

Sovereign Stress Tracker: Europe & Central Asia

Zooming in on sovereign stress in 10 countries in Europe & Central Asia

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- In 2025, Armenia, Kazakhstan, Bosnia-H are most-at-risk; Türkiye, Georgia, Russia appear safest.
- This report provides a detailed breakdown and country comparison across 10 macro-fiscal indicators.
- Caveat: this cross-country comparison on macro-fiscal fundamentals excludes crucial qualitative factors.

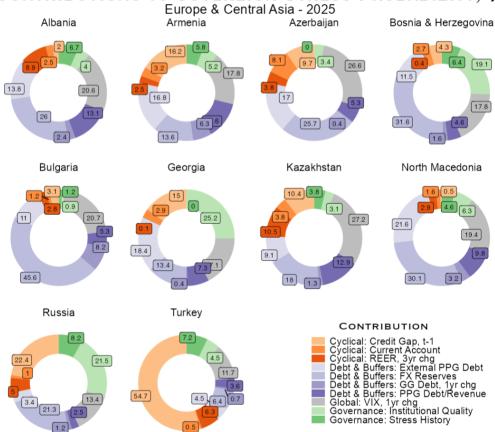
The 43 in-sample countries in the May 2025 version of the Sovereign Stress Tracker are upper- and lower-middle income countries that the IMF classifies as having regular access to international capital markets and for which there is full data availability in 2025. This note focuses on the Tracker's in-sample "market-access" middle-income EMDEs located in Europe and Central Asia: Albania, Armenia, Azerbaijan, Bosnia & Herzegovina, Bulgaria, Georgia, Kazakhstan, North Macedonia, Russia, and Turkey.

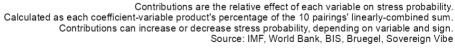
While the implied probability of sovereign stress is of use to emerging market investors, other aspects of the data are even more useful. One such example is the ranking of each country relative to Relative others. performance reveals any misalignment between the results from the IMF model, on the one hand, and pricing and ratings of sovereign debt, on the other.

More helpful still is knowing which factors are driving sovereign risk or detracting from it - in each Understanding country. source of risk – whether cyclical, debt. buffers, global. governance - provides a compass to those navigating the emerging markets policy landscape. Investors can gain an edge by mapping the extent to which policies economic affect sovereign issuer's strengths and weaknesses.

The chart describes the contribution of each variable to stress probability. The

CONTRIBUTIONS TO SOVEREIGN STRESS PROBABILITY, %





percentages in the chart are the relative weights of each indicator's logit, which refers to the product of a



coefficient with a data point in a logit model. The figures in the chart reflect only the *size* of contribution to or from the probability of sovereign stress, and do not capture whether the contribution is positive or negative.

INTERPRETATION

The main contributions to sovereign stress probability in each country in 2025 are outlined below. Rankings are in descending order of the probability of experiencing sovereign stress, meaning that a "high" ranking (e.g. #1) refers to a country at that faces a high chance of experiencing strains 1-2 years forward.

Since VIX is a global indicator, it impacts all countries in the same way in the model. VIX is up by a stunning 40% y-o-y through early May 2025, indicating that global risk-off sentiment is increasing the likelihood of sovereign strains across the EM complex. Whereas the 7.5% annual decline in VIX in 2024 helped decrease risk for all countries. Concretely, EM sovereign issuance has been subdued since Trump's inauguration and the ensuing tariff saga, particularly in the frontier and high-yield segments. Some issuers may fear trying to tap the market despite ominous debt servicing schedules, thus increasing rollover risk.

SOVEREIGN RISK RANKINGS

The table below presents regional countries and their data points across the ten independent variables that predict sovereign stress probability and the dependent variable of sovereign stress itself. This analysis uses data from international databases, usually in yearly format. As such, there may be discrepancies with national sources and/or higher-frequency premium data sources. Such divergences may also arise because when actual or forecast data is unavailable for the reference year, data from the previous period is pulled forward.

Rank Country	Year	Institutional Quality	Stress History	Current Account / GDP	REER - 3yr chg	Credit Gap (t-1)	General Gvt Debt / GDP - 1yr chg	Public Debt / Revenue	External PPG Debt / GDP	International Reserves / GDP	VIX - 1yr chg	Probability of Sovereign Stress
17 Armenia	2025	-0.167	0.387	-4.522	6.487	-6.464	4.181	216.063	24.068	13.739	40.863	0.800
19 Kazakhstan	2025	0.066	0.167	-3.565	18.175	2.721	0.567	145.027	8.509	11.967	40.863	0.786
23 Bosnia & Herzegovina	2025	-0.611	0.430	-3.808	0.935	-1.709	1.042	79.189	16.461	31.954	40.863	0.725
24 Albania	2025	0.112	0.387	-3.053	20.435	-0.699	-1.358	194.494	17.128	22.753	40.863	0.716
28 Azerbaijan	2025	-0.072	0.000	7.794	6.746	2.606	0.167	61.174	16.370	17.432	40.863	0.678
29 North Macedonia	2025	0.186	0.282	-2.160	7.115	-0.174	-1.919	155.149	28.483	28.040	40.863	0.652
35 Bulgaria	2025	0.025	0.072	-1.453	6.277	1.062	4.682	77.995	13.564	39.599	40.863	0.552
38 Russia	2025	-0.919	0.729	1.855	-17.745	-11.933	1.080	58.400	6.554	28.762	40.863	0.506
40 Georgia	2025	0.842	0.000	-4.376	0.369	-6.230	-0.246	131.315	27.502	14.149	40.863	0.429
42 Turkey	2025	-0.222	0.729	-1.192	25.456	-33.300	0.702	93.204	9.744	9.799	40.863	0.240

The heatmap in Appendix 1 describes each country's relative performance across nine variables that contribute to sovereign stress. A tenth variable related to the Chicago Board Options Exchange Volatility Index is global in nature and thus the same for all countries, hence its exclusion from the heatmap. Yellow (purple) indicates poorer (better) performance compared to peers on a given indicator, with a worst- and best-in-class score assigned a value of "1" and "0," respectively. Yellow (purple) readings indicate higher (lower) likelihood of sovereign stress.

ANNUAL CHANGES IN SOVEREIGN RISK PROFILES

Sovereign risk has increased in every country in the region, due largely to the large, 48-point swing in VIX compared to a year prior to early May when data was collected.



