

DEFAULT AND RECOVERY STATISTICS

**SOVEREIGN AND
SOVEREIGN-GUARANTEED
LENDING
1984-2024**

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pdf: QH-01-25-043-EN-N

ISBN: 978-92-861-6012-7

doi: 10.2867/2100745

Printed on FSC® Paper.

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Preface

The Global Emerging Markets Risk Database Consortium (GEMs) is a joint initiative between the European Investment Bank and the International Finance Corporation; it was established in 2009 to pool credit risk data. This database is a unique example of a tangible common good and is designed to catalyse investments in emerging markets and support technical cooperation between international institutions. GEMs serves as a discussion and collaboration forum for building technical alignment and sharing best practices among member institutions through working-level meetings. GEMs comprises multilateral development banks (MDBs) and development finance institutions (DFIs) with business activities in emerging markets and developing economies.

GEMs collects de-identified data from MDBs and DFIs on their performing and non-performing exposures across emerging markets and developing economies, based on which output statistics are produced, encompassing default and recovery rates that are categorised by various dimensions, such as geography, sector and income group, among others. Compiling GEMs risk statistics relies on a robust and 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 MDBs and DFIs**, 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, public and sovereign/sovereign-guaranteed lending, providing an anchor for risk perceptions;
- ✓ a **framework for collaboration among member MDBs and DFIs** to improve risk management practices across the industry.

More private investment is needed to combat climate change and achieve the Sustainable Development Goals. Global institutions need to work together to address some of the current barriers to these private investments. Some key barriers include, for instance, insufficient support for preparing well-designed projects; minimal coordination between countries and institutions to facilitate the use of public resources to mitigate risks; a lack of an appropriate legal and contractual environment; and a shortage of standardisation, transparency and data availability. The scarcity of data around emerging markets and developing economies, coupled with the tightening of regulatory requirements, calls for sophisticated risk management practices and more reliable metrics.

Through GEMs, member MDBs and DFIs address 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 and generate more valuable statistics than those available to any individual lending institution. GEMs is thus a comprehensive data source for current and potential investors in emerging markets – one that helps refine risk perceptions and inform better decision-making.

The scarcity of accessible, standardised, transparent and high-quality information on investment projects in emerging markets can skew risk perceptions and lead to suboptimal investment decisions. Institutions with little or no experience in such markets must 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. In other words, 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, the statistics can be a powerful tool for transparent assessment of portfolio risks when

third parties engage in risk transfer or co-financing operations with MDBs or DFIs, or in any other balance sheet optimisation initiative – thus 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, ranging from academics to regulators and commercial entities. This report builds on past 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 1994 to 2024, provided by 11 member institutions. It also encompasses niche features and unique insights and covers the methodological framework for generating GEMs statistics.

Specific applications of GEMs statistics may vary across institutions. GEMs 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

This GEMs publication on sovereign and sovereign-guaranteed lending provides statistics based on a dataset covering a 41-year period, from 1984 to 2024. For the first time, it includes recovery rates statistics disaggregated by the year of default, as well as default and recovery rates by continent.

Compared with the [2024 publication](#), the count of default events has been revised to reflect that borrowers may default on one multilateral development bank (MDBs) while continuing to meet obligations to others.

Statistical metrics are provided on the underlying distributions of the results, enabling readers to assess the statistical significance of the average default and recovery rates. As default rate distributions generally follow a normal distribution, 90% confidence intervals are presented for averages. In contrast, recovery rate distributions are heavily skewed, so percentiles are provided instead.

Figure 1 illustrates sovereign and sovereign-guaranteed lending to the 167 countries included in the GEMs dataset, along with the default events they experienced. Over the 41-year observation period, 39 countries defaulted – some more than once – and 15 countries had ongoing default events at the end of 2024.

Figure 1: Exposures and default events for countries by year

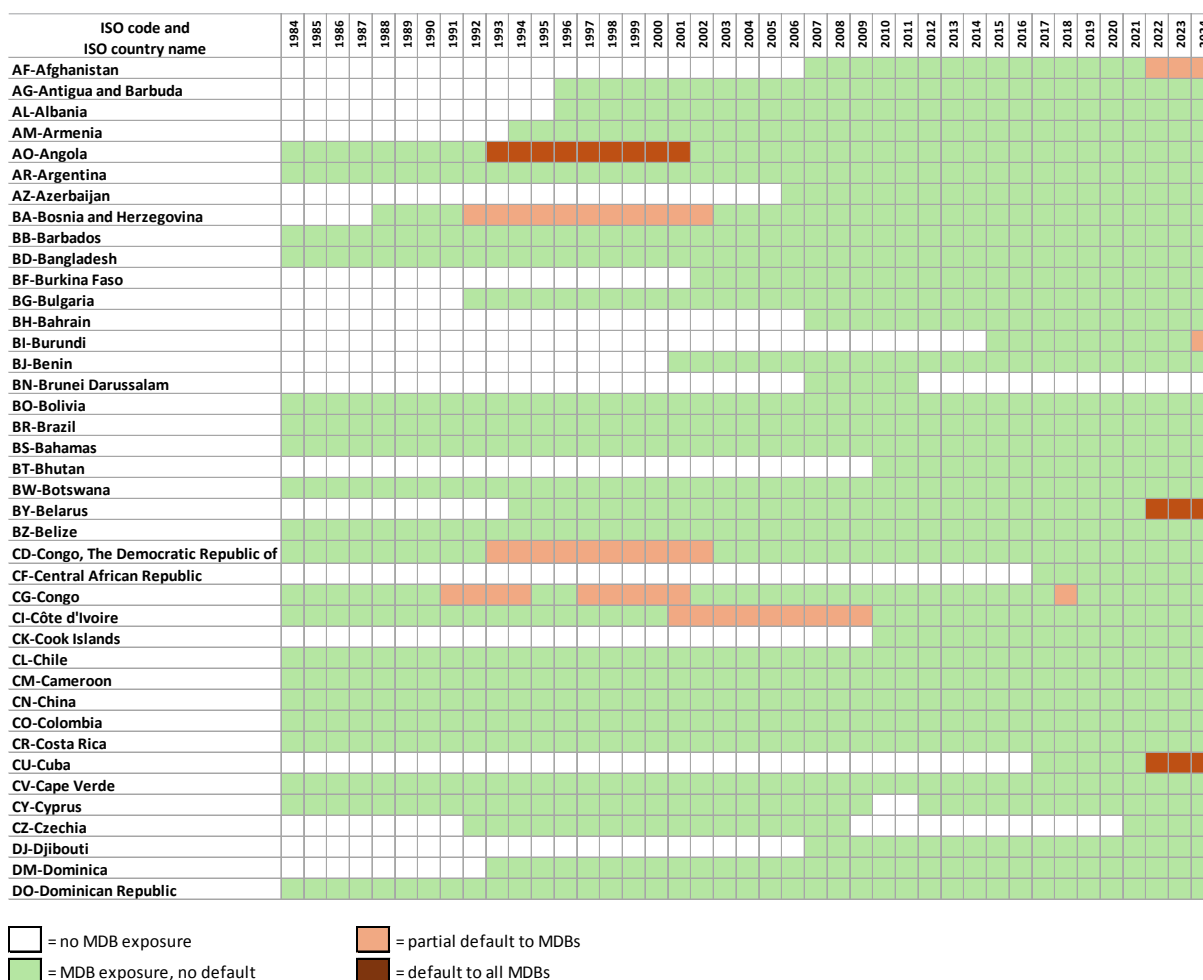


Figure 1: Exposures and default events for countries by year (continued)

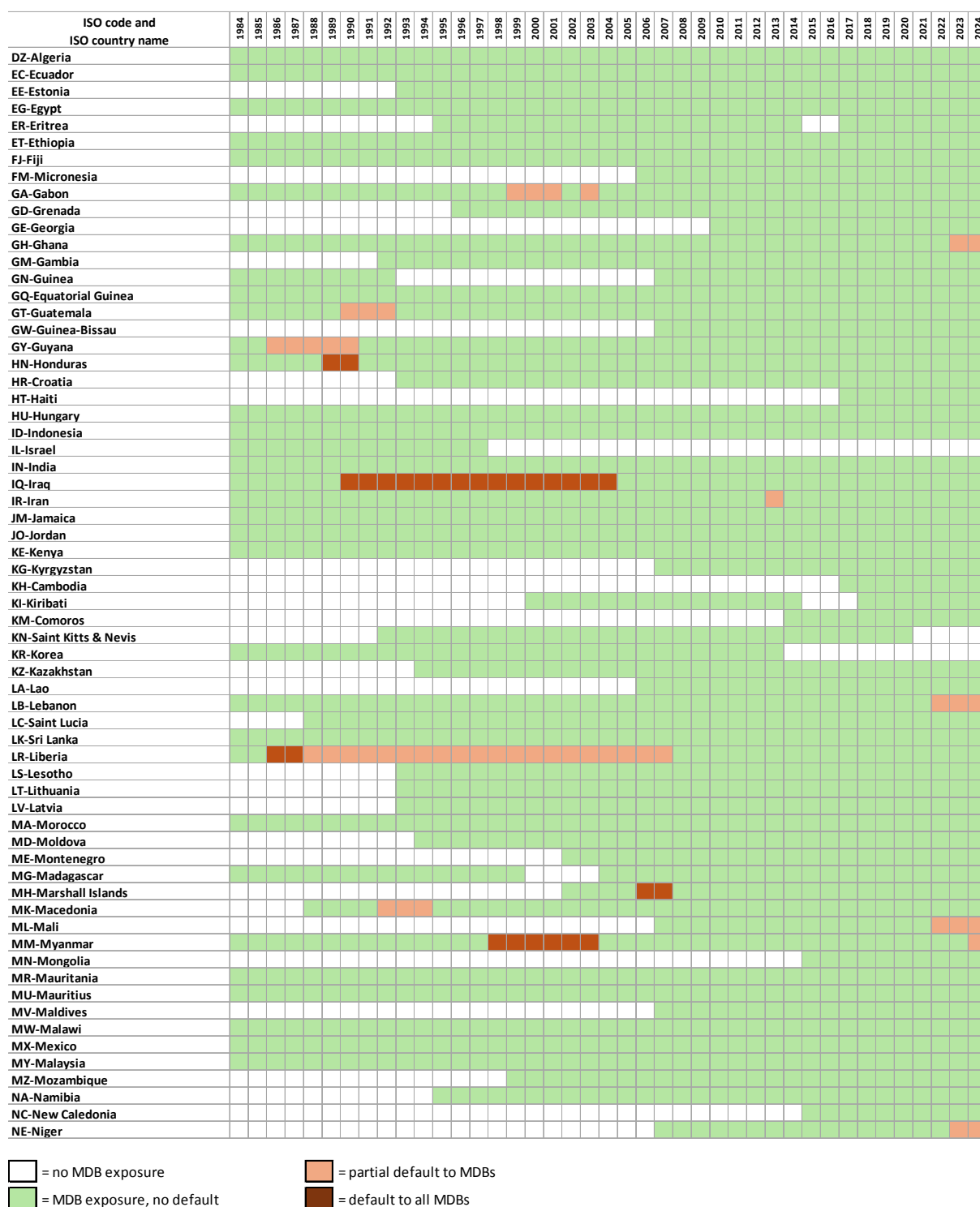


Figure 1: Exposures and default events for countries by year (continued)

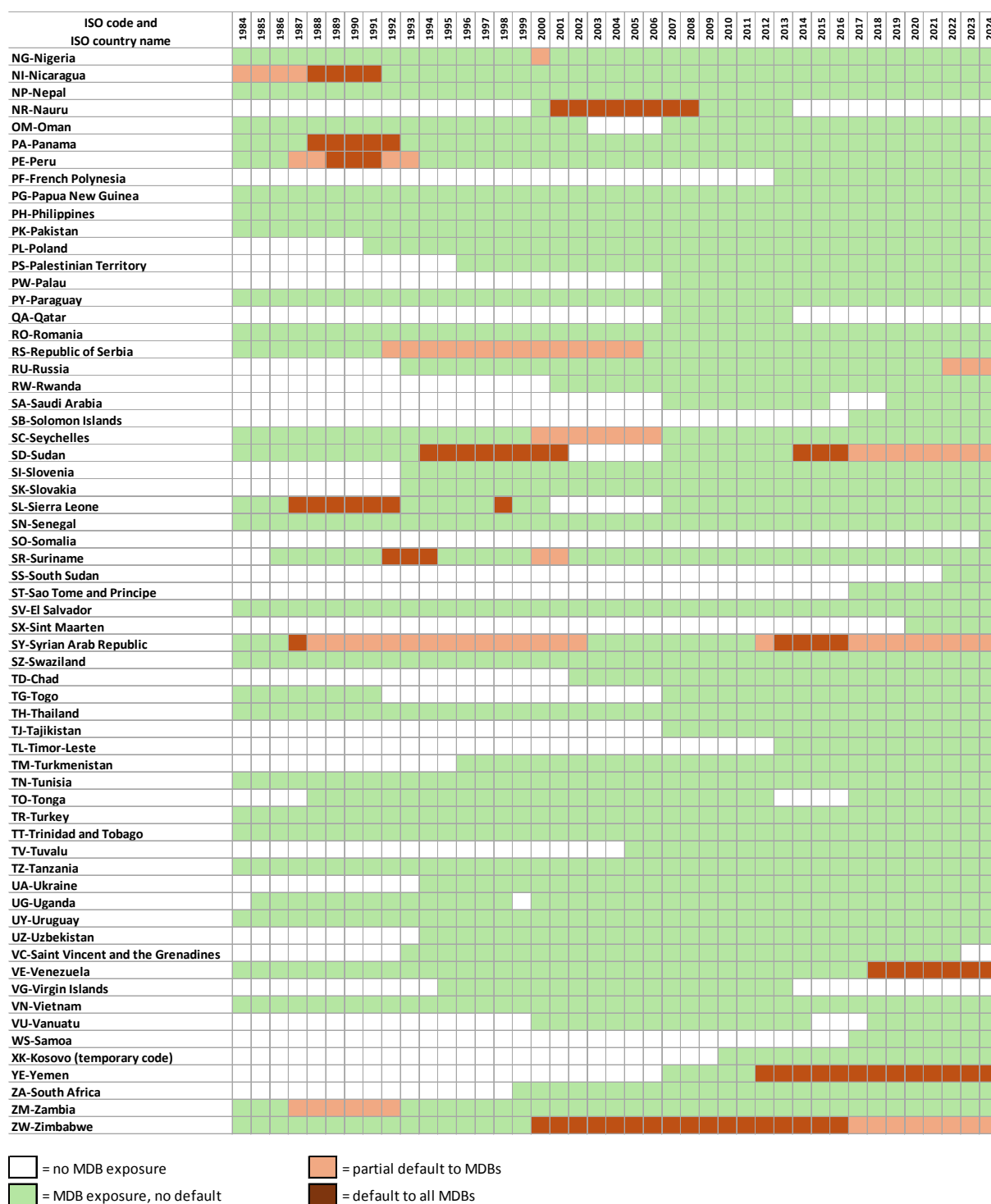


Figure 2 shows the number of countries in default with at least one MDB for each year of the 41-year observation period. The relatively high number of countries in default during the late 1980s and 1990s was followed by a significant decline throughout the 2000s and 2010s. However, an upward trend has been observed since 2022.

