joined the other two agencies. Second, Moody's changed its outlook for the US to negative in November 2023, and while the rating remained unchanged until May 2025, it was clearly considering the downgraded in the months leading up to it.
- **Magnitude of private capital**: The immediate effect of a sovereign ratings downgrade is on government borrowing, and what the US does borrow vast amounts, private capital (in the form of equity and debt) is a far bigger source of financing and funding for the economy.
- **Ratings change**: The ratings downgrade ws more of a blow to pride than to finances, since the default risk (and default spread) difference between an Aaa rating and a Aa1 rating is small.

INVESTMENT AND VALUATION CONSEQUENCES: RISKFREE RATE

- In principle, the riskfree rate is what you will earn on a guaranteed investment in a currency, and any risk premiums, either for investing in equity (equity risk premium) or in fixed income securities (default spreads), are added to it.
- It is standard practice in many textbooks and classrooms to use the government bond rate as the risk free rate, but that is built on the presumption that governments cannot default (at least on bonds issued in the local currency).
- Using a Aaa (AAA) rating as a (lazy) proxy for default-free, that is the rationale used to justify government bond rates as riskfree rates at the start of 2025.

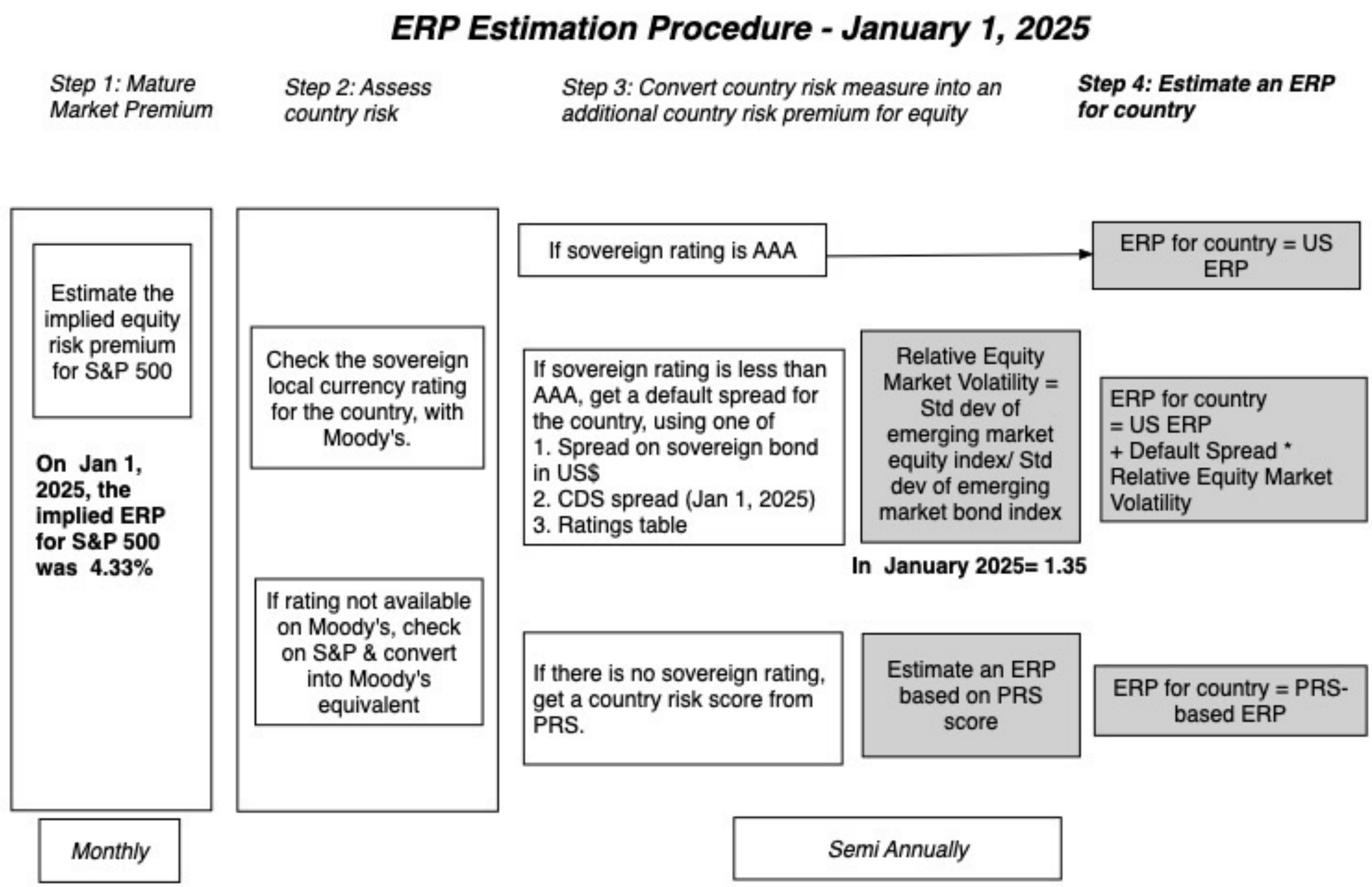
WHEN GOVERNMENTS HAVE DEFAULT RISK.. START OF 2025



THE US DOLLAR RISKFREE RATE .. IN MAY 2025

- Now that the US is no longer Aaa rated, we have to follow a similar process to get a riskfree rate in US dollars:
  - US 10-year treasury bond rate on May 30, 2025 = 4.41%
  - Default spread based on Aa1 rating on May 30, 2025 = 0.40%