Rank Country	Year	∆ Stress History	Δ Current Account / GDP	Δ REER - 3yr chg	Δ Credit Gap (t-1)	Δ General Gvt Debt / GDP - 1yr chg		Δ External PPG Debt / GDP	Δ International Reserves / GDP	Δ VIX - 1yr chg	Δ Probability of Sovereign Stress
5 Bulgaria	2025	-0.008	-1.67	-2.09	0.00	3.19	8.49	-0.58	-1.68	48.34	0.23
9 Albania	2025	-0.043	-0.64	0.30	0.00	1.35	-3.73	-0.70	-0.93	48.34	0.19
14 Azerbaijan	2025	0.000	-0.05	-12.26	0.00	1.13	4.94	-1.00	-1.07	48.34	0.16
20 Russia	2025	-0.081	-1.03	-16.28	1.29	0.26	2.00	0.25	1.13	48.34	0.15
21 Bosnia & Herzegovina	2025	-0.048	-0.18	-3.10	0.00	-0.12	0.01	-0.01	-0.02	48.34	0.14
24 Kazakhstan	2025	-0.018	-2.26	-7.61	0.00	-1.25	17.33	-0.47	-0.66	48.34	0.13
25 Armenia	2025	-0.043	-0.62	-27.07	0.00	4.61	18.59	-0.68	-0.39	48.34	0.12
26 Georgia	2025	0.000	0.04	-27.75	0.00	2.58	2.23	-1.29	-0.66	48.34	0.12
33 Turkey	2025	-0.081	-0.43	19.88	-5.82	3.99	2.86	-0.85	-0.85	48.34	0.10
35 North Macedonia	2025	-0.032	0.15	-3.74	0.00	-5.93	-14.72	-2.06	-2.03	48.34	0.08

2025 SOVEREIGN RISK BREAKDOWN BY COUNTRY

The percentage contribution of each sovereign risk driver across cyclical; debt and buffers; global; and governance factors is displayed in the ring charts below for each country. The contribution itself reflects only the magnitude of the effect, but not the direction. The risk percentile of each indicator reveals the directionality of the sovereign risk impact, i.e. whether that variable's reading adds to or detracts from sovereign stress likelihood. A high at-risk percentile (e.g. 90) is the equivalent of an indicator flashing red, meaning that it is contributing to sovereign risk. A low at-risk percentile (e.g. 10) indicates that the driver is mitigating sovereign risk. At or near the 50th percentile suggests a relatively neutral effect.

CONTRIBUTION Cyclical: Credit Gap, t-1 Cyclical: Current Account Cyclical: REER, 3yr chg Debt & Buffers: External PPG Debt Debt & Buffers: FX Reserves Debt & Buffers: GG Debt, 1yr chg Debt & Buffers: PPG Debt/Revenue Global: VIX, 1yr chg Governance: Institutional Quality Governance: Stress History

ALBANIA

The largest contributions to Albania's sovereign stress probability are its international reserves, VIX, external public debt, and debt-to-revenue, though these mostly mitigate risk rather than exacerbating it:

- Reserves: Albania's reserves stood at 22.8% / GDP, placing it in the top third of strongest FX buffers in the 43-country sample.
- External debt: At 17.1% / GDP, Albania's external public debt is close to the median of the 43 countries in the global sample.
- **Debt/revenue**: At 194, this is the second-highest ratio in the region, suggesting that it adds to sovereign risk. Yet it is only at the 30th-percentile in the global sample, suggesting it may mitigate sovereign risk.



Cyclical and governance factors seem to matter relatively little in Albania in 2025, driving less than a quarter of the country's sovereign risk profile. However, the 20-point change in the real exchange rate over three years is one of the highest in EM, underscoring a key vulnerability from this dynamic.

Albania's model-estimated probability of experiencing sovereign stress in the near-term stands at 71.6%, ranking it 24th out of the 43 in-sample countries in 2025.



Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
Level	0.112	0.387	-3.053	20.435	-0.699	-1.358	194.494	17.128	22.753	0.716	24
Risk Percentile	28.600	54.800	66.700	92.900	69.000	21.400	28.600	52.400	31.000	NA	NA
Annual Change	NA	-0.043	-0.640	0.300	0.000	1.350	-3.730	-0.700	-0.930	0.190	9

Albania's sovereign risk profile has worsened by 19 points in 2025, the ninth-most in the sample and second-most in the region.

- Penalizing factors include current account deterioration, accelerating real exchange rate appreciation, a slower decline in general government debt, and a declining reserves ratio.
- On the positive side, Albania has experienced a decrease in its debt-to-revenue ratio and in external debt / GDP.

ARMENIA

The main contributions to Armenia's sovereign stress probability are VIX, external public debt, and the prior year's credit gap.

- External debt: At 24% / GDP, external public debt is at the 64th percentile in the 43-country sample, and thus a risk exacerbator.
- <u>Credit gap</u>: At -6.5% / GDP, the credit gap is quite negative, which mitigates sovereign risk.
- Reserves: At 13.7% / GDP, reserves are just low enough to place Armenia in the 66th percentile, or the third of countries most-at-risk on this metric.

The annual increase in general government debt (+4.2 points in 2025), the large current account deficit (-4.5% of GDP), and real exchange rate appreciation all stand out as risk factors, as these dynamics are worse than in other in-sample EMs.

Armenia

5.8

5.2

17.8

16.8

13.6

6.3

Armenia's model-estimated probability of experiencing sovereign stress in the near-term stands at 80%, ranking it 17th out of the 43 in-sample countries in 2025.

Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
-0.167	0.387	-4.522	6.487	-6.464	4.181	216.063	24.068	13.739	0.80	17
52.400	54.800	83.300	69.000	9.500	85.700	38.100	64.300	66.700	NA	NA
NA	-0.043	-0.620	-27.070	0.000	4.610	18.590	-0.680	-0.390	0.12	25
	Quality -0.167 52.400	Quality History -0.167 0.387 52.400 54.800	Quality History GDP -0.167 0.387 -4.522 52.400 54.800 83.300	Quality History GDP chg -0.167 0.387 -4.522 6.487 52.400 54.800 83.300 69.000	Quality History GDP chg (t-1) -0.167 0.387 -4.522 6.487 -6.464 52.400 54.800 83.300 69.000 9.500	Quality History GDP chg (t-1) - 1yr chg -0.167 0.387 -4.522 6.487 -6.464 4.181 52.400 54.800 83.300 69.000 9.500 85.700	Quality History GDP chg (t-1) - 1yr chg Revenue -0.167 0.387 -4.522 6.487 -6.464 4.181 216.063 52.400 54.800 83.300 69.000 9.500 85.700 38.100	Quality History GDP chg (t-1) - 1ýr chg Revenue Debt / GDP -0.167 0.387 -4.522 6.487 -6.464 4.181 216.063 24.068 52.400 54.800 83.300 69.000 9.500 85.700 38.100 64.300	Quality History GDP chg (t-1) - 1yr chg Revenue Debt / GDP GDP -0.167 0.387 -4.522 6.487 -6.464 4.181 216.063 24.068 13.739 52.400 54.800 83.300 69.000 9.500 85.700 38.100 64.300 66.700	Quality History GDP chg (t-1) - 1yr chg Revenue Debt / GDP GDP Probability -0.167 0.387 -4.522 6.487 -6.464 4.181 216.063 24.068 13.739 0.80 52.400 54.800 83.300 69.000 9.500 85.700 38.100 64.300 66.700 NA

Armenia's sovereign risk profile has worsened by 12 points in 2025, the 25th-most in the sample.

- Penalizing factors include current account deterioration, accelerating general government debt, increasing debt-to-revenue, and a slight weakening in the reserves ratio.
- On the positive side, real exchange rate appreciation is decelerating and the external debt ratio is decreasing.



AZERBAIJAN

Azerbaijan's main sovereign stress drivers are VIX, international reserves and external public debt.

- <u>Reserves</u>: At 17.4% / GDP, Azerbaijan's reserves are exactly at the EM median, suggesting a relatively neutral effect.
- External debt: At 16.4% / GDP, Azerbaijan's external public debt is near the EM median, also pointing to a neutral impact.

At 2.6% of potential GDP, Azerbaijan has one of the highest credit gaps in EM, which contributes to risk. This large number points to a potential credit bubble and is reflected in the noteworthy 9.7% contribution to stress likelihood. On the other

hand, the public debt-to-revenue ratio is one of the lowest in EM, which is hardly surprising for a small oil-producing country.

Azerbaijan's model-estimated probability of experiencing sovereign stress in the near-term stands at 67.8%, ranking it 28th out of the 43 in-sample countries in 2025.

Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
Level	-0.072	0	7.794	6.746	2.606	0.167	61.174	16.37	17.432	0.678	28
Risk Percentile	45.200	0	0.000	73.800	95.200	47.600	2.400	47.60	50.000	NA	NA
Annual Change	NA	0	-0.050	-12.260	0.000	1.130	4.940	-1.00	-1.070	0.160	14

Azerbaijan's sovereign risk profile has worsened by 16 points in 2025, the 14th-most in the sample.

- Penalizing factors include current account deterioration, accelerating general government debt, increasing debt-to-revenue, and a declining reserves ratio.
- On the positive side, external public debt decreased, and real exchange rate appreciation decelerated.

BOSNIA & HERZEGOVINA

International reserves and institutional quality stand out as the main contributors to Bosnia & Herzegovina's sovereign stress prospects.

- <u>Reserves</u>: At 32% of GDP, Bosnia & Herzegovina's reserves are large, placing it in the top 10 percentile of all in-sample EM on this metric, thus mitigating sovereign risk.
- <u>Institutional quality</u>: Bosnia & Herzegovina's institutional quality is in the lowest fifth of EM, which exacerbates sovereign risk.

The current account is low, at -3.8% of GDP, placing Bosnia & Herzegovina in the 76th most-at-risk percentile on this metric.

Bosnia & Herzegovina's model-estimated probability of experiencing sovereign stress in the near-term stands at 72.5%, ranking it 23rd out of the 43 in-sample countries in 2025.

Azerbaijan









Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
Level	-0.611	0.430	-3.808	0.935	-1.709	1.042	79.189	16.461	31.954	0.725	23
Risk Percentile	81.000	71.400	76.200	47.600	57.100	64.300	7.100	50.000	9.500	NA	NA
Annual Change	NA	-0.048	-0.180	-3.100	0.000	-0.120	0.010	-0.010	-0.020	0.140	21

Bosnia & Herzegovina's sovereign risk profile has worsened by 14 points in 2025, the 21st-most in the sample.

- Penalizing factors include a deteriorating current account ratio, increasing debt-to-revenue, and declining reserves-to-GDP.
- On the positive side, real exchange rate appreciation is decelerating, general government debt growth is decelerating, and external public debt decreased.

BULGARIA

For Bulgaria, international reserves alone explain a whopping 45.6% of its chances of experiencing sovereign stress.

• Reserves: At 39.6% of GDP, Bulgaria's reserves ratio is one of the highest in all of EM, thus mitigating the country's sovereign risk.

Public debt-to-revenue is exceptionally low in Bulgaria, at 78, placing it below the 5th at-risk percentile, indicating mitigated sovereign risk on this metric. Conversely, Bulgaria fares poorly on the one-year increase in its general government debt ratio (+4.7 points) and for its sizable, positive credit gap.



Bulgaria's model-estimated probability of experiencing sovereign stress in the near-term stands at 55.2%, ranking it 35th out of the 43 in-sample countries in 2025.

Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
Level	0.025	0.072	-1.453	6.277	1.062	4.682	77.995	13.564	39.599	0.552	35
Risk Percentile	40.500	38.100	38.100	66.700	85.700	88.100	4.800	35.700	7.100	NA	NA
Annual Change	NA	-0.008	-1.670	-2.090	0.000	3.190	8.490	-0.580	-1.680	0.230	5

Bulgaria's sovereign risk profile has worsened by 23 points in 2025, the 5th-most in the sample.

- Penalizing factors include a declining current account ratio, an acceleration in general government debt growth, an increase in public debt-to-revenue, and a declining reserves ratio.
- On the positive side, real exchange rate appreciation is decelerating, and the external public debt ratio is declining.



GEORGIA

The most important variables driving Georgia's sovereign stress likelihood are its institutional quality, external public debt, VIX, and the credit gap.

- <u>Institutional quality</u>: Georgia's institutions are one of the most highlyrated in all of EM, which mitigates sovereign risk.
- External debt: At 27.5% of GDP, Georgia's external public debt is a fairly high vulnerability, placing the country in the 71st most-at-risk percentile on this indicator.
- <u>Credit gap</u>: At -6.2% of potential GDP, the prior year's credit gap was quite negative in Georgia. This decreases sovereign risk and is among the lowest in EM.