Figure 2: Number of countries in default by year

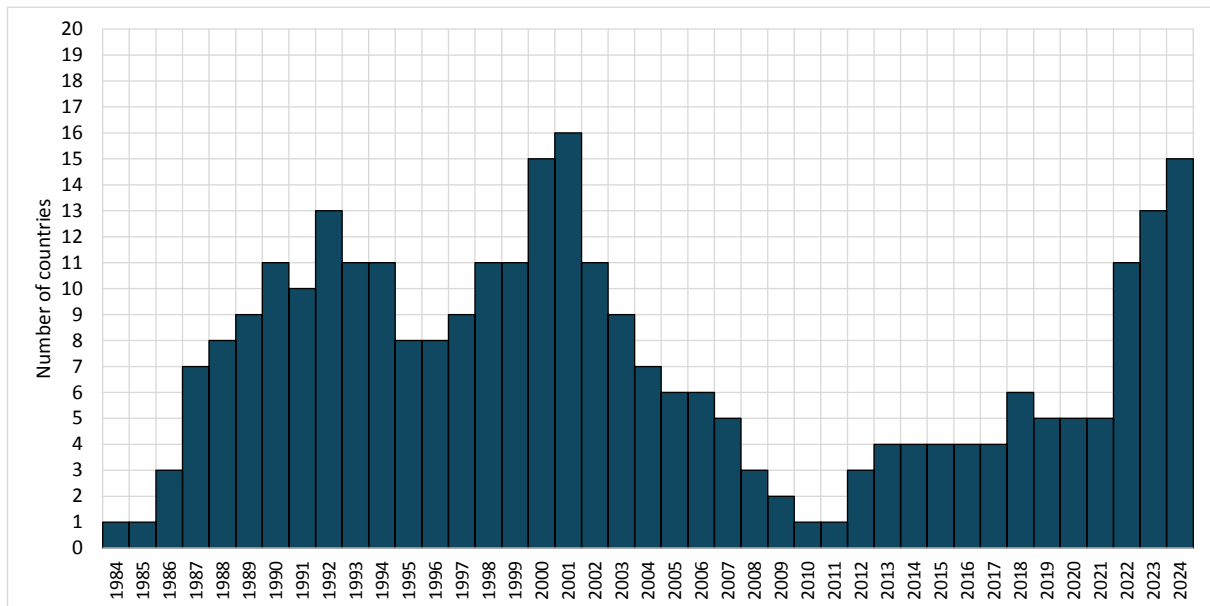
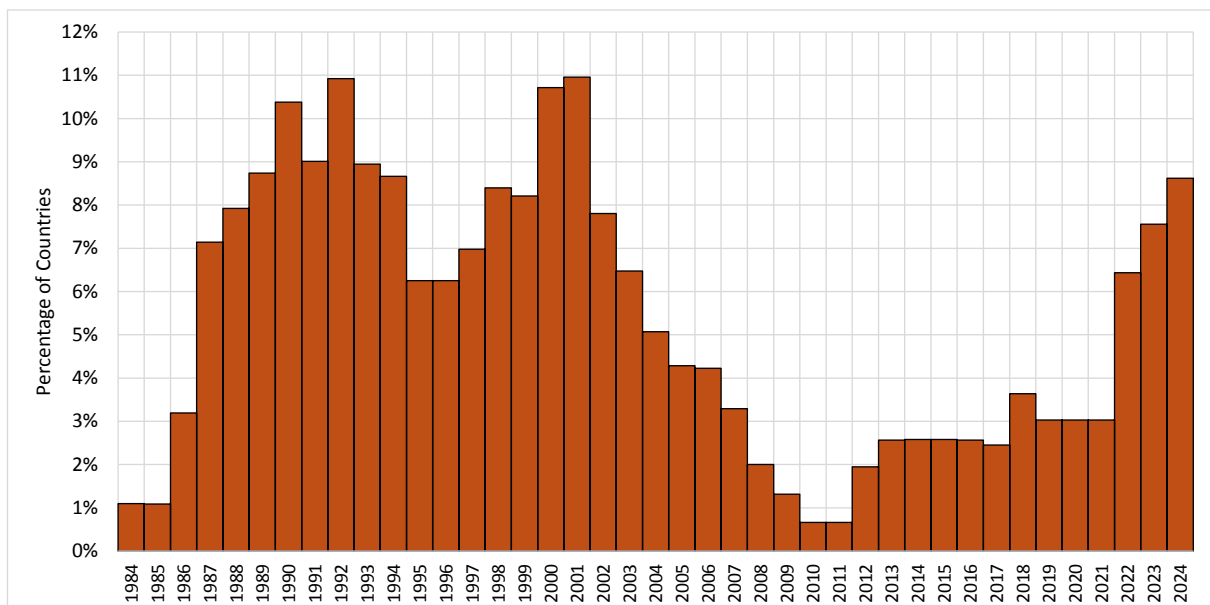


Figure 3 displays the number of countries in default as a percentage of total countries in the GEMs dataset. The graph mirrors the shape of Figure 2 but shows a lower peak in the later years, since the dataset includes more countries during those years.

Figure 3: Percentage of countries in default by year



Based on observed defaults for countries over the 1984-2024 period, Table 1 shows an average annual default rate of 0.77%. This represents a decrease from the 1.06% reported in the 2024 publication, primarily due to a revised methodology for counting defaults, which is explained in detail in Section 3.2. Additionally, the table presents the range of annual observations and the 90% confidence interval for the average.

Table 1: Overall default rate

Unique countries	Signed amount € 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
167	1 723 368	41	4 889	37.8	0.00%	4.82%	0.77%	0.51%	1.03%

Figure 4 displays the 41 individual annual default rates, with further detail provided in Table 8. Some of the annual default rates are 0.00%, while others are relatively high, reflecting the uneven distribution of defaults across the years. The range and 90% confidence interval shown in Table 1 – 0.00% to 4.82% and 0.51% to 1.03%, respectively – are relatively wide because of the overall scarcity of default events.

Figure 4 also provides average default rates for each of the last four decades. Relatively high annual default rates are observed in the late 1980s and, to a lesser extent, in the 1990s, followed by lower rates through 2021. However, an increase in default rates since 2022 has reversed this downward trend in the most recent ten-year average.

Figure 4: Default rates and averages by ten-year periods

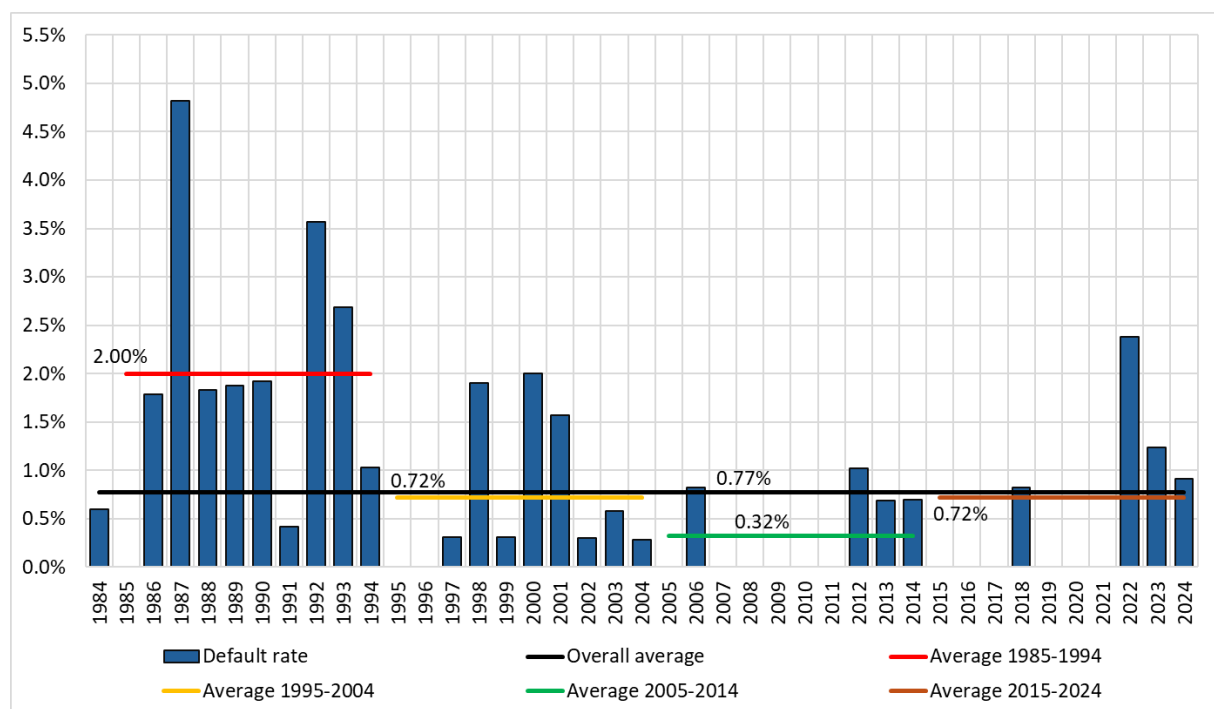


Figure 5 displays default rates by GEMs credit rating, with further details provided in Section 3.4. These rates are significantly lower than those observed by credit rating agencies for sovereign borrowings from non-MDB lenders. Even for the selective default (SD) rating – which indicates that a country is already in default with other lenders – the observed default rate for MDBs is only 10.0%.

Figure 5: One-year default rates by credit rating

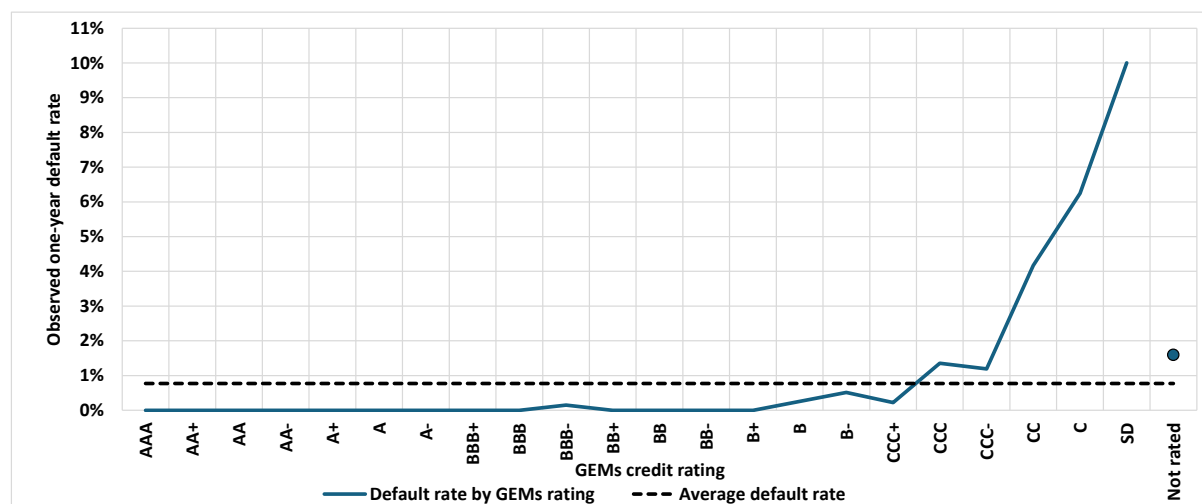


Table 2 shows the overall statistics for recovery rates. An average recovery rate of 95.1% is observed based on 46 default events in 30 unique countries. Unresolved default events are not included in the recovery rate statistics. The table also shows the range of results (from 47.1% to 100.0%) and the recovery levels for different percentiles of the distribution.

Table 2: Overall average recovery rates

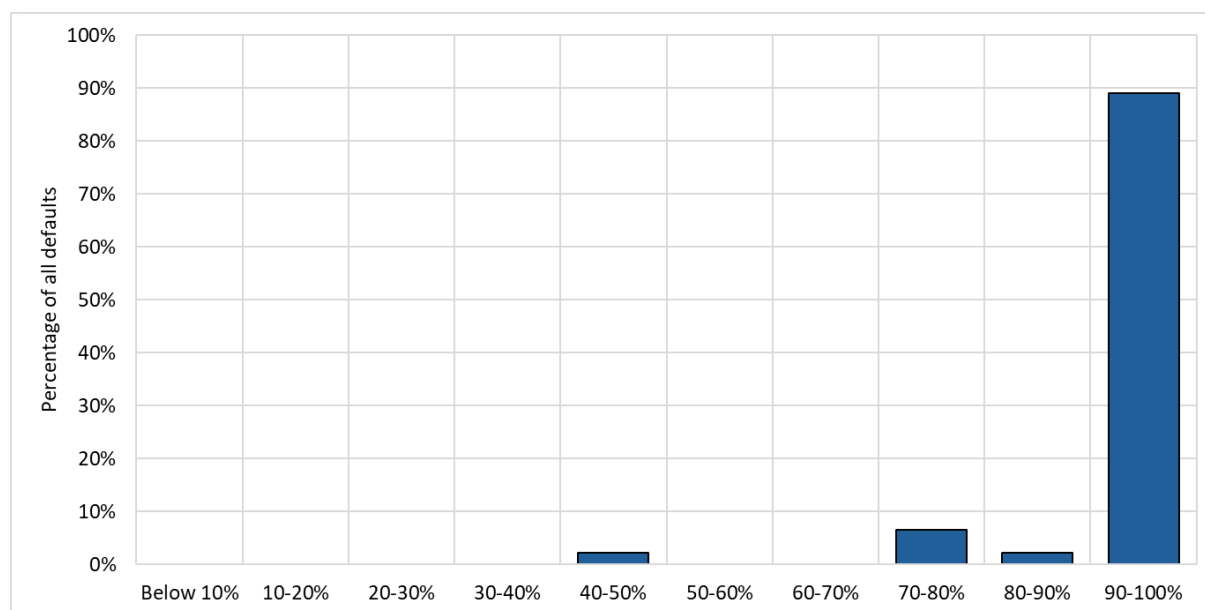
Unique countries	Default events	Average recovery rate	Minimum observation	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile	Maximum observation
30	46	95.1%	47.1%	88.5%	95.6%	98.1%	99.8%	100.0%	100.0%

Table 3 and Figure 6 provide additional insight into the distribution of recovery rates by showing how many individual observations fall within each 10-percentage-point range. Most of the results (89.1%) fall within the 90% to 100% range.

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	41	46
% of total		0.0%	0.0%	0.0%	0.0%	2.2%	0.0%	0.0%	6.5%	2.2%	89.1%	100%

Figure 6: Distribution of recovery rates



Further insight into the distribution of recovery rates within the 90% and 100% range is provided by breaking this interval into 1-percentage-point increments, as shown in Table 4 and Figure 7. This analysis reveals that 61.0% of default events have recovery rates above 98% and that 46.3% have recovery rates exceeding 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	19	41
% of total		2.4%	2.4%	0.0%	4.9%	2.4%	7.3%	7.3%	12.2%	14.6%	46.3%	100%

Figure 7: Distribution of recovery rates – detail for 90% to 100%

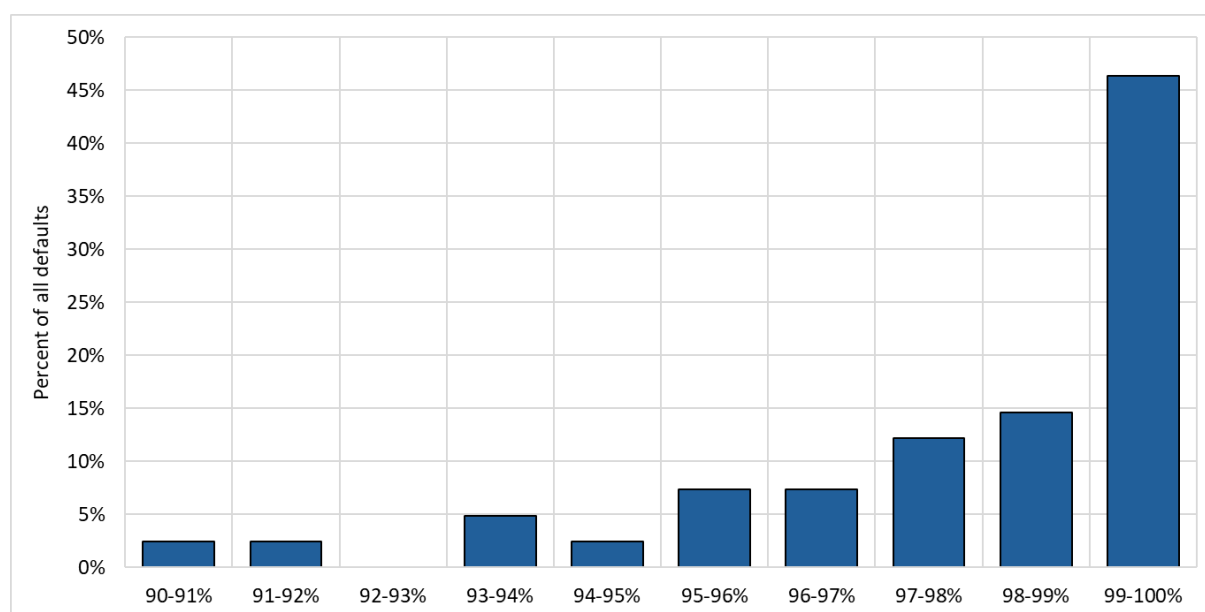
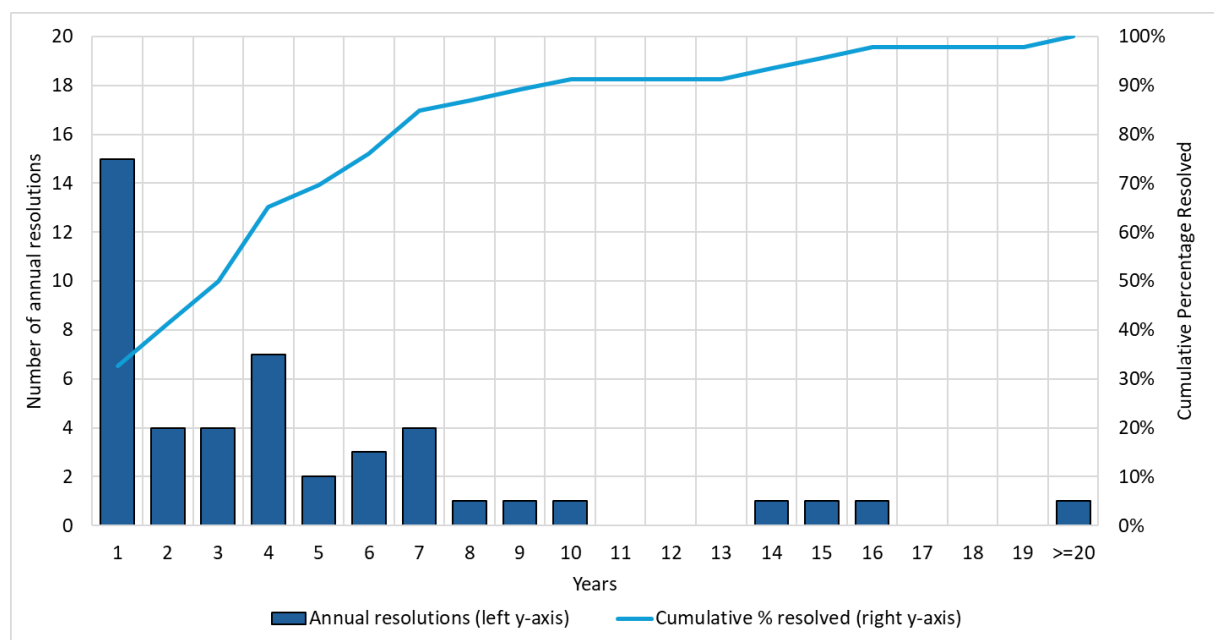


Table 5 and Figure 8 present data on the duration of default events. While about one-third of default events last one year or less, and over two-thirds are concluded within five years, a few cases extend significantly longer, with the longest one lasting more than 20 years. The median time to resolution is three years.

