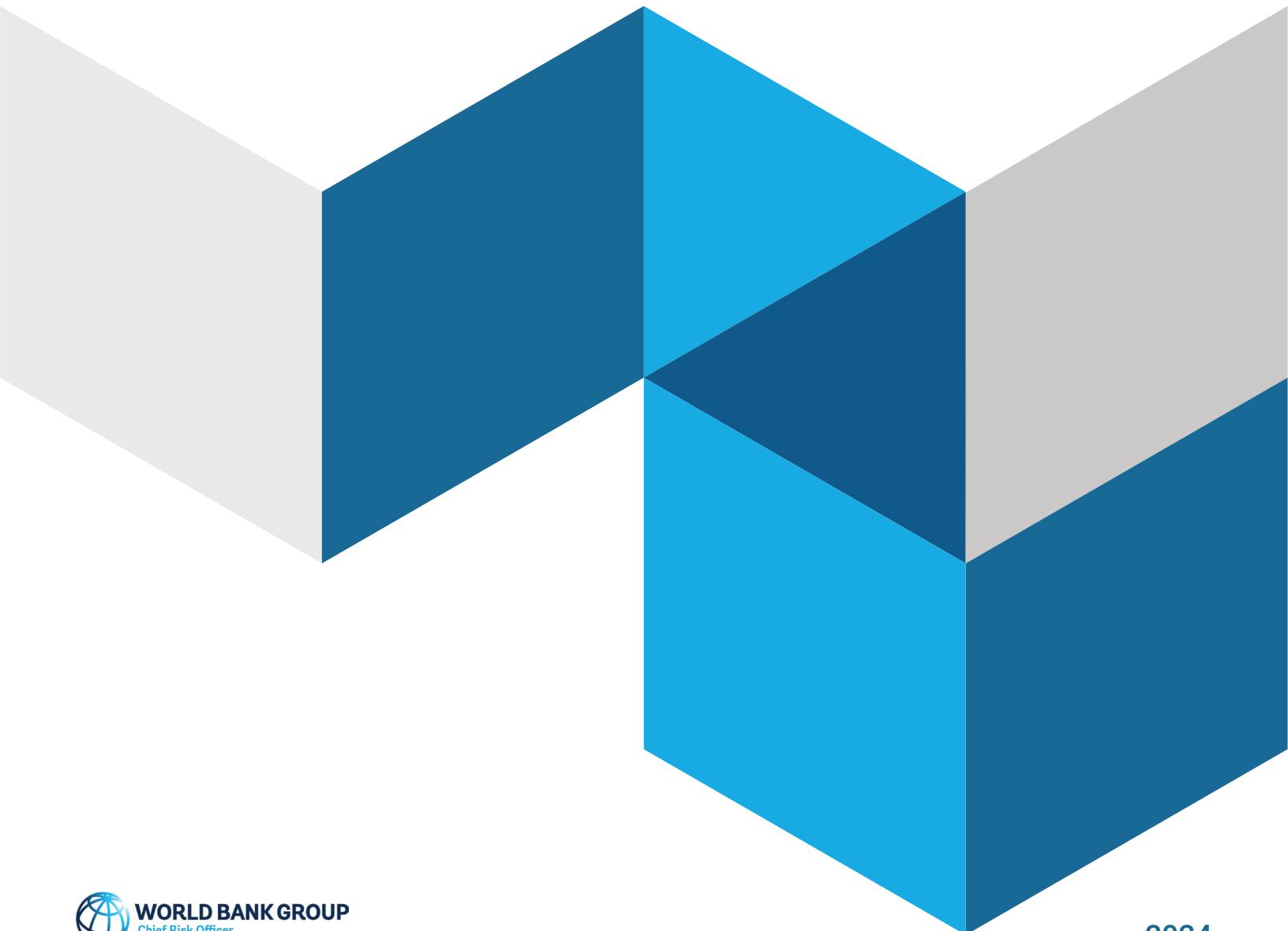


# IBRD Portfolio

## Default Rates and Loss Given Defaults



# Summary

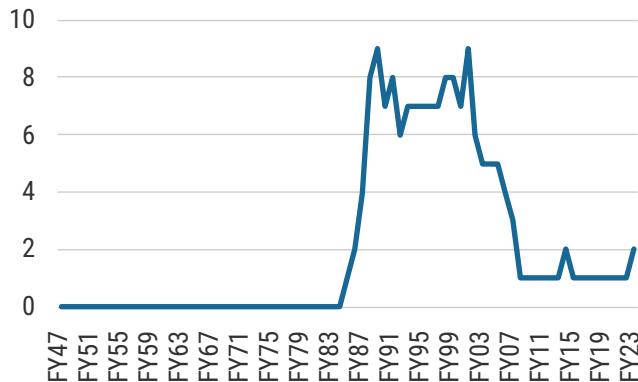
Developing countries face tremendous financing needs to meet the Sustainable Development Goals and address critical global development challenges. The World Bank is exploring a range of options to stretch its own capital and to expand private capital mobilization as part of its Evolution exercise. In this context, stakeholders have expressed interest in the Multilateral Development Banks (MDBs)' historical credit loss experience.

As the MDB with the largest and longest sovereign lending data, IBRD undertook an exercise to gather data

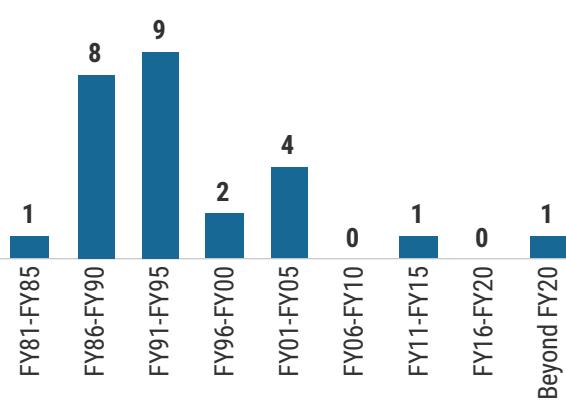
of its entire borrower default history, starting from its first default in FY1985. This report presents the key loss rate statistics (default rates and losses given default) covering the entire history of borrower defaults at the