  - Riskfree rate in US dollars on May 30, 2025 = US 10-year treasury rate - Aa1 default spread = 4.41% - 0.40% = 4.01%
- This adjustment yields a riskfree rate of 4.01% in US dollars, and it is also **built on the presumption that the default spread manifested after the Moody's downgrade on May 16**, when the more realistic reading is that US treasury markets have been carrying a default spread embedded in them for years, and that we are not making it explicit.

EQUITY RISK PREMIUMS AT THE START OF 2025



ERP : January 1, 2025

Andorra	Baa1	2.13%	6.46%	Jersey	Aa2	0.66%	4.99%
Austria	Aa1	0.53%	4.86%	Liechtenstein	Aaa	0.00%	4.33%
Belgium	Aa3	0.80%	5.13%	Luxembourg	Aaa	0.00%	4.33%
Cyprus	A3	1.60%	5.93%	Malta	A2	1.13%	5.46%
Denmark	Aaa	0.00%	4.33%	Netherlands	Aaa	0.00%	4.33%
Finland	Aa1	0.53%	4.86%	Norway	Aaa	0.00%	4.33%
France	Aa3	0.80%	5.13%	Portugal	A3	1.60%	5.93%
Germany	Aaa	0.00%	4.33%	Spain	Baa1	2.13%	6.46%
Greece	Ba1	3.34%	7.67%	Sweden	Aaa	0.00%	4.33%
Guernsey	A1	0.94%	5.27%	Switzerland	Aaa	0.00%	4.33%
Iceland	A1	0.94%	5.27%	Turkey	B1	6.01%	10.34%
Ireland	Aa3	0.80%	5.13%	United Kingdom	Aa3	0.80%	5.13%
Isle of Man	Aa3	0.80%	5.13%	**Western Europe**		**1.12%**	**5.45%**
Italy	Baa3	2.93%	7.26%				

Canada	Aaa	0.00%	4.33%
United States	Aaa	0.00%	4.33%
North America		**0.00%**	**4.33%**

Caribbean		**8.10%**	**12.43%**

Argentina	Ca	16.02%	20.35%
Belize	Caa1	10.01%	14.34%
Bolivia	Caa3	13.35%	17.68%
Brazil	Ba1	3.34%	7.67%
Chile	A2	1.13%	5.46%
Colombia	Baa2	2.54%	6.87%
Costa Rica	Ba3	4.80%	9.13%
Ecuador	Caa3	13.35%	17.68%
El Salvador	B3	8.67%	13.00%
Guatemala	Ba1	3.34%	7.67%
Honduras	B1	6.01%	10.34%
Mexico	Baa2	2.54%	6.87%
Nicaragua	B2	7.34%	11.67%
Panama	Baa3	2.93%	7.26%
Paraguay	Baa3	2.93%	7.26%
Peru	Baa1	2.13%	6.46%
Suriname	Caa1	10.01%	14.34%
Uruguay	Baa1	2.13%	6.46%
Venezuela	C	23.58%	27.91%
Latin America		**4.82%**	**9.15%**

