Multilateral development banks and development finance institutions

DEFAULT AND RECOVERY STATISTICS

SOVEREIGN AND SOVEREIGN-GUARANTEED LENDING 1984-2023

GeMs
Global Emerging Markets Risk Database

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Preface

The Global Emerging Markets Risk Database (GEMs) Consortium was established in 2009 as a joint initiative between the European Investment Bank and the International Finance Corporation to pool credit risk data. The GEMs database is a unique example of a tangible common good designed to catalyse investments in emerging markets and support technical cooperation between international institutions. At the time of writing, GEMs comprises 26 member institutions, all of which are multilateral development banks and development finance institutions, with business activities in emerging markets and developing economies.

GEMs collects de-identified data from multilateral development banks and development finance institutions on their performing and non-performing exposures in emerging markets and developing economies. In return, output statistics are produced encompassing default rates and recovery rates categorised by various dimensions, such as geography, sector, income group and others. GEMs is also a discussion and collaboration forum for building technical alignment and sharing best practices among member institutions, including through working-level meetings. Compiling GEMs risk statistics relies on a robust, shared methodological framework. Bringing together data and expertise from leading public institutions, GEMs offers:

- ✓ a **risk data hub of contract-level information** for private and public lending and sovereign and sovereign-guaranteed lending – one of the largest such datasets for emerging markets and developing economies;
- ✓ a **trusted data collection and processing platform** hosting a scalable data model, which could be expanded to cover other contract-level data related to investment projects;
- ✓ a **statistical platform for member multilateral development banks and development finance institutions**, with the ability to calculate GEMs outputs, default rates, recovery rates and rating migrations facilitating better-informed investment decisions in emerging markets and developing economies;
- ✓ a **public good data source for aggregated statistics**, with the reported default and recovery rates for private and public lending and sovereign and sovereign-guaranteed lending providing an anchor for risk perceptions;
- ✓ a **framework for collaboration among member multilateral development banks and development finance institutions** to improve risk management practices across the industry.

More private investment is needed to combat climate change and achieve the Sustainable Development Goals. This requires institutions to work together on addressing some of the current barriers to investment. Key priorities include supporting the preparation of well-designed projects; facilitating the use of public resources to mitigate risks; promoting and enabling an appropriate legal and contractual environment; and improving standardisation, transparency and data availability. The scarcity of data around emerging markets and developing economies and the tightening of regulatory requirements call for more sophisticated risk management practices and more reliable metrics.

Through GEMs, member multilateral development banks and development finance institutions are addressing the investment gap by sharing their experience and market knowledge among themselves and with investors and the broader public. These banks and institutions pool their data using a harmonised template, generating more valuable statistics than those available to any individual lending institution. GEMs is thus a unique, comprehensive data source for current and potential investors in emerging markets – one that helps refine risk perceptions and inform better decision-making. The Group of 20 (G20) Eminent Persons Group on Global Financial Governance highlights the benefits of a joined-up system built by members, which delivers more than the sum of its parts. The need for a collaborative approach applies to member multilateral development banks and development finance institutions, to private investors and to other stakeholders constrained by the same persistent data gap.

The scarcity of accessible, standardised, transparent and high-quality information on investment projects in emerging markets can skew risk perceptions, leading to suboptimal investment decisions. Institutions with little or no experience in such markets have to rely on risk assumptions based on limited public information.

By anchoring risk perceptions with actual statistics, GEMs aims to help unlock capital that can fill such investment gaps.

The statistics produced by GEMs enable the calibration and benchmarking of internal models, leading to efficient provisioning, greater accuracy in setting capital requirements, and better-informed investment decisions. GEMs statistics provide an objective, reliable and statistically significant basis for discussing regulatory compliance, capital adequacy and risk management practices with auditors, rating agencies and supervisors. Furthermore, GEMs statistics can be a powerful tool for transparent assessment of portfolio risks when third parties engage in risk transfer or co-financing operations with multilateral development banks or development finance institutions, or in any other balance sheet optimisation initiative – thereby supporting the crowding-in of additional funding for emerging markets.

Since 2021, GEMs has shared its aggregated statistics publicly, recognising the potential value for various stakeholders, from academics to regulators and commercial entities. This report builds on the well-received previous publications, combining and offering default and recovery statistics in greater detail and reflecting the contributing institutions' lending profiles in emerging markets and developing economies. The report discloses statistics derived from pooled GEMs data from 1984 to 2023, supplied by 11 member institutions. Furthermore, niche features and unique insights of this database are described in the report, along with the methodological framework for generating GEMs statistics.

Specific applications of GEMs statistics may vary across institutions. GEMs therefore welcomes feedback from readers of this report, and looks forward to working with financial stakeholders to improve the focus and content of future publications, aiming to support new and sustainable investment where it is most needed.

GEMs member institutions participating in this publication:

1 Highlights

Compared with previous GEMs publications on sovereign and sovereign-guaranteed lending, this report provides statistics with a much-widened scope. The underlying dataset now covers a 40-year period from 1984 to 2023, adding 15 years of data to the previous publication (which ranged from 1998 to 2022). In addition, for the first time, the report includes statistics on recovery rates for default events and further analysis of the results along various dimensions that are available in the dataset and may be of interest to the public.

Statical metrics are provided on the underlying distributions of results, allowing readers to gauge the significance of the averages presented for default and recovery rates. As default rate distributions mainly follow a normal distribution, 90% confidence intervals are supplied for all averages. In contrast, for recovery rates, where the distributions are heavily skewed, distribution percentiles are provided.

Figure 1 illustrates the default events in the GEMs dataset. A total of 38 countries defaulted over the 40-year observation period, some of them multiple times, and 13 countries have ongoing default events at the end of 2023.

Figure 1: Countries with default events by year

Country	Years with default events (1984–2023)
Afghanistan	2022–2023
Angola	1992–2000
Bosnia and Herzegovina	1992–2002
Belarus	2022–2023
Democratic Republic of the Congo	1992–2002
Congo	1990–2001, 2018
Côte d'Ivoire	2002–2009
Cuba	2022–2023
Gabon	1999–2002
Ghana	2023
Guatemala	1989
Guyana	1986–1989
Honduras	1990
Iraq	1991–2004
Iran	2013
Lebanon	2022–2023
Liberia	1987–2008
Marshall Islands	2006
Macedonia	1992–1993
Mali	2022
Myanmar	1997–2001
Niger	2023
Nigeria	2002
Nicaragua	1984–1991
Nauru	2004–2010
Panama	1988–1991
Peru	1984–1993
Serbia	1992–2004
Russia	2022
Seychelles	2000–2010
Sudan	1994, 2014–2023
Sierra Leone	1987–1994, 1998, 2002
Suriname	1998–2000
Syria	1987–2000, 2012–2023
Venezuela	2017–2023
Yemen	2012–2023
Zambia	1987–1991
Zimbabwe	2001–2023

Figure 2 shows the number of countries in default for each of the 40 years of observation. The number of countries in default in the late 1980s and 1990s declined strongly in the 2000s and 2010s. However, an upward trend has been evident since 2022.

Figure 2: Number of countries in default by year
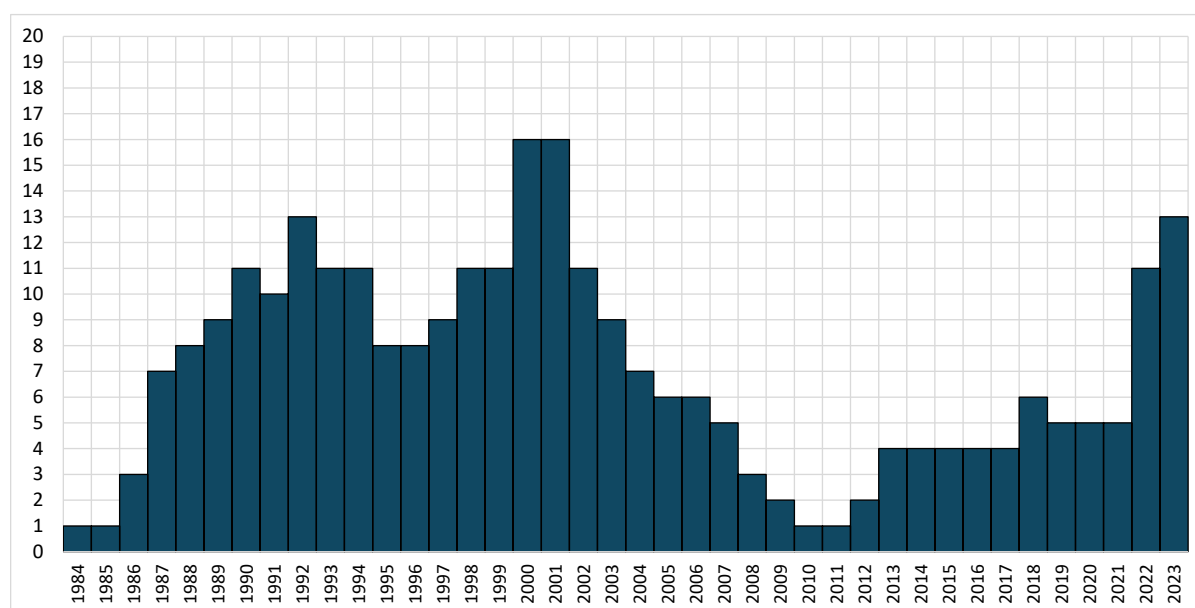
Displaying the number of countries in default as a percentage of total countries in the GEMs dataset (Figure 3) produces a similarly shaped graph to that in Figure 2, but with a lower peak for the later years, as the dataset includes more countries in those years.

Figure 3: Percentage of countries in default by year
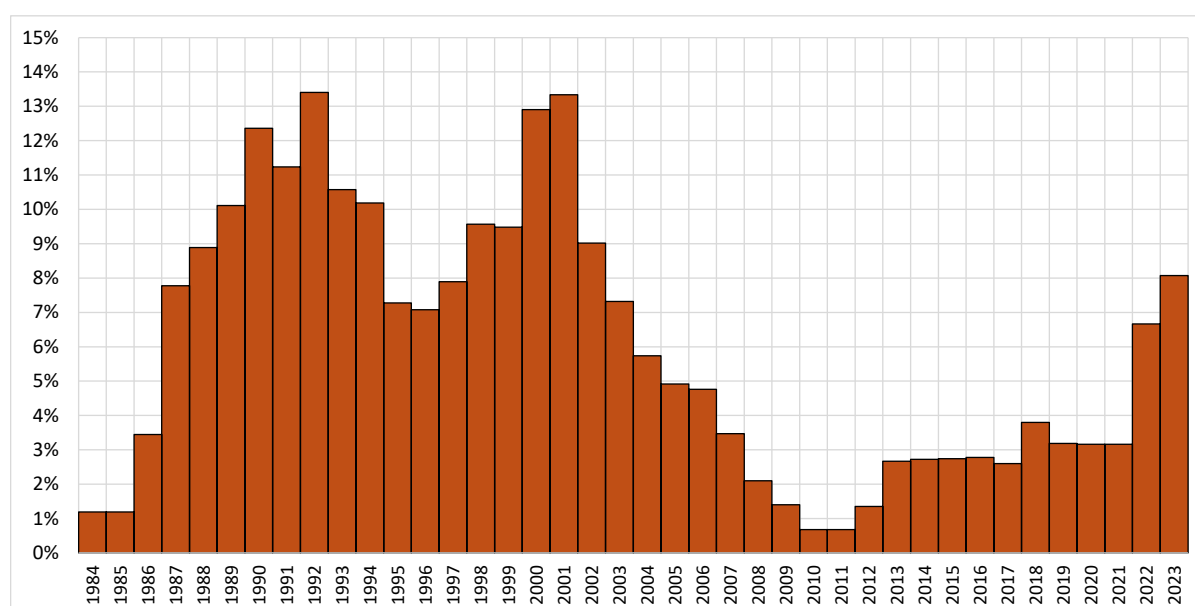
Based on 50 defaults and 4 726 observations for countries over the period 1984-2023, Table 1 shows an average annual default rate of 1.06% overall. The increase compared with the previous publication – which showed an average annual default rate of 0.64% – is mainly driven by extending the underlying data back to 1984 and adding the 2023 data. In addition, the table shows the range of the 40 annual observations and the 90% confidence interval for the average.

Note that duplicate observations have been eliminated when calculating default rates. When a country has lending from multiple multilateral development banks for a given year, only one observation is counted. If a country defaults in respect of any multilateral development bank, then a default is counted. The removal of duplicates results in an average default rate for the combined data that is substantially higher than the default rates for individual institutions, which range from 0.00% to 0.95% and average at 0.60%.

Table 1: Overall annual default rate

Unique countries	Signed amount in € million	Observed years	Observations	Defaults	Minimum annual default rate	Maximum annual default rate	Average annual default rate	Lower of 90% confidence interval	Upper of 90% confidence interval
166	1 715 388	40	4 726	50	0.00%	6.02%	**1.06%**	0.67%	1.45%

The 40 individual annual results for the default rates are displayed in Figure 4, and in more detail in Table 9. Some of the 40 individual annual default rates are 0.00% because the 50 observed defaults are not distributed evenly over the 40 years. The range and 90% confidence interval for these data – 0.00% to 6.02% and 0.67% to 1.45%, respectively (Table 1) – are relatively large because of the overall scarcity of observations. In addition, Figure 4 provides the averages for the four ten-year periods making up the total observation time. Relatively high annual default rates are seen in the late 1980s and, to a lesser extent, in the 1990s, followed by even lower rates until 2021. Then, an increase in default rates during 2022 and 2023 reverses the downward trend in the ten-year averages.