IBRD. The publication of these statistics will provide useful information for the broader stakeholder group such as credit rating agencies. IBRD will also share the data with the Global Emerging Markets Risk Database Consortium (GEMs) for the pooled MDB statistics.

## IBRD's Non-Accrual History Since Inception

**Chart 1: Number of Sovereigns in Non-accrual  
(at end FY)**

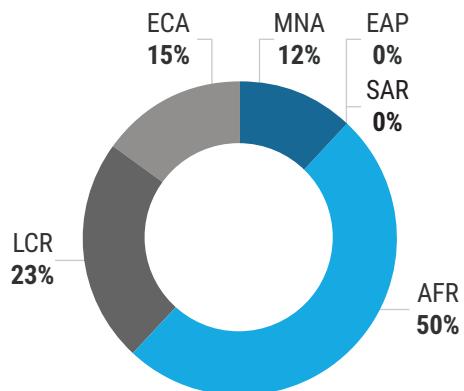


**Chart 3: Number of New Non-accruals  
(by year of entry)\***

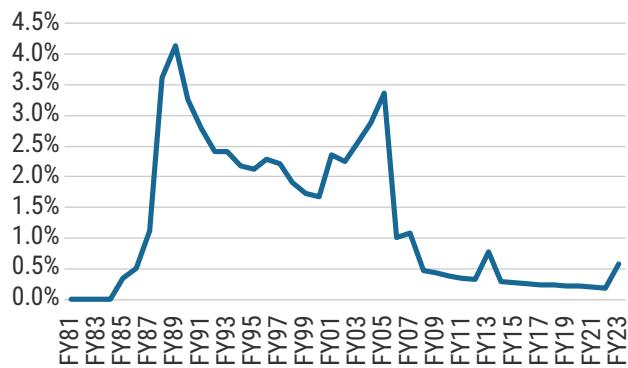


- » IBRD experienced **27** non-accrual events since it started lending in 1947, with the first default occurring in **FY85**.
- » Total IBRD non-accruals (at FY ends) peaked at **9** at end FY89 and end FY01. The number of countries in

**Chart 2: Percentage Share of Non-accrual events, by region**



**Chart 4: Exposure in Non-Accrual as a %  
of Portfolio**



non-accrual has stayed at a historical low of **1-2** range in the last 15 years.