Georgia has a fairly large current account deficit, at -4.4% of GDP, placing it in the 81st risk percentile on this metric, though the overall contribution to sovereign risk appears to be limited.

Georgia's model-estimated probability of experiencing sovereign stress in the near-term stands at 42.9%, ranking it 40th out of the 43 in-sample countries in 2025.

Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
Level	0.842	0	-4.376	0.369	-6.23	-0.246	131.315	27.502	14.149	0.429	40
Risk Percentile	2.400	0	81.000	40.500	16.70	42.900	14.300	71.400	61.900	NA	NA
Annual Change	NA	0	0.040	-27.750	0.00	2.580	2.230	-1.290	-0.660	0.120	26

Georgia's sovereign risk profile has worsened by 12 points in 2025, the 26th-most in the sample.

- Penalizing factors include a slowing decline in general government debt consolidation, increasing debt-to-revenue, and a slight decline in the reserves ratio.
- On the positive side, the current account ratio is set to increase, real exchange rate appreciation is decelerating sharply, and external public debt-to-GDP is declining.

KAZAKHSTAN

In Kazakhstan, VIX, international reserves, and debt-to-revenue explain the lion's share of sovereign stress probability.

- Reserves: At 12% of GDP, Kazakhstan's reserves are low, placing the country in the 83rd most-at-risk percentile across all EM, thus exacerbating sovereign risk.
- <u>Debt/revenue</u>: At 145, Kazakhstan's debt-to-revenue is low enough to place it at only the 21st most-at-risk percentile, thus mitigating sovereign risk. This is hardly surprising for an oil-exporting nation like Kazakhstan.

Kazakhstan

10.4 3.8

10.5

10.5

11.3

The credit gap and real exchange rate dynamic are both above the 90th most-at-risk percentiles. This reveals elements of Dutch Disease - i.e. currency appreciation and inflation – combined with a potential credit bubble, which could be a dangerous mix.

Kazakhstan's model-estimated probability of experiencing sovereign stress in the near-term stands at 78.6%, ranking it 19th out of the 43 in-sample countries in 2025.



Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	Rank
0.066	0.167	-3.565	18.175	2.721	0.567	145.027	8.509	11.967	0.786	19
33.300	47.600	73.800	90.500	97.600	54.800	21.400	23.800	83.300	NA	NA
NA	-0.018	-2.260	-7.610	0.000	-1.250	17.330	-0.470	-0.660	0.130	24
	Quality 0.066 33.300	Quality History 0.066 0.167 33.300 47.600	Quality History GDP 0.066 0.167 -3.565 33.300 47.600 73.800	Quality History GDP chg 0.066 0.167 -3.565 18.175 33.300 47.600 73.800 90.500	Quality History GDP chg (t-1) 0.066 0.167 -3.565 18.175 2.721 33.300 47.600 73.800 90.500 97.600	Quality History GDP chg (t-1) - 1yr chg 0.066 0.167 -3.565 18.175 2.721 0.567 33.300 47.600 73.800 90.500 97.600 54.800	Quality History GDP chg (t-1) - 1yr chg Revenue 0.066 0.167 -3.565 18.175 2.721 0.567 145.027 33.300 47.600 73.800 90.500 97.600 54.800 21.400	Quality History GDP chg (t-1) - 1ýr chg Revenue Debt / GDP 0.066 0.167 -3.565 18.175 2.721 0.567 145.027 8.509 33.300 47.600 73.800 90.500 97.600 54.800 21.400 23.800	Quality History GDP chg (t-1) - 1yr chg Revenue Debt / GDP GDP 0.066 0.167 -3.565 18.175 2.721 0.567 145.027 8.509 11.967 33.300 47.600 73.800 90.500 97.600 54.800 21.400 23.800 83.300	Quality History GDP chg (t-1) - 1yr chg Revenue Debt / GDP GDP Probability 0.066 0.167 -3.565 18.175 2.721 0.567 145.027 8.509 11.967 0.786 33.300 47.600 73.800 90.500 97.600 54.800 21.400 23.800 83.300 NA

Kazakhstan's sovereign risk profile has worsened by 13 points in 2025, the 24th-most in the sample.

- Penalizing factors include current account deterioration, increasing debt-to-revenue, and a declining reserves-to-GDP ratio.
- On the positive side, real exchange rate appreciation is decelerating, government debt growth is decelerating, and external public debt is decreasing.

NORTH MACEDONIA

International reserves, external public debt, and VIX explain about 70% of the sovereign stress probability score in North Macedonia.

- <u>Reserves</u>: At 28% of GDP, North Macedonia's reserves are high, placing it in the 19th most-at-risk percentile, underscoring decreased sovereign risk thanks to this buffer.
- <u>External debt</u>: At 28.5% / GDP, North Macedonia's external public debt is relatively high, placing it in the 78th at-risk percentile, suggesting higher sovereign risk on this front.

N. Macedonia



North Macedonia fares well on its general government debt consolidation efforts, which decreases its sovereign risk. There is a projected decrease of 1.9% of GDP in 2025, placing the country at only the 9.5% at-risk percentile on this indicator.

North Macedonia's model-estimated probability of experiencing sovereign stress in the near-term stands at 65.2%, ranking it 29th out of the 43 in-sample countries in 2025.

Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	
Level	0.186	0.282	-2.16	7.115	-0.174	-1.919	155.149	28.483	28.04	0.652	29
Risk Percentile	19.000	52.400	52.40	76.200	71.400	9.500	23.800	78.600	19.00	NA	NA
Annual Change	NA	-0.032	0.15	-3.740	0.000	-5.930	-14.720	-2.060	-2.03	0.080	35

North Macedonia's sovereign risk profile has worsened by 8 points in 2025, the 35th-most in the sample.

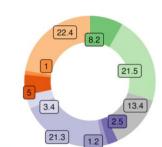
- Penalizing factors include a declining reserves-to-GDP ratio.
- On the positive side, the current account ratio is increasing, real exchange rate appreciation is decelerating, general government debt growth has decelerated sharply into negative territory, debtto-revenue is decreasing, and external public debt is also decreasing.



RUSSIA

The largest sovereign stress probability factors in Russia are the prior year's credit gap, institutional quality, and international reserves.