Figure 4: Annual default rates and averages, by ten-year period
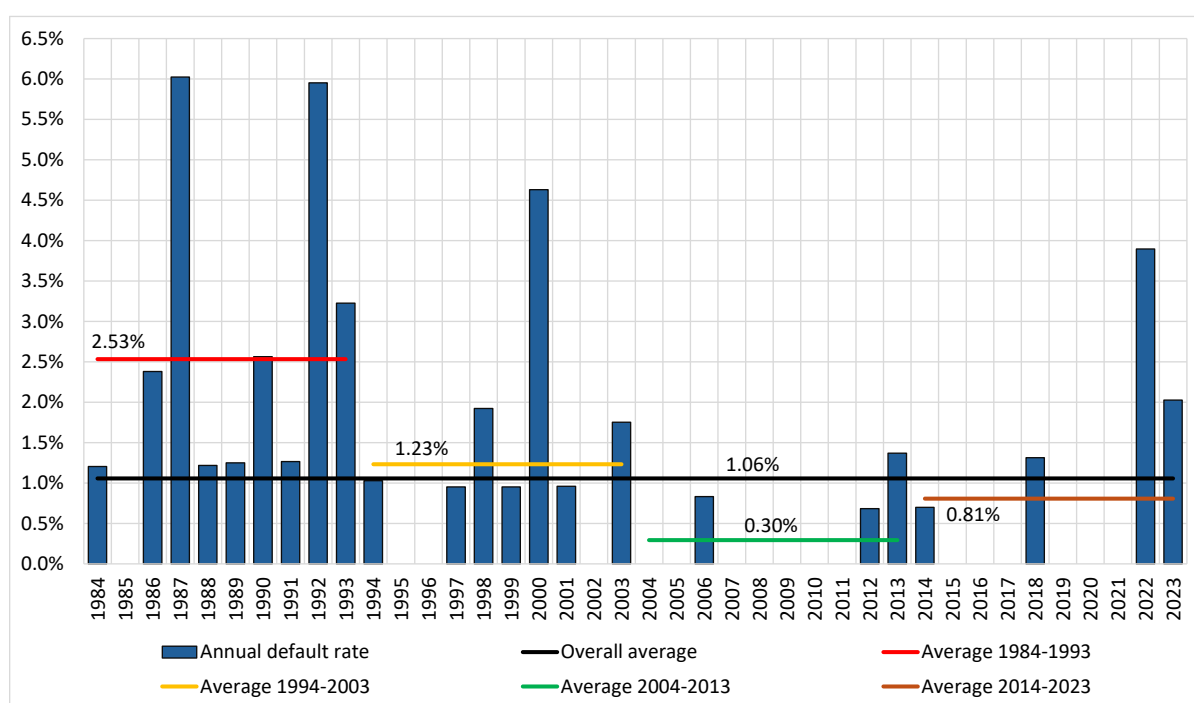
The overall statistics for recovery rates are shown in Table 2. Based on 44 default events in 28 unique countries, an average recovery rate of 94.9% is observed. Unresolved default events are not included in the recovery rate statistics. The table also shows the range of results (from 47.1% to 100.0%) and the levels of recovery for different percentiles of the individual results.

Table 2: Overall recovery rates

Unique countries	Default events	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
28	44	**94.9%**	47.1%	87.8%	95.5%	**98.0%**	99.8%	100.0%	100.0%

Table 3 and Figure 5 provide further information about the distribution of results by showing how many of the individual recovery rates are within each 10% range. Most of the results (88.6%) are within the range of 90% to 100%.

Table 3: Distribution of recovery rates

| Recovery rate | From | 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | Total |
	To	10%	20%	30%	40%	50%	60%	70%	80%	90%	100%	
Defaults		0	0	0	0	1	0	0	3	1	39	**44**
% of total		0.0%	0.0%	0.0%	0.0%	2.3%	0.0%	0.0%	6.8%	2.3%	88.6%	**100.0%**

Figure 5: Distribution of recovery rates (percentage of all defaults)
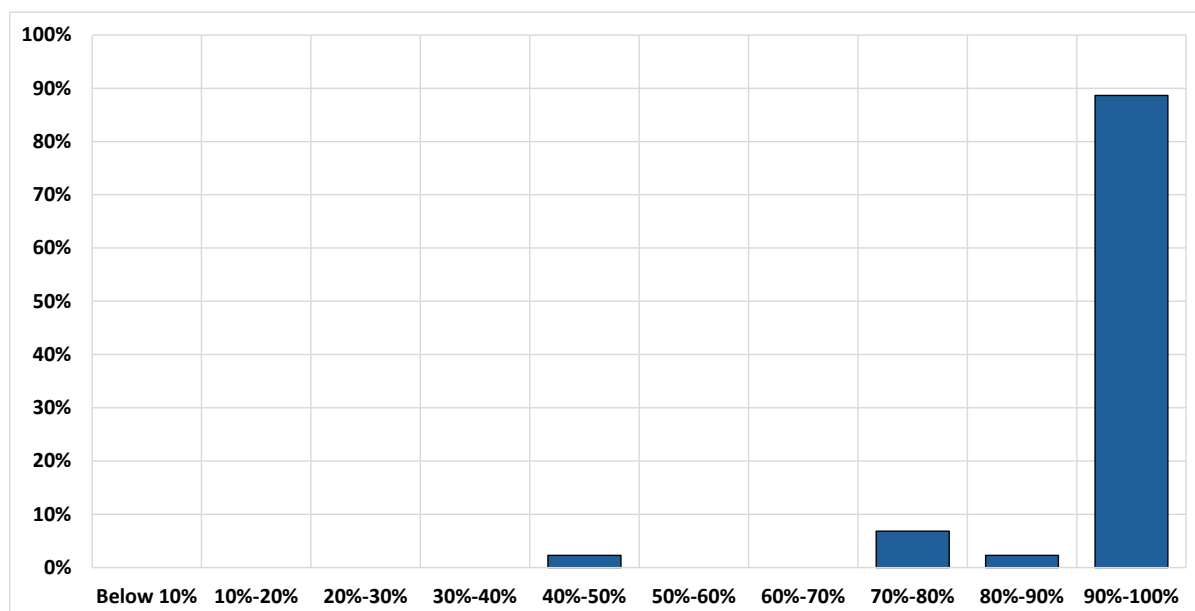
Further insight into the distribution of recovery rates between 90% and 100% is provided by dividing this range into 1% intervals (Table 4 and Figure 6). This analysis shows that 59.0% of default events have recovery rates above 98% and 43.6% of events have recovery rates greater than 99%.

Table 4: Distribution of recovery rates – detail for 90% to 100%

| Recovery rate | From | 90% | 91% | 92% | 93% | 94% | 95% | 96% | 97% | 98% | 99% | Total |
	To	91%	92%	93%	94%	95%	96%	97%	98%	99%	100%	
Defaults		1	1	0	2	1	3	3	5	6	17	**39**
% of total		2.6%	2.6%	0.0%	5.1%	2.6%	7.7%	7.7%	12.8%	15.4%	43.6%	**100.0%**

Figure 6: Distribution of recovery rates – detail for 90% to 100% (percentage of all defaults)
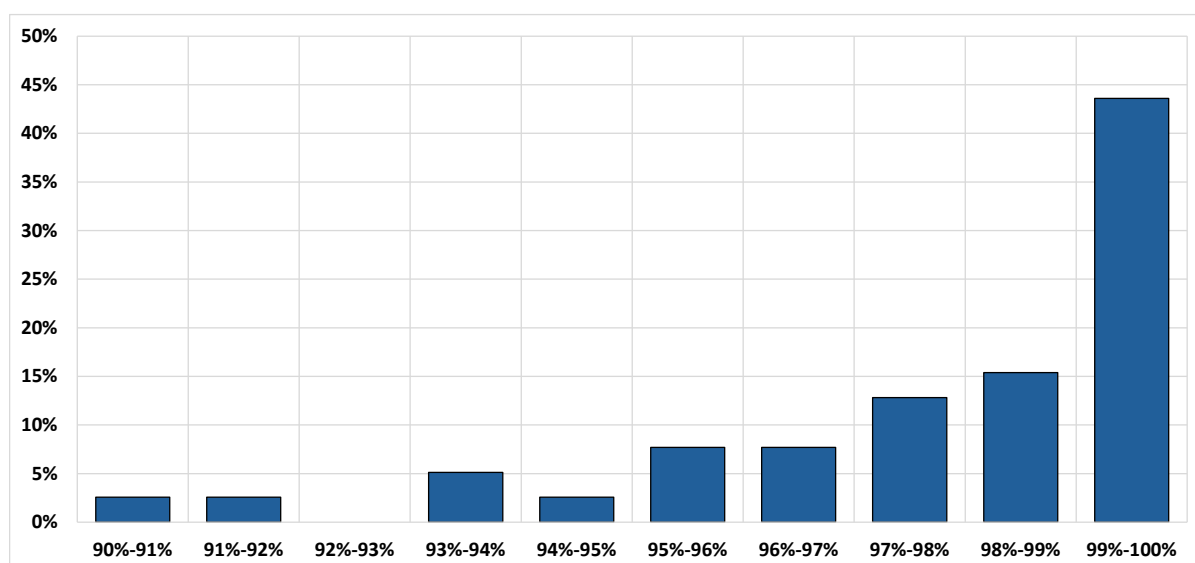
The observed length of default events is shown in Table 5 and Figure 7. Although about one-third of default events only last a year or less, and two-thirds of them are concluded within five years, there are a few very long events, with the longest duration being over 20 years. The median time to resolution is slightly more than three years.

Table 5: Time to resolution

		Resolution of default during year																			Total
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	>=20	
Annual resolutions		14	3	4	7	2	3	3	2	1	1	0	0	0	1	1	1	0	0	0	1	**44**
Cumulative % resolved		32%	39%	48%	64%	68%	75%	82%	86%	89%	91%	91%	91%	91%	93%	95%	98%	98%	98%	98%	100%	

Figure 7: Time to resolution
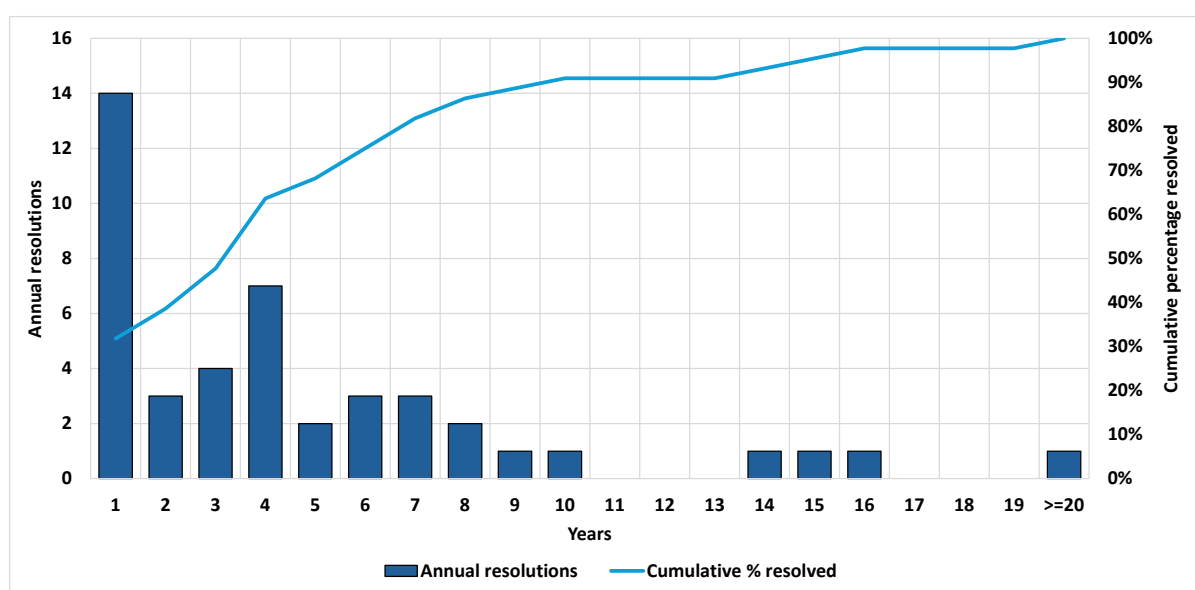
2 Characteristics of sovereign and sovereign-guaranteed lending

2.1 Definition

Sovereign and sovereign-guaranteed lending is provided by GEMs institutions, all of which are multilateral development banks. This is direct lending to sovereign countries, and lending to a sovereign country's states, institutions and agencies with an explicit guarantee by the country to pay overdue amounts if individual borrowers fail to pay on time. All lending operations in a country that are considered in this report are connected via contractual cross-default clauses within each multilateral development bank. In addition, multilateral development banks apply arrears sanctions to all operations of a government simultaneously, even if only one operation is in arrears. To reflect the specific format of this lending, the following methodology is used in this report:

- Default event has only one definition: a payment delay on any operation beyond the most severe sanction trigger applicable to each respective multilateral development bank.

- Default events are only considered resolved when all overdue amounts (principal, interest and any applicable charges) on all loans pertaining to the government in default are fully paid.

- To avoid duplicates, only one observation is counted when multiple multilateral development banks have exposure to the same country and the amounts of exposure are combined. A default event is counted if it happened in respect of at least one multilateral development bank, even if others do not experience a default.

This approach for eliminating duplicates results in worst case default rates and observed average default rates calculated individually for each of the multilateral development banks that are lower than the combined result. As shown in Table 6, individual annual default rates for the contributing institutions range from 0.00% to 0.95% and have an observation-weighted average of 0.60%.

Table 6: Average annual default rates of contributing institutions

Contributing institutions	Defaults	Observations	Average default rate	Minimum annual default rate	Maximum annual default rate
11	63	10 554	**0.60%**	0.00%	0.95%

2.2   Preferred creditor status

The statistics in this report show substantially lower default and recovery rates than those in other publications on sovereign lending, such as the output from databases maintained by credit rating agencies for non-multilateral development bank lending.

This superior performance largely results from the specific features of multilateral development banks. Multilateral lending institutions benefit from stringent arrears policies, solid shareholding structures and a preferred creditor status for their sovereign and sovereign-guaranteed loans.

Preferred creditor status is a widely accepted principle under which multilateral development banks have historically been given priority for debt repayment if a country experiences financial stress. It has been a cornerstone for multilateral development banks, allowing them to operate with low losses. Although it is not legally enforceable, preferred creditor status entails the following expectations:

- Countries commit to timely payment of their obligations to multilateral development banks.

- Countries commit to exempt multilateral development banks from generalised payment moratoriums and exchange rate controls.

- The International Monetary Fund (IMF) typically requests that the preferred creditor status be granted for itself and for multilateral development banks with global membership as a condition for providing funding to a country in crisis.

- Multilateral development banks are exempt from participating in sovereign debt rescheduling. This benefit is granted by official creditors organised under the Paris Club and officially recognised in the Paris Club Agreed Minutes. This practice exempts multilateral development banks from the "comparability of treatment" clause, which requires all creditors to seek rescheduling terms comparable to those agreed by the Paris Club.

2.3   GEMs rating for countries

The GEMs rating for countries (as shown in Table 7) is not collected from the member institutions, but is derived as the average of country ratings by the main rating agencies (S&P, Moody's and Fitch). This approach ensures that a consistent rating scale is used among the multilateral development banks contributing data to GEMs. In cases where no such rating is available, Organisation for Economic Co-operation and Development (OECD) ratings are used. If those are also unavailable, then World Risk Review (WRR) ratings are applied. Countries are categorised as not rated (NR) if none of these ratings are available. During periods of default with any multilateral development bank, GEMs assigns a rating of "non-accrual" to the country.