- » IBRD's non-accrual events are spread across four regions with half of the defaults in the Africa region

\*Two non-accrual events of the same borrower with a small gap of a few months (i.e. the borrower entered non-accrual, then cleared the arrears before entering non-accrual again in a few months' time) are treated as a single default. The chart therefore shows a total of 26 non-accrual events.

(AFR) and no default in the South Asia (SAR) and East Asia and Pacific (EAP) Regions.

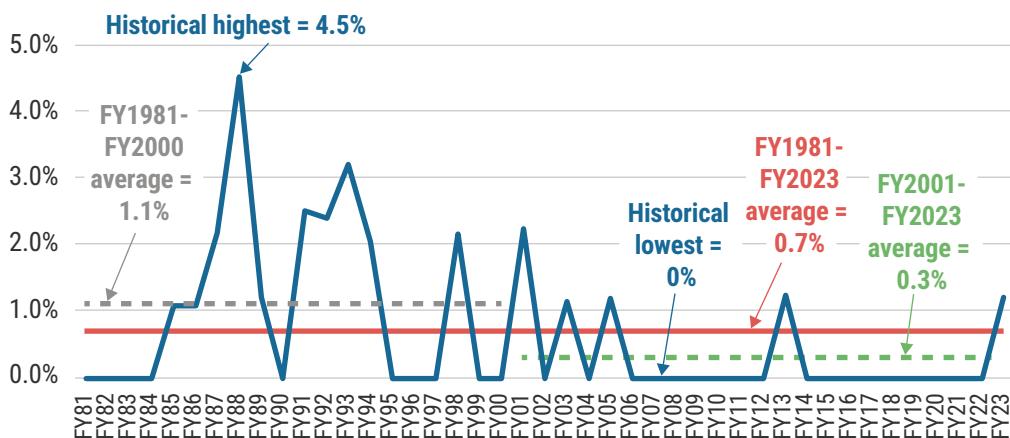
» The number of new non-accruals was highest during the FY86-95 period with 8 new non-accruals in FY86-

FY90 and a peak of 9 in FY91-FY95. There have been **2** new non-accrual events in the last 18 years since FY05.

» IBRD's largest share of non-accrual loans as a % of total portfolio outstanding peaked in FY89 at **4.1%**.

## Historical Observed Annual Default Rates of IBRD Portfolio Since Inception

**Chart 5: Historical Annual and Average Default Rate (1981-2023)**



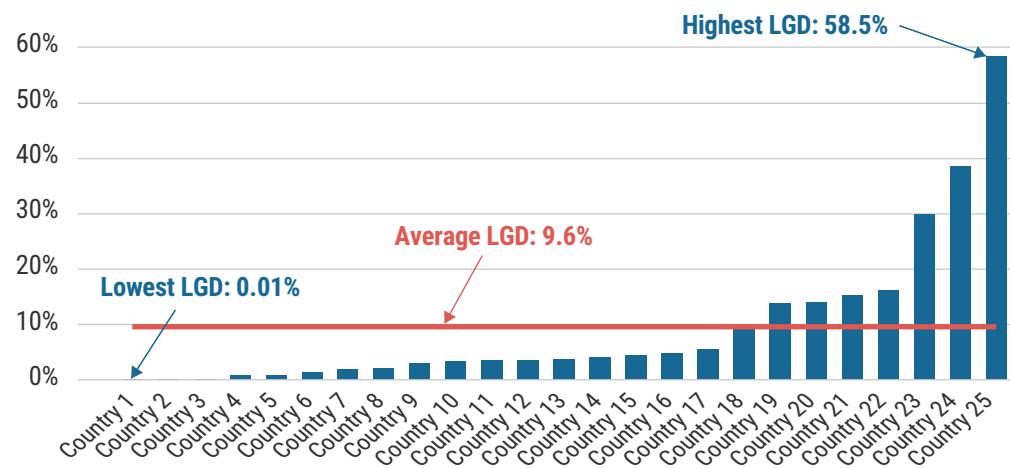
**Note:** Default Rate is the ratio of new defaults as a share of active counterparts in the portfolio at the beginning of the period. IBRD uses a six-month default definition, whereby debt service overdues that persist for more than six months would

result in a default (non-accrual) event of the counterpart. All loans from IBRD to a sovereign counterpart are placed in non-accrual status if there is a default on any loan obligation of the counterpart.