Table 5: Time to resolution of defaults

	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	15	4	4	7	2	3	4	1	1	1	0	0	0	1	1	1	0	0	0	1	46
Cumulative % resolved	33%	41%	50%	65%	70%	76%	85%	87%	89%	91%	91%	91%	91%	93%	96%	98%	98%	98%	98%	100%	

Figure 8: Time to resolution of defaults



2 Characteristics of sovereign and sovereign-guaranteed lending

2.1 Definition

Data on sovereign and sovereign-guaranteed lending are provided by GEMs institutions that are exclusively multilateral development banks (MDBs). This lending includes direct lending to sovereign countries and lending to their states, institutions or agencies, with an explicit sovereign guarantee to ensure payments if individual borrowers default.

All lending operations within a country, as considered in this publication, are connected via contractual cross-default clauses within each MDB. Furthermore, if a sovereign falls into arrears on any single operation, sanctions are applied to all operations of a sovereign simultaneously, regardless of whether the others are in arrears.

To reflect the specific format of this lending, the following methodology is used in this publication:

- Default events are defined as payment delays on any operation that exceed the most severe sanction trigger applicable to each respective MDB, typically set at 180 days of payment delay.
- Resolution of default events occurs only when all overdue amounts – including principal, interest and any applicable charges – on all loans associated with the defaulting sovereign are fully paid.

2.2 Count of observations and defaults

Default rates among the individual contributing institutions range from 0.00% to 0.92%, with an observation-weighted average of 0.59%. Across the 11 MDBs, there were 65 default events recorded over 11 010 annual country-level observations.

Because countries often borrow from several MDBs, some defaults and observations overlap across institutions. To address these duplicates, GEMs applies a specific methodology:

- **Observations:** One observation is counted per country per year, provided the country is not in default with any MDB on 1 January of that year. This approach reduces the number of observations from 11 010 to 4 889, as shown in Table 1.
- **Defaults:** For each country and year, the default count is calculated as the ratio between the number of MDBs the country has defaulted on and the number of MDBs it has borrowed from. If a country defaults to an additional MDB in subsequent years, then the additional defaults are counted in the ratio for those years. This method reduces the number of defaults from 65 to 37.8, as shown in Table 1.

Note that this methodology differs from the approach used in the [2024 GEMs publication](#) on sovereign and sovereign-guaranteed lending. Previously, a default was counted as soon as a country defaulted on any MDB, regardless of whether it defaulted on others. This earlier method did not accurately capture cases where countries did not default across all MDBs during the same year. As a result, the previous approach yielded an average default rate of 1.06%, which fell outside the range of 0.00% to 0.95% for the individual MDBs (see Tables 1 and 6 in the [2024 publication](#)).

2.3 Preferred creditor status

The statistics in this publication show significantly lower default and recovery rates compared to other publications on sovereign lending, such as those based on databases maintained by credit rating agencies for lending by institutions except MDBs.

This superior performance is largely attributable to the unique features of MDBs. These institutions benefit from stringent arrears policies, strong shareholding structures and a preferred creditor status for their sovereign and sovereign-guaranteed loans.

Preferred creditor status is a well-established convention under which MDBs are given priority for debt repayment when a country faces financial distress. Although not legally binding, it has been a cornerstone for MDBs, allowing them to operate with low losses. The principle entails the following expectations:

Countries commit to the timely payment of their financial obligations to MDBs.

- Countries commit to exempt MDBs from generalised payment moratoria and exchange rate controls.
- The [International Monetary Fund](#) typically requires that preferred creditor status be extended to itself and to MDBs with global membership as a condition for providing funding to a country in crisis.
- MDBs are exempt from participating in sovereign debt rescheduling. This benefit is granted by official creditors under the [Paris Club](#) and documented in the Paris Club Agreed Minutes. Under this exemption, MDBs are also not subject to the “comparability of treatment” clause, which requires all creditors to seek rescheduling terms comparable with those agreed by the Paris Club.
- Under the Group of 20’s [Common Framework for Debt Treatments beyond the DSSI](#) (Debt Service Suspension Initiative), debt with MDBs is excluded from the comparable treatment requirements applied to official bilateral creditors and private creditors. Instead, MDBs are encouraged to develop options to help meet countries’ longer-term financing needs while protecting their current credit ratings and access to low-cost funding.

2.4 GEMs rating for countries

The GEMs rating for countries (as shown in Table 6) is not collected from the member institutions. Instead, it is calculated as the average of ratings for countries by the major credit rating agencies (S&P, Moody's and Fitch). This approach ensures consistency in the rating scale across the MDBs contributing data to GEMs. In cases where ratings from these agencies are unavailable, ratings from the Organisation for Economic Co-operation and Development (OECD) are used as an alternative. If OECD ratings are also unavailable, then World Risk Review ratings are applied. Countries for which none of these ratings are available are classified as not rated (NR).

Table 6: Mapping of ratings

GEMs scale	S&P	Moody's	Fitch	OECD	WRR
AAA	AAA	Aaa	AAA		
AA+	AA+	Aa1	AA+	0.1	1
AA	AA	Aa2	AA		
AA-	AA-	Aa3	AA-		
A+	A+	A1	A+	1	2
A	A	A2	A		
A-	A-	A3	A-	2	
BBB+	BBB+	Baa1	BBB+		3
BBB	BBB	Baa2	BBB		
BBB-	BBB-	Baa3	BBB-	3	4
BB+	BB+	Ba1	BB+		
BB	BB	Ba2	BB	4	
BB-	BB-	Ba3	BB-		5
B+	B+	B1	B+	5	
B	B	B2	B		6
B-	B-	B3	B-	6	
CCC+	CCC+	Caa1	CCC+		7
CCC	CCC	Caa2	CCC		
CCC-	CCC-	Caa3	CCC-	7	8
CC	CC		CC		
C	C		C		9
SD	SD	Ca/C	SD		10
NR	NR	NR	NR	NR	NR

Figure 9: Dataset composition by rating category – country count

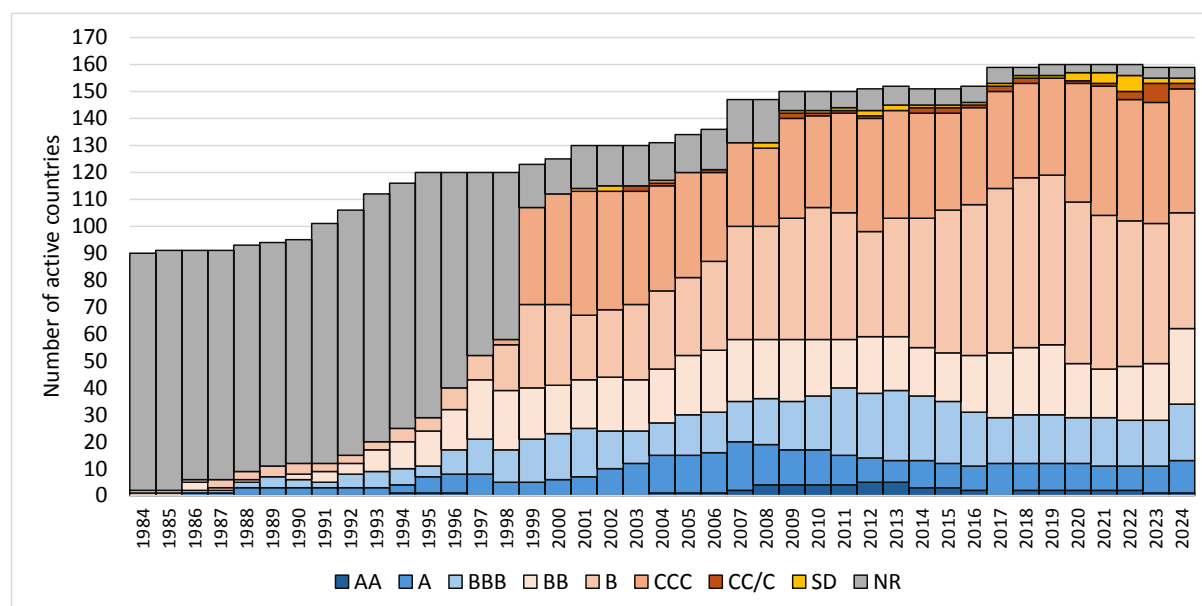
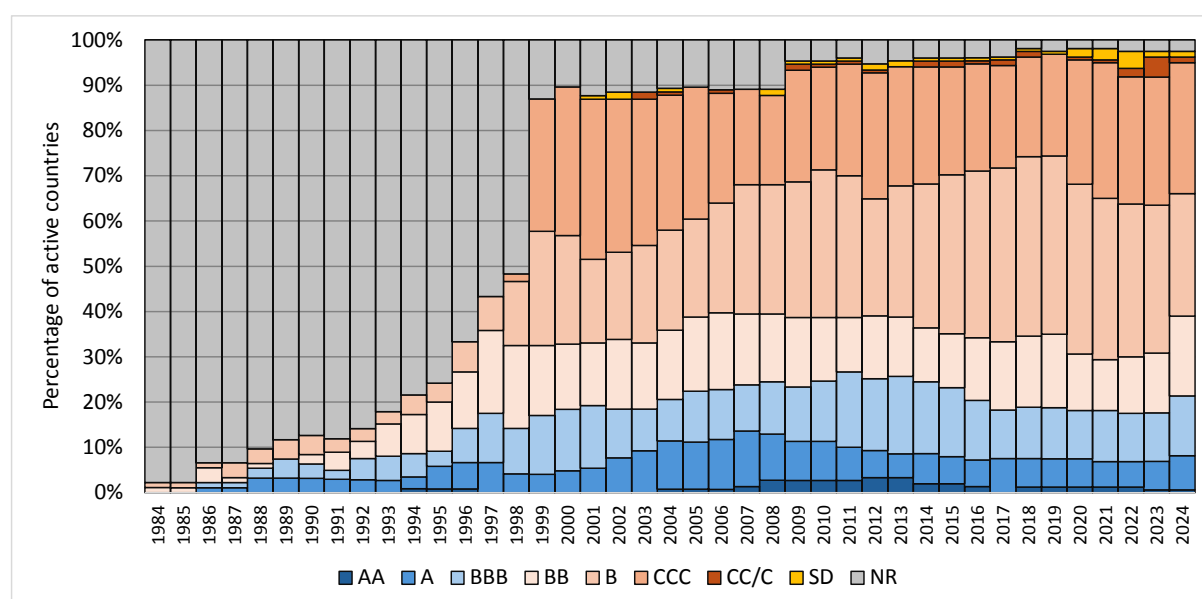


Figure 10: Dataset composition by rating category – percentage of total number of countries



2.5 Countries in the dataset

As detailed in Table 7, the dataset includes 167 countries, though not all were active throughout the entire 41-year period covered by this publication. In addition to indicating the years that a country has been part of the GEMs dataset, the table details the number of GEMs institutions that have provided lending to each country; the region and continent to which each country is assigned; the cumulative signed amount of lending from MDBs; and the first year a GEMs rating was assigned to the country.

Table 7: Dataset information for included countries

ISO country code	ISO country name	World Bank region	Continent	Number of MDBs with lending	Signed amount € million	Outstanding 31 Dec. 2024 € million	First year in dataset	Last year in dataset	First year of GEMs rating
AF	Afghanistan	South Asia	Asia	2	793.0	566.7	2005	2024	1999
AG	Antigua and Barbuda	Latin America & Caribbean	North America	2	17.2	3.8	1995	2024	1999
AL	Albania	Europe & Central Asia	Europe	5	3 169.2	1 534.3	1994	2024	1999
AM	Armenia	Europe & Central Asia	Europe	4	2 568.0	1 795.6	1993	2024	1999
AO	Angola	Sub-Saharan Africa	Africa	4	10 018.5	5 568.7	1984	2024	1999
AR	Argentina	Latin America & Caribbean	South America	5	87 104.1	28 075.0	1984	2024	1986
AZ	Azerbaijan	Europe & Central Asia	Europe	5	6 950.2	3 230.2	1994	2024	1999
BA	Bosnia and Herzegovina	Europe & Central Asia	Europe	4	4 619.6	2 120.0	1984	2024	1999
BB	Barbados	Latin America & Caribbean	North America	3	1 960.5	1 079.3	1984	2024	1994
BD	Bangladesh	South Asia	Asia	6	42 157.1	23 199.5	1984	2024	1999
BF	Burkina Faso	Sub-Saharan Africa	Africa	3	1 443.3	720.8	1984	2024	1999
BG	Bulgaria	Europe & Central Asia	Europe	2	3 597.8	515.0	1991	2024	1996
BH	Bahrain	Middle East & North Africa	Asia	1	1 049.4	386.1	1997	2024	1996
BI	Burundi	Sub-Saharan Africa	Africa	2	135.2	95.7	1984	2024	2007
BJ	Benin	Sub-Saharan Africa	Africa	3	1 336.0	627.5	1984	2024	1999
BN	Brunei Darussalam	East Asia & Pacific	Asia	1	4.6	-	2005	2011	1999
BO	Bolivia	Latin America & Caribbean	South America	4	9 519.2	5 161.3	1984	2024	1998
BR	Brazil	Latin America & Caribbean	South America	5	115 030.2	31 379.0	1984	2024	1986
BS	Bahamas	Latin America & Caribbean	North America	3	1 654.5	959.4	1984	2024	1997
BT	Bhutan	South Asia	Asia	2	1 139.4	713.1	1984	2024	1999
BW	Botswana	Sub-Saharan Africa	Africa	4	3 249.8	1 423.4	1984	2024	1999
BY	Belarus	Europe & Central Asia	Europe	1	2 111.7	937.4	1993	2024	1999
BZ	Belize	Latin America & Caribbean	North America	5	583.2	209.2	1984	2024	1999
CD	Congo, The Democratic Republic of	Sub-Saharan Africa	Africa	3	601.1	84.5	1984	2024	1999
CF	Central African Republic	Sub-Saharan Africa	Africa	1	35.1	17.0	1984	2024	1999
CG	Congo	Sub-Saharan Africa	Africa	4	1 651.9	655.1	1984	2024	1999
CI	Côte d'Ivoire	Sub-Saharan Africa	Africa	6	8 407.9	2 365.3	1984	2024	1999
CK	Cook Islands	East Asia & Pacific	Oceania	2	141.8	100.7	2009	2024	1998
CL	Chile	Latin America & Caribbean	South America	2	13 739.5	2 912.5	1984	2024	1992

Table 7: Dataset information for included countries (continued)