Table 7: Mapping of external ratings to the GEMs scale

Numeric	GEMs scale	S&P	Moody's	Fitch	OECD	WRR
1	AAA	AAA	Aaa	AAA		
2	AA+	AA+	Aa1	AA+	0.1	1
3	AA	AA	Aa2	AA		
4	AA-	AA-	Aa3	AA-		
5	A+	A+	A1	A+	1	2
6	A	A	A2	A		
7	A-	A-	A3	A-	2	
8	BBB+	BBB+	Baa1	BBB+		3
9	BBB	BBB	Baa2	BBB		
10	BBB-	BBB-	Baa3	BBB-	3	4
11	BB+	BB+	Ba1	BB+		
12	BB	BB	Ba2	BB	4	
13	BB-	BB-	Ba3	BB-		5
14	B+	B+	B1	B+	5	
15	B	B	B2	B		6
16	B-	B-	B3	B-	6	
17	CCC+	CCC+	Caa1	CCC+		7
18	CCC	CCC	Caa2	CCC		
19	CCC-	CCC-	Caa3	CCC-	7	8
20	CC	CC		CC		
21	C	C		C		9
22	SD	SD	Ca/C	SD		10
23	Non-accrual					
24	NR	NR	NR	NR	NR	NR

Figure 8 and Figure 9 illustrate the rating history of the GEMs dataset. Each year shows the composition of the dataset based on the GEMs rating as of 1 January of that year. Substantial reductions in the number of unrated countries occurred in 2000 when OECD ratings became available as fallbacks to rating agency ratings, and in 2010 when WRR ratings were first published. Since 2010, less than 5% of the countries have gone unrated.

Figure 8: Historic dataset composition by rating category – country count
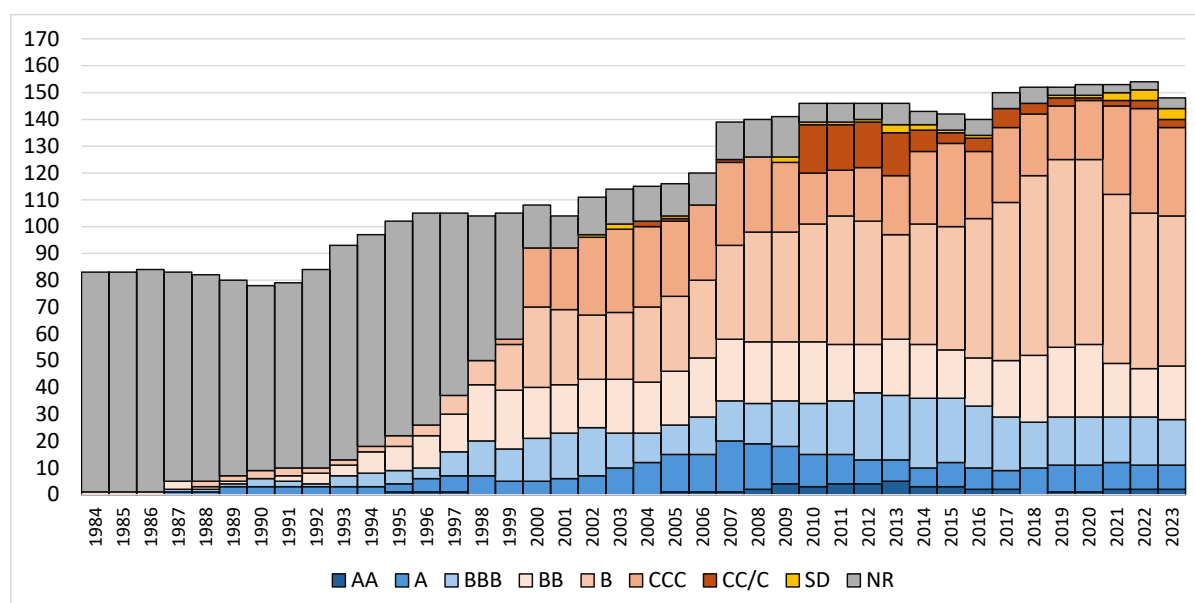
Figure 9: Historic dataset composition by rating category – percentage of total number of countries
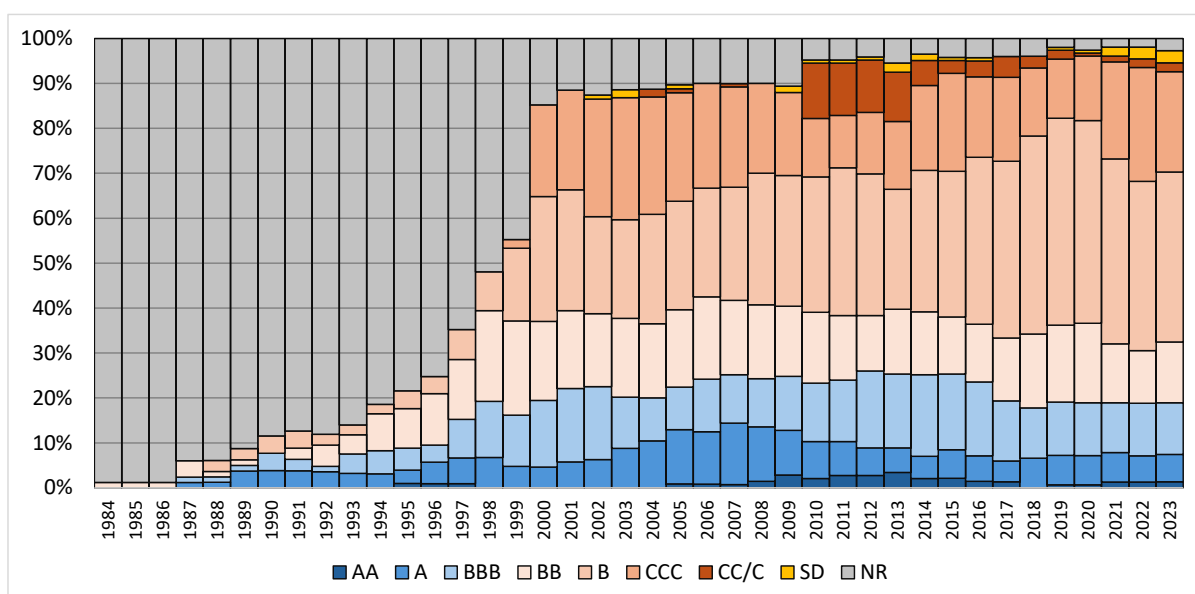
2.4   Countries in the dataset

As detailed in Table 8, there are 166 countries in the dataset. Not all of them have necessarily been active throughout the entire 40-year period covered by this publication. In addition to data on the years that a country has been in the GEMs dataset, the table includes information on how many GEMs members provide lending to the country, the cumulative signed amount with multilateral development banks, and the first year that the country was given a GEMs rating.

Table 8: Dataset information for included countries

ISO country code	Country	Region	Number of MDBs with lending	Cumulative signed amount (in € million)	Outstanding 31 Dec. 2023 (in € million)	First year in dataset	Last year in dataset	First year of GEMs rating
AF	Afghanistan	South Asia	2	949.0	515.6	2005	2023	1999
AG	Antigua and Barbuda	Latin America & Caribbean	1	11.7	3.6	2013	2023	1999
AL	Albania	Europe & Central Asia	5	3 050.0	1 538.5	1994	2023	1999
AM	Armenia	Europe & Central Asia	4	2 383.8	1 837	1993	2023	1999
AO	Angola	Sub-Saharan Africa	4	8 177.4	4 263.5	1984	2023	1997
AR	Argentina	Latin America & Caribbean	5	80 310.2	24 482.2	1984	2023	1986
AZ	Azerbaijan	Europe & Central Asia	5	7 209.9	3 790.3	1994	2023	1999
BA	Bosnia and Herzegovina	Europe & Central Asia	4	4 395.5	1 941.0	1984	2023	1997
BB	Barbados	Latin America & Caribbean	3	1 750.2	947.4	1984	2023	1994
BD	Bangladesh	South Asia	6	43 150.6	16 748.8	1984	2023	1999
BF	Burkina Faso	Sub-Saharan Africa	3	1 173.7	643.6	1984	2023	1999
BG	Bulgaria	Europe & Central Asia	2	3 359.1	556.3	1991	2023	1996
BH	Bahrain	Middle East & North Africa	1	1 049.4	419.4	1997	2023	1996
BI	Burundi	Sub-Saharan Africa	2	135.2	95.9	1984	2023	2007
BJ	Benin	Sub-Saharan Africa	3	1 093.1	542.2	1984	2023	1999
BN	Brunei	East Asia & Pacific	1	4.6	-	2005	2011	1999
BO	Bolivia	Latin America & Caribbean	4	9 125.0	4 780.7	1984	2023	1998
BR	Brazil	Latin America & Caribbean	5	107 977.6	29 300.7	1984	2023	1986
BS	Bahamas	Latin America & Caribbean	3	1 571.3	898.2	1984	2023	1997
BT	Bhutan	South Asia	2	688.2	471.1	1984	2023	1999
BW	Botswana	Sub-Saharan Africa	4	3 080.9	1 153.6	1984	2023	1999
BY	Belarus	Europe & Central Asia	1	1 987.7	908.7	1993	2023	1999
BZ	Belize	Latin America & Caribbean	5	558.0	181.6	1984	2023	1999
CD	Democratic Republic of the Congo	Sub-Saharan Africa	3	540.2	78.0	1984	2023	1997
CF	Central African Republic	Sub-Saharan Africa	1	35.1	16.6	1984	2023	1999
CG	Congo	Sub-Saharan Africa	4	1 512.5	589.6	1984	2023	1997
CI	Côte d'Ivoire	Sub-Saharan Africa	6	7 457.3	1 995.3	1984	2023	1999
CK	Cook Islands	East Asia & Pacific	2	172.6	113.1	2009	2023	1998
CL	Chile	Latin America & Caribbean	2	13 071.2	2 538.2	1984	2023	1992
CM	Cameroon	Sub-Saharan Africa	5	5 761.1	2 222.3	1984	2023	1999
CN	China	East Asia & Pacific	6	99 538.6	37 936.5	1984	2023	1988
CO	Colombia	Latin America & Caribbean	4	57 654.8	25 513.5	1984	2023	1993
CR	Costa Rica	Latin America & Caribbean	4	10 110.1	4 175.6	1984	2023	1997
CU	Cuba	Latin America & Caribbean	1	47.9	16.6	2013	2023	2023
CV	Cabo Verde	Sub-Saharan Africa	4	533.8	344.2	1984	2023	1999
CY	Cyprus	Europe & Central Asia	3	1 291.2	299.1	1984	2023	1994
CZ	Czechia	Europe & Central Asia	2	866.3	300.0	1991	2023	1993
DJ	Djibouti	Middle East & North Africa	2	182.1	97.1	1984	2023	2009
DM	Dominica	Latin America & Caribbean	3	15.7	1.1	1984	2023	2009
DO	Dominican Republic	Latin America & Caribbean	5	14 812.5	5 777.0	1984	2023	1997
DZ	Algeria	Middle East & North Africa	3	9 082.3	750.0	1984	2023	1999
EC	Ecuador	Latin America & Caribbean	4	22 672.9	12 376.0	1984	2023	1997
EE	Estonia	Europe & Central Asia	2	365.3	200.0	1992	2023	1997
EG	Egypt	Middle East & North Africa	6	33 388.5	16 690.8	1984	2023	1996
ER	Eritrea	Sub-Saharan Africa	2	43.5	17.6	1994	2023	2007
ET	Ethiopia	Sub-Saharan Africa	3	877.9	554.5	1984	2023	1999
FJ	Fiji	East Asia & Pacific	5	1 648.2	836.7	1984	2023	1999
FM	Micronesia	East Asia & Pacific	1	69.6	32.7	2005	2023	2009
GA	Gabon	Sub-Saharan Africa	5	3 598.4	1 629.5	1984	2023	1999
GD	Grenada	Latin America & Caribbean	3	52.8	17.3	1995	2023	2014