Average annual default rate of 0.7% since 1981 with highest annual rate of 4.5% and a low of 0%. These reflect IBRD's Preferred Creditor Status.

## Historical Observed Loss Given Default (LGD) Rates of IBRD Portfolio Since Inception

**Chart 6: Observed LGD for each historical default\***



**Note:** Loss Given Default for IBRD results from an economic loss due to the delay in receiving contractual principal and contractual interest. While IBRD has never experienced a write-off of contractual principal or contractual interest in any of its non-accrual events, it has suffered an economic loss as IBRD

does not charge interest on overdue interest. This economic loss is primarily driven by the length of time a country stays in non-accrual and the interest rates during the period of non-accrual.

Average LGD at 9.6%, with a high of 58.5% and a low of 0.01%. These reflect IBRD's Preferred Creditor Status.

\*Non-Accruals (one) after the cut-off date of this analysis were excluded as loss amounts are not yet crystallized and two events with a small gap of a few months were treated as a single default.

# Introduction

1. This note summarizes the key IBRD borrower default and loss statistics which are calculated based on historical data of all the loans that were involved in past default cases. Detailed data are provided in the annexes. Please note the disclaimer in paragraph 11 of this note.

## Definitions

2. **Non-accrual.** Under IBRD policies, when a loan payment is overdue by more than six months, IBRD places all loans made to, or guaranteed by, the member country into non-accrual status. This is preceded by a number of other policy actions (e.g. suspending new commitments, suspending disbursement) which are applied sequentially starting from the date a loan payment reaches 30 days overdue.
3. **Default Rate.** The default rate is the ratio of the number of new defaulted borrowers in a year to the number of borrowers with outstanding IBRD loan balance at the beginning of the year excluding borrowers that were already in non-accrual status at that time.
4. **Loss Given Default (LGD).** The LGD represents an estimate of losses that could result from a default of a loan asset. For IBRD, the loss in the event of a borrower default is limited to the loss of interest on overdue interest. This reflects IBRD's policy of not restructuring loans when a country is in non-accrual. Except for two currently outstanding non-accrual cases, IBRD had always been made whole on the full amount of overdues and never experienced a loss of contractual interest or principal in all its past non-accrual cases. However, IBRD has a policy of not charging interest on overdue interest. The late payment of overdue principal and interest therefore leads to an economic loss for IBRD due to the present value of the payments IBRD receives at the time of arrears clearance being lower than the present value of the contractual cashflows, i.e. if the non-accrual did not occur. The magnitude of the present value loss depends on the length of time the loan stays in non-accrual and the prevailing interest rates. The observed LGD discussed in this note reflects these present value losses.

# Default Rate Analysis

## Methodology

5. IBRD had a total of 27 borrower default occurrences in its entire history of nearly 80 years, with the first non-accrual occurring in Fiscal Year (FY)1985 following a significant increase in portfolio stress at the beginning of the 1980s. In this analysis, data from FY1981 is used, hence covering all historical non-accrual cases. As part of this analysis, the default rates are determined for each FY and an average annual default rate for the entire period (FY1981-2023) as well as average rates over 5-year sub-periods are calculated.

## Results of Analysis

6. The analysis shows that the average observed annual default rate for the IBRD portfolio over FY1981-2023 is 0.7%, with a low of 0% and a high of 4.5%. IBRD experienced new non-accrual events in 15 years out of its entire history of close to 80 years. The number of new non-accruals in those 15 years ranged from 1 to 4 in a single year. The highest annual default rate of 4.5% was observed in FY1988 when there were 4 new non-accruals, with new non-accrual amount accounting for approximately 2.5% of IBRD's overall outstanding loan portfolio and aggregate non-accruals reaching 3.6% of the portfolio. The share of aggregate non-accruals exposure peaked at 4.1% in FY1989. Over the last 23 years, IBRD had a total of 6 default events, significantly less compared to 20 experienced in the previous two decades, leading to a low average default rate of 0.3% during this period. Default rates again increased in FY2023 to 1.2%. Currently IBRD has two outstanding non-accrual cases from FY2001 and FY2023. The total non-accrual amount currently accounts for approximately 0.6% of IBRD's overall outstanding portfolio.