ISO country code	ISO country name	World Bank region	Continent	Number of MDBs with lending	Signed amount € million	Outstanding 31 Dec. 2024 € million	First year in dataset	Last year in dataset	First year of GEMs rating
CM	Cameroon	Sub-Saharan Africa	Africa	5	5 932.6	2 442.2	1984	2024	1999
CN	China	East Asia & Pacific	Asia	6	100 576.7	39 700.3	1984	2024	1988
CO	Colombia	Latin America & Caribbean	South America	4	61 158.3	27 283.8	1984	2024	1993
CR	Costa Rica	Latin America & Caribbean	North America	4	11 656.7	4 443.0	1984	2024	1997
CU	Cuba	Latin America & Caribbean	North America	2	90.8	42.6	2013	2024	1999
CV	Cape Verde	Sub-Saharan Africa	Africa	4	542.5	333.4	1984	2024	1999
CY	Cyprus	Europe & Central Asia	Europe	3	1 351.3	283.1	1984	2024	1994
CZ	Czechia	Europe & Central Asia	Europe	2	981.0	379.4	1991	2024	1993
DJ	Djibouti	Middle East & North Africa	Asia	2	216.8	108.2	1984	2024	2009
DM	Dominica	Latin America & Caribbean	North America	3	16.2	0.6	1984	2024	2009
DO	Dominican Republic	Latin America & Caribbean	North America	5	16 059.1	6 555.1	1984	2024	1997
DZ	Algeria	Middle East & North Africa	Africa	3	9 421.5	690.0	1984	2024	1999
EC	Ecuador	Latin America & Caribbean	South America	4	25 394.6	14 959.6	1984	2024	1997
EE	Estonia	Europe & Central Asia	Europe	2	373.8	200.0	1992	2024	1997
EG	Egypt	Middle East & North Africa	Africa	6	36 187.7	17 443.6	1984	2024	1996
ER	Eritrea	Sub-Saharan Africa	Africa	2	43.5	18.2	1994	2024	2007
ET	Ethiopia	Sub-Saharan Africa	Africa	3	883.9	576.1	1984	2024	1999
FJ	Fiji	East Asia & Pacific	Oceania	5	1 137.3	809.7	1984	2024	1999
FM	Micronesia, Federated States of	East Asia & Pacific	Oceania	1	74.5	32.0	2005	2024	2009
GA	Gabon	Sub-Saharan Africa	Africa	5	3 765.2	1 580.8	1984	2024	1999
GD	Grenada	Latin America & Caribbean	North America	3	55.0	18.1	1995	2024	2002
GE	Georgia	Europe & Central Asia	Europe	6	6 971.7	4 641.6	1997	2024	1999
GH	Ghana	Sub-Saharan Africa	Africa	3	885.4	236.2	1984	2024	1999
GM	Gambia	Sub-Saharan Africa	Africa	3	365.5	283.6	1984	2024	1999
GN	Guinea	Sub-Saharan Africa	Africa	4	1 403.3	785.1	1984	2024	1999
GQ	Equatorial Guinea	Sub-Saharan Africa	Africa	2	128.9	32.2	1984	2024	2000
GT	Guatemala	Latin America & Caribbean	North America	4	12 313.6	4 018.6	1984	2024	1997
GW	Guinea-Bissau	Sub-Saharan Africa	Africa	2	76.3	36.7	1984	2024	1999
GY	Guyana	Latin America & Caribbean	South America	5	1 718.5	870.6	1984	2024	1999
HN	Honduras	Latin America & Caribbean	North America	5	9 691.4	5 035.5	1984	2024	1998
HR	Croatia	Europe & Central Asia	Europe	3	6 766.1	2 025.1	1984	2024	1997
HT	Haiti	Latin America & Caribbean	North America	1	72.8	32.1	1984	2024	2000
HU	Hungary	Europe & Central Asia	Europe	3	7 912.6	907.7	1984	2024	1989
ID	Indonesia	East Asia & Pacific	Asia	6	93 246.5	37 099.9	1984	2024	1992
IL	Israel	Middle East & North Africa	Asia	1	273.4	-	1984	1997	1988
IN	India	South Asia	Asia	6	145 315.8	60 897.9	1984	2024	1988
IQ	Iraq	Middle East & North Africa	Asia	2	5 014.9	2 700.2	1984	2024	1999

Table 7: Dataset information for included countries (continued)

ISO country code	ISO country name	World Bank region	Continent	Number of MDBs with lending	Signed amount € million	Outstanding 31 Dec. 2024 € million	First year in dataset	Last year in dataset	First year of GEMs rating
IR	Iran, Islamic Republic of	Middle East & North Africa	Asia	2	5 504.3	902.4	1984	2024	1999
JM	Jamaica	Latin America & Caribbean	North America	3	6 613.0	2 359.6	1984	2024	1998
JO	Jordan	Middle East & North Africa	Asia	5	12 630.7	5 866.7	1984	2024	1995
KE	Kenya	Sub-Saharan Africa	Africa	4	6 236.4	3 813.3	1984	2024	1999
KG	Kyrgyzstan	Europe & Central Asia	Asia	6	1 654.3	890.8	1984	2024	1999
KH	Cambodia	East Asia & Pacific	Asia	4	4 098.8	2 252.3	1996	2024	2007
KI	Kiribati	East Asia & Pacific	Oceania	2	50.6	30.0	1999	2024	2009
KM	Comoros	Sub-Saharan Africa	Africa	2	41.0	26.3	1984	2024	2009
KN	Saint Kitts & Nevis	Latin America & Caribbean	North America	2	28.5	-	1991	2020	2000
KR	Korea, Republic of	East Asia & Pacific	Asia	2	22 813.7	-	1984	2013	1986
KZ	Kazakhstan	Europe & Central Asia	Europe	4	14 472.6	6 482.6	1993	2024	1996
LA	Lao, People's Democratic Republic	East Asia & Pacific	Asia	4	2 673.8	1 365.2	1984	2024	2000
LB	Lebanon	Middle East & North Africa	Asia	4	5 668.3	1 345.3	1984	2024	1997
LC	Saint Lucia	Latin America & Caribbean	North America	2	78.6	7.1	1986	2024	2018
LK	Sri Lanka	South Asia	Asia	5	17 496.1	10 621.0	1984	2024	1999
LR	Liberia	Sub-Saharan Africa	Africa	3	306.9	92.0	1984	2024	1999
LS	Lesotho	Sub-Saharan Africa	Africa	3	400.6	84.4	1984	2024	1999
LT	Lithuania	Europe & Central Asia	Europe	2	1 400.9	654.6	1992	2024	1996
LV	Latvia	Europe & Central Asia	Europe	2	987.1	10.4	1992	2024	1997
MA	Morocco	Middle East & North Africa	Africa	5	44 962.4	17 182.1	1984	2024	1998
MD	Moldova, Republic of	Europe & Central Asia	Europe	4	1 897.4	802.0	1993	2024	1997
ME	Montenegro	Europe & Central Asia	Europe	4	2 115.4	752.9	2001	2024	2004
MG	Madagascar	Sub-Saharan Africa	Africa	3	632.5	347.9	1984	2024	1999
MH	Marshall Islands	East Asia & Pacific	Oceania	1	70.2	24.1	2001	2024	2018
MK	Macedonia, The Former Yugoslav Republic Of	Europe & Central Asia	Europe	4	3 674.6	1 024.3	1984	2024	2004
ML	Mali	Sub-Saharan Africa	Africa	3	1 094.8	587.2	1984	2024	1999
MM	Myanmar	East Asia & Pacific	Asia	2	3 738.9	1 045.1	1984	2024	1999
MN	Mongolia	East Asia & Pacific	Asia	5	3 410.4	1 975.2	1996	2024	1999
MR	Mauritania	Sub-Saharan Africa	Africa	4	913.2	352.6	1984	2024	1999
MU	Mauritius	Sub-Saharan Africa	Africa	4	2 320.2	747.7	1984	2024	1996
MV	Maldives	South Asia	Asia	5	500.7	235.8	1984	2024	1999
MW	Malawi	Sub-Saharan Africa	Africa	3	619.8	287.2	1984	2024	1999
MX	Mexico	Latin America & Caribbean	North America	4	97 836.8	27 004.4	1984	2024	1990
MY	Malaysia	East Asia & Pacific	Asia	3	6 928.9	9.9	1984	2024	1986
MZ	Mozambique	Sub-Saharan Africa	Africa	4	835.2	446.5	1984	2024	1999
NA	Namibia	Sub-Saharan Africa	Africa	3	1 956.3	984.9	1994	2024	2005
NC	New Caledonia	East Asia & Pacific	Oceania	1	20.0	10.6	2014	2024	Not rated

Table 7: Dataset information for included countries (continued)

ISO country code	ISO country name	World Bank region	Continent	Number of MDBs with lending	Signed amount € million	Outstanding 31 Dec. 2024 € million	First year in dataset	Last year in dataset	First year of GEMs rating
NE	Niger	Sub-Saharan Africa	Africa	3	932.5	426.0	1984	2024	1999
NG	Nigeria	Sub-Saharan Africa	Africa	5	14 657.6	3 357.3	1984	2024	1999
NI	Nicaragua	Latin America & Caribbean	North America	5	7 903.0	4 721.7	1984	2024	1998
NP	Nepal	South Asia	Asia	4	10 455.9	4 629.5	1984	2024	1999
NR	Nauru	East Asia & Pacific	Oceania	1	4.4	-	1999	2013	Not rated
OM	Oman	Middle East & North Africa	Asia	2	1 592.9	991.7	1984	2024	1996
PA	Panama	Latin America & Caribbean	North America	4	14 211.4	6 733.1	1984	2024	1997
PE	Peru	Latin America & Caribbean	South America	4	32 289.0	9 150.2	1984	2024	1996
PF	French Polynesia	East Asia & Pacific	Oceania	1	7.5	5.1	2012	2024	Not rated
PG	Papua New Guinea	East Asia & Pacific	Oceania	4	5 481.6	2 835.0	1984	2024	1998
PH	Philippines	East Asia & Pacific	Asia	5	56 505.4	32 365.4	1984	2024	1993
PK	Pakistan	South Asia	Asia	6	59 401.3	26 844.6	1984	2024	1994
PL	Poland	Europe & Central Asia	Europe	2	17 319.6	5 999.3	1990	2024	1995
PS	Palestine, State of*	Middle East & North Africa	Asia	2	183.1	14.6	1995	2024	2009
PW	Palau	East Asia & Pacific	Oceania	2	148.0	110.6	2006	2024	Not rated
PY	Paraguay	Latin America & Caribbean	South America	4	9 216.8	4 755.2	1984	2024	1995
QA	Qatar	Middle East & North Africa	Asia	1	0.3	-	2005	2013	1996
RO	Romania	Europe & Central Asia	Europe	3	18 779.5	5 878.0	1984	2024	1996
RS	Republic of Serbia	Europe & Central Asia	Europe	3	13 162.8	4 730.5	1984	2024	1999
RU	Russia	Europe & Central Asia	Europe	3	15 904.0	1 188.5	1992	2024	1996
RW	Rwanda	Sub-Saharan Africa	Africa	3	584.5	296.8	1984	2024	1999
SA	Saudi Arabia	Middle East & North Africa	Asia	2	242.7	128.2	1999	2024	1996
SB	Solomon Islands	East Asia & Pacific	Oceania	2	255.0	114.9	1984	2024	2000
SC	Seychelles	Sub-Saharan Africa	Africa	4	484.2	305.3	1984	2024	1973
SD	Sudan	Sub-Saharan Africa	Africa	3	984.6	610.2	1984	2024	1999
SI	Slovenia	Europe & Central Asia	Europe	2	498.3	102.2	1984	2024	1996
SK	Slovakia	Europe & Central Asia	Europe	2	1 517.7	875.3	1991	2024	1994
SL	Sierra Leone	Sub-Saharan Africa	Africa	4	396.8	236.0	1984	2024	2000
SN	Senegal	Sub-Saharan Africa	Africa	5	5 428.4	3 058.3	1984	2024	1999
SO	Somalia	Sub-Saharan Africa	Africa	1	14.2	1.6	1984	2024	1999
SR	Suriname	Latin America & Caribbean	South America	4	1 659.5	1 028.9	1985	2024	1999
SS	South Sudan	Sub-Saharan Africa	Africa	1	1.6	0.8	2021	2024	2013
ST	Sao Tome and Principe	Sub-Saharan Africa	Africa	2	43.2	29.5	1984	2024	2000
SV	El Salvador	Latin America & Caribbean	North America	5	14 564.4	5 418.3	1984	2024	1996
SX	Sint Maarten	Latin America & Caribbean	North America	1	44.2	46.2	2019	2024	2020
SY	Syrian Arab Republic	Middle East & North Africa	Asia	4	2 126.1	898.1	1984	2024	1999
SZ	Swaziland	Sub-Saharan Africa	Africa	4	1 189.9	473.4	1984	2024	2007

*This designation shall not be construed as recognition of a State of Palestine and is without prejudice to the individual positions of the Member States on this issue.

Table 7: Dataset information for included countries (continued)

ISO country code	ISO country name	World Bank region	Continent	Number of MDBs with lending	Signed amount € million	Outstanding 31 Dec. 2024 € million	First year in dataset	Last year in dataset	First year of GEMs rating
TD	Chad	Sub-Saharan Africa	Africa	4	868.6	388.7	1984	2024	1999
TG	Togo	Sub-Saharan Africa	Africa	4	543.7	138.4	1984	2024	1999
TH	Thailand	East Asia & Pacific	Asia	3	10 775.0	1 567.5	1984	2024	1989
TJ	Tajikistan	Europe & Central Asia	Asia	5	1 286.8	571.6	1997	2024	1999
TL	Timor-Leste	East Asia & Pacific	Asia	2	483.3	142.1	2012	2024	2013
TM	Turkmenistan	Europe & Central Asia	Asia	3	1 480.8	1 225.9	1994	2024	1997
TN	Tunisia	Middle East & North Africa	Africa	5	31 949.4	8 713.3	1984	2024	1995
TO	Tonga	East Asia & Pacific	Oceania	3	71.4	26.3	1984	2024	2009
TR	Türkiye	Europe & Central Asia	Europe	6	81 240.7	20 045.2	1984	2024	1992
TT	Trinidad and Tobago	Latin America & Caribbean	North America	3	2 327.1	647.4	1984	2024	1993
TV	Tuvalu	East Asia & Pacific	Oceania	2	4.1	1.7	2004	2024	2009
TZ	Tanzania, United Republic of	Sub-Saharan Africa	Africa	4	2 438.0	964.0	1984	2024	1999
UA	Ukraine	Europe & Central Asia	Europe	3	30 795.9	19 120.2	1993	2024	1998
UG	Uganda	Sub-Saharan Africa	Africa	4	1 567.7	953.9	1984	2024	1999
UY	Uruguay	Latin America & Caribbean	South America	3	14 191.0	4 961.9	1984	2024	1993
UZ	Uzbekistan	Europe & Central Asia	Asia	6	18 853.6	11 760.8	1993	2024	1999
VC	Saint Vincent and the Grenadines	Latin America & Caribbean	North America	2	31.4	-	1989	2022	1999
VE	Venezuela	Latin America & Caribbean	South America	3	10 272.5	1 944.1	1984	2024	1973
VG	Virgin Islands, British	Latin America & Caribbean	North America	1	5.5	-	1994	2013	Not rated
VN	Vietnam	East Asia & Pacific	Asia	4	17 942.3	9 057.2	1984	2024	1997
VU	Vanuatu	East Asia & Pacific	Oceania	2	83.1	47.7	1999	2024	2009
WS	Samoa	East Asia & Pacific	Oceania	2	214.8	89.6	1984	2024	2009
XK	Kosovo (temporary code)	Europe & Central Asia	Europe	4	524.8	213.5	2001	2024	2011
YE	Yemen	Middle East & North Africa	Asia	1	242.7	167.1	1990	2024	1999
ZA	South Africa	Sub-Saharan Africa	Africa	4	13 351.7	7 804.9	1984	2024	1994
ZM	Zambia	Sub-Saharan Africa	Africa	4	2 086.1	655.6	1984	2024	1999
ZW	Zimbabwe	Sub-Saharan Africa	Africa	4	1 995.3	773.2	1984	2024	1999
Total					1 723 368.1	664 905.2			

3 Default rate statistics

3.1 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:

The default count for each year is calculated as:

Equation 1: Default count for year i

$$d_i = \sum_{j=1}^{w_i} \frac{MDBd_{i,j}}{MDBn_{i,j}}$$

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

$MDBd_{i,j}$ = Number of MDBs that country j defaulted to during year i

$MDBn_{i,j}$ = Number of MDBs with lending to country j as of 1 January of year i

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

Equation 2: 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 each year as weights:

Equation 3: 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 each year as weights:

Equation 4: 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 5: 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

3.2 Default rates by year

The 41 individual annual default rates range from 0.00% to 4.82%, as the observed defaults are not distributed evenly over the 41-year period.