Country	*Rating*	*CRP*	*ERP*
Angola	B3	8.67%	13.00%
Benin	B1	6.01%	10.34%
Botswana	A3	1.60%	5.93%
Burkina Faso	Caa1	10.01%	14.34%
Cameroon	Caa1	10.01%	14.34%
Cape Verde	B2	7.34%	11.67%
Congo (DR)	B3	8.67%	13.00%
Congo (Rep)	Caa2	12.02%	16.35%
Côte d'Ivoire	Ba2	4.02%	8.35%
Egypt	Caa1	10.01%	14.34%
Ethiopia	Caa2	12.02%	16.35%
Gabon	Caa2	12.02%	16.35%
Ghana	Caa2	12.02%	16.35%
Kenya	Caa1	10.01%	14.34%
Mali	Caa2	12.02%	16.35%
Mauritius	Baa3	2.93%	7.26%
Morocco	Ba1	3.34%	7.67%
Mozambique	Caa2	12.02%	16.35%
Namibia	B1	6.01%	10.34%
Niger	Caa3	13.35%	17.68%
Nigeria	Caa1	10.01%	14.34%
Rwanda	B2	7.34%	11.67%
Senegal	B1	6.01%	10.34%
South Africa	Ba2	4.02%	8.35%
Swaziland	B2	7.34%	11.67%
Tanzania	B1	6.01%	10.34%
Togo	B3	8.67%	13.00%
Tunisia	Caa2	12.02%	16.35%
Uganda	B3	8.67%	13.00%
Zambia	Caa2	12.02%	16.35%
Africa		**8.31%**	**12.64%**

Albania	Ba3	4.80%	9.13%
Armenia	Ba3	4.80%	9.13%
Azerbaijan	Ba1	3.34%	7.67%
Belarus	C	23.58%	27.91%
Bosnia and Herzegovina	B3	8.67%	13.00%
Bulgaria	Baa1	2.13%	6.46%
Croatia	A3	1.60%	5.93%
Czech Republic	Aa3	0.80%	5.13%
Estonia	A1	0.94%	5.27%
Georgia	Ba2	4.02%	8.35%
Hungary	Baa2	2.54%	6.87%
Kazakhstan	Baa1	2.13%	6.46%
Kyrgyzstan	B3	8.67%	13.00%
Latvia	A3	1.60%	5.93%
Lithuania	A2	1.13%	5.46%
Macedonia	Ba3	4.80%	9.13%
Moldova	B3	8.67%	13.00%
Montenegro	B1	6.01%	10.34%
Poland	A2	1.13%	5.46%
Romania	Baa3	2.93%	7.26%
Serbia	Ba2	4.02%	8.35%
Slovakia	A3	1.60%	5.93%
Slovenia	A3	1.60%	5.93%
Tajikistan	B3	8.67%	13.00%
Ukraine	Ca	16.02%	20.35%
Uzbekistan	Ba3	4.80%	9.13%
Eastern Europe		**3.40%**	**7.73%**

Abu Dhabi	Aa2	0.66%	4.99%
Bahrain	B2	7.34%	11.67%
Iraq	Caa1	10.01%	14.34%
Israel	Baa1	2.13%	6.46%
Jordan	Ba3	4.80%	9.13%
Kuwait	A1	0.94%	5.27%
Lebanon	C	23.58%	27.91%
Oman	Ba1	3.34%	7.67%
Qatar	Aa2	0.66%	4.99%
Ras Al Khaimah (Emirate	A3	1.60%	5.93%
Saudi Arabia	Aa3	0.80%	5.13%
Sharjah	Ba1	3.34%	7.67%
United Arab Emirates	Aa2	0.66%	4.99%
Middle East		**2.10%**	**6.43%**