Table 1 (following page) summarizes the historical default statistics. Detailed data for individual years are provided in Annex 1.

**Table 1: IBRD Historical Default Rates**

Period	Number of New Defaults <sup>1</sup>	Average Annual Default Rate	Average of Exposure in Default Amount as % of Loan Portfolio
FY1981 – 2000	20	1.1%	1.7%
FY2001 – 2023:	6	0.3%	0.9%
FY2001 – 2005	4	0.9%	2.7%
FY2006 – 2010	0	0.0%	0.7%
FY2011 – 2015	1	0.3%	0.4%
FY2016 – 2020	0	0.0%	0.2%
FY2021 – 2023	1	0.4%	0.3%
<b>FY1981 – 2023</b>	<b>26</b>	<b>0.7%</b>	<b>1.3%</b>
<b>Low</b>		<b>0.0%</b>	
<b>High</b>		<b>4.5%</b>	

**'Note:** Among the 27 non-accrual events, there was a case of two defaults by the same borrower that took place within the same fiscal year (i.e. the borrower entered non-accrual and then cleared arrears before entering non-accrual again in a few

months' time); these two events are considered as a single default in this analysis, resulting in a total of 26 non-accrual events.

## Regional Breakdown of IBRD Non-Accruals

7. Table 2 presents the non-accrual cases and default rates for individual regions. The Africa (AFR) region accounts for half of all non-accrual cases and has the highest default rate, about double the average for all regions. The Latin America and Caribbean (LCR) region and the Middle East and North Africa (MNA) region have default rates that are close to the portfolio

average of 0.7%. The Europe and Central Asia (ECA) region has a default rate of 0.4%, which is lower than that of MNA despite having a higher number of defaults due to a larger group of borrowing countries in this region compared to MNA. IBRD has experienced no defaults in the East Asia and Pacific (EAP) region and the South Asia (SAR) region.

**Table 2: Regional Breakdown of Historical Default Rates**

Region	Defaults (FY81-FY23)	Default Rate (%)
EAP	0	0.0
SAR	0	0.0
MNA	3	0.8
ECA	4	0.4
LCR	6	0.6
AFR	13	1.6
<b>FY81 – FY23 Average</b>		<b>0.7</b>

# Loss Given Default Analysis

## Methodology

8. As IBRD's LGD is based on the economic loss from not charging interest on overdue interest, to calculate LGD, IBRD computed and compared the present value of two sets of cashflows - the contractual and actual

cashflows from all the past non-accrual events<sup>2</sup>. The LGD is derived based on the following formula, with the overall portfolio average LGD calculated as a simple mean of the LGD rates of all the defaulted borrowers:

$$\text{LGD\%} = \frac{[\text{Present Value of contractual cash flows} - \text{Present Value of actual cash flows}]}{\text{DOB}} \quad \dots (\text{A1})$$

Where;

$$\text{Present Value of Contractual cash flows} = \sum_{t=1}^{t=n} \left[ \frac{(C_{it} + C_{pt})}{(1+r_t)^t} \right] \quad \dots (\text{A2}) \&$$

$$\text{Present Value of actual cash flow} = \sum_{t=1}^{t=n} \left[ \frac{(A_{it} + A_{pt})}{(1+r_t)^t} \right] \quad \dots (\text{A3})$$

$C_{it}$  = contractual interest during non-accrual period;  $C_{pt}$  = contractual principal during non-accrual period

$A_{it}$  = actual interest during non-accrual period;  $A_{pt}$  = actual principal during non-accrual period

$n$  = time in non-accrual + 6 months as the arrear period prior to the start of the non-accrual

$\text{DOB}$  = Disbursed and outstanding loan portfolio at the start of the missed due date

$r_t$  = discount rate, reflecting average interest rates of the loan portfolio of the non-accrual borrower

<sup>2</sup>**Note:** As IBRD used to offer multi-currency pool loans as its main loan product, borrowers often had outstanding loan balances in multiple currencies when they defaulted. In such cases, the cash flows were determined separately for each of the currencies in the portfolio of a country and a

weighted average LGD for the country was then calculated. The weights used were the share of USD equivalent disbursed and outstanding balances for each currency to the total USD outstanding at the beginning of the default.