- <u>Credit gap</u>: At -11.9% of potential GDP, Russia's credit-to-GDP gap is one
 of the lowest in all of EM, which helps to keep a lid on sovereign stress
 likelihood.
- <u>Institutional quality</u>: Russia has some of the most poorly-rated institutions in all of EM, which increases sovereign risk.
- **Reserves**: At 28.8% of GDP, Russia's reserves ratio is at the higher end of the distribution in the EM landscape.



Russia

Russia is an extreme case on almost every sovereign stress metric. It fares exceptionally-poorly on institutional quality and stress history. The country also performs exceptionally-well on the current account, real exchange rate, credit gap, public debt-to-revenue, external debt, and reserves.

Russia's model-estimated probability of experiencing sovereign stress in the near-term stands at 50.6%, ranking it 38th out of the 43 in-sample countries in 2025.

Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	
Level	-0.919	0.729	1.855	-17.745	-11.933	1.08	58.4	6.554	28.762	0.506	38
Risk Percentile	95.200	92.900	9.500	4.800	2.400	66.70	0.0	14.300	16.700	NA	NA
Annual Change	NA	-0.081	-1.030	-16.280	1.290	0.26	2.0	0.250	1.130	0.150	20

Russia's sovereign risk profile has worsened by 15 points in 2025, the 20th-most in the sample.

- Penalizing factors include current account deterioration, an increase in the credit gap, accelerating general government debt growth, public debt-to-revenue growth, and external public debt growth.
- On the positive side, the real exchange rate dynamic is decelerating sharply, and the reserves ratio is rising.

TÜRKIYE

In Türkiye, the prior year's credit gap explains nearly 55% of sovereign stress probability, followed distantly by VIX and stress history.

- <u>Credit gap</u>: At -33.3% of potential GDP, Türkiye has EM's most negative credit gap, which keeps sovereign stress contained. Such an extreme reading suggests potential crowding out of the private sector from access to credit, or potential issues with the data.
- <u>Stress history</u>: The IMF deems Türkiye to have experienced sovereign stress in 2022, even though outright default was avoided.

Türkiye

7.2

4.5

6.3

0.5

Although real exchange rate growth only appears to contribute 6.3% of Türkiye's sovereign risk, its 25-point growth over the past three years is the sharpest increase in EM. This exacerbates sovereign risk and warrants ongoing monitoring. The low reserves level is also a risk exacerbator. Conversely, public debt-to-revenue is at the lower end of the risk scale, at only the 9th percentile in EM.



Türkiye's model-estimated probability of experiencing sovereign stress in the near-term stands at 24%, ranking it 42nd out of the 43 in-sample countries in 2025.

Context	Institutional Quality	Stress History	CAB / GDP	REER - 3yr chg	Credit Gap (t-1)	GG Debt / GDP - 1yr chg	Public Debt / Revenue	Ext PPG Debt / GDP	Reserves / GDP	Stress Probability	
Level	-0.222	0.729	-1.192	25.456	-33.30	0.702	93.204	9.744	9.799	0.24	42
Risk Percentile	57.100	92.900	33.300	100.000	0.00	57.100	9.500	31.000	88.100	NA	NA
Annual Change	NA	-0.081	-0.430	19.880	-5.82	3.990	2.860	-0.850	-0.850	0.10	33

Türkiye's sovereign risk profile has worsened by 10 points in 2025, the 33rd-most in the sample.

- Penalizing factors include current account deteriorating, accelerating real exchange rate appreciation, accelerating general government debt growth into positive territory, debt-to-revenue growth, and declining reserves-to-GDP.
- On the positive side, the credit gap has decreased further, and external public debt has declined.

OVERVIEW

This note is an update of the Sovereign Stress Tracker initially released in 2023. This tool is based directly on the IMF's Debt Sustainability Framework for Market-Access Countries, released in 2021, and is relevant only for countries that "principally receive financing through market-based instruments and on non-concessional terms." Through extensive testing, the IMF developed a model that measures the probability of a borrowing country experiencing sovereign debt strains in the near-term based on changes in ten governance, cyclical, debt-related, and global variables.

MODEL

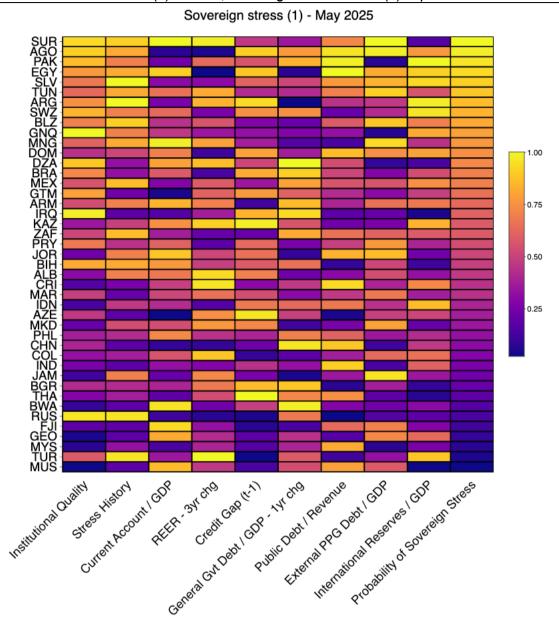
The analysis is based on an IMF model that estimates sovereign debt strains 1-2 years ahead. While there are significant limitations to how deeply we can read into results from any one analytical tool, the model nevertheless provides a useful baseline for comparing a large number of countries. The 10 independent variables in the model and their coefficients are listed in the table in Appendix 6. The dependent variable in this model is sovereign stress as defined by the IMF's MAC DSF, which isn't limited to default: certain spread and yield dynamics count as well.

CAVEAT

This is purely a baseline analysis of macro and debt-related indicators and fails to include crucial qualitative factors such as policy direction, commitment to reform, and credibility. The usefulness of this model is as a baseline from which to compare sovereign borrowers before proceeding with further analysis that accounts for idiosyncratic and qualitative information. It is also a useful model to see the direction of travel over time of countries in terms of sovereign debt strains.



Appendix 1: Sovereign stress model (1) uses External PPG Debt / GDP sourced from the World Bank as an independent variable, although some data are missing for this indicator. However, even more data is missing for the BIS's FX General Government Debt indicator in model (2). Hence, sovereign stress model (1) is preferred.