Table 8 (continued): Dataset information for included countries

ISO country code	Country	Region	Number of MDBs with lending	Cumulative signed amount (in € million)	Outstanding 31 Dec. 2023 (in € million)	First year in dataset	Last year in dataset	First year of GEMs rating
GE	Georgia	Europe & Central Asia	6	6 685.4	4 708.7	1997	2023	1999
GH	Ghana	Sub-Saharan Africa	3	642.7	204.8	1984	2023	1999
GM	Gambia	Sub-Saharan Africa	3	357.0	248.3	1984	2023	1999
GN	Guinea	Sub-Saharan Africa	4	1 274.1	627.5	1984	2023	1999
GQ	Equatorial Guinea	Sub-Saharan Africa	2	128.8	27.9	1984	2023	2000
GT	Guatemala	Latin America & Caribbean	4	12 185.8	4 025.7	1984	2023	1990
GW	Guinea-Bissau	Sub-Saharan Africa	2	76.3	31.2	1984	2023	1999
GY	Guyana	Latin America & Caribbean	5	1 714.0	771.9	1984	2023	1999
HN	Honduras	Latin America & Caribbean	5	9 109.0	4 496.6	1984	2023	1989
HR	Croatia	Europe & Central Asia	3	6 195.8	1 951.9	1984	2023	1997
HT	Haiti	Latin America & Caribbean	1	72.8	33.4	1984	2023	2000
HU	Hungary	Europe & Central Asia	3	13 707.6	905.5	1984	2023	1989
ID	Indonesia	East Asia & Pacific	6	123 248.9	34 924.1	1984	2023	1992
IL	Israel	Middle East & North Africa	1	257.3	-	1984	1997	1988
IN	India	South Asia	6	147 680.1	50 879.8	1984	2023	1988
IQ	Iraq	Middle East & North Africa	2	4 721.2	2 774.0	1984	2023	1997
IR	Iran	Middle East & North Africa	2	5 303.5	1 089.8	1984	2023	2008
JM	Jamaica	Latin America & Caribbean	3	6 410.7	2 349.5	1984	2023	1998
JO	Jordan	Middle East & North Africa	5	10 507.0	4 480.3	1984	2023	1995
KE	Kenya	Sub-Saharan Africa	4	5 350.0	2 724.6	1984	2023	1999
KG	Kyrgyzstan	Europe & Central Asia	6	1 686.4	906.1	1984	2023	1999
KH	Cambodia	East Asia & Pacific	4	5 729.9	2 347.9	1996	2023	2023
KI	Kiribati	East Asia & Pacific	2	40.3	17.8	1999	2023	2009
KM	Comoros	Sub-Saharan Africa	2	41.0	16.8	1984	2023	2009
KN	Saint Kitts and Nevis	Latin America & Caribbean	2	26.9	-	1991	2020	2000
KR	Korea	East Asia & Pacific	2	21 931.0	-	1984	2013	1986
KZ	Kazakhstan	Europe & Central Asia	4	14 620.3	5 573.9	1993	2023	1996
LA	Laos	East Asia & Pacific	4	1 853.9	928.4	1984	2023	2000
LB	Lebanon	Middle East & North Africa	4	5 106.3	1 142.9	1984	2023	1997
LC	Saint Lucia	Latin America & Caribbean	2	76.3	7.1	1986	2023	2018
LK	Sri Lanka	South Asia	5	15 971.6	7 167.5	1984	2023	1999
LR	Liberia	Sub-Saharan Africa	3	265.0	84.7	1984	2023	1997
LS	Lesotho	Sub-Saharan Africa	3	373.5	84.4	1984	2023	1999
LT	Lithuania	Europe & Central Asia	2	1 323.1	658.4	1992	2023	1996
LV	Latvia	Europe & Central Asia	2	931.7	2.5	1992	2023	1997
MA	Morocco	Middle East & North Africa	5	42 182.8	16 129.6	1984	2023	1998
MD	Moldova	Europe & Central Asia	4	1 440.2	737.7	1993	2023	2009
ME	Montenegro	Europe & Central Asia	4	1 952.0	693.3	2001	2023	2004
MG	Madagascar	Sub-Saharan Africa	3	547.9	333.6	1984	2023	1999
MH	Marshall Islands	East Asia & Pacific	1	108.8	27.5	2001	2023	2006
MK	North Macedonia	Europe & Central Asia	4	3 406.7	1 076.9	1984	2023	1992
ML	Mali	Sub-Saharan Africa	3	1 055.4	585.8	1984	2023	1999
MM	Myanmar	East Asia & Pacific	2	4 268.7	719.6	1984	2023	1998
MN	Mongolia	East Asia & Pacific	5	3 282.4	2 168.2	1996	2023	1999
MR	Mauritania	Sub-Saharan Africa	4	809.6	345.9	1984	2023	1999
MU	Mauritius	Sub-Saharan Africa	4	2 261.1	770.2	1984	2023	1996
MV	Maldives	South Asia	5	561.4	222.3	1984	2023	1999
MW	Malawi	Sub-Saharan Africa	3	557.8	265.0	1984	2023	1999
MX	Mexico	Latin America & Caribbean	4	92 885.4	26 608.4	1984	2023	1990
MY	Malaysia	East Asia & Pacific	3	6 694.8	17.5	1984	2023	1986
MZ	Mozambique	Sub-Saharan Africa	4	815.4	422.1	1984	2023	1999
NA	Namibia	Sub-Saharan Africa	3	1 862.4	988.2	1994	2023	2005
NC	New Caledonia	East Asia & Pacific	1	20.0	11.7	2014	2023	unrated
NE	Niger	Sub-Saharan Africa	3	838.9	373.8	1984	2023	1999
NG	Nigeria	Sub-Saharan Africa	5	12 884.9	2 481.3	1984	2023	1999
NI	Nicaragua	Latin America & Caribbean	5	7 890.2	4 330.3	1984	2023	1984
NP	Nepal	South Asia	4	9 329.8	2 847.0	1984	2023	1999
NR	Nauru	East Asia & Pacific	1	4.4	-	1999	2013	2000

Table 8 (continued): Dataset information for included countries

ISO country code	Country	Region	Number of MDBs with lending	Cumulative signed amount (in € million)	Outstanding 31 Dec. 2023 (in € million)	First year in dataset	Last year in dataset	First year of GEMs rating
OM	Oman	Middle East & North Africa	2	1 498.9	917.2	1984	2023	1996
PA	Panama	Latin America & Caribbean	4	13 025.0	5 942.7	1984	2023	1988
PE	Peru	Latin America & Caribbean	4	29 552.0	7 972	1984	2023	1987
PF	French Polynesia	East Asia & Pacific	1	7.5	5.8	2012	2023	unrated
PG	Papua New Guinea	East Asia & Pacific	4	6 470.0	2 356.9	1984	2023	1998
PH	Philippines	East Asia & Pacific	5	70 290.9	26 292.2	1984	2023	1993
PK	Pakistan	South Asia	6	66 496.5	18 833.8	1984	2023	1994
PL	Poland	Europe & Central Asia	2	16 304.1	6 187.4	1990	2023	1995
PS	Palestinian territories	Middle East & North Africa	2	183.1	18.7	1995	2023	2009
PW	Palau	East Asia & Pacific	2	148.0	132.8	2006	2023	unrated
PY	Paraguay	Latin America & Caribbean	4	8 840.2	4 067.7	1984	2023	1995
QA	Qatar	Middle East & North Africa	1	0.3	-	2005	2013	1996
RO	Romania	Europe & Central Asia	3	16 664.8	4 811.7	1984	2023	1996
RS	Serbia	Europe & Central Asia	3	11 847.1	4 564.3	1984	2023	1997
RU	Russia	Europe & Central Asia	3	15 087.3	1 187.1	1992	2023	2022
RW	Rwanda	Sub-Saharan Africa	3	352.8	233.5	1984	2023	1999
SA	Saudi Arabia	Middle East & North Africa	2	242.7	131.5	1999	2023	1996
SB	Solomon Islands	East Asia & Pacific	2	267.7	75.2	1984	2023	2000
SC	Seychelles	Sub-Saharan Africa	4	399.9	242.6	1984	2023	1999
SD	Sudan	Sub-Saharan Africa	3	975.2	576.9	1984	2023	1997
SI	Slovenia	Europe & Central Asia	2	477.3	109.8	1984	2023	1996
SK	Slovakia	Europe & Central Asia	2	1 485.2	875.6	1991	2023	1994
SL	Sierra Leone	Sub-Saharan Africa	4	391.5	221.2	1984	2023	2000
SN	Senegal	Sub-Saharan Africa	5	5 298.1	2 842.1	1984	2023	1999
SR	Suriname	Latin America & Caribbean	4	1 362.2	793.1	1985	2023	1993
SS	South Sudan	Sub-Saharan Africa	1	1.6	0.5	2021	2023	2013
ST	Sao Tome and Principe	Sub-Saharan Africa	2	30.7	21.1	1984	2023	2000
SV	El Salvador	Latin America & Caribbean	5	13 326.4	4 820.8	1984	2023	1996
SX	Sint Maarten	Latin America & Caribbean	1	44.2	46.2	2019	2023	2020
SY	Syria	Middle East & North Africa	4	2 091.4	891.5	1984	2023	1997
SZ	Swaziland	Sub-Saharan Africa	4	1 164.8	404.2	1984	2023	2007
TD	Chad	Sub-Saharan Africa	4	866.4	395.8	1984	2023	1999
TG	Togo	Sub-Saharan Africa	4	379.3	127.2	1984	2023	1999
TH	Thailand	East Asia & Pacific	3	17 426.5	1 720.2	1984	2023	1989
TJ	Tajikistan	Europe & Central Asia	5	924.5	555.8	1997	2023	1999
TL	Timor-Leste	East Asia & Pacific	2	482.4	166.5	2012	2023	2013
TM	Turkmenistan	Europe & Central Asia	3	1 474.5	1 267.1	1994	2023	2010
TN	Tunisia	Middle East & North Africa	5	30 730.8	8 587.8	1984	2023	1995
TO	Tonga	East Asia & Pacific	3	96.1	23.6	1984	2023	2009
TR	Türkiye	Europe & Central Asia	6	72 870.9	19 789.3	1984	2023	1992
TT	Trinidad and Tobago	Latin America & Caribbean	3	2 306.9	645.8	1984	2023	1993
TV	Tuvalu	East Asia & Pacific	2	7.6	1.5	2004	2023	2009
TZ	Tanzania	Sub-Saharan Africa	4	2 376.1	843.9	1984	2023	1999
UA	Ukraine	Europe & Central Asia	2	25 197.3	14 201.6	1993	2023	1998
UG	Uganda	Sub-Saharan Africa	4	1 565.2	836.8	1984	2023	1999
UY	Uruguay	Latin America & Caribbean	3	13 599.5	4 707.5	1984	2023	1993
UZ	Uzbekistan	Europe & Central Asia	6	18 489.0	10 689.9	1993	2023	1999
VC	Saint Vincent and the Grenadines	Latin America & Caribbean	2	30.5	-	1989	2022	1999
VE	Venezuela	Latin America & Caribbean	3	10 084.6	1 821	1984	2023	1983
VG	British Virgin Islands	Latin America & Caribbean	1	5.5	-	1994	2013	unrated
VN	Vietnam	East Asia & Pacific	4	24 189.4	9 191.7	1984	2023	1997
VU	Vanuatu	East Asia & Pacific	2	125.5	52.3	1999	2023	2009
WS	Samoa	East Asia & Pacific	2	208.1	56.2	1984	2023	2009
XK	Kosovo (temporary code)	Europe & Central Asia	4	503.1	213.7	2001	2023	2011
YE	Yemen	Middle East & North Africa	1	242.7	158.8	1990	2023	1999
ZA	South Africa	Sub-Saharan Africa	4	13 073.5	6 630.6	1984	2023	1994
ZM	Zambia	Sub-Saharan Africa	4	2 046.1	643.5	1984	2023	1999
ZW	Zimbabwe	Sub-Saharan Africa	4	1 898.2	736.7	1984	2023	1999
	Total			**1 715 388.9**	**589 129.7**			

3 Default rate statistics

3.1 Annual default rate methodology

The annual default rates and their averages and confidence intervals presented in this publication are derived for the respective dimensions and categories using the equations below.

Annual default rates are calculated as:

Equation 1: Annual default rate for year *i*

$$x_i = \frac{d_i}{w_i}$$

Where:

d_i = Number of new defaults of countries during year *i*
w_i = Number of performing countries as of 1 January of year *i*

Annual default rates are averaged using the number of performing countries as of 1 January of each year as weights:

Equation 2: Average annual default rate

$$\bar{x}^* = \frac{\sum_{i=1}^{N} w_i x_i}{\sum_{i=1}^{N} w_i}$$

Where:

N = Number of years

Standard deviations of annual default rates are calculated using the number of performing countries as of 1 January of each year as weights:

Equation 3: Standard deviation of annual default rates

$$\sigma = \sqrt{\frac{\sum_{i=1}^{N} w_i (x_i - \bar{x}^*)^2}{\frac{(N-1)}{N} \sum_{i=1}^{N} w_i}}$$

Assuming default rates are normally distributed, the confidence intervals around the averages are determined as:

Equation 4: Confidence intervals for annual default rates

$$CI_{upper} = \bar{x}^* + z * \frac{\sigma}{\sqrt{N}}$$

$$CI_{lower} = \bar{x}^* - z * \frac{\sigma}{\sqrt{N}}$$

Where:

z^* = z^*- value from the standard normal distribution for the chosen confidence interval

3.1.1 Annual default rates by year

Some of the 40 individual annual default rates are 0.00% since the observed 50 defaults are not distributed evenly over the 40 years. The range and 90% confidence interval (0.00% to 6.02% and 0.67% to 1.45%, respectively) for the dataset are relatively large because of the overall scarcity of observations.

Table 9: Annual default rates

Year	Defaults	Active countries	Annual default rate
1984	1	83	1.20%
1985	0	83	0.00%
1986	2	84	2.38%
1987	5	83	6.02%
1988	1	82	1.22%
1989	1	80	1.25%
1990	2	78	2.56%
1991	1	79	1.27%
1992	5	84	5.95%
1993	3	93	3.23%
1994	1	97	1.03%
1995	0	102	0.00%
1996	0	105	0.00%
1997	1	105	0.95%
1998	2	104	1.92%
1999	1	105	0.95%
2000	5	108	4.63%
2001	1	104	0.96%
2002	0	111	0.00%
2003	2	114	1.75%
2004	0	115	0.00%
2005	0	116	0.00%
2006	1	120	0.83%
2007	0	139	0.00%
2008	0	140	0.00%
2009	0	141	0.00%
2010	0	146	0.00%
2011	0	146	0.00%
2012	1	146	0.68%
2013	2	146	1.37%
2014	1	143	0.70%
2015	0	142	0.00%
2016	0	140	0.00%
2017	0	150	0.00%
2018	2	152	1.32%
2019	0	152	0.00%
2020	0	153	0.00%
2021	0	153	0.00%
2022	6	154	3.90%
2023	3	148	2.03%
Total	**50**	**4 726**	**1.06%**

3.1.2 Annual default rates by region

The World Bank Group classification of countries to regions is used for the statistics shown in this section. The allocation of individual countries to regions can be found in Table 8.