9. The analysis shows that the average observed LGD for IBRD across its full portfolio and over its entire history is 9.6%, ranging from a low of 0.01% to a high of 58.5%. The higher end of the range at 58.5% was the result of very high interest rates in excess of 10% per annum and a prolonged non-accrual period in excess of 20 years. These loans were contracted

during the high inflationary environment of the 1980's, mostly at fixed rates. The 95 and 99 percentile values are 36.9% and 53.6%, respectively. Table 3 presents a summary of the results and Chart 3 shows the LGD results for individual countries with underlying data provided in Annex 2.

Table 3: IBRD Historical LGDs

	Observed LGD	LGD-95 percentile	LGD-99 percentile
<b>Average</b>	<b>9.6%</b>		
Low	0.01%	36.9%	53.6%
High	58.5%		

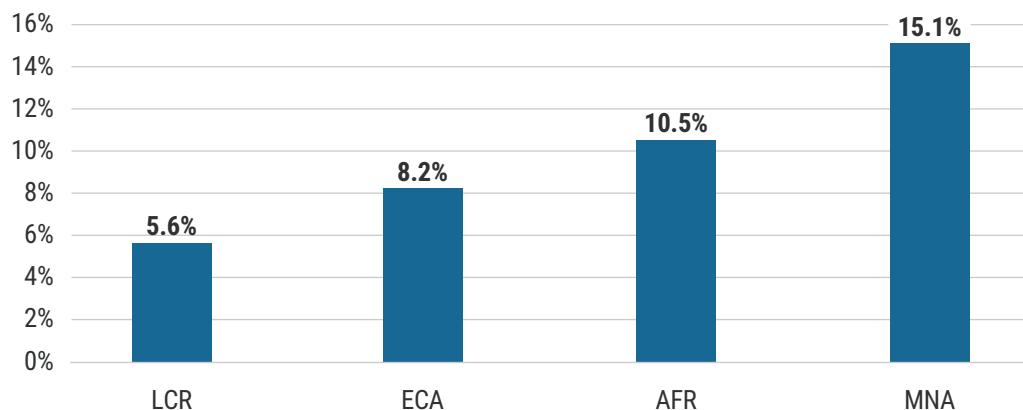
## Regional Breakdown of LGDs

### 10. Chart 7 shows the breakdown of LGDs by region.

The LGDs for non-accrual cases in the ECA and AFR regions are largely in line with the portfolio

average while those for the MNA and LCR regions are respectively higher and lower than the average.

**Chart 7: Regional Breakdown of IBRD Historical LGDs**



## Disclaimer

11. This analysis is provided for information purposes only. The results reflect IBRD's Preferred Creditor Status. These results differ significantly from published historical data regarding default rates to other creditors, and should not be regarded as indicative of results that other creditors may experience. They also reflect IBRD's historical experience, which is not necessarily indicative of future performance. While IBRD may publish updated information on a discretionary basis in the future, it assumes no duty to provide such updates. Other parties should make lending and investment decisions based on their own independent

decisions as to whether such transactions are appropriate for them based on their own judgment and circumstances, and with advice from advisors as they deem necessary. While IBRD has made reasonable efforts to confirm the data presented, it makes no representations or warranties regarding the accuracy or completeness of the information. Likewise, while IBRD believes that the results are based on reasonable assumptions and methodologies, the use of other assumptions and methodologies might lead to different conclusions.

## Annex 1: IBRD Historical Observed Default Rates

Period	New Defaults	Total number of countries at start of FY	Default Rate
FY81	0	90	0.0%
FY82	0	90	0.0%
FY83	0	90	0.0%
FY84	0	91	0.0%
FY85	1	92	1.1%
FY86	1	92	1.1%
FY87	2	91	2.2%
FY88	4	88	4.5%
FY89	1	82	1.2%
FY90	0	80	0.0%
FY91	2	79	2.5%
FY92	2	83	2.4%
FY93	3	93	3.2%
FY94	2	97	2.1%
FY95	0	97	0.0%
FY96	0	93	0.0%
FY97	0	93	0.0%
FY98	2	92	2.2%
FY99	0	91	0.0%
FY00	0	93	0.0%
FY01	2	89	2.2%
FY02	0	87	0.0%
FY03	1	86	1.2%
FY04	0	87	0.0%
FY05	1	83	1.2%
FY06	0	80	0.0%
FY07	0	80	0.0%
FY08	0	76	0.0%
FY09	0	79	0.0%
FY10	0	83	0.0%
FY11	0	81	0.0%
FY12	0	81	0.0%
FY13	1	80	1.3%
FY14	0	81	0.0%
FY15	0	82	0.0%
FY16	0	80	0.0%
FY17	0	78	0.0%
FY18	0	78	0.0%
FY19	0	79	0.0%
FY20	0	80	0.0%
FY21	0	80	0.0%
FY22	0	79	0.0%
FY23	1	82	1.2%
<b>Average</b>			<b>0.7%</b>
<b>Low</b>			<b>0.0%</b>
<b>High</b>			<b>4.5%</b>