NB: The heatmap assigns scores of 1 and 0 to the countries exhibiting the highest and lowest contributions, respectively, <u>towards</u> the likelihood of sovereign stress <u>within</u> each variable. Nine independent variables and the dependent variable are shown.



Appendix 2: Sovereign stress probability rankings – 2025 & 2024

Rank Co	ountry	Year	Institutional Quality	Stress History	Current Account / GDP	REER - 3yr chg	Credit Gap (t-1)	General Gvt Debt / GDP - 1yr chg	Public Debt / Revenue	External PPG Debt / GDP	International Reserves / GDP	VIX - 1yr chg	Probability of Sovereign Stress
17 Ar	rmenia	2025	-0.167	0.387	-4.522	6.487	-6.464	4.181	216.063	24.068	13.739	40.863	0.800
19 Ka	azakhstan	2025	0.066	0.167	-3.565	18.175	2.721	0.567	145.027	8.509	11.967	40.863	0.786
	osnia & erzegovina	2025	-0.611	0.430	-3.808	0.935	-1.709	1.042	79.189	16.461	31.954	40.863	0.725
24 Al	Ibania	2025	0.112	0.387	-3.053	20.435	-0.699	-1.358	194.494	17.128	22.753	40.863	0.716
28 Az	zerbaijan	2025	-0.072	0.000	7.794	6.746	2.606	0.167	61.174	16.370	17.432	40.863	0.678
29 No	orth Iacedonia	2025	0.186	0.282	-2.160	7.115	-0.174	-1.919	155.149	28.483	28.040	40.863	0.652
35 Bu	ulgaria	2025	0.025	0.072	-1.453	6.277	1.062	4.682	77.995	13.564	39.599	40.863	0.552
38 Ru	ussia	2025	-0.919	0.729	1.855	-17.745	-11.933	1.080	58.400	6.554	28.762	40.863	0.506
40 Ge	eorgia	2025	0.842	0.000	-4.376	0.369	-6.230	-0.246	131.315	27.502	14.149	40.863	0.429
42 Tu	urkey	2025	-0.222	0.729	-1.192	25.456	-33.300	0.702	93.204	9.744	9.799	40.863	0.240

Rank Country	Year	Institutional Quality	Stress History	Current Account / GDP	REER - 3yr chg	Credit Gap (t-1)	General Gvt Debt / GDP - 1yr chg	Public Debt / Revenue	External PPG Debt / GDP	International Reserves / GDP	VIX - 1yr chg	Probability of Sovereign Stress
14 Armenia	2024	-0.167	0.430	-3.905	33.561	-6.464	-0.426	197.468	24.751	14.129	-7.483	0.679
16 Kazakhstan	2024	0.066	0.185	-1.300	25.788	2.721	1.822	127.704	8.979	12.628	-7.483	0.657
21 Bosnia & Herzegovina	2024	-0.611	0.478	-3.634	4.040	-1.709	1.164	79.180	16.468	31.967	-7.483	0.577
22 North Macedonia	2024	0.186	0.314	-2.306	10.855	-0.174	4.007	169.870	30.542	30.068	-7.483	0.572
25 Albania	2024	0.112	0.430	-2.409	20.128	-0.699	-2.712	198.223	17.827	23.682	-7.483	0.531
26 Azerbaijan	2024	-0.072	0.000	7.835	19.012	2.606	-0.957	56.233	17.373	18.500	-7.483	0.525
35 Russia	2024	-0.919	0.810	2.882	-1.474	-13.225	0.816	56.397	6.297	27.634	-7.483	0.361
37 Bulgaria	2024	0.025	0.080	0.217	8.369	1.062	1.486	69.510	14.141	41.284	-7.483	0.321
38 Georgia	2024	0.842	0.000	-4.416	28.119	-6.230	-2.828	129.086	28.787	14.811	-7.483	0.314
42 Turkey	2024	-0.222	0.810	-0.758	5.580	-27.475	-3.292	90.343	10.591	10.652	-7.483	0.138