Table 8: Default rates by year

Year	Defaults	Active countries	Default rate
1984	0.5	83	0.60%
1985	0.0	83	0.00%
1986	1.5	84	1.79%
1987	4.0	83	4.82%
1988	1.5	82	1.83%
1989	1.5	80	1.88%
1990	1.5	78	1.92%
1991	0.3	79	0.42%
1992	3.0	84	3.57%
1993	2.5	93	2.69%
1994	1.0	97	1.03%
1995	0.0	102	0.00%
1996	0.0	106	0.00%
1997	0.3	106	0.31%
1998	2.0	105	1.90%
1999	0.3	106	0.31%
2000	2.2	108	2.01%
2001	1.7	106	1.57%
2002	0.3	112	0.30%
2003	0.7	115	0.58%
2004	0.3	116	0.29%

Year	Defaults	Active countries	Default rate
2005	0.0	117	0.00%
2006	1.0	121	0.83%
2007	0.0	140	0.00%
2008	0.0	141	0.00%
2009	0.0	142	0.00%
2010	0.0	147	0.00%
2011	0.0	147	0.00%
2012	1.5	147	1.02%
2013	1.0	146	0.68%
2014	1.0	143	0.70%
2015	0.0	142	0.00%
2016	0.0	140	0.00%
2017	0.0	150	0.00%
2018	1.3	152	0.82%
2019	0.0	152	0.00%
2020	0.0	153	0.00%
2021	0.0	153	0.00%
2022	3.7	154	2.38%
2023	1.8	148	1.24%
2024	1.3	146	0.91%
Total	37.8	4 889	0.77%

3.3 Default rates by region

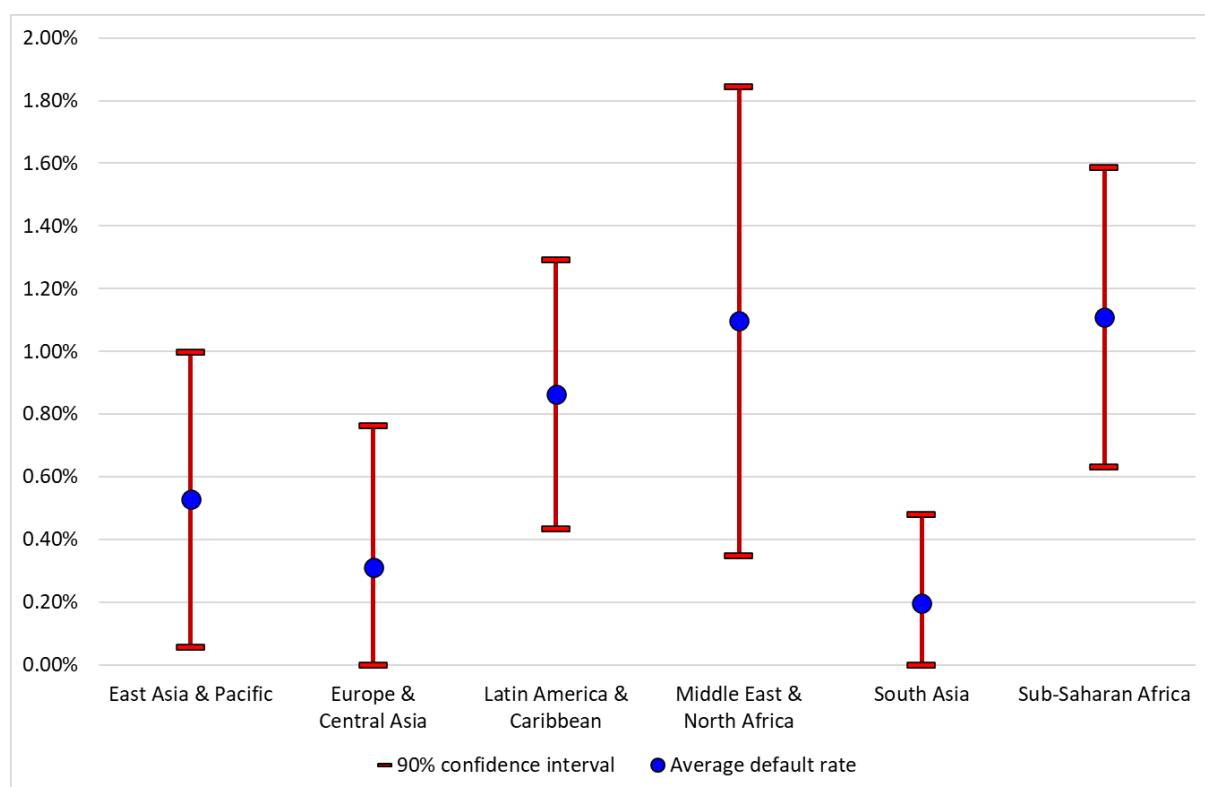
3.3.1 Default rates by World Bank region

The [World Bank Group classification of countries to regions](#) is used for the statistics shown in this section. Assignments of individual countries to regions can be found in Table 7.

Table 9: Default rates by World Bank region

World Bank region	Unique countries	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
East Asia & Pacific	28	41	3.5	664	330 963	0.06%	0.53%	1.00%
Europe & Central Asia	31	41	2.8	909	274 939	0.00%	0.31%	0.76%
Latin America & Caribbean	35	41	10.5	1 216	579 108	0.43%	0.86%	1.29%
Middle East & North Africa	17	41	5.0	456	157 267	0.35%	1.10%	1.85%
South Asia	8	41	0.5	254	277 259	0.00%	0.20%	0.48%
Sub-Saharan Africa	48	41	15.4	1 390	103 832	0.63%	1.11%	1.59%
Overall	167	41	37.8	4 889	1 723 368	0.51%	0.77%	1.03%

Figure 11: Default rates by World Bank region



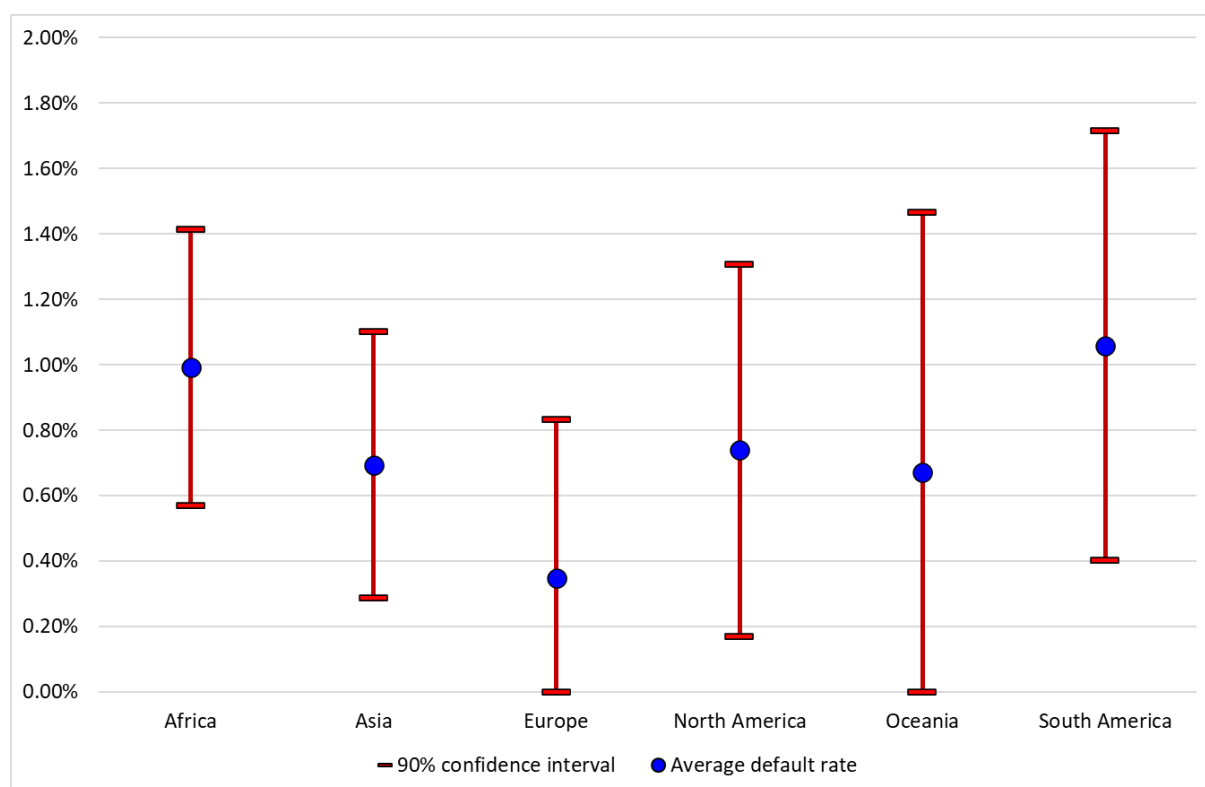
3.3.2 Default rates by continent

Table 10 and Figure 12 show the recovery rates by continent. (See Table 7 for the assignment of individual countries to continents.)

Table 10: Default rates by continent

Continent	Unique countries	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
Africa	52	41	15.4	1 554	226 353	0.57%	0.99%	1.41%
Asia	38	41	7.0	1 008	658 478	0.29%	0.69%	1.10%
Europe	27	41	2.8	813	251 664	0.00%	0.35%	0.83%
North America	23	41	5.5	744	197 815	0.17%	0.74%	1.31%
Oceania	15	41	2.0	298	7 764	0.00%	0.67%	1.47%
South America	12	41	5.0	472	381 293	0.40%	1.06%	1.72%
Overall	167	41	37.8	4 889	1 723 368	0.51%	0.77%	1.03%

Figure 12: Default rates by continent



3.4 Default rates by income group

The [World Bank Group's historical income classification database](#) has been used to assign countries to income groups for the year in which each default occurred. For this analysis, the number of observed years is reduced to 38, as historical income group data are only available from 1987 onward. Two countries in the dataset are currently not categorised by the World Bank Group.

Note that the signed amounts and the count of unique countries shown in this section reflect income group classifications as of the end of 2024.

Table 11: Default rates by income group at time of default

Income group at time of default	Unique countries	Observed years	Number of defaults	Number of observations	Signed amount € million	Lower of 90% confidence interval	Average default rate	Upper of 90% confidence interval
High income	36	38	-	468	153 929	0.00%	0.00%	0.00%
Upper middle income	52	38	8.2	1 361	928 416	0.24%	0.60%	0.96%
Lower middle income	51	38	14.6	1 704	613 955	0.49%	0.86%	1.22%
Low income	25	38	11.5	1 040	16 129	0.54%	1.11%	1.67%
Not available	3	33	3.5	309	10 272	0.00%	1.13%	2.56%
Overall	167	41	37.8	4 889	1 723 368	0.51%	0.77%	1.03%

Figure 13: Dataset composition over time by income group

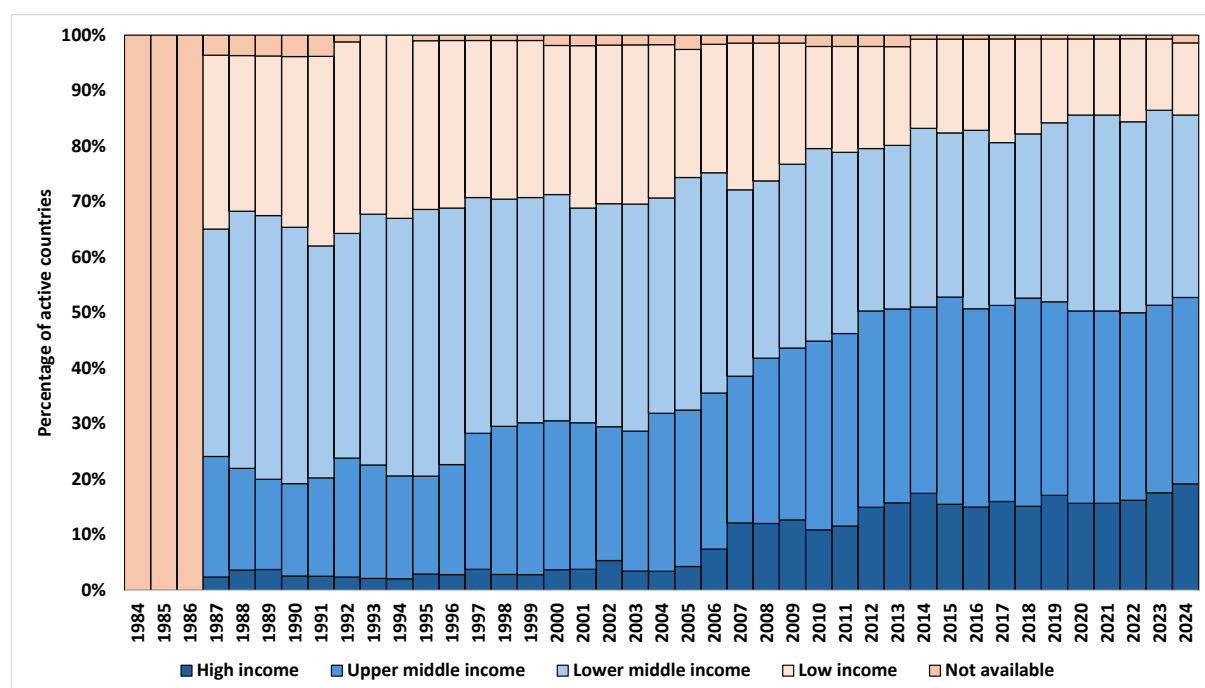
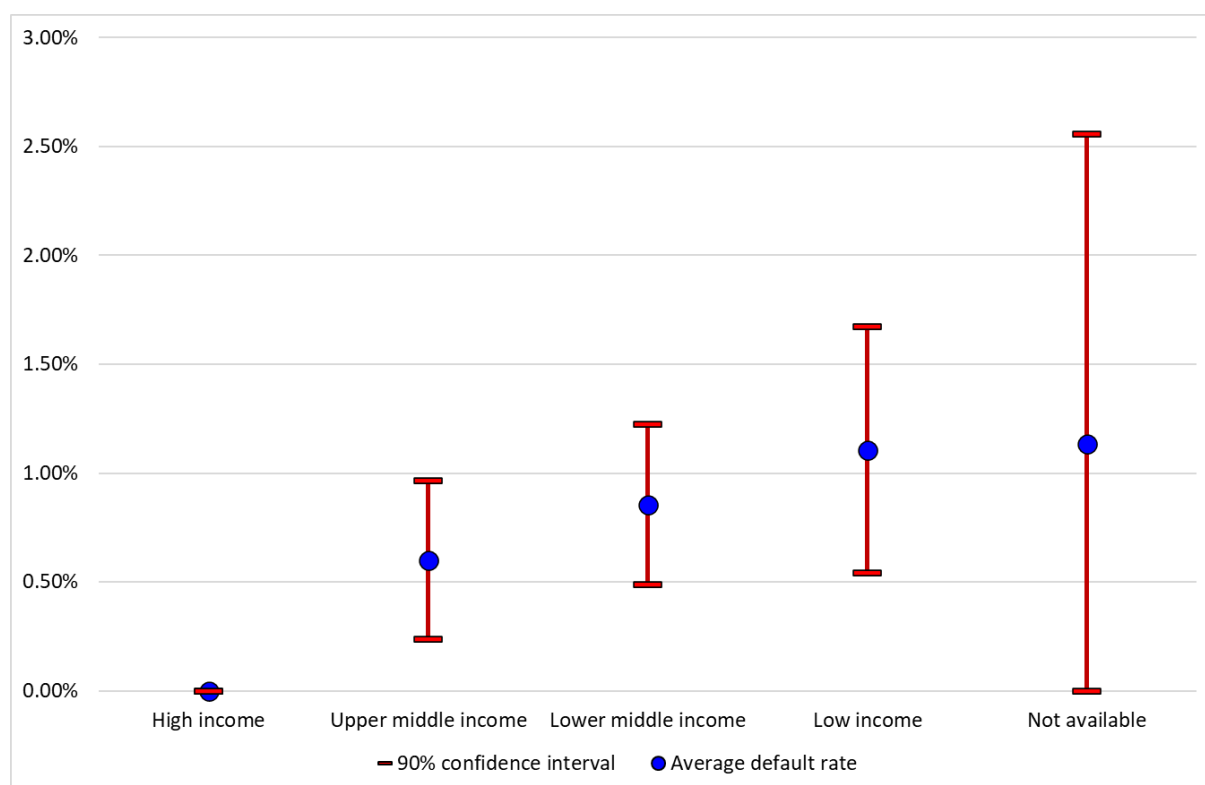


Figure 14: Default rates by income group at time of default



3.5 Default rates by credit ratings

The calculation of default rates by credit rating for sovereign and sovereign-guaranteed lending in GEMs follows a static cohort approach. Under this method, cohorts of countries with the same credit rating are established as of 1 January each year. The default behaviour of countries within each cohort is then tracked through the end of the observation period.

This approach has been selected because it reflects the typical lending structure of multilateral development banks (MDBs) to developing countries. At any given time, multiple loans are outstanding to each country, and new loans are often issued before or as previous loans mature. This results in continuous exposure to countries, typically without a specific final maturity.