Table 10: Annual default rates by region

Region	Unique countries	Observed years	Number of defaults	Number of observations	Signed amount in € million	Lower of 90% confidence interval	Average annual default rate	Upper of 90% confidence interval
East Asia & Pacific	28	40	3	638	388 337	0.00%	**0.47%**	0.95%
Europe & Central Asia	31	40	5	880	258 183	0.00%	**0.57%**	1.46%
Latin America & Caribbean	35	40	12	1 168	542 290	0.58%	**1.03%**	1.48%
Middle East & North Africa	17	40	6	445	146 770	0.44%	**1.35%**	2.25%
South Asia	8	40	1	247	284 827	0.00%	**0.40%**	0.99%
Sub-Saharan Africa	47	40	23	1 348	94 981	0.99%	**1.71%**	2.42%
Overall	**166**	**40**	**50**	**4 726**	**1 715 388**	**0.67%**	**1.06%**	**1.45%**

Figure 10: Dataset composition by region

Figure 11: Annual default rates by region

90% confidence interval   ● Average annual default rate
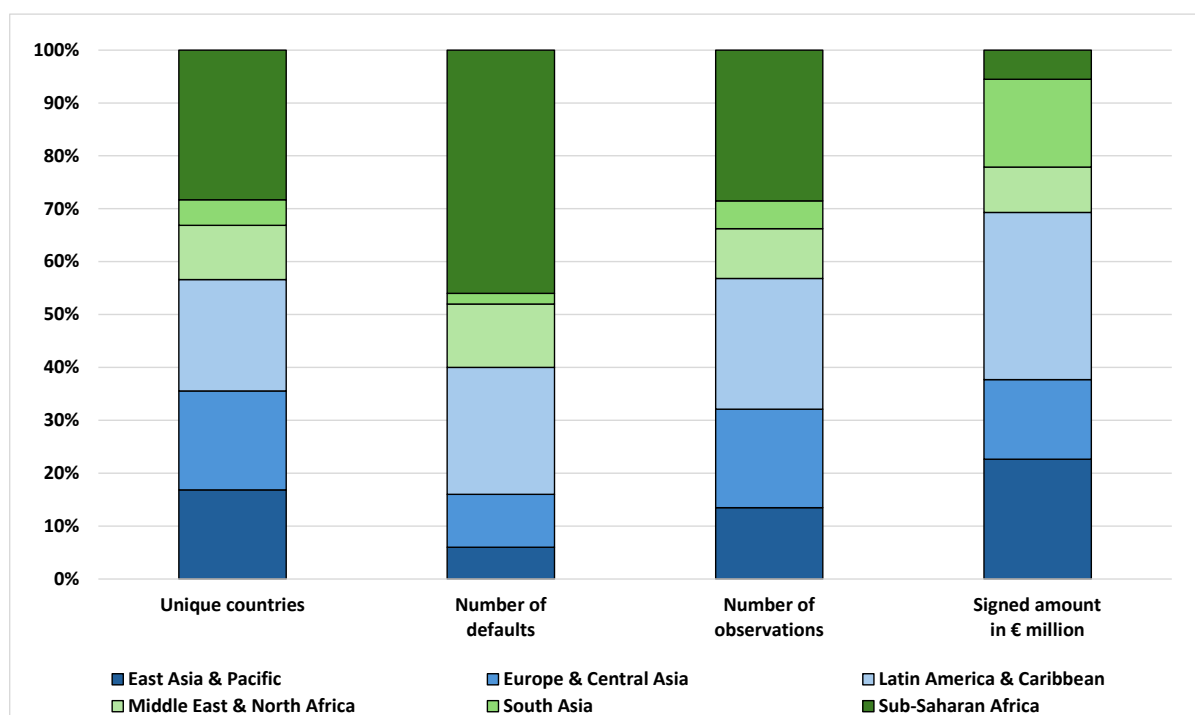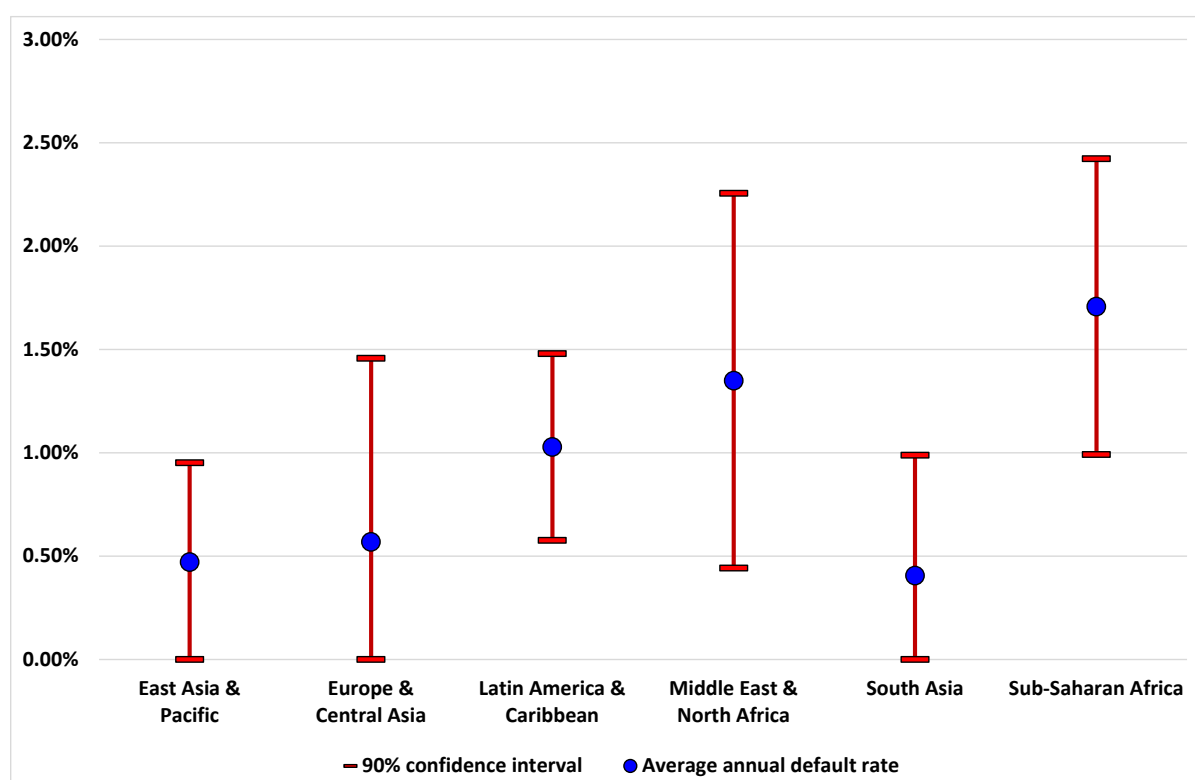
3.1.3 Annual default rates by historic income group

The [World Bank Group database on historic income groups](#) is used for assigning countries to groups for each year of the observation period. For this statistic, the number of observed years is reduced to 37 as historic income groups are only available from 1987. Two countries in the dataset are currently not categorised by the World Bank Group. The signed amounts and count of unique countries shown in this section reflect income groups at the date of reporting.

Table 11: Annual default rates by historic income group

Income Group	Unique countries	Observed years	Number of defaults	Number of observations	Signed amount in € million	Lower of 90% confidence interval	Average annual default rate	Upper of 90% confidence interval
High income	33	37	0	433	132 155	0.00%	**0.00%**	0.00%
Upper-middle income	53	37	11	1 301	889 544	0.38%	**0.85%**	1.31%
Lower-middle income	54	37	18	1 657	668 298	0.65%	**1.09%**	1.52%
Low income	24	37	16	1 022	15 135	0.81%	**1.57%**	2.32%
Not available	2	38	5	313	10 257	0.00%	**1.60%**	3.46%
Overall	**166**	**40**	**50**	**4 726**	**1 715 388**	**0.67%**	**1.06%**	**1.45%**

Note: The historic income group is defined as of default date. Signed amounts, however, reflect current income groups.

Figure 12: Dataset composition over time by historic income group – percentage of active countries
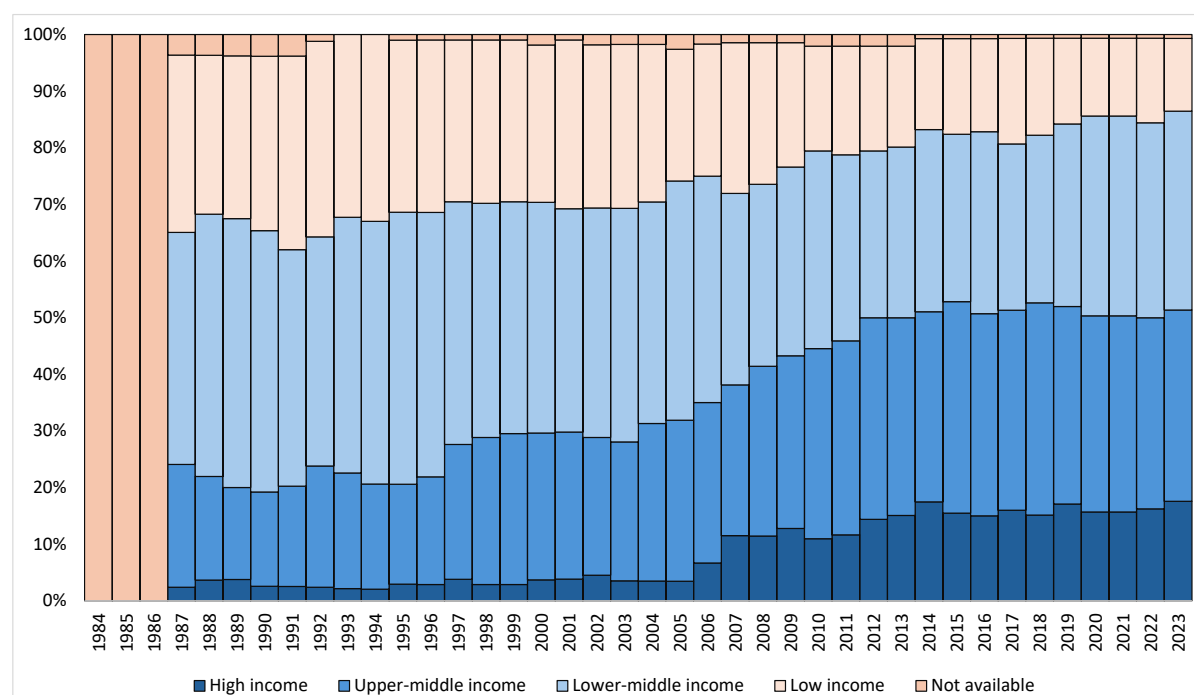
Figure 13: Dataset composition by historic income group

Figure 13: Dataset composition by historic income group

Figure 14: Annual default rates by historic income group
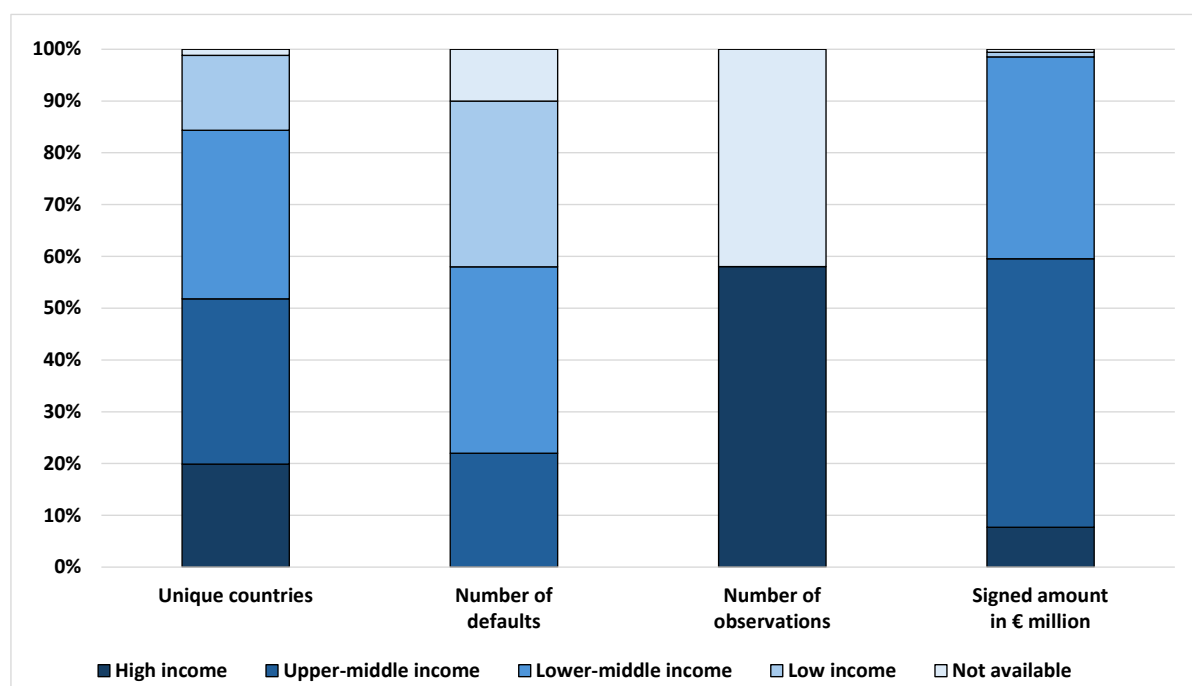
Figure 14: Annual default rates by historic income group
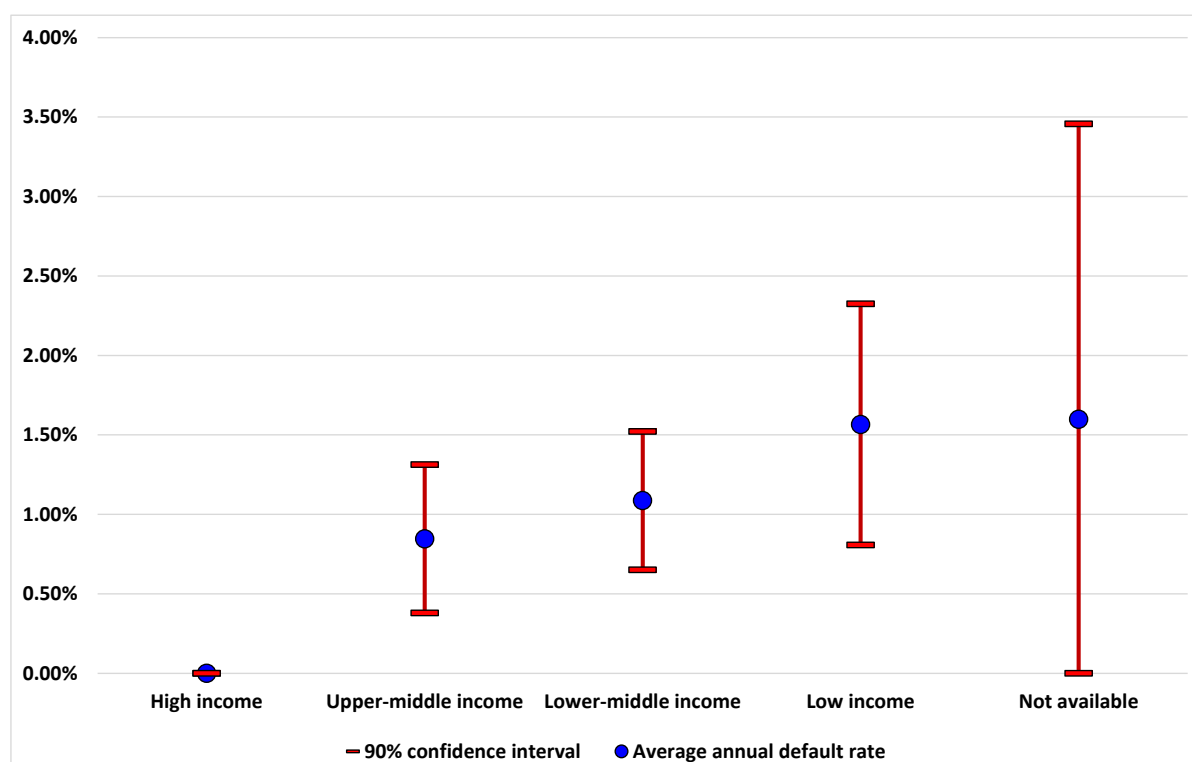
3.2 Default rates by credit rating

The GEMs default rate calculation by credit rating for sovereign and sovereign-guaranteed lending follows a static cohort approach in which cohorts of countries with the same rating are established on 1 January of each year. Then, the default behaviour of the countries in each cohort is recorded until the end of the observation period.