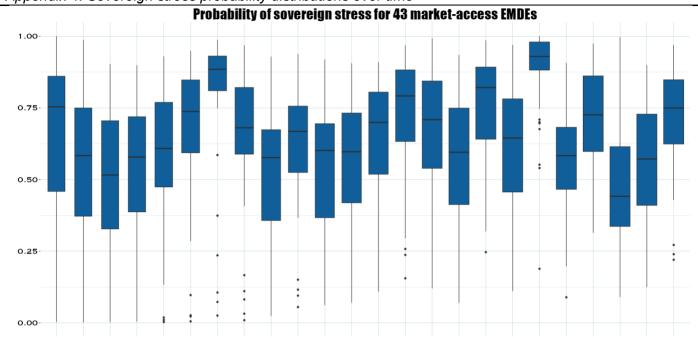


Appendix 3: Sovereign stress probability annual change – 2025 & 2024

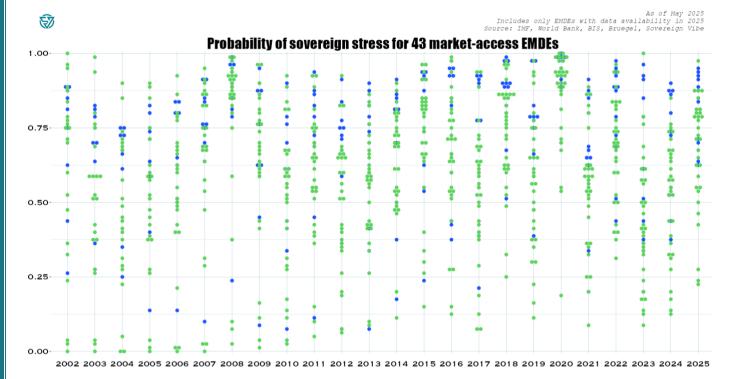
<u>, , , </u>												
Rank	Country	Year	Δ Stress History	Δ Current Account / GDP	Δ REER - 3yr chg	Δ Credit Gap (t-1)	Δ General Gvt Debt / GDP - 1yr chg	Δ Public Debt / Revenue	Δ External PPG Debt / GDP	Δ International Reserves / GDP	Δ VIX - 1yr chg	Δ Probability o Sovereign Stress
5	Bulgaria	2025	-0.008	-1.67	-2.09	0.00	3.19	8.49	-0.58	-1.68	48.34	0.23
9	Albania	2025	-0.043	-0.64	0.30	0.00	1.35	-3.73	-0.70	-0.93	48.34	0.19
14	Azerbaijan	2025	0.000	-0.05	-12.26	0.00	1.13	4.94	-1.00	-1.07	48.34	0.1
20	Russia	2025	-0.081	-1.03	-16.28	1.29	0.26	2.00	0.25	1.13	48.34	0.1
21	Bosnia & Herzegovina	2025	-0.048	-0.18	-3.10	0.00	-0.12	0.01	-0.01	-0.02	48.34	0.1
24	Kazakhstan	2025	-0.018	-2.26	-7.61	0.00	-1.25	17.33	-0.47	-0.66	48.34	0.1
25	Armenia	2025	-0.043	-0.62	-27.07	0.00	4.61	18.59	-0.68	-0.39	48.34	0.1
26	Georgia	2025	0.000	0.04	-27.75	0.00	2.58	2.23	-1.29	-0.66	48.34	0.1
33	Turkey	2025	-0.081	-0.43	19.88	-5.82	3.99	2.86	-0.85	-0.85	48.34	0.1
35	North Macedonia	2025	-0.032	0.15	-3.74	0.00	-5.93	-14.72	-2.06	-2.03	48.34	0.0
Rank	Country	Year	Δ Stress History	Δ Current Account / GDP	Δ REER - 3yr chg	Δ Credit Gap (t-1)	Δ General Gvt Debt / GDP - 1yr chg	Δ Public Debt / Revenue	Δ External PPG Debt / GDP	Δ International Reserves / GDP	Δ VIX - 1yr chg	Δ Probability Sovereign Stres
5	Kazakhstan	2024	-0.021	2.31	6.70	2.08	2.36	22.62	-0.79	-1.10	26.68	0.1
8	Russia	2024	-0.090	0.48	-1.42	7.73	-0.19	-1.62	-0.31	-1.36	26.68	0.
10	Albania	2024	-0.048	-1.19	7.04	-0.20	4.12	-16.67	-2.95	-3.92	26.68	0.
11	Azerbaijan	2024	0.000	-3.66	-3.68	5.68	-5.44	2.58	-0.46	-0.48	26.68	0.
12	North Macedonia	2024	-0.035	-2.69	0.00	-0.10	3.63	5.24	-1.76	-1.73	26.68	0.
15	Bosnia & Herzegovina	2024	-0.053	-1.31	-0.16	1.65	0.58	0.13	-0.72	-1.39	26.68	0.
16	Bulgaria	2024	-0.009	-0.66	-0.58	2.53	1.07	5.94	-1.35	-3.95	26.68	0.
21	Armenia	2024	-0.048	-1.59	-1.50	1.84	-1.91	-5.75	-1.49	-0.85	26.68	0.1
31	Georgia	2024	0.000	1.13	-8.91	1.18	-2.58	-13.20	-2.80	-1.44	26.68	0.0
	Turkey	2024	-0.090	2.77	20.38	-9.98	-1.75	-14.68	-1.80	-1.81	26.68	-0.0



Appendix 4: Sovereign stress probability distributions over time



2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025





As of May 202 Includes only EMDEs with data availability in 202 Source: IMF, World Bank, BIS, Bruegel, Sovereign Vib

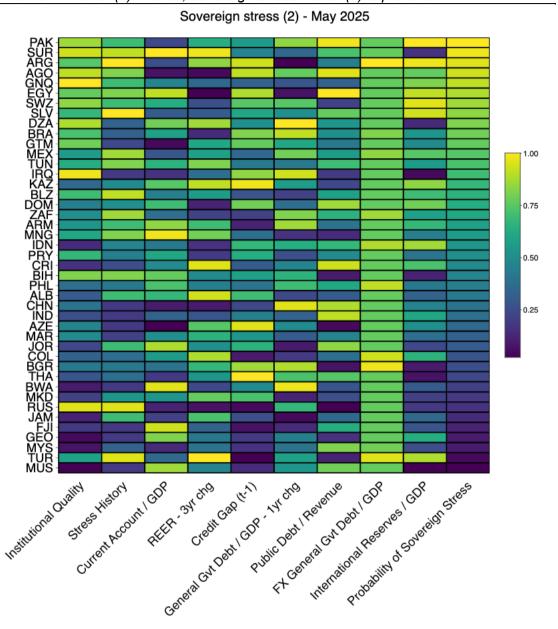


Appendix 5: The IMF's near-term sovereign stress prediction model, introduced in 2021 as part of the Debt Sustainability Framework for Market-Access Countries

CATEGORY	REGRESSOR	COEFFICIENT
Governance	Institutional Quality	-1.073***
	Stress History	0.514***
Cyclical	Current Account/GDP	-0.024**
-	REER (3-year change)	0.013**
	Credit/GDP gap (t – 1)	0.086***
Debt burden & buffers	Δ Public debt/GDP	0.052***
	Public debt/revenue	0.002***
	FX public debt/GDP	0.024***
	International reserves/GDP	-0.034***
Global	ΔVIX	0.015***
Number of Observations		1,579
LR chi2		246.70
Pseudo R2		0.25



Appendix 6: Sovereign stress model (2) uses FX General Government Debt from the BIS instead of External PPG Debt from the World Bank due to the latter's small number of missing data points in model (1). However, even more data is missing for the BIS indicator in model (2). Hence, sovereign stress model (1) is preferred.



NB: The heatmap assigns scores of 1 and 0 to the countries exhibiting the highest and lowest contributions, respectively, <u>towards</u> the likelihood of sovereign stress <u>within</u> each variable. Nine independent variables and the dependent variable are shown.



