ADB SOVEREIGN DEFAULT AND LOSS RATES





ASIAN DEVELOPMENT BANK

ABBREVIATIONS

ADB	-	Asian Development Bank
ADF	_	Asian Development Fund
LGD	_	loss given default
OCR	-	ordinary capital resources

GLOSSARY

Nonaccrual Status	Accounting status assigned to transactions (i.e., loans) in arrears for more than 180 days under which the Asian Development Bank no longer recognizes interest income.
Default Rate	The ratio of borrowers that transitioned from performing to nonaccrual status in a year to the number of performing borrowers in the same year.
Arrears Ratio	The ratio of the outstanding loans for borrowers in nonaccrual status to

NOTES

- The fiscal year of the Asian Development Bank ends on 31 December. In this report, "\$" refers to United States dollars. (i)
- (ii)

the total outstanding loans.

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I. INTRODUCTION

This report provides data on default and loss rates in the sovereign lending of the Asian Development Bank (ADB) from 1990 to 2023. Its analysis finds zero loss of principal, interest on principal, or fees on the more than \$250 billion of loans disbursed during this 34-year period. The average default rate was 0.54% for ADB's ordinary capital resources (OCR) portfolio, and during 2010–2021 the bank experienced no new defaults in its sovereign operations.

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific while sustaining its efforts to eradicate extreme poverty. ADB assists its members and partners by providing loans, technical assistance, grants, and equity investments to promote social and economic development. The bank maximizes the development impact of its assistance by facilitating policy dialogue, providing advisory services, and mobilizing financial resources through cofinancing with public and private partners.

This report summarizes the credit performance of ADB's sovereign operations from 1990 to 2023. It is meant for shareholders, financing partners, investors, academics, credit rating agencies, and anyone else who may be interested in a multilateral development bank's default experience. Its objective is to build a better understanding of the risks associated with sovereign debt originated by ADB.

ADB regularly contributes credit data to the Global Emerging Markets Risk Database Consortium (GEMs). The consortium, which includes data from 25 multilateral development banks and development finance institutions, provides insights into the risks associated with investing in emerging markets. The transparency efforts of ADB and GEMs are in line with the recommendations from the Independent Expert Panel commissioned by the G20. These recommendations aim to enhance data transparency as a part of an overall effort to optimize balance sheets and increase the lending capacity of MDBs. The analysis reconfirms the strength of ADB's relationships with its developing member countries and reflects the Preferred Creditor Treatment accorded to ADB. During the 34 years covered by the study, ADB has never experienced a loss on principal, interest, or fees on the more than \$250 billion of loans it has disbursed in its sovereign operations. The average default rate for the OCR portfolio is 0.54%, comparable to an investment-grade portfolio.

ADB's sovereign lending operations have two categories: concessional fixed-rate lending to borrowers with a lower per capita income and limited creditworthiness and regular lending based on the market's floating reference rate. This report compares the credit performance of ADB's OCR from 1990 to 2023 and the Asian Development Fund (ADF) from 1990 to 2016 before its lending operation was combined with OCR. It also demonstrates the credit performance of a combined portfolio, which includes both OCR and ADF.

The ADF was established in 1974 to mobilize concessional resources for ADB developing member countries (DMCs) facing the most significant challenges with poverty and other issues. At the outset, the ADF did not borrow to leverage the assets of the fund, as it was considered challenging to persuade capital market investors to purchase bonds that were to be used for concessional lending and grants to borrowers that did not have a track record of servicing foreign currency debt. By 2014, 40 years after the ADF's inception, an extensive track record of regular ADF loan service payments was evident, and ADB initiated its work to enable a more efficient financial structure. As a result, effective 1 January 2017, the ADF lending operations were combined with ADB's OCR. Since then, ADB has provided regular market-based OCR loans to DMCs with higher per capita income and creditworthiness, and concessional OCR loans are made to DMCs with lower per capita income and creditworthiness.

The report covers 34 years of data, including 2023, for which ADB released its audited annual financial statements.

II. DEFINITIONS AND METHODOLOGY

A. Data

This report presents the credit performance of ADB's OCR from 1990 to 2023¹ and of the ADF from 1990 to 2016 before its lending operation was combined with OCR. For consistency and accuracy in applying data definitions, the reported period starts with the adoption of ADB's nonaccrual policy in 1990. Results are presented on a combined basis, with results for the separate portfolios shown in Appendix 3.

In 2022, loans to one concessional borrower representing 0.35% of the outstanding loans portfolio were placed in nonaccrual status. Although ADB has received some repayments from this borrower, the overdue balance was not fully cleared at the end of June 2024. For this reason, the data related to this ongoing nonaccrual event has not been included in the statistics disclosed in this report.

Nonaccrual status. ADB established its nonaccrual policy in 1990. Based on this policy as of 2023,² ADB places sovereign loans in nonaccrual status if the principal, interest, or other charges with respect to any such loans is overdue by more than 180 days or, in the case of loans that are not yet overdue by more than 180 days, when there is an expectation that loan service payments will not be collected when they become due, at the point when such information is known. Once a loan to a borrowing ADB member is placed in nonaccrual status, all other loans to the same borrower are placed in nonaccrual status.

¹ OCR data from 2017 to 2023 includes the concessional loans made from ADB's OCR after the discontinuation of ADF lending activities.