**Note:** Among the 27 non-accrual events, there was a case of two defaults by the same borrower that took place within the same fiscal year (i.e. the borrower entered non-accrual and then cleared arrears before entering non-accrual again in a few

months' time); these two events are considered as a single default in this analysis, resulting in a total of 26 non-accrual events.

## Annex 2: IBRD Historical Observed LGD – By Country in Non-Accrual

<b>Country</b>	<b>LGD</b>
Country 1	0.01%
Country 2	0.3%
Country 3	0.3%
Country 4	0.9%
Country 5	0.9%
Country 6	1.5%
Country 7	2.0%
Country 8	2.2%
Country 9	3.1%
Country 10	3.3%
Country 11	3.6%
Country 12	3.6%
Country 13	3.8%
Country 14	4.2%
Country 15	4.6%
Country 16	4.9%
Country 17	5.6%
Country 18	9.5%
Country 19	13.8%
Country 20	14.0%
Country 21	15.3%
Country 22	16.2%
Country 23	30.0%
Country 24	38.6%
Country 25	58.5%
<b>Average</b>	<b>9.6%</b>
<b>Low</b>	<b>0.0%</b>
<b>High</b>	<b>58.5%</b>

**Notes:**

1: This excludes a country that entered into non-accrual in FY23 and remains in non-accrual, given the short duration.

2: Two defaults by the same borrower that took place within a short time span of a few months and for a short period of less than a month considered as a single default.

## Annex 3: IBRD Historical Non-Accrual Events

Country	Time in Non Accrual (Yrs)	Outstanding at entry into non-accrual (USD Bn)	Year of Entry and Exit from Non-accrual																																					
			FY85	FY86	FY87	FY88	FY89	FY90	FY91	FY92	FY93	FY94	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05	FY06	FY07	FY08	FY09	FY10	FY11	FY12	FY13	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22
Country 1	6.8	0.1																																						
Country 2	0.3	0.1																																						
Country 3	3.6	0.1																																						
Country 4	15.4	0.6																																						
Country 5	20.5	0.1																																						
Country 6	3.8	0.5																																						
Country 7	3.7	0.5																																						
Country 8	4.7	0.01																																						
Country 9	5.6	1.0																																						
Country 10	1.2	0.5																																						
Country 11	2.4	0.3																																						
Country 12	14.0	0.0																																						
Country 13	2.8	0.2																																						
Country 14	0.04	0.3																																						
Country 15	1.4	0.1																																						
Country 16	9.8	0.4																																						
Country 17	13.3	1.2																																						
Country 18	7.0	0.0																																						
Country 19	8.6	0.1																																						
Country 20	0.4	0.002																																						
Country 21	3.8	0.1																																						
Country 22	0.9	0.6																																						
Country 23*	22.8	0.5																																						
Country 24	4.1	0.0																																						
Country 25	3.4	0.5																																						
Country 26	0.2	0.7																																						
Country 27*	0.7	1.0																																						

\* Countries currently in non-accrual

## Abbreviations

- AFR:** Africa
- DOB:** Disbursed and Outstanding Principal Balance
- EAP:** East Asia and Pacific
- ECA:** Europe and Central Asia
- FY:** Fiscal Year, ending June 30 for IBRD
- GEMs:** Global Emerging Markets Risk Consortium
- IBRD:** International Bank for Reconstruction and Development
- LCR:** Latin America and Caribbean
- LGD:** Loss Given Default
- MDB:** Multilateral Development Bank
- MNA:** Middle East and North Africa
- SAR:** South Asia