Country	*PRS*	*CRP*	*ERP*
Algeria	69.25	3.52%	7.85%
Brunei	81.75	0.70%	5.03%
Gambia	67.5	5.26%	9.59%
Guinea	57.75	10.52%	14.85%
Guinea-Bissau	65.25	7.60%	11.93%
Guyana	75.75	1.87%	6.20%
Haiti	54.75	14.03%	18.36%
Iran	63.75	7.60%	11.93%
Korea, D.P.R.	51	14.03%	18.36%
Liberia	58.25	10.52%	14.85%
Libya	74.5	1.87%	6.20%
Madagascar	64.5	6.44%	10.76%
Malawi	57.75	10.52%	14.85%
Myanmar	56	11.69%	16.02%
Russia	69.25	3.52%	7.85%
Sierra Leone	59.5	10.52%	14.85%
Somalia	55.5	11.69%	16.02%
Sudan	43.5	20.65%	24.98%
Syria	46.5	20.65%	24.98%
Yemen, Republic	51.5	14.03%	18.36%
Zimbabwe	57.75	10.52%	14.85%

Bangladesh	B2	7.34%	11.67%
Cambodia	B2	7.34%	11.67%
China	A1	0.94%	5.27%
Fiji	B1	6.01%	10.34%
Hong Kong	Aa3	0.80%	5.13%
India	Baa3	2.93%	7.26%
Indonesia	Baa2	2.54%	6.87%
Japan	A1	0.94%	5.27%
Korea	Aa2	0.66%	4.99%
Laos	Caa3	13.35%	17.68%
Macao	Aa3	0.80%	5.13%
Malaysia	A3	1.60%	5.93%
Maldives	Caa2	12.02%	16.35%
Mongolia	B2	7.34%	11.67%
Nepal	Ba3	4.80%	9.13%
Pakistan	Caa2	12.02%	16.35%
Papua New Guinea	B2	7.34%	11.67%
Philippines	Baa2	2.54%	6.87%
Singapore	Aaa	0.00%	4.33%
Solomon Islands	Caa1	10.01%	14.34%
Sri Lanka	Ca	16.02%	20.35%
Taiwan	Aa3	0.80%	5.13%
Thailand	Baa1	2.13%	6.46%
Vietnam	Ba2	4.02%	8.35%
Asia		**1.44%**	**5.77%**

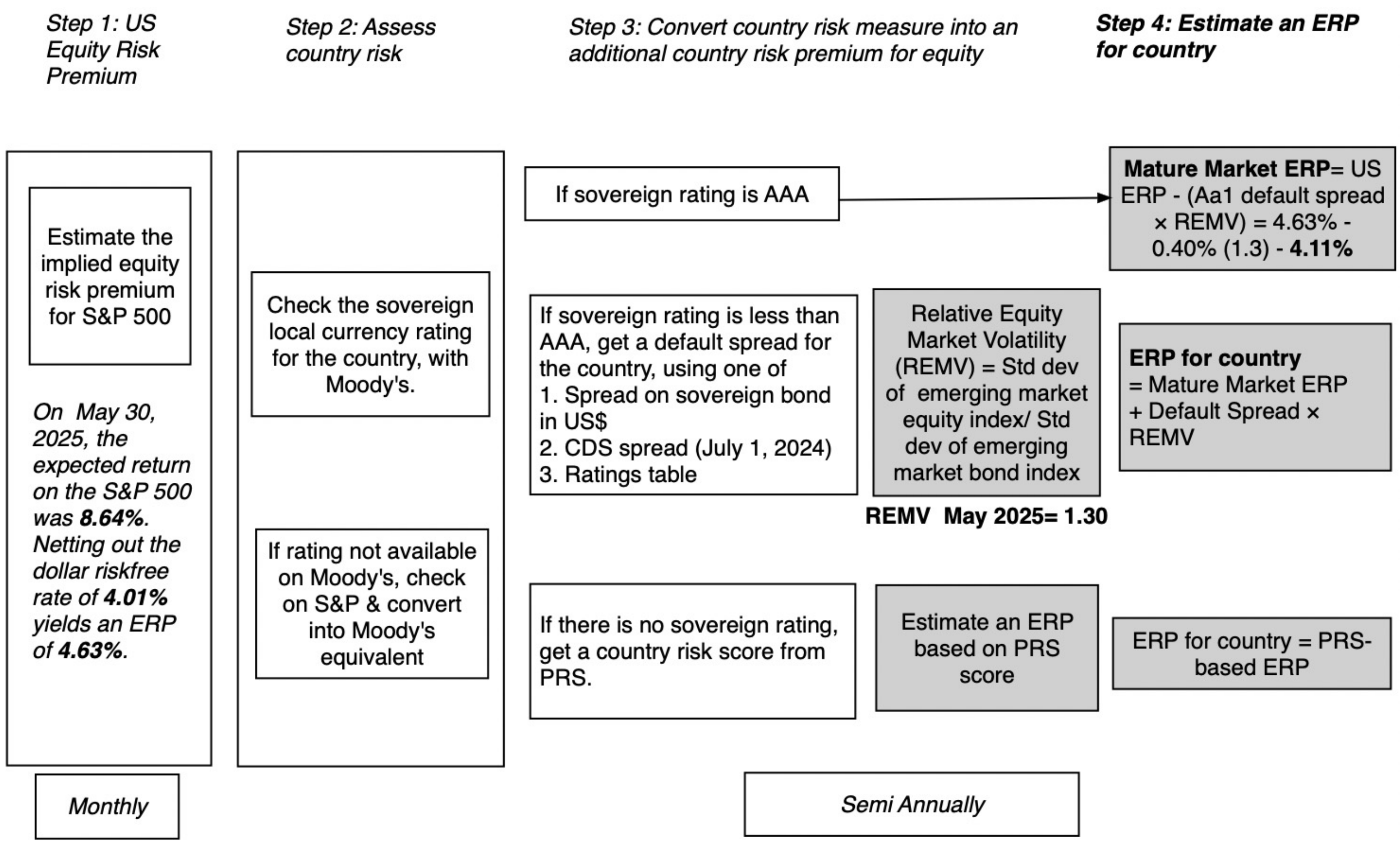
Australia	Aaa	0.00%	4.33%
Cook Islands	B1	6.01%	10.34%
New Zealand	Aaa	0.00%	4.33%
Australia & NZ		**0.00%**	**4.33%**