Using the static cohort approach, the marginal default rate in t for a cohort formed in j is calculated as follows:

Equation 6: Marginal default rate for a static cohort

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

Where:

d_j^i = Number of defaulted countries in t for the cohort formed in j

n_j = Number of performing countries on 1 January of j

Combining all cohorts for each credit rating, the weighted marginal default rate in t for all cohorts formed in j is calculated as:

Equation 7: Marginal default rate for all static cohorts for year i

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

Where:

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

Equation 8: Cumulative default rate for all static cohorts for year i

for $i = 1$: $wCDR_i = wMDR_i$

for $i > 1$: $wCDR_i = wCDR_{i-1} + (1 - wCDR_{i-1}) * wMDR_i$

3.5.1 Marginal default rates by credit rating category

The observed marginal default rates presented in Table 12 do not follow the same patterns typically observed in similar tables for sovereign or corporate exposures published by credit rating agencies. Due to the limited number of defaults over the dataset's history, many cells are either empty or show values of 0.00%, reflecting either a lack of observations or the absence of defaults. Unlike tables from credit rating agencies, Table 12 includes an NR category, as this classification represents a large part of historical observations. The results for the NR category demonstrated that unrated countries are not necessarily more likely to default to MDBs than rated countries.

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%	0.07%	0.00%	0.27%	1.02%	5.36%	10.00%	1.60%
2		0.00%	0.00%	0.07%	0.00%	0.28%	0.96%	0.00%	2.00%	1.58%
3		0.00%	0.00%	0.07%	0.00%	0.45%	0.68%	0.00%	0.00%	1.52%
4		0.00%	0.00%	0.07%	0.00%	0.52%	0.70%	0.00%	0.00%	1.39%
5		0.00%	0.00%	0.00%	0.06%	0.59%	0.64%	0.00%	0.00%	1.14%
6		0.00%	0.00%	0.00%	0.06%	0.63%	0.67%	0.00%	0.00%	0.88%
7		0.00%	0.00%	0.00%	0.07%	0.44%	0.71%	0.00%	0.00%	0.68%
8		0.00%	0.00%	0.09%	0.11%	0.44%	0.70%	0.00%	0.00%	0.49%
9		0.00%	0.00%	0.09%	0.11%	0.47%	0.55%	0.00%	0.00%	0.47%
10		0.00%	0.00%	0.10%	0.00%	0.59%	0.59%	0.00%	0.00%	0.44%
11		0.00%	0.00%	0.10%	0.00%	0.69%	0.45%	0.00%	0.00%	0.33%
12		0.00%	0.00%	0.11%	0.00%	0.74%	0.49%	0.00%	0.00%	0.25%
13		0.00%	0.00%	0.12%	0.00%	0.80%	0.53%	0.00%	0.00%	0.25%
14		0.00%	0.00%	0.14%	0.00%	0.88%	0.45%	0.00%	0.00%	0.29%
15		0.00%	0.00%	0.15%	0.00%	0.86%	0.49%	0.00%	0.00%	0.33%
16		0.00%	0.00%	0.16%	0.00%	0.70%	0.73%	0.00%	0.00%	0.29%
17		0.00%	0.00%	0.17%	0.00%	0.69%	0.80%	0.00%	0.00%	0.23%
18		0.00%	0.00%	0.19%	0.00%	0.67%	0.76%	0.00%	0.00%	0.13%
19		0.00%	0.00%	0.00%	0.14%	0.76%	0.88%	0.00%	0.00%	0.08%
20		0.00%	0.00%	0.00%	0.15%	0.85%	0.88%	0.00%	0.00%	0.10%
21		0.00%	0.00%	0.00%	0.51%	0.40%	1.42%	0.00%	0.00%	0.10%
22		0.00%	0.00%	0.00%	0.00%	1.03%	1.36%		0.00%	0.08%
23		0.00%	0.00%	0.00%	0.94%	0.33%	1.71%		0.00%	0.08%
24		0.00%	0.00%	0.00%	1.06%	0.39%	0.69%			0.17%
25		0.00%	0.00%	0.00%	1.49%	0.00%	0.00%			0.21%
26		0.00%	0.00%	0.00%	1.28%	0.00%	0.00%			0.21%
27		0.00%	0.00%	0.00%	1.22%	0.00%				0.25%
28		0.00%	0.00%	0.00%	0.00%	2.22%				0.27%
29		0.00%	0.00%	0.00%	0.00%	2.70%				0.29%
30		0.00%	0.00%	0.00%	2.86%	0.00%				0.20%
31			0.00%	0.00%	3.85%	0.00%				0.12%
32			0.00%	0.00%	5.56%	0.00%				0.13%
33			0.00%	0.00%	7.14%	0.00%				0.15%
34			0.00%	0.00%	10.00%	0.00%				0.17%
35			0.00%	0.00%	12.50%	0.00%				0.19%
36			0.00%	0.00%	0.00%	0.00%				0.21%
37			0.00%	0.00%	0.00%	0.00%				0.25%
38			0.00%	0.00%	0.00%	0.00%				0.31%
39					0.00%	0.00%				0.41%
40					0.00%	0.00%				0.31%

3.5.2 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%	0.07%	0.00%	0.27%	1.02%	5.36%	10.00%	1.60%
2		0.00%	0.00%	0.13%	0.00%	0.55%	1.97%	5.36%	11.80%	3.15%
3		0.00%	0.00%	0.20%	0.00%	1.00%	2.64%	5.36%	11.80%	4.62%
4		0.00%	0.00%	0.28%	0.00%	1.51%	3.32%	5.36%	11.80%	5.95%
5		0.00%	0.00%	0.28%	0.06%	2.09%	3.94%	5.36%	11.80%	7.02%
6		0.00%	0.00%	0.28%	0.13%	2.71%	4.59%	5.36%	11.80%	7.84%
7		0.00%	0.00%	0.28%	0.19%	3.14%	5.26%	5.36%	11.80%	8.46%
8		0.00%	0.00%	0.36%	0.30%	3.56%	5.92%	5.36%	11.80%	8.91%
9		0.00%	0.00%	0.45%	0.41%	4.02%	6.44%	5.36%	11.80%	9.34%
10		0.00%	0.00%	0.55%	0.41%	4.58%	6.99%	5.36%	11.80%	9.73%
11		0.00%	0.00%	0.65%	0.41%	5.24%	7.41%	5.36%	11.80%	10.03%
12		0.00%	0.00%	0.76%	0.41%	5.94%	7.86%	5.36%	11.80%	10.25%
13		0.00%	0.00%	0.89%	0.41%	6.69%	8.35%	5.36%	11.80%	10.48%
14		0.00%	0.00%	1.02%	0.41%	7.51%	8.76%	5.36%	11.80%	10.74%
15		0.00%	0.00%	1.17%	0.41%	8.30%	9.21%	5.36%	11.80%	11.04%
16		0.00%	0.00%	1.32%	0.41%	8.94%	9.88%	5.36%	11.80%	11.30%
17		0.00%	0.00%	1.50%	0.41%	9.57%	10.60%	5.36%	11.80%	11.51%
18		0.00%	0.00%	1.68%	0.41%	10.17%	11.28%	5.36%	11.80%	11.62%
19		0.00%	0.00%	1.68%	0.55%	10.86%	12.06%	5.36%	11.80%	11.69%
20		0.00%	0.00%	1.68%	0.70%	11.62%	12.83%	5.36%	11.80%	11.78%
21		0.00%	0.00%	1.68%	1.20%	11.98%	14.07%	5.36%	11.80%	11.87%
22		0.00%	0.00%	1.68%	1.20%	12.88%	15.24%		11.80%	11.94%
23		0.00%	0.00%	1.68%	2.14%	13.17%	16.69%		11.80%	12.02%
24		0.00%	0.00%	1.68%	3.18%	13.50%	17.27%			12.16%
25		0.00%	0.00%	1.68%	4.62%	13.50%	17.27%			12.35%
26		0.00%	0.00%	1.68%	5.84%	13.50%	17.27%			12.54%
27		0.00%	0.00%	1.68%	6.99%	13.50%				12.76%
28		0.00%	0.00%	1.68%	6.99%	15.43%				12.99%
29		0.00%	0.00%	1.68%	6.99%	17.71%				13.24%
30		0.00%	0.00%	1.68%	9.65%	17.71%				13.42%
31			0.00%	1.68%	13.12%	17.71%				13.52%
32			0.00%	1.68%	17.95%	17.71%				13.63%
33			0.00%	1.68%	23.81%	17.71%				13.76%
34			0.00%	1.68%	31.43%	17.71%				13.90%
35			0.00%	1.68%	40.00%	17.71%				14.06%
36			0.00%	1.68%	40.00%	17.71%				14.25%
37			0.00%	1.68%	40.00%	17.71%				14.46%
38			0.00%	1.68%	40.00%	17.71%				14.73%
39					40.00%	17.71%				15.08%
40					40.00%	17.71%				15.34%

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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%	0.15%	0.00%	0.00%	0.00%	0.00%	0.26%	0.51%	0.22%	1.36%	1.19%	4.17%	6.25%	10.00%	1.60%
2			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.00%	0.27%	0.54%	0.43%	4.88%	0.82%	0.00%	0.00%	2.00%	1.58%
3			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.16%	0.00%	0.00%	0.00%	0.08%	0.28%	0.92%	0.00%	5.00%	0.53%	0.00%	0.00%	0.00%	1.52%
4			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.16%	0.00%	0.00%	0.00%	0.08%	0.45%	0.97%	0.90%	2.94%	0.52%	0.00%	0.00%	0.00%	1.39%
5			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%	0.08%	0.16%	1.42%	0.00%	3.57%	0.60%	0.00%	0.00%	0.00%	1.14%
6			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.53%	0.00%	1.29%	0.00%	4.00%	0.63%	0.00%	0.00%	0.00%	0.88%
7			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	0.00%	0.56%	0.19%	0.54%	1.12%	0.00%	0.66%	0.00%	0.00%	0.00%	0.68%
8			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.00%	0.00%	0.00%	0.29%	0.39%	0.21%	0.68%	0.00%	0.00%	0.86%	0.00%	0.00%	0.00%	0.49%
9			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.29%	0.00%	0.00%	0.00%	0.31%	0.41%	0.46%	0.54%	0.00%	0.00%	0.68%	0.00%	0.00%	0.00%	0.47%
10			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.00%	0.00%	0.00%	0.00%	0.67%	0.50%	0.59%	0.00%	0.00%	0.72%	0.00%	0.00%	0.00%	0.44%
11			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.33%	0.00%	0.00%	0.00%	0.00%	0.95%	0.27%	0.80%	0.00%	0.00%	0.55%	0.00%	0.00%	0.00%	0.33%
12			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.00%	1.01%	0.88%	0.35%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%	0.25%
13			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.41%	0.00%	0.00%	0.00%	0.00%	1.08%	0.96%	0.37%	0.00%	0.00%	0.65%	0.00%	0.00%	0.00%	0.25%
14			0.00%	0.00%	0.00%	0.00%	0.00%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.89%	1.06%	0.70%	0.00%	0.00%	0.55%	0.00%	0.00%	0.00%	0.29%
15			0.00%	0.00%	0.00%	0.00%	0.00%	0.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.99%	0.00%	1.45%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%	0.33%
16			0.00%	0.00%	0.00%	0.00%	0.00%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.35%	0.00%	1.65%	0.00%	0.00%	0.88%	0.00%	0.00%	0.00%	0.29%
17			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	1.15%	0.00%	0.74%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	0.23%
18			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.42%	0.00%	0.00%	0.00%	1.32%	0.00%	0.51%	0.00%	0.00%	0.92%	0.00%	0.00%	0.00%	0.13%
19			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.43%	0.00%	0.00%	0.98%	0.68%	0.57%	0.00%	0.00%	1.05%	0.00%	0.00%	0.00%	0.08%
20			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	1.05%	0.82%	0.64%	0.00%	0.00%	1.03%	0.00%	0.00%	0.00%	0.10%
21			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.04%	0.38%	1.00%	0.00%	0.00%	0.00%	1.61%	0.00%	0.00%	0.00%	0.10%
22			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.95%	0.79%	0.00%	0.00%	0.00%	1.53%	0.00%	0.00%	0.00%	0.08%
23			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.95%	0.00%	0.00%	1.02%	0.00%	0.00%	1.96%	0.00%	0.00%	0.00%	0.08%
24			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.55%	0.86%	0.00%	0.00%	0.00%	16.67%	0.00%	0.00%	0.00%	0.00%	0.17%
25			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.84%	1.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%
26			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%
27			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.94%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%
28			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.27%
29			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.14%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.29%
30			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.29%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.20%
31			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.12%
32			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.09%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.13%
33			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	12.50%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%
34			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	20.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.17%
35			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.19%
36			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%
37			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.25%
38			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%
39			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.41%
40			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%

3.5.4 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%	0.15%	0.00%	0.00%	0.00%	0.00%	0.26%	0.51%	0.22%	1.36%	1.19%	4.17%	6.25%	10.00%	1.60%
2			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.15%	0.00%	0.00%	0.00%	0.00%	0.27%	0.54%	0.43%	4.88%	0.82%	0.00%	0.00%	2.00%	1.58%
3			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.16%	0.00%	0.00%	0.00%	0.08%	0.28%	0.92%	0.00%	5.00%	0.53%	0.00%	0.00%	0.00%	1.52%
4			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.16%	0.00%	0.00%	0.00%	0.08%	0.45%	0.97%	0.90%	2.94%	0.52%	0.00%	0.00%	0.00%	1.39%
5			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.21%	0.00%	0.00%	0.08%	0.16%	1.42%	0.00%	3.57%	0.60%	0.00%	0.00%	0.00%	1.14%
6			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.22%	0.00%	0.00%	0.53%	0.00%	1.29%	0.00%	4.00%	0.63%	0.00%	0.00%	0.00%	0.88%
7			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.23%	0.00%	0.00%	0.56%	0.19%	0.54%	1.12%	0.00%	0.66%	0.00%	0.00%	0.00%	0.68%
8			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.28%	0.00%	0.00%	0.00%	0.29%	0.39%	0.21%	0.68%	0.00%	0.00%	0.86%	0.00%	0.00%	0.00%	0.49%
9			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.29%	0.00%	0.00%	0.00%	0.31%	0.41%	0.46%	0.54%	0.00%	0.00%	0.68%	0.00%	0.00%	0.00%	0.47%
10			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.31%	0.00%	0.00%	0.00%	0.00%	0.67%	0.50%	0.59%	0.00%	0.00%	0.72%	0.00%	0.00%	0.00%	0.44%
11			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.33%	0.00%	0.00%	0.00%	0.00%	0.95%	0.27%	0.80%	0.00%	0.00%	0.55%	0.00%	0.00%	0.00%	0.33%
12			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	0.00%	0.00%	0.00%	1.01%	0.88%	0.35%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%	0.25%
13			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.41%	0.00%	0.00%	0.00%	0.00%	1.08%	0.96%	0.37%	0.00%	0.00%	0.65%	0.00%	0.00%	0.00%	0.25%
14			0.00%	0.00%	0.00%	0.00%	0.00%	0.53%	0.00%	0.00%	0.00%	0.00%	0.00%	0.89%	1.06%	0.70%	0.00%	0.00%	0.55%	0.00%	0.00%	0.00%	0.29%
15			0.00%	0.00%	0.00%	0.00%	0.00%	0.56%	0.00%	0.00%	0.00%	0.00%	0.00%	0.99%	0.00%	1.45%	0.00%	0.00%	0.60%	0.00%	0.00%	0.00%	0.33%
16			0.00%	0.00%	0.00%	0.00%	0.00%	0.58%	0.00%	0.00%	0.00%	0.00%	0.00%	0.35%	0.00%	1.65%	0.00%	0.00%	0.88%	0.00%	0.00%	0.00%	0.29%
17			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.61%	0.00%	0.00%	0.00%	0.00%	1.15%	0.00%	0.74%	0.00%	0.00%	0.97%	0.00%	0.00%	0.00%	0.23%
18			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.42%	0.00%	0.00%	0.00%	1.32%	0.00%	0.51%	0.00%	0.00%	0.92%	0.00%	0.00%	0.00%	0.13%
19				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.43%	0.00%	0.00%	0.98%	0.68%	0.57%	0.00%	0.00%	1.05%	0.00%		0.00%	0.08%
20				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.37%	0.00%	1.05%	0.82%	0.64%	0.00%	0.00%	1.03%	0.00%		0.00%	0.10%
21				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.04%	0.38%	1.00%	0.00%	0.00%	0.00%	1.61%	0.00%		0.00%	0.10%
22				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	1.95%	0.79%	0.00%	0.00%	0.00%	1.53%			0.00%	0.08%
23				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.95%	0.00%	0.00%	1.02%	0.00%	0.00%	1.96%			0.00%	0.08%
24				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	4.55%	0.86%	0.00%	0.00%	0.00%	16.67%	0.00%				0.17%
25				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.84%	1.72%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%				0.21%
26				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	3.33%	0.00%	0.00%	0.00%	0.00%		0.00%	0.00%				0.21%
27				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	2.94%	0.00%	0.00%	0.00%	0.00%							0.25%
28				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	5.56%	0.00%	0.00%							0.27%
29				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	7.14%	0.00%	0.00%							0.29%
30				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	14.29%	0.00%	0.00%	0.00%							0.20%
31					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	25.00%	0.00%	0.00%	0.00%							0.12%
32					0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	9.09%	0.00%	0.00%	0.00%	0.00%							0.13%
33					0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	12.50%	0.00%	0.00%	0.00%	0.00%							0.15%
34					0.00%	0.00%	0.00%	0.00%	0.00%		0.00%	20.00%	0.00%	0.00%	0.00%	0.00%							0.17%
35						0.00%	0.00%	0.00%	0.00%		0.00%	25.00%	0.00%	0.00%	0.00%	0.00%							0.19%
36						0.00%	0.00%	0.00%			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							0.21%
37						0.00%		0.00%			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%							0.25%
38						0.00%		0.00%			0.00%	0.00%				0.00%							0.31%
39												0.00%				0.00%							0.41%
40												0.00%				0.00%							0.31%

4 Recovery rate statistics

Recovery rates are calculated individually for each default event of a country. According to the definition of sovereign and sovereign-guaranteed lending, all loans extended by multilateral development banks (MDBs) to a country are considered to default simultaneously and return to performing status on the same date. To date, all defaults covered by the GEMs dataset have resulted in full recovery of overdue principal and interest on a nominal basis. As a result, the only losses incurred stem from the cost of funding overdue interest, as these amounts are neither capitalised nor charged to borrowers.