A static cohort approach was selected because it reflects the form of lending that multilateral development banks typically provide to developing countries. At any given time, multiple loans are outstanding to each country, and new loans are added as existing loans mature and are paid down. This results in an ongoing exposure to the countries without a final maturity.

Following the static cohort approach for each credit rating, the marginal default rate in $year_i$ for a cohort formed in $year_j$ is calculated as:

Equation 5: Marginal default rate for a static cohort

$$MDR_j^i = \frac{d_j^i}{n_j}$$

Where:

d_i^j = Number of defaulted countries in $year_i$ for the cohort formed in $year_j$
n_j = Number of performing countries on 1 January of $year_j$

Combining all cohorts for each credit rating, the weighted marginal default rate in $year_i$ for all cohorts formed in $year_j$ is calculated as:

Equation 6: Marginal default rate for all static cohorts

$$wMDR_i = \frac{\sum_{j=1}^{K} d_j^i}{\sum_{j=1}^{K} n_j}$$

Where:

K = Total number of cohorts for a credit rating, meaning the number of years for which a cohort has been established for a given credit rating

3.2.1 Marginal default rates by credit rating category

The observed marginal default rates in Table 12 do not show the same pattern as those in similar tables for sovereign or corporate exposures provided by credit rating agencies. Only 50 defaults over a 40-year history leaves many cells empty or with values of 0.00%. Therefore, unlike tables from credit rating agencies, Table 12 includes not rated (NR) as a rating category, as this state represents a large part of the historical observations. The results for NR illustrate that unrated countries are not necessarily more likely to default on loans from multilateral development banks than rated ones.

Table 12: Marginal default rates by credit rating category and year

During year	AAA	AA	A	BBB	BB	B	CCC	CC/C	SD	NR
1		0.00%	0.00%	0.20%	0.00%	0.44%	1.41%	2.68%	13.79%	2.02%
2		0.00%	0.00%	0.21%	0.00%	0.47%	1.16%	1.83%	4.00%	1.96%
3		0.00%	0.00%	0.22%	0.00%	0.79%	0.71%	0.94%	0.00%	2.03%
4		0.00%	0.00%	0.23%	0.00%	0.84%	0.75%	0.96%	0.00%	1.82%
5		0.00%	0.00%	0.00%	0.19%	0.91%	0.78%	0.97%	0.00%	1.53%
6		0.00%	0.00%	0.00%	0.20%	0.99%	0.82%	1.00%	0.00%	1.24%
7		0.00%	0.00%	0.00%	0.21%	0.67%	1.07%	1.04%	0.00%	1.03%
8		0.00%	0.00%	0.27%	0.22%	0.58%	0.91%	2.25%	0.00%	0.81%
9		0.00%	0.00%	0.29%	0.23%	0.63%	0.72%	2.38%	0.00%	0.74%
10		0.00%	0.00%	0.31%	0.00%	0.85%	1.04%	1.25%	0.00%	0.67%
11		0.00%	0.00%	0.34%	0.00%	1.10%	0.84%	1.39%	0.00%	0.52%
12		0.00%	0.00%	0.37%	0.00%	1.19%	0.60%	1.79%	0.00%	0.45%
13		0.00%	0.00%	0.81%	0.00%	1.31%	0.64%	0.00%	0.00%	0.45%
14		0.00%	0.00%	0.44%	0.00%	1.46%	1.01%	0.00%	0.00%	0.46%
15		0.00%	0.00%	0.48%	0.00%	1.37%	1.08%	0.00%	0.00%	0.53%
16		0.00%	0.00%	0.52%	0.00%	1.23%	1.19%	0.00%	0.00%	0.54%
17		0.00%	0.00%	0.57%	0.00%	1.06%	1.34%	0.00%	0.00%	0.39%
18		0.00%	0.00%	0.62%	0.00%	1.20%	0.52%	0.00%	0.00%	0.16%
19		0.00%	0.00%	0.00%	0.46%	1.36%	0.61%	0.00%	0.00%	0.08%
20		0.00%	0.00%	0.00%	0.51%	1.56%	0.73%	0.00%	0.00%	0.08%
21		0.00%	0.00%	0.00%	0.56%	1.22%	1.87%		0.00%	0.08%
22		0.00%	0.00%	0.00%	0.00%	2.16%	2.63%		0.00%	0.08%
23		0.00%	0.00%	0.00%	1.42%	0.87%	4.26%			0.08%
24		0.00%	0.00%	0.00%	1.63%	1.15%	4.17%			0.17%
25		0.00%	0.00%	0.00%	2.88%	0.00%	0.00%			0.26%
26		0.00%	0.00%	0.00%	2.44%	0.00%				0.35%
27		0.00%	0.00%	0.00%	1.64%	0.00%				0.47%
28		0.00%	0.00%	0.00%	0.00%	4.17%				0.50%
29		0.00%	0.00%	0.00%	0.00%	5.00%				0.54%
30			0.00%	0.00%	3.85%	0.00%				0.47%
31			0.00%	0.00%	5.56%	0.00%				0.26%
32			0.00%	0.00%	7.14%	0.00%				0.29%
33			0.00%	0.00%	10.00%	0.00%				0.33%
34			0.00%	0.00%	12.50%	0.00%				0.37%
35			0.00%	0.00%	12.50%	0.00%				0.42%
36			0.00%	0.00%	0.00%	0.00%				0.50%
37			0.00%	0.00%	0.00%					0.62%
38					0.00%					0.81%
39					0.00%					1.22%
40					0.00%					1.22%

3.2.2 Cumulative default rates by credit rating category

Table 13: Cumulative default rates by credit rating category and year

During year	AAA	AA	A	BBB	BB	B	CCC	CC/C	SD	NR
1		0.00%	0.00%	0.20%	0.00%	0.44%	1.41%	2.68%	13.79%	2.02%
2		0.00%	0.00%	0.41%	0.00%	0.91%	2.56%	4.46%	17.24%	3.94%
3		0.00%	0.00%	0.63%	0.00%	1.69%	3.25%	5.37%	17.24%	5.90%
4		0.00%	0.00%	0.85%	0.00%	2.52%	3.97%	6.28%	17.24%	7.61%
5		0.00%	0.00%	0.85%	0.19%	3.40%	4.73%	7.19%	17.24%	9.03%
6		0.00%	0.00%	0.85%	0.40%	4.35%	5.50%	8.11%	17.24%	10.16%
7		0.00%	0.00%	0.85%	0.61%	4.99%	6.52%	9.07%	17.24%	11.09%
8		0.00%	0.00%	1.12%	0.83%	5.55%	7.37%	11.11%	17.24%	11.81%
9		0.00%	0.00%	1.41%	1.06%	6.14%	8.04%	13.23%	17.24%	12.46%
10		0.00%	0.00%	1.71%	1.06%	6.94%	9.00%	14.32%	17.24%	13.05%
11		0.00%	0.00%	2.05%	1.06%	7.97%	9.77%	15.51%	17.24%	13.50%
12		0.00%	0.00%	2.41%	1.06%	9.07%	10.31%	17.01%	17.24%	13.89%
13		0.00%	0.00%	3.20%	1.06%	10.26%	10.88%	17.01%	17.24%	14.29%
14		0.00%	0.00%	3.62%	1.06%	11.57%	11.78%	17.01%	17.24%	14.68%
15		0.00%	0.00%	4.09%	1.06%	12.78%	12.73%	17.01%	17.24%	15.13%
16		0.00%	0.00%	4.59%	1.06%	13.85%	13.77%	17.01%	17.24%	15.59%
17		0.00%	0.00%	5.13%	1.06%	14.76%	14.92%	17.01%	17.24%	15.92%
18		0.00%	0.00%	5.72%	1.06%	15.79%	15.36%	17.01%	17.24%	16.05%
19		0.00%	0.00%	5.72%	1.52%	16.94%	15.88%	17.01%	17.24%	16.12%
20		0.00%	0.00%	5.72%	2.01%	18.24%	16.49%	17.01%	17.24%	16.19%
21		0.00%	0.00%	5.72%	2.56%	19.23%	18.05%		17.24%	16.26%
22		0.00%	0.00%	5.72%	2.56%	20.98%	20.21%		17.24%	16.33%
23		0.00%	0.00%	5.72%	3.94%	21.66%	23.60%			16.39%
24		0.00%	0.00%	5.72%	5.50%	22.56%	26.79%			16.54%
25		0.00%	0.00%	5.72%	8.23%	22.56%	26.79%			16.75%
26		0.00%	0.00%	5.72%	10.47%	22.56%				17.04%
27		0.00%	0.00%	5.72%	11.94%	22.56%				17.43%
28		0.00%	0.00%	5.72%	11.94%	25.79%				17.84%
29		0.00%	0.00%	5.72%	11.94%	29.50%				18.29%
30			0.00%	5.72%	15.32%	29.50%				18.67%
31			0.00%	5.72%	20.03%	29.50%				18.88%
32			0.00%	5.72%	25.74%	29.50%				19.12%
33			0.00%	5.72%	33.17%	29.50%				19.38%
34			0.00%	5.72%	41.52%	29.50%				19.68%
35			0.00%	5.72%	48.83%	29.50%				20.02%
36			0.00%	5.72%	48.83%	29.50%				20.42%
37			0.00%	5.72%	48.83%					20.91%
38					48.83%					21.55%
39					48.83%					22.50%
40					48.83%					23.45%

3.2.3 Marginal default rates by credit rating

Breaking down the rating categories into individual ratings as illustrated in Figure 14 increases the impact of the scarcity of default observations.

Table 14: Marginal default rates by credit rating and year

During year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	SD	NR
1			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.46%	0.00%	0.00%	0.00%	0.00%	0.25%	1.04%	0.80%	2.50%	1.73%	14.29%	1.90%	13.79%	2.02%
2			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.47%	0.00%	0.00%	0.00%	0.00%	0.26%	1.10%	1.79%	5.13%	0.29%	0.00%	1.94%	4.00%	1.96%
3			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.49%	0.00%	0.00%	0.00%	0.32%	0.28%	1.74%	0.50%	6.06%	0.30%	0.00%	1.00%	0.00%	2.03%
4			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.51%	0.00%	0.00%	0.00%	0.34%	0.61%	1.54%	1.69%	3.70%	0.00%	0.00%	1.02%	0.00%	1.82%
5			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.65%	0.00%	0.00%	0.35%	0.67%	1.67%	1.23%	4.17%	0.31%	0.00%	1.03%	0.00%	1.53%
6			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.68%	0.00%	0.00%	0.74%	0.38%	1.81%	0.68%	4.55%	0.62%	0.00%	1.06%	0.00%	1.24%
7			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.71%	0.00%	0.00%	0.78%	0.42%	0.80%	2.31%	0.00%	0.63%	0.00%	1.11%	0.00%	1.03%
8			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.88%	0.00%	0.00%	0.00%	0.62%	0.41%	0.46%	0.88%	1.69%	0.00%	0.66%	0.00%	2.38%	0.00%	0.81%
9			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.92%	0.00%	0.00%	0.00%	0.65%	0.45%	0.99%	0.48%	1.85%	0.00%	0.34%	0.00%	2.50%	0.00%	0.74%
10			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.00%	0.00%	0.00%	0.00%	0.00%	0.95%	1.06%	0.53%	2.13%	0.00%	0.73%	0.00%	1.30%	0.00%	0.67%
11			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.10%	0.00%	0.00%	0.00%	0.00%	1.52%	0.58%	1.16%	0.00%	0.00%	1.15%	0.00%	1.45%	0.00%	0.52%
12			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.23%	0.00%	0.00%	0.00%	0.00%	1.08%	1.91%	0.62%	0.00%	0.00%	0.80%	0.00%	1.89%	0.00%	0.45%
13			0.00%	0.00%	0.00%	0.00%	1.56%	1.41%	0.00%	0.00%	0.00%	0.00%	0.00%	1.19%	2.11%	0.68%	1.67%	0.00%	0.41%	0.00%	0.00%	0.00%	0.45%
14			0.00%	0.00%	0.00%	0.00%	1.64%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.32%	1.59%	1.52%	0.00%	0.00%	1.26%	0.00%	0.00%	0.00%	0.46%
15			0.00%	0.00%	0.00%	0.00%	1.75%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.41%	0.00%	2.61%	0.00%	0.00%	1.30%	0.00%	0.00%	0.00%	0.53%
16			0.00%	0.00%	0.00%	0.00%	1.92%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.76%	0.00%	3.06%	0.00%	0.00%	1.44%	0.00%	0.00%	0.00%	0.54%
17			0.00%	0.00%	0.00%	0.00%	0.00%	2.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.75%	0.00%	1.18%	0.00%	0.00%	1.63%	0.00%	0.00%	0.00%	0.39%
18				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.35%	0.00%	0.00%	0.00%	1.96%	0.00%	1.35%	0.00%	0.00%	0.63%	0.00%		0.00%	0.16%
19				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.37%	0.00%	0.00%	1.05%	1.64%	1.56%	0.00%	0.00%	0.71%	0.00%		0.00%	0.08%
20				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.23%	0.00%	1.14%	2.00%	1.85%	0.00%	0.00%	0.83%	0.00%		0.00%	0.08%
21				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.22%	1.30%	2.38%	0.00%	0.00%	0.00%	2.11%			0.00%	0.08%
22				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.94%	2.78%	0.00%	0.00%	0.00%	3.03%			0.00%	0.08%
23				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.06%	0.00%	0.00%	3.45%	0.00%	0.00%	4.88%					0.08%
24				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	6.90%	2.27%	0.00%	0.00%	0.00%	50.00%	0.00%					0.17%
25				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.00%	3.85%	0.00%	0.00%	0.00%		0.00%	0.00%					0.26%
26				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.88%	0.00%	0.00%	0.00%	0.00%								0.35%
27				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.57%	0.00%	0.00%	0.00%	0.00%								0.47%
28				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.14%	0.00%	0.00%								0.50%
29				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	10.00%	0.00%	0.00%								0.54%
30					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%							0.47%
31					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	33.33%	0.00%	0.00%	0.00%							0.26%
32					0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	12.50%	0.00%	0.00%	0.00%	0.00%							0.29%
33					0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	20.00%	0.00%	0.00%	0.00%	0.00%							0.33%
34						0.00%	0.00%	0.00%	0.00%		0.00%	25.00%	0.00%	0.00%	0.00%	0.00%							0.37%
35						0.00%	0.00%	0.00%			0.00%	25.00%	0.00%	0.00%	0.00%								0.42%
36						0.00%	0.00%				0.00%	0.00%	0.00%	0.00%									0.50%
37						0.00%	0.00%				0.00%	0.00%	0.00%										0.62%
38														0.00%									0.81%
39														0.00%									1.22%
40														0.00%									1.22%