Blue: Moody's Rating
Red: Added Country Risk
Green #: Total ERP

Aswath Damodaran

EQUITY RISK PREMIUMS AFTER THE US DOWNGRADE

ERP Estimation Procedure - May 30, 2025



THE COST OF EQUITY: PRE AND POST DOWNGRADE

	Pre Downgrade	*Post Downgrade*
US 10-year treasury rate	4.41%	4.41%
Riskfree rate in US $	4.41%	4.01%
Implied expected return on S&P 500	8.64%	8.64%
Implied ERP for S&P 500	4.23%	4.63%
Cost of equity for average stock	8.64%	8.64%
Cost of equity for safe stock (Beta = 0.8)	7.79%	7.71%
Cost of equity for risky stock (Beta = 1.2)	9.49%	9.57%

IMPLICATIONS FOR PRACTICE

- Incorporating the effects of the downgrade changes the composition of that expected return, resulting in a lower riskfree rate and a higher equity risk premium.
- Thus, while the expected return for the average stock remains at 8.64%, the expected return increasing slightly for riskier stocks and decreases slightly for safer stocks, **but the effects are so small that investors hardly notice**.
- If there is a lesson for analysts here, it is that the downgrade's effects on the discount rates (costs of equity and capital) are minimal, and **that staying with the conventional approach (of using the ten-year US treasury bond rate as the riskfree rate and using that rate to compute the equity risk premium) will continue to work.**

CONCLUSION

- The financial and economic consequences, at least so far, have been inconsequential, with equity and bond markets shrugging off the downgrade, perhaps because the surprise factor was minimal.
  - The downgrade also has had only a minimal impact on costs of equity and capital for US companies, and while that may change, the changes will come from macroeconomic news or from crises.
  - For the most part, analysts should be able to continue to work with the US treasury rate as a riskfree rate and forward-looking equity risk premiums, as they did before the downgrade.
- With all of that said, though, the Moody's action does carry symbolic weight, another indicator that US exceptionalism, which allowed the US to take actions that would have brought blowback for other countries, especially in emerging markets, without much pushback, is coming to an end. That is healthy, in the long term, for both the United States and the rest of the world, but it will come with short term pain.