As detailed in Equation 9, the recovery rate is calculated as the ratio of:

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

Discounting is performed using the applicable lending rates, with values discounted back to the time of default.

Equation 9: Calculation of recovery rates (RR)

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

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
Prn_R	= Remaining outstanding principal amount immediately after R
dr_i	= Discount rate applicable to payments received during
Prn_D	= Outstanding principal amount at time of default (D)
Int_D	= Outstanding interest amount at time of default (D)

The average recovery rates presented in this publication are calculated as simple (unweighted) averages across the relevant dimensions and categories. Confidence intervals around those averages are not provided, as the recovery rates are not normally distributed. Instead, the results include ranges and selected percentiles to better reflect the distribution. Recovery rates for unresolved default events are excluded from the calculations.

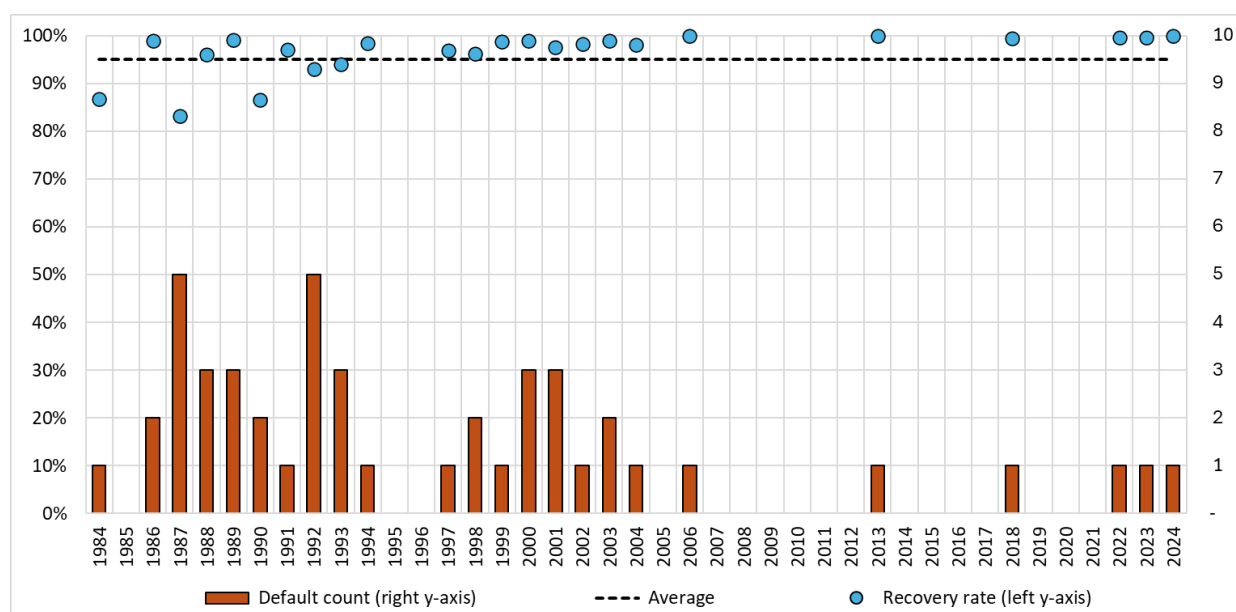
4.1 Recovery rates by year of default

Table 16: Recovery rates by year of default

Year	Defaults	Recovery rate
1984	1	86.7%
1985		
1986	2	99.0%
1987	5	83.2%
1988	3	96.0%
1989	3	99.1%
1990	2	86.6%
1991	1	97.1%
1992	5	93.1%
1993	3	94.0%
1994	1	98.4%
1995		
1996		
1997	1	97.0%
1998	2	96.3%
1999	1	98.8%
2000	3	99.0%
2001	3	97.6%
2002	1	98.3%
2003	2	99.0%
2004	1	98.1%

Year	Defaults	Recovery rate
2005		
2006	1	100.0%
2007		
2008		
2009		
2010		
2011		
2012		
2013	1	100.0%
2014		
2015		
2016		
2017		
2018	1	99.4%
2019		
2020		
2021		
2022	1	99.6%
2023	1	99.6%
2024	1	100.0%
Total	46	95.1%

Figure 15: Recovery rates by year of default



4.2 Recovery rates by region

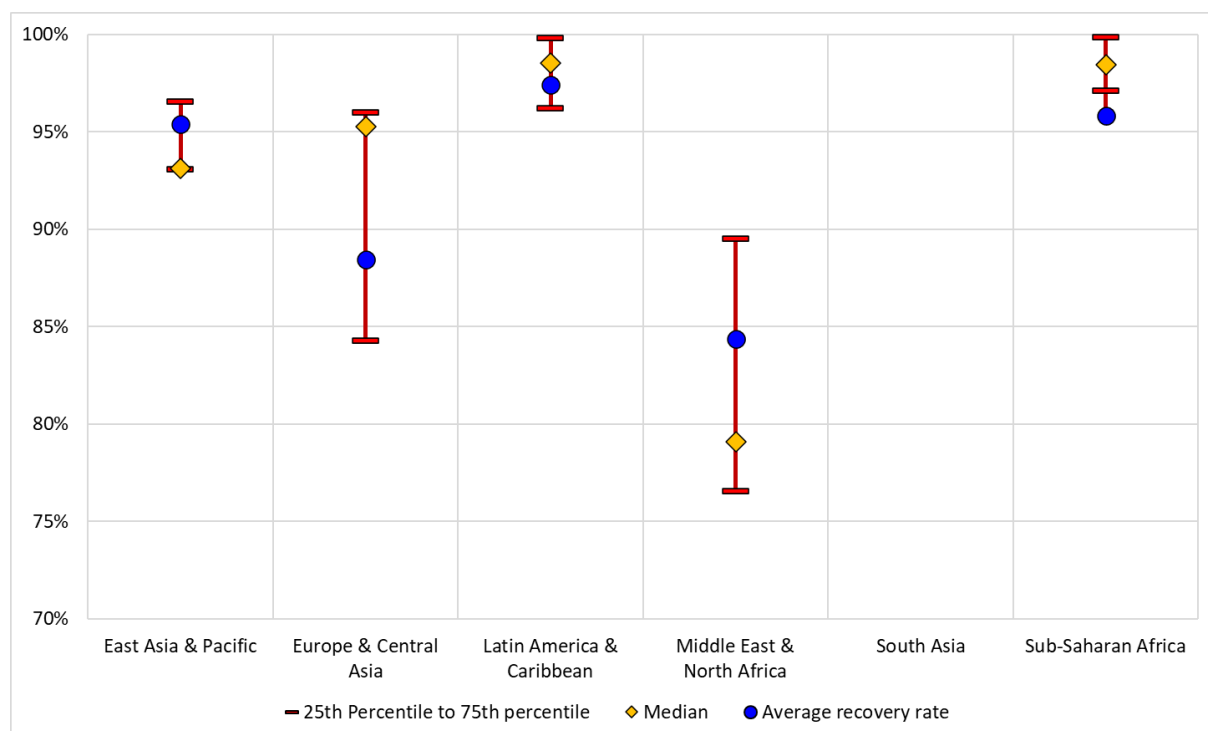
4.2.1 Recovery rates by World Bank region

The regional classification of countries used in this section follows the [World Bank Group's framework](#). The GEMs dataset does not currently contain any observations for recovery rates of countries in South Asia.

Table 17: Recovery rates by World Bank region

World Bank region	Unique countries	Default events	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	13	23	95.8%	47.1%	92.8%	97.1%	98.4%	99.9%	100.0%	100.0%
Overall	30	46	95.1%	47.1%	88.5%	95.6%	98.1%	99.8%	100.0%	100.0%

Figure 16: Recovery rates by World Bank region



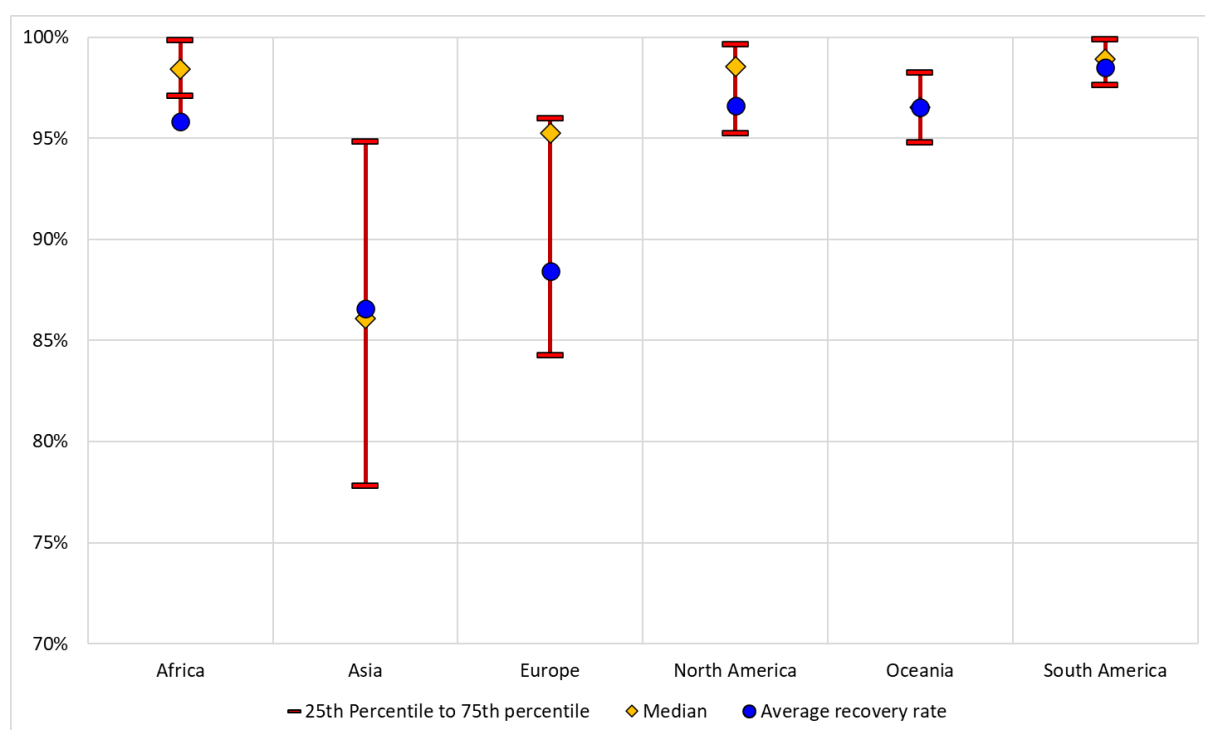
4.2.2 Recovery rates by continent

Table 18 and Figure 17 present recovery rates by continent.

Table 18: Recovery rates by continent

Continent	Unique countries	Default events	Average recovery rate	Minimum observation	10th Percentile	25th Percentile	Median	75th Percentile	90th Percentile	Maximum observation
Africa	13	23	95.8%	47.1%	92.8%	97.1%	98.4%	99.9%	100.0%	100.0%
Asia	4	4	86.6%	74.1%	75.6%	77.8%	86.1%	94.8%	97.9%	100.0%
Europe	3	3	88.4%	73.3%	77.7%	84.3%	95.3%	96.0%	96.4%	96.7%
North America	5	8	96.6%	86.7%	92.1%	95.3%	98.5%	99.6%	99.8%	100.0%
Oceania	2	2	96.5%	93.1%	93.8%	94.8%	96.5%	98.3%	99.3%	100.0%
South America	3	6	98.5%	95.7%	96.7%	97.7%	98.9%	99.9%	99.9%	100.0%
Overall	30	46	95.1%	47.1%	88.5%	95.6%	98.1%	99.8%	100.0%	100.0%

Figure 17: Recovery rates by continent



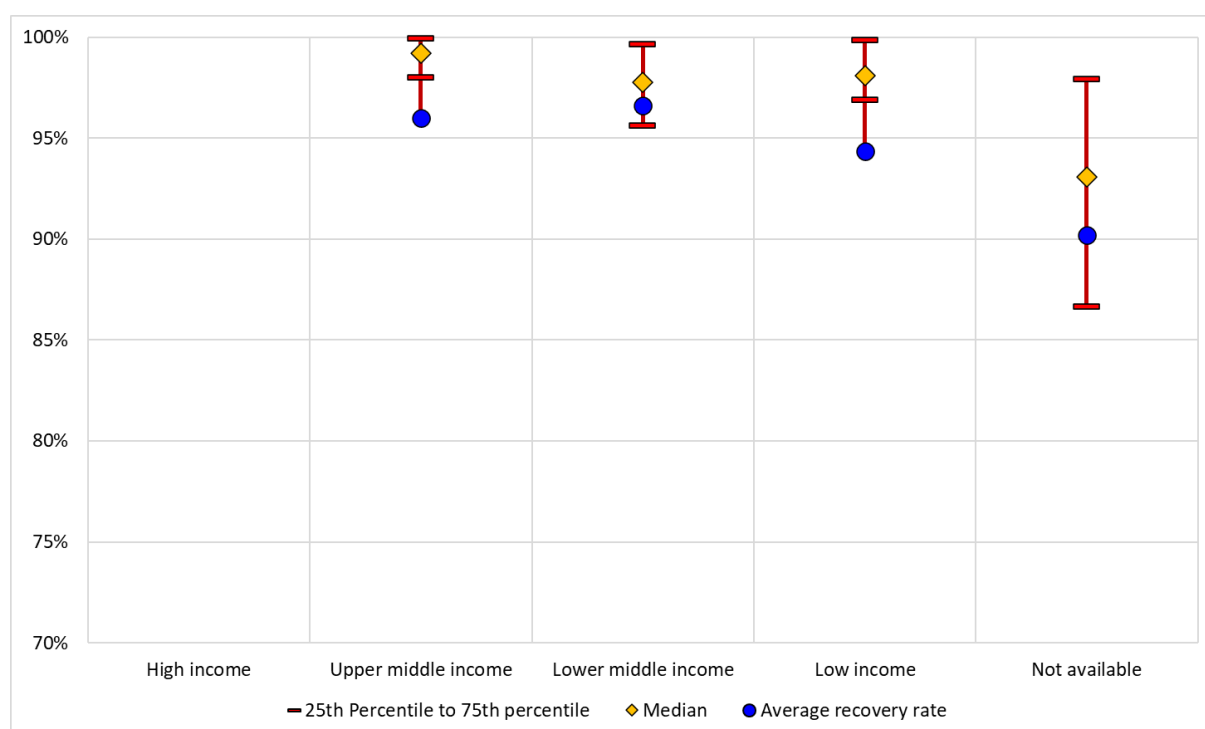
4.3 Recovery rates by income group

Country income group classifications for the year of each default are based on the [World Bank Group's historical income group database](#). Five countries in the dataset were not classified 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 19: Recovery rates by income group

Income group at time of default	Unique countries	Default events	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	13	18	96.6%	79.1%	93.6%	95.6%	97.8%	99.7%	100.0%	100.0%
Low income	10	15	94.4%	47.1%	91.5%	96.9%	98.1%	99.9%	100.0%	100.0%
Not available	5	5	90.2%	73.3%	78.7%	86.7%	93.1%	97.9%	99.2%	100.0%
Overall	30	46	95.1%	47.1%	88.5%	95.6%	98.1%	99.8%	100.0%	100.0%

Figure 18: Recovery rates by income group



5 Rating migration rate statistics

The rating migrations presented in this publication are based on GEMs ratings assigned to countries, as described in Section 3.4. Only years in which a country has exposure to at least one multilateral development bank (MDB) are included. Rating migrations are captured as annual snapshots taken on 1 January of each year over the 41-year observation period. For example, the one-year migration rates compare a country's rating in year i to its ratings in year $i + 1$. Intra-year rating changes are not considered.