3.2.4 Cumulative default rates by credit rating

Table 15: Cumulative default rates by credit rating and year

During year	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	SD	NR
1			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.46%	0.00%	0.00%	0.00%	0.00%	0.25%	1.04%	0.80%	2.50%	1.73%	14.29%	1.90%	13.79%	2.02%
2			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.93%	0.00%	0.00%	0.00%	0.00%	0.51%	2.13%	2.57%	7.50%	2.02%	14.29%	3.81%	17.24%	3.94%
3			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.42%	0.00%	0.00%	0.00%	0.32%	0.79%	3.83%	3.06%	13.11%	2.31%	14.29%	4.77%	17.24%	5.90%
4			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.92%	0.00%	0.00%	0.00%	0.66%	1.39%	5.32%	4.69%	16.32%	2.31%	14.29%	5.74%	17.24%	7.61%
5			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.92%	0.65%	0.00%	0.00%	1.00%	2.06%	6.90%	5.86%	19.81%	2.62%	14.29%	6.71%	17.24%	9.03%
6			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.92%	1.32%	0.00%	0.00%	1.74%	2.42%	8.58%	6.50%	23.46%	3.22%	14.29%	7.71%	17.24%	10.16%
7			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.92%	2.02%	0.00%	0.00%	2.51%	2.83%	9.31%	8.66%	23.46%	3.83%	14.29%	8.73%	17.24%	11.09%
8			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.88%	1.92%	2.02%	0.00%	0.62%	2.91%	3.28%	10.11%	10.21%	23.46%	4.46%	14.29%	10.91%	17.24%	11.81%
9			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.79%	1.92%	2.02%	0.00%	1.27%	3.34%	4.23%	10.54%	11.87%	23.46%	4.79%	14.29%	13.13%	17.24%	12.46%
10			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.77%	1.92%	2.02%	0.00%	1.27%	4.26%	5.25%	11.02%	13.74%	23.46%	5.49%	14.29%	14.26%	17.24%	13.05%
11			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.84%	1.92%	2.02%	0.00%	1.27%	5.71%	5.80%	12.04%	13.74%	23.46%	6.58%	14.29%	15.50%	17.24%	13.50%
12			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.02%	1.92%	2.02%	0.00%	1.27%	6.73%	7.60%	12.59%	13.74%	23.46%	7.32%	14.29%	17.10%	17.24%	13.89%
13			0.00%	0.00%	0.00%	0.00%	0.00%	1.56%	6.36%	1.92%	2.02%	0.00%	1.27%	7.84%	9.55%	13.18%	15.18%	23.46%	7.71%	14.29%	17.10%	17.24%	14.29%
14			0.00%	0.00%	0.00%	0.00%	0.00%	3.18%	6.36%	1.92%	2.02%	0.00%	1.27%	9.06%	10.99%	14.49%	15.18%	23.46%	8.87%	14.29%	17.10%	17.24%	14.68%
15			0.00%	0.00%	0.00%	0.00%	0.00%	4.87%	6.36%	1.92%	2.02%	0.00%	1.27%	10.99%		16.72%	15.18%	23.46%	10.06%	14.29%	17.10%	17.24%	15.13%
16			0.00%	0.00%	0.00%	0.00%	0.00%	6.70%	6.36%	1.92%	2.02%	0.00%	1.27%	11.02%	10.99%	19.27%	15.18%	23.46%	11.36%	14.29%	17.10%	17.24%	15.59%
17			0.00%	0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	1.92%	2.02%	0.00%	1.27%	12.58%	10.99%	20.22%	15.18%	23.46%	12.80%	14.29%	17.10%	17.24%	15.92%
18				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	2.02%	0.00%	1.27%	14.30%	10.99%	21.30%	15.18%	23.46%	13.35%	14.29%		17.24%	16.05%
19				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	0.00%	1.27%	15.20%	12.45%	22.53%	15.18%	23.46%	13.97%	14.29%		17.24%	16.12%
20				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	1.23%	1.27%	16.16%	14.20%	23.96%	15.18%	23.46%	14.68%	14.29%		17.24%	16.19%
21				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	1.23%	3.46%	17.25%	16.24%	23.96%	15.18%	23.46%	16.48%			17.24%	16.26%
22				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	1.23%	3.46%	19.69%	18.57%	23.96%	15.18%	23.46%	19.01%			17.24%	16.33%
23				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	1.23%	9.31%	19.69%	18.57%	26.59%	15.18%	23.46%	22.96%				16.39%
24				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	1.23%	15.57%	21.51%	18.57%	26.59%	15.18%	61.73%	22.96%				16.54%
25				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	6.17%	18.81%	21.51%	18.57%	26.59%		61.73%	22.96%				16.75%
26				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	11.69%	18.81%	21.51%	18.57%	26.59%							17.04%
27				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	14.85%	18.81%	21.51%	18.57%	26.59%							17.43%
28				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	14.85%	18.81%	27.12%	18.57%	26.59%							17.84%
29				0.00%	0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	14.85%	18.81%	34.41%	18.57%	26.59%							18.29%
30					0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	14.85%	39.11%	34.41%	18.57%	26.59%							18.67%
31					0.00%	0.00%	0.00%	6.70%	8.23%	3.24%	3.36%	14.85%	59.41%	34.41%	18.57%	26.59%							18.88%
32					0.00%	0.00%	0.00%	6.70%	8.23%		3.36%	25.49%	59.41%	34.41%	18.57%	26.59%							19.12%
33					0.00%	0.00%	0.00%	6.70%	8.23%		3.36%	40.39%	59.41%	34.41%	18.57%	26.59%							19.38%
34						0.00%	0.00%	6.70%	8.23%		3.36%	55.29%	59.41%	34.41%	18.57%	26.59%							19.68%
35						0.00%	0.00%	6.70%			3.36%	66.47%	59.41%	34.41%	18.57%								20.02%
36							0.00%	6.70%			3.36%	66.47%	59.41%	34.41%	18.57%								20.42%
37							0.00%	6.70%			3.36%	66.47%	59.41%										20.91%
38								6.70%				66.47%											21.55%
39												66.47%											22.50%
40												66.47%											23.45%

4 Recovery rate statistics

Recovery rates are determined for each default event of a country separately. As per the definition of sovereign and sovereign-guaranteed lending, all such loans by multilateral development banks to a country default on the same date and all return to a performing state on the same date. So far, all defaults covered by the GEMs dataset have ended with the multilateral development bank recovering all overdue principal and interest amounts on a nominal basis, resulting only in losses from the cost of funding overdue interest amounts, as these are not capitalised or charged to borrowers.

As detailed in Equation 7, recovery rates are calculated as the ratio of:

A. the discounted payments received between the start and resolution of a default event, plus
B. the discounted remaining outstanding principal amount immediately after resolution of the default event, divided by
C. the nominal outstanding principal and interest amounts at the start of the default event.

Discounting is performed at the applicable lending rates back to the time of default.

Equation 7: Calculation of recovery rates

$$RR = \frac{A + B}{C} = \frac{\sum_{i=D}^{R} \dfrac{Pmt_i}{(1 + dr_i)^i} + \dfrac{Prn_R}{(1 + dr_R)^R}}{Prn_D + Int_D}$$

Where:

D	=	Start of default event
R	=	Resolution of default event
i	=	Numbered period for periods starting after D and ending with R
Pmt_i	=	Payment of principal or interest received during **period** $_i$
Prn_R	=	Remaining outstanding principal amount immediately after R
dr_i	=	Discount rate applicable to payments received during **period** $_i$
Prn_D	=	Outstanding principal amount at time of default (D)
Int_D	=	Outstanding interest amount at time of default (D)

The average recovery rates in this publication are the simple average of the observations in the respective dimensions and categories. Confidence intervals around those averages are not provided because the recovery rates are not normally distributed. Instead, the ranges and various percentiles describing the distributions of the recovery rates are presented. Recovery rates for unresolved default events are not calculated.

4.1 Recovery rates by region

The [World Bank Group classification of countries to regions](#) is used for the statistics shown in this section. The GEMs dataset does not currently contain any observations for recovery rates of countries in South Asia. The allocation of individual countries to regions can be found in Table 8.

Table 16: Recovery rates by region

Region	Unique defaulted countries	Number of defaults	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
East Asia & Pacific	3	3	95.4%	93.1%	93.1%	93.1%	93.1%	96.6%	98.6%	100.0%
Europe & Central Asia	3	3	88.4%	73.3%	77.7%	84.3%	95.3%	96.0%	96.4%	96.7%
Latin America & Caribbean	8	14	97.4%	86.7%	94.7%	96.2%	98.5%	99.8%	100.0%	100.0%
Middle East & North Africa	3	3	84.4%	74.1%	75.1%	76.6%	79.1%	89.5%	95.8%	100.0%
South Asia										
Sub-Saharan Africa	11	21	95.5%	47.1%	91.8%	97.1%	98.3%	99.8%	100.0%	100.0%
Overall	28	44	94.9%	47.1%	87.8%	95.5%	98.0%	99.8%	100.0%	100.0%

Figure 15: Recovery rates by region
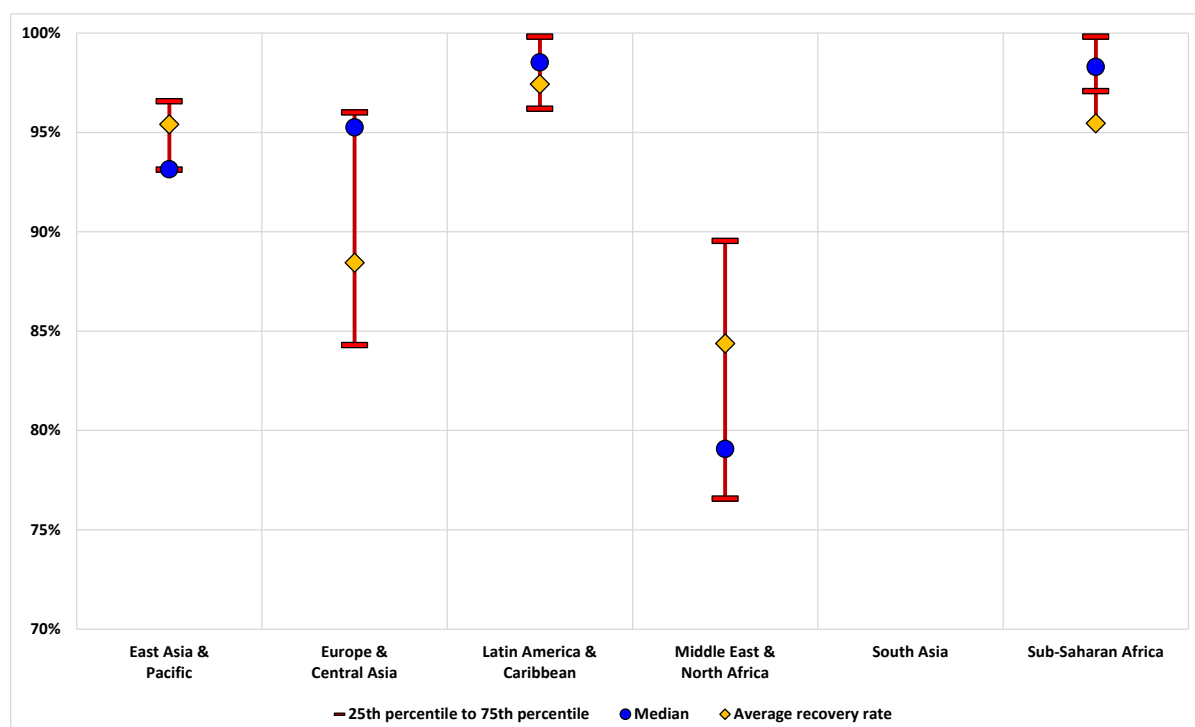
4.2 Recovery rates by historic income group

The World Bank Group database on historic income groups is used for assigning countries to groups for the year of each default. Five countries in the dataset had not been categorised by the World Bank Group at the time of their defaults. The GEMs dataset does not currently contain any observations for recovery rates of high-income countries.

Table 17: Recovery rates by historic income group

Region	Unique Defaulted Countries	Number of Defaults	Average recovery rate	Minimum observation	10th percentile	25th percentile	Median	75th percentile	90th percentile	Maximum observation
High income										
Upper-middle income	6	8	96.0%	74.1%	90.2%	98.0%	99.2%	100.0%	100.0%	100.0%
Lower-middle income	12	17	96.4%	79.1%	93.3%	95.6%	97.6%	99.7%	100.0%	100.0%
Low income	9	14	93.9%	47.1%	91.2%	96.9%	98.1%	99.7%	99.9%	100.0%
Not available	5	5	90.2%	73.3%	78.7%	86.7%	93.1%	97.9%	99.2%	100.0%
Overall	28	44	94.9%	47.1%	87.8%	95.5%	98.0%	99.8%	100.0%	100.0%

Note: The historic income group is defined as of default date.

Figure 16: Recovery rates by historic income group
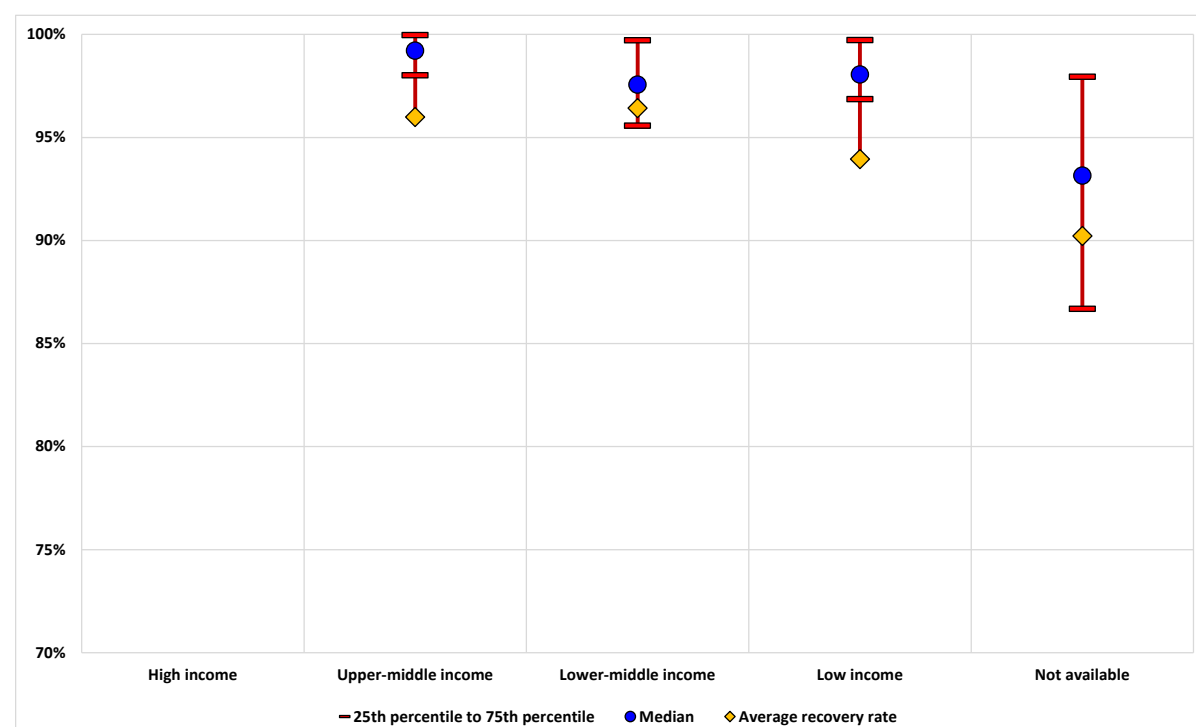
5 Rating migrations

The rating migrations in this publication are based on the GEMs rating determined for the countries, as described in Section 3.3. Only years in which countries have exposure to at least one of the multilateral development banks are considered. Migrations are taken as snapshots of ratings on 1 January of each year over the 40-year observation period. For example, for the one-year migration rates, the rating of each country on 1 January of $year_i$ is compared to the ratings on 1 January of $year_{i+1}$. Intra-year rating changes are not considered.