Rank	Country Rank 2025	Stress Probability 2025	Country Rank 2024	Stress Probability 2024	Country Rank 2023	Stress Probability 2023
1	Suriname	0.97	Angola	0.90	Argentina	1.00
2	Angola	0.96	El Salvador	0.88	Angola	0.96
3	Pakistan	0.93	Pakistan	0.87	Pakistan	0.92
4	Egypt	0.93	Egypt	0.87	Egypt	0.91
5	El Salvador	0.92	Suriname	0.85	El Salvador	0.85
6	Tunisia	0.89	Tunisia	0.80	Tunisia	0.79
7	Argentina	0.88	Equatorial Guinea	0.77	Belize	0.79
8	Eswatini	0.88	Mexico	0.75	Equatorial Guinea	0.77
9	Belize	0.87	Dominican Republic	0.74	Dominican Republic	0.68
10	Equatorial Guinea	0.87	Belize	0.74	Mexico	0.65
11	Mongolia	0.85	Mongolia	0.73	Jordan	0.62
12	Dominican Republic	0.85	Eswatini	0.72	Suriname	0.61
13	Algeria	0.83	Paraguay	0.71	Eswatini	0.61
14	Brazil	0.81	Armenia	0.68	Armenia	0.58
15	Mexico	0.81	Brazil	0.67	Brazil	0.57
16	Guatemala	0.80	Kazakhstan	0.66	Paraguay	0.56
17	Armenia	0.80	Jordan	0.65	Morocco	0.52
18	Iraq	0.79	Guatemala	0.64	South Africa	0.50
19	Kazakhstan	0.79	South Africa	0.61	Guatemala	0.50
20	South Africa	0.79	Iraq	0.59	Thailand	0.49
21	Paraguay	0.78	Bosnia & Herzegovina	0.58	Kazakhstan	0.47
22	Jordan	0.75	North Macedonia	0.57	Indonesia	0.44



23	Bosnia & Herzegovina	0.72	Colombia	0.56	Bosnia & Herzegovina	0.43
24	Albania	0.72	Morocco	0.55	Jamaica	0.41
25	Costa Rica	0.71	Albania	0.53	North Macedonia	0.41
26	Morocco	0.71	Azerbaijan	0.53	Costa Rica	0.39
27	Indonesia	0.70	Indonesia	0.52	Iraq	0.39
28	Azerbaijan	0.68	Costa Rica	0.52	Mongolia	0.38
29	North Macedonia	0.65	Algeria	0.52	Azerbaijan	0.36
30	Philippines	0.64	Philippines	0.44	Philippines	0.36
31	China	0.63	Jamaica	0.43	Albania	0.35
32	Colombia	0.63	Thailand	0.43	Fiji	0.34
33	India	0.62	China	0.39	Algeria	0.33
34	Jamaica	0.59	India	0.38	Colombia	0.32
35	Bulgaria	0.55	Russia	0.36	Georgia	0.28
36	Thailand	0.55	Botswana	0.33	China	0.24
37	Botswana	0.54	Bulgaria	0.32	India	0.20
38	Russia	0.51	Georgia	0.31	Turkey	0.20
39	Fiji	0.47	Fiji	0.28	Bulgaria	0.18
40	Georgia	0.43	Argentina	0.20	Russia	0.17
41	Malaysia	0.27	Mauritius	0.17	Botswana	0.14
42	Turkey	0.24	Turkey	0.14	Malaysia	0.12
43	Mauritius	0.22	Malaysia	0.12	Mauritius	0.09



Rank 2025	Country	Stress Probability	Moody's	S&P	Fitch
1	Suriname	0.97	Caa1	CCC+	RD
2	Angola	0.96	В3	B-	B-
3	Pakistan	0.93	Caa2	CCC+	CCC-
4	Egypt	0.93	Caa1	B-	В
5	El Salvador	0.92	В3	B-	B-
6	Tunisia	0.89	Caa1	NR	CCC+
7	Argentina	0.88	Caa3	CCC	С
8	Eswatini	0.88	В3	-	<u>-</u>
9	Belize	0.87	Caa1	B-	-
10	Equatorial Guinea	0.87	-	-	-
11	Mongolia	0.85	B2	B+	В
12	Dominican Republic	0.85	Ba3	BB	BB-
13	Algeria	0.83	-	-	-
14	Brazil	0.81	Ba1	ВВ	BB-
15	Mexico	0.81	Baa2	BBB	BBB-
16	Guatemala	0.80	Ba1	ВВ	ВВ
17	Armenia	0.80	Ba3	BB-	B+
18	Iraq	0.79	-	-	B-
19	Kazakhstan	0.79	Baa1	BBB-	BBB
20	South Africa	0.79	Ba2	BB-	BB-
21	Paraguay	0.78	Baa3	BB+	BB+
22	Jordan	0.75	Ba3	BB-	BB-
23	Bosnia & Herzegovina	0.72	В3	B+	-
24	Albania	0.72	Ba3	BB	-
25	Costa Rica	0.71	Ba3	BB-	BB-
26	Morocco	0.71	Ba1	BB+	BB+



27	Indonosia	0.70	Dool	BBB	BBB
21	Indonesia	0.70	Baa2	DDD	DDD
28	Azerbaijan	0.68	Ba1	BB+	BB+
29	North Macedonia	0.65	-	BB-	BB+
30	Philippines	0.64	Baa2	BBB+	BBB
31	China	0.63	A1	A+	A+
32	Colombia	0.63	Baa2	BB+	BB+
33	India	0.62	Baa3	BBB-	BBB-
34	Jamaica	0.59	B1	BB-	B+
35	Bulgaria	0.55	Baa1	BBB	BBB
36	Thailand	0.55	Baa1	BBB+	BBB+
37	Botswana	0.54	A3	BBB+	-
38	Russia	0.51	Ca	CC	С
39	Fiji	0.47	B1	B+	-
40	Georgia	0.43	Ba2	BB	BB
41	Malaysia	0.27	A3	A-	BBB+
42	Turkey	0.24	B1	BB-	В
43	Mauritius	0.22	Baa3	BBB-	-



Appendix 5: Sovereign Credit Ratings Scale

Grade	Moody's	S&P	Fitch
Prime	Aaa	AAA	AAA
High grade	Aa1	AA+	AA+
	Aa2	AA	AA
	Aa3	AA-	AA-
Upper medium grade	A1	A+	A+
	A2	A	A
	A3	A-	A-
Lower medium grade	Baa1	BBB+	BBB+
	Baa2	BBB	BBB
	Baa3	BBB-	BBB-
Non-investment	Ba1	BB+	BB+
grade speculative	Ba2	BB	BB
	Ba3	BB-	BB-
Highly speculative	B1	B+	B+
	B2	В	В
	B3	B-	B-
Substantial risks	Caa1	CCC+	CCC+
	Caa2	CCC	CCC
	Caa3	CCC-	CCC-
Extremely	Ca	CC	CC
speculative			C
In default with little prospect for recovery		SD	RD
In default	С	D	D
			DD
			DDD
Not rated	WR	NR	