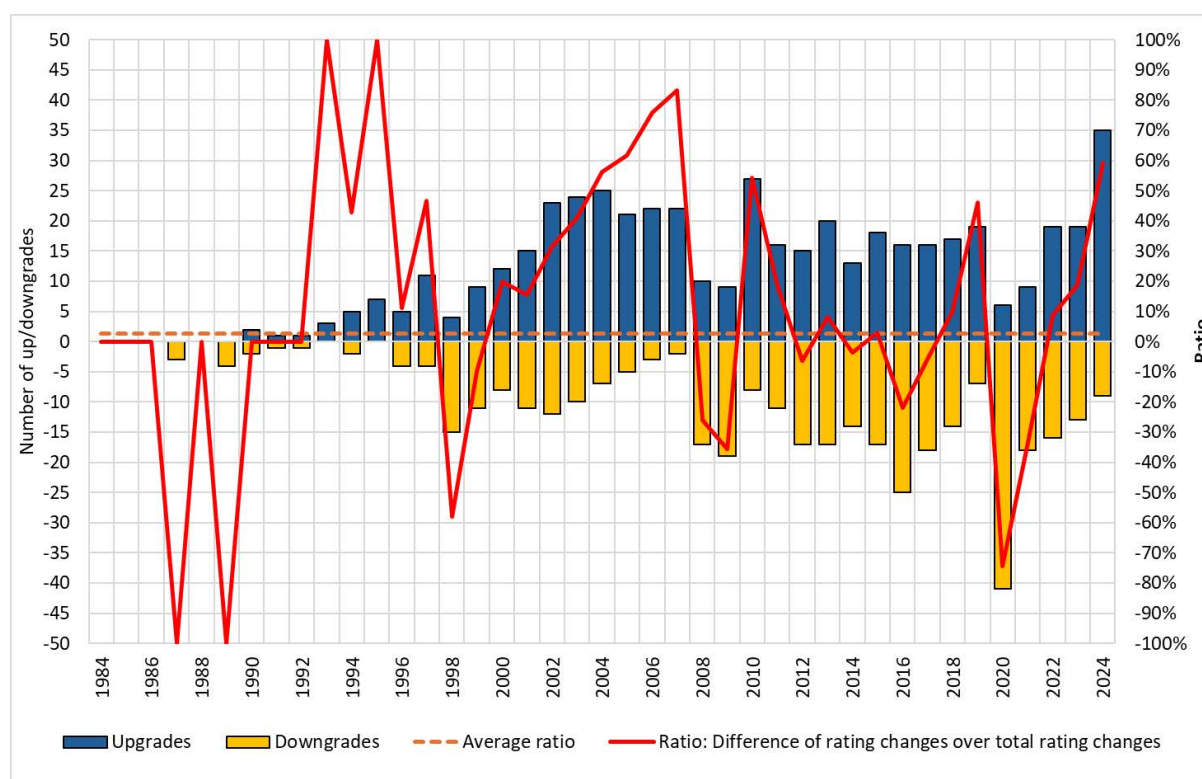
In addition to the GEMs ratings shown in migration tables by rating categories – aligned with external rating categories – the SD category in Table 20 signifies countries' defaults to lenders except MDBs, such as commercial banks or investors in bond issuances. Table 21 displays the migrations in and out of non-accrual status, which reflects defaults to MDBs. Since countries eventually come out of non-accrual status, it is not considered an absorbing state, and so the migration table includes countries' transitions from non-accrual back to performing ratings.

5.1 Annual upgrade vs. downgrade ratio

Figure 19 shows the yearly credit rating upgrades and downgrades of countries in the GEMs dataset. Transitions into and out of the NR category are excluded from the calculation, as they do not reflect changes in creditworthiness. This exclusion also explains the limited rating changes in earlier years, when many countries in the dataset were still unrated.

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

Figure 19: Annual upgrade vs. downgrade ratio



5.2 Rating migration rates

Table 20: 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	Not rated
AAA	0																							
AA+	0																							
AA	8			87.5%	12.5%																			
AA-	39			5.1%	79.5%	10.3%		2.6%							2.6%									
A+	52				17.3%	73.1%	9.6%																	
A	106					10.4%	80.2%	5.7%		1.9%	0.9%	0.9%												
A-	145						13.1%	79.3%	4.8%	2.8%														
BBB+	119							15.1%	73.1%	11.8%														
BBB	170							1.2%	14.7%	71.8%	8.8%	2.4%	0.6%			0.6%								
BBB-	221								0.5%	12.7%	75.6%	8.1%	1.4%		0.5%	0.5%	0.5%		0.5%					
BB+	184								1.6%	17.4%		69.6%	6.5%	3.3%	1.1%		0.5%							
BB	194									1.0%		15.5%	70.1%	9.3%	2.1%	1.0%		0.5%					0.5%	
BB-	244										1.2%	0.8%	9.8%	69.3%	13.5%	3.3%	1.2%						0.8%	
B+	359											0.3%	1.4%	10.0%	73.5%	10.0%	4.2%	0.6%						
B	389									0.8%				2.8%	10.8%	70.7%	8.2%	4.1%	0.5%	1.0%	0.3%	0.3%	0.5%	
B-	421													1.0%	2.9%	8.3%	76.2%	3.3%	1.9%	5.5%	0.5%		0.2%	0.2%
CCC+	149									0.7%				0.7%		8.7%	12.8%	61.1%	9.4%	5.4%			1.3%	
CCC	43														4.7%	7.0%	30.2%	34.9%	4.7%	4.7%	7.0%	7.0%		
CCC-	615												0.2%	0.3%	0.7%	1.6%	4.6%	1.5%	0.5%	89.4%	0.3%	0.2%	0.5%	0.3%
CC	12																8.3%	16.7%	8.3%	25.0%	33.3%	8.3%		
C	16																12.5%	6.3%	12.5%	18.8%		43.8%	6.3%	
SD	25																4.0%	8.0%	8.0%	8.0%	12.0%	8.0%	52.0%	
Not rated	1 378				0.1%		0.1%	0.4%	0.1%	0.3%	0.7%	0.4%	1.1%	0.8%	0.7%	0.7%	0.9%	0.3%		1.8%		0.1%	0.1%	91.5%

Table 21: One-year rating migration into and out of non-accrual status

[illegible]

Figure 20 illustrates the evolution of GEMs ratings for countries during the five years leading to a non-accrual event. Only the ratings for countries that entered non-accrual status are included.

Figure 20: Five-year rating migration to default

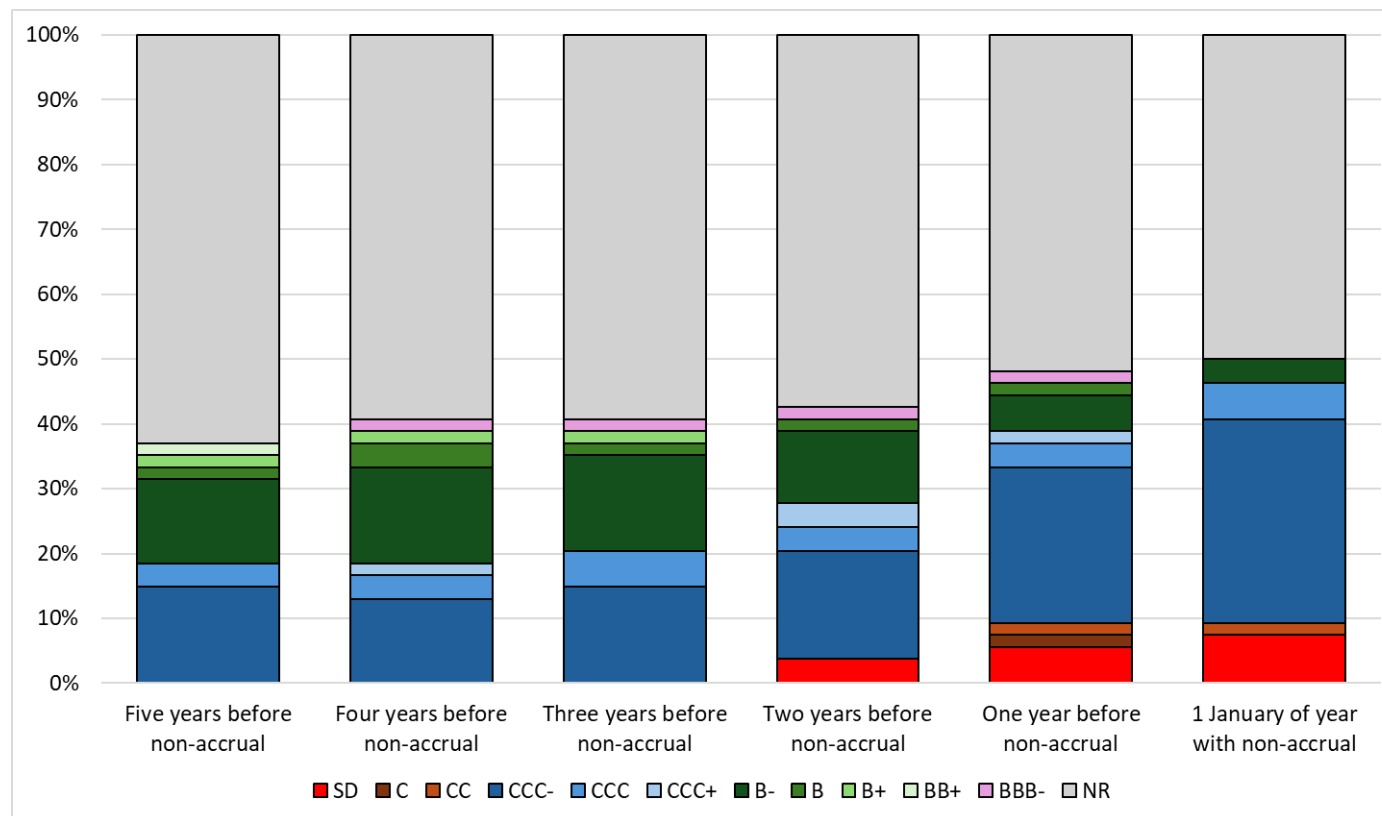


Table 22: Two-year rating migration rates

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	Not rated
AAA	0																							
AA+	0																							
AA	8			75.0%	12.5%				12.5%															
AA-	38			10.5%	57.9%	26.3%				2.6%		2.6%												
A+	49				30.6%	46.9%	18.4%					2.0%			2.0%									
A	100				1.0%	21.0%	61.0%	8.0%		6.0%	1.0%	1.0%	1.0%											
A-	144					0.7%	20.8%	66.0%	7.6%	3.5%	0.7%	0.7%												
BBB+	115						3.5%	20.9%	57.4%	14.8%	3.5%													
BBB	162							4.9%	17.3%	57.4%	12.3%	5.6%	1.9%					0.6%						
BBB-	216							0.9%	4.6%	18.5%	56.5%	11.6%	1.9%	1.9%	0.5%	0.9%	1.4%		0.9%				0.5%	
BB+	177								0.6%	4.5%	26.0%	50.3%	10.2%	4.5%	2.3%	0.6%	1.1%							
BB	189										5.8%	22.2%	49.7%	13.8%	5.8%		1.1%		0.5%	0.5%			0.5%	
BB-	235										2.1%	2.1%	14.0%	49.8%	19.1%	7.7%	3.0%	0.4%	0.4%				1.3%	
B+	343									0.3%		0.9%	3.2%	13.4%	57.1%	15.5%	6.1%	1.2%	0.9%	1.2%	0.3%			
B	375										1.1%		0.5%	5.3%	13.9%	53.3%	14.9%	4.8%	1.6%	1.9%	0.5%	1.1%	1.1%	
B-	399													2.0%	7.5%	11.5%	58.9%	6.3%	2.8%	8.5%	0.5%	0.3%	1.3%	0.5%
CCC+	137										0.7%			0.7%	0.7%	16.8%	18.2%	43.1%	9.5%	6.6%	0.7%	1.5%	1.5%	
CCC	41															12.2%	9.8%	31.7%	14.6%	9.8%	7.3%	4.9%	9.8%	
CCC-	593												0.2%	0.7%	1.3%	2.9%	9.1%	2.2%	0.3%	82.0%	0.3%		0.3%	0.7%
CC	7															14.3%	14.3%	28.6%	14.3%	14.3%		14.3%		
C	16															6.3%	6.3%	18.8%	18.8%	25.0%		18.8%	6.3%	
SD	25															4.0%	8.0%	16.0%	4.0%	20.0%	12.0%	8.0%	28.0%	
Not rated	1 374				0.1%		0.3%	0.7%	0.4%	0.5%	1.3%	0.9%	2.0%	1.5%	1.6%	1.4%	1.6%	0.7%		3.6%		0.1%	0.1%	83.2%

Table 23: 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	Not rated
AAA	0																							
AA+	0																							
AA	8				37.5%		25.0%	25.0%	12.5%															
AA-	26			3.8%	11.5%	26.9%	46.2%		3.8%	3.8%		3.8%												
A+	32			9.4%	6.3%	31.3%	21.9%	18.8%	3.1%	6.3%			3.1%											
A	79			7.6%	12.7%	20.3%	3.8%	16.5%	5.1%	2.5%	1.3%	11.4%	3.8%	5.1%	6.3%	2.5%		1.3%						
A-	109		0.9%	2.8%	9.2%	9.2%	11.0%	33.0%	9.2%	6.4%	9.2%	8.3%	0.9%											
BBB+	82				3.7%	8.5%	11.0%	12.2%	23.2%	12.2%	12.2%	9.8%		6.1%	1.2%									
BBB	109					0.9%	9.2%	8.3%	15.6%	21.1%	13.8%	3.7%	4.6%	5.5%	7.3%	2.8%	1.8%	0.9%	0.9%	2.8%		0.9%		
BBB-	154					0.6%	5.2%	5.8%	10.4%	14.9%	21.4%	13.6%	8.4%	5.8%	8.4%	1.9%	0.6%	2.6%						
BB+	133					2.3%	6.0%	6.0%	8.3%	18.8%	12.0%	9.8%	8.3%	9.0%	3.0%	8.3%	6.0%	2.3%						
BB	143						0.7%	0.7%	4.9%	13.3%	16.8%	12.6%	18.2%	3.5%	17.5%	3.5%	4.9%	1.4%	0.7%					1.4%
BB-	153							0.7%	0.7%	10.5%	5.2%	5.9%	13.1%	11.8%	15.0%	9.8%	10.5%	7.8%	4.6%	2.6%		0.7%	1.3%	
B+	224						0.4%			2.2%	4.9%	3.1%	3.6%	8.5%	26.3%	20.1%	13.8%	4.0%	2.7%	1.8%	2.2%	1.3%	4.5%	0.4%
B	202							0.5%		2.0%	4.5%	0.5%	3.0%	9.9%	17.8%	26.2%	16.3%	5.0%	2.5%	5.4%	1.0%	2.0%	3.5%	
B-	226									0.4%	2.2%	2.2%	1.8%	13.7%	12.8%	13.7%	23.9%	4.9%	1.8%	17.3%	0.4%	0.4%	3.1%	1.3%
CCC+	75									1.3%		1.3%	4.0%	5.3%	2.7%	25.3%	34.7%	17.3%	1.3%	5.3%			1.3%	
CCC	15								6.7%						20.0%	6.7%	6.7%	6.7%	6.7%	33.3%	13.3%			
CCC-	407									0.2%				4.9%	7.4%	10.6%	21.9%	3.4%	2.7%	46.2%	0.5%	1.5%		0.7%
CC	4													25.0%					25.0%	25.0%	25.0%			
C	7										14.3%		14.3%		14.3%		42.9%		14.3%					
SD	14													7.1%	14.3%	7.1%	14.3%	21.4%		28.6%		7.1%		
Not rated	1 339			0.3%	0.6%	1.8%	2.5%	1.5%	1.7%	4.7%		4.3%	5.1%	4.7%	7.7%	7.2%	7.1%	3.1%	0.5%	14.9%	0.1%	0.1%	0.4%	31.8%

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pdf: QH-01-25-043-EN-N ISBN 978-92-861-6012-7 doi:10.2867/2100745