In addition to the ratings shown in migration tables by credit rating agencies, the tables in this report, following the GEMs rating scale, include "non-accrual" as a rating. As mentioned in Section 3.3, this rating category represents instances when countries are in default with multilateral development banks. "Non-accrual" is not considered an absorbing state, as the migration tables show the movement of countries from non-accrual back to performing ratings. The SD (selective default) category signifies countries' defaults to other lenders, such as commercial banks or investors in bond issuances, that occur while they are performing on their obligations to multilateral development banks.

5.1 Annual upgrade vs. downgrade ratio

Figure 17 shows the yearly credit rating upgrades and downgrades of countries in the GEMs dataset. Migrations to and from not rated (NR) are excluded from the calculation, as they do not reflect changes in creditworthiness. This explains the limited rating changes in the earlier years when many countries in the dataset were still unrated.

The ratio of the yearly rating changes has been calculated as the difference of upgrades and downgrades over the total number of rating changes.

Figure 17: Annual upgrade vs. downgrade ratio
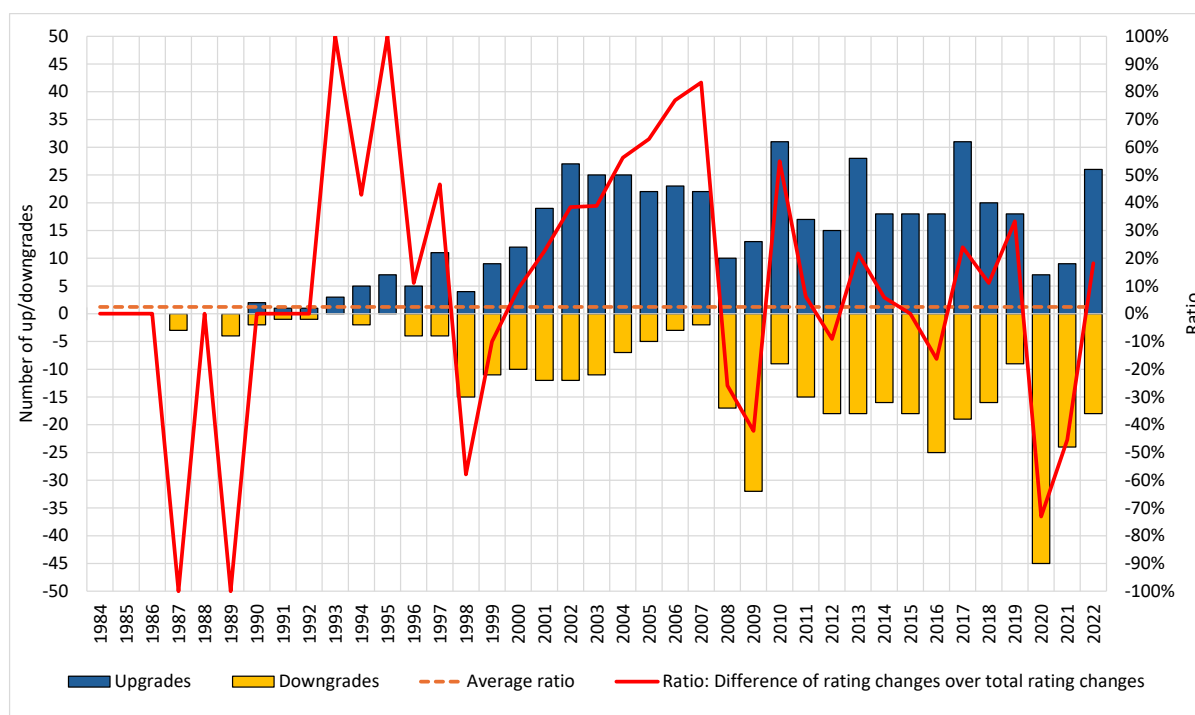
5.2 Rating migration rates

Table 18: One-year rating migration rates

From/To	Observations	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	SD	Non-accrual	NR
AAA	0																								
AA+	0																								
AA	7			85.7%	14.3%																				
AA-	33		6.1%	78.8%	9.1%		3.0%							3.0%											
A+	48				18.8%	70.8%	10.4%																		
A	93					10.8%	79.6%	5.4%		2.2%	1.1%	1.1%													
A-	141						12.8%	79.4%	5.0%	2.8%															
BBB+	113							15.0%	72.6%	11.5%												0.9%			
BBB	152							0.7%	15.1%	71.1%	9.2%	2.6%	0.7%		0.7%										
BBB-	211								0.5%	12.8%	74.9%	8.5%	1.4%		0.5%	0.5%	0.5%							0.5%	
BB+	172									1.7%	18.6%	67.4%	7.0%	3.5%	1.2%		0.6%								
BB	184										1.1%	15.2%	69.6%	9.8%	2.2%	1.1%			0.5%						0.5%
BB-	227										0.4%	0.9%	9.3%	69.6%	14.1%	3.1%	1.8%					0.9%			
B+	328											0.3%	1.5%	9.5%	72.3%	11.3%	4.6%	0.6%							
B	377													1.9%	10.3%	72.1%	7.4%	5.6%	0.8%	0.8%	0.3%	0.3%	0.3%		0.3%
B-	363													0.8%	3.6%	8.5%	73.8%	5.5%	1.9%	4.1%	0.6%	0.3%	0.3%		0.6%
CCC+	223															9.9%	9.9%	68.6%	4.0%	5.4%		0.9%	0.9%		0.4%
CCC	39															2.6%	7.7%	28.2%	38.5%	7.7%	2.6%	5.1%	7.7%		
CCC-	340							0.3%					0.3%	0.6%	0.9%	2.6%	5.3%	9.1%	0.3%	72.9%		5.0%	0.6%	1.5%	0.6%
CC	6															16.7%	16.7%	16.7%			33.3%	16.7%			
C	102												1.0%		2.0%	3.9%	2.0%	1.0%		15.7%		70.6%		2.0%	2.0%
SD	25														4.0%	8.0%	4.0%				4.0%	12.0%	60.0%	8.0%	
Non-accrual	220														0.5%	0.5%	0.9%			3.6%		0.5%		88.2%	5.9%
NR	1 371				0.1%		0.1%	0.4%	0.1%	0.3%	0.6%	0.4%	1.1%	0.8%	0.7%	0.7%	0.8%	0.3%		1.7%		0.1%	0.1%	1.8%	90.0%

Table 19: Two-year rating migration rates

From/To	Observations	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	SD	Non-accrual	NR
AAA	0																								
AA+	0																								
AA	6			66.7%	16.7%			16.7%																	
AA-	30			13.3%	60.0%	20.0%				3.3%		3.3%													
A+	45				28.9%	46.7%	20.0%					2.2%		2.2%											
A	86			1.2%		20.9%	59.3%	8.1%		7.0%	1.2%	1.2%	1.2%												
A-	138					0.7%	20.3%	65.9%	8.0%	3.6%	0.7%	0.7%													
BBB+	110						3.6%	20.9%	55.5%	15.5%	3.6%												0.9%		
BBB	143							5.6%	18.9%	54.5%	11.9%	6.3%	2.1%					0.7%							
BBB-	204							0.5%	4.4%	18.6%	56.4%	12.3%	2.0%	2.0%	0.5%	1.0%	1.5%						0.5%		0.5%
BB+	167								0.6%	4.8%	27.5%	47.3%	10.8%	4.8%	2.4%	0.6%	1.2%								
BB	179										6.1%	21.8%	49.2%	14.5%	6.1%		1.1%		0.6%	0.6%					
BB-	219										1.4%	1.8%	12.8%	50.7%	19.2%	7.8%	4.1%	0.5%	0.5%				1.4%		
B+	312							0.3%				1.0%	3.5%	12.5%	55.1%	17.0%	6.7%	1.3%	1.0%	1.3%	0.3%				
B	352										0.3%		0.6%	3.4%	13.9%	55.4%	13.6%	7.7%	1.7%	1.4%	0.3%	1.1%	0.3%	0.3%	
B-	344													2.0%	8.7%	12.2%	56.4%	10.2%	2.6%	4.9%	0.3%	0.6%	1.7%	0.3%	
CCC+	198														0.5%	16.7%	13.6%	53.5%	4.5%	6.1%	0.5%	2.0%	1.0%	1.5%	
CCC	33															12.1%	12.1%	30.3%	18.2%	9.1%	3.0%	3.0%	9.1%	3.0%	
CCC-	330								0.3%				0.3%	1.2%	1.8%	5.2%	10.9%	11.5%		56.1%		10.0%	0.3%	1.2%	1.2%
CC	6														16.7%	16.7%	33.3%	16.7%				16.7%			
C	98														2.0%	1.0%	3.1%	4.1%	6.1%	2.0%	26.5%	49.0%		2.0%	4.1%
SD	21															9.5%	14.3%				9.5%	14.3%	42.9%	9.5%	
Non-accrual	213													0.9%		0.9%	1.4%			6.6%		0.9%		78.4%	10.8%
NR	1 359				0.1%	0.3%	0.7%	0.4%		0.5%	1.2%	0.9%	2.1%	1.5%	1.6%	1.4%	1.4%	0.7%		3.0%		0.1%	0.1%	3.4%	80.6%

Table 20: Ten-year rating migration rates

From/To	Observations	AAA	AA+	AA	AA-	A+	A	A-	BBB+	BBB	BBB-	BB+	BB	BB-	B+	B	B-	CCC+	CCC	CCC-	CC	C	SD	Non-accrual	NR
AAA	0																								
AA+	0																								
AA	5						40.0%	40.0%	20.0%																
AA-	16					18.8%	62.5%		6.3%	6.3%		6.3%													
A+	25			8.0%		28.0%	24.0%	24.0%	4.0%	8.0%			4.0%												
A	64			3.1%	12.5%	17.2%	1.6%	20.3%	6.3%	3.1%	1.6%	10.9%	4.7%	6.3%	7.8%	3.1%		1.6%							
A-	90			3.3%	8.9%	6.7%	8.9%	36.7%	7.8%	7.8%	11.1%	7.8%	1.1%												
BBB+	67				4.5%	4.5%	10.4%	14.9%	23.9%	7.5%	11.9%	11.9%		7.5%	1.5%			1.5%							
BBB	91					1.1%	8.8%	9.9%	18.7%	23.1%	12.1%	4.4%	1.1%	6.6%	4.4%	3.3%	2.2%	1.1%	1.1%			1.1%			1.1%
BBB-	134					0.7%	6.0%	6.7%	11.2%	13.4%	21.6%	12.7%	9.7%	6.0%	6.7%	1.5%	0.7%	3.0%							
BB+	127					2.4%	6.3%	6.3%	7.9%	18.1%	12.6%	10.2%	7.9%	7.9%	3.1%	8.7%	6.3%	2.4%							
BB	138						0.7%	5.1%		13.8%	17.4%	12.3%	16.7%	3.6%	18.1%	3.6%	5.1%	1.4%	0.7%						1.4%
BB-	126							0.8%	0.8%	12.7%	6.3%	4.8%	14.3%	12.7%	16.7%	10.3%	7.1%	7.9%	2.4%	0.8%		0.8%	1.6%		
B+	198						0.5%			2.5%	5.6%	2.5%	4.0%	7.6%	26.3%	21.7%	14.6%	3.5%	2.5%	0.5%	1.5%	1.5%	2.0%	2.5%	0.5%
B	171									2.3%	3.5%	0.6%	2.9%	9.4%	18.7%	29.8%	17.0%	5.8%	2.3%	4.1%	0.6%	1.2%	1.2%	0.6%	
B-	173									0.6%	2.9%	2.9%	2.3%	15.6%	15.0%	15.6%	20.8%	11.0%	2.3%	1.7%		2.3%	1.7%	4.6%	0.6%
CCC+	83											1.2%	3.6%	3.6%	2.4%	25.3%	37.3%	16.9%	3.6%	3.6%				2.4%	
CCC	13							7.7%						15.4%	7.7%	7.7%	7.7%	7.7%	38.5%	7.7%					
CCC-	259							0.4%						6.6%	9.3%	20.8%	20.5%	18.1%	1.2%	10.8%		6.9%	0.4%	3.9%	1.2%
CC	3													33.3%					33.3%		33.3%				
C	69												1.4%	2.9%	4.3%	7.2%	24.6%	40.6%	1.4%	8.7%				8.7%	
SD	12													8.3%	8.3%	16.7%	16.7%					8.3%	33.3%	8.3%	
Non-accrual	169											2.4%	1.8%	9.5%	5.3%	8.3%	4.7%			24.9%		11.2%		21.3%	10.7%
NR	1 267			0.3%	0.6%	1.9%	2.4%	1.3%	1.6%		4.9%	4.6%	5.4%	4.9%	8.1%	7.1%	7.1%	2.9%	0.6%	9.9%	0.1%	0.9%	0.7%	6.9%	27.8%

Multilateral development banks and development finance institutions

DEFAULT AND RECOVERY STATISTICS

SOVEREIGN AND SOVEREIGN-GUARANTEED LENDING 1984-2023

GeMs
Global Emerging Markets Risk Database

2024-0218