² From 1990 to 1992, ADB places a sovereign borrower in nonaccrual status if principal or service charges with respect to any such loan are overdue by one year. From 1993, it was revised to loans that are overdue by six months.

B. Default Rate

Default rate. In this report, the default rate is defined as the ratio of the number of borrowers that transitioned from performing to nonaccrual status in a year to the number of performing borrowers in the same year.

Performing borrower. A borrower is performing if it is not in nonaccrual status and has an outstanding sovereign loan to either ADB's OCR or ADF at the end of the year.

The default rate is calculated at a country level on an annual basis. Under the default rate definition, a borrower in nonaccrual status for multiple consecutive years is only counted as in default for the year it entered nonaccrual status.

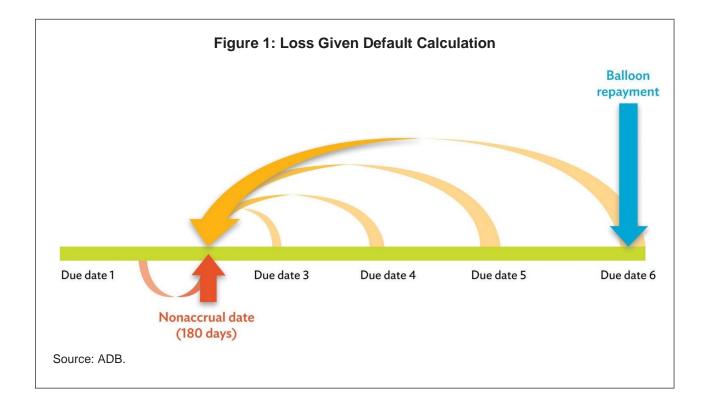
With the pooling of data from ADB's OCR and ADF for the period 1990-2016, a country may be observed in both ADB's OCR and ADF data. A nonaccrual in either ADB's OCR or ADF in this period is only counted as one default. Similarly, a country with outstanding loans to both ADB's OCR and ADF is only counted as one borrower.

C. Loss Given Default

Loss given default. Loss given default (LGD) in ADB's sovereign operations represents economic loss from loans and financial guarantees in nonaccrual status. With the exception of the borrower currently in nonaccrual status, borrowers that have entered nonaccrual status to ADB have all historically repaid the overdue principal and interest amounts. ADB also does not charge interest on interest. Consequently, while all arrears have eventually been repaid, ADB has incurred an amount of loss given default, namely the time value of money lost associated with not charging interest on overdue interest amounts. Sovereign LGD then depends on two main variables, which are (i) the length of time that the loan is in nonaccrual status and (ii) the interest rate.

LGD calculation. ADB's economic loss or LGD from nonaccrual events is calculated as the difference between the discounted value of expected cashflows and the discounted value of the actual payments. Both are discounted to the country's default date using the contractual interest rate. LGD is calculated at a loan level which is then aggregated at the country level and then finally pooling ADB's OCR and ADF results. The LGD percentage is then computed as the aggregated LGD over the total principal amount of the loan at default for the country.

Figure 1 overleaf illustrates the principle of the LGD calculation. The following paragraph shows the formula for calculating the LGD as a percentage of the total principal amount for the country in nonaccrual status.



LGD % per Country Calculation Formula:

$$LGD \% = \frac{\left(PV_{Expected} - PV_{Actual}\right)}{Principal}$$
$$= \frac{\sum_{i \in \{ADB, ADF\}} \sum_{j=1}^{m} \sum_{t=1}^{n} \left(\frac{\left(EI_{i,j,t} + EP_{i,j,t}\right) - \left(AI_{i,j,t} + AP_{i,j,t}\right)}{\left(1 + r_{i,j,t}\right)^{t}}\right)}{\sum_{i \in \{ADB, ADF\}} \sum_{j=1}^{m} EP_{i,j,1}}$$

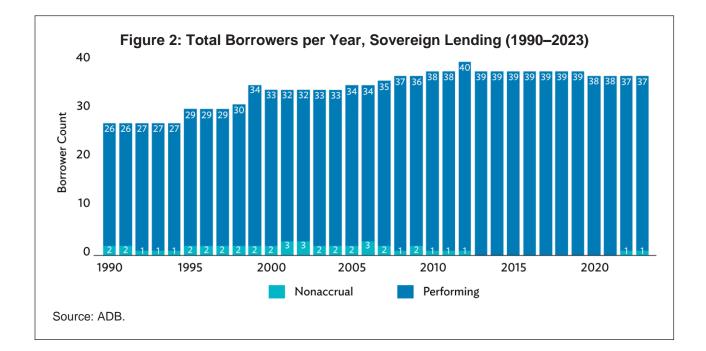
Where:

 $EI_{i,j,t}$ = expected interest payment for loan *j* in portfolio *i* at time *t* $EP_{i,j,t}$ = expected principal payment for loan *j* in portfolio *i* at time *t* $AI_{i,j,t}$ = actual interest payment for loan *j* in portfolio *i* at time *t* $AP_{i,j,t}$ = actual principal payment for loan *j* in portfolio *i* at time *t* $r_{i,j,t}$ = contractual interest rate for loan *j* in portfolio *i* at time *t*



III. DEFAULT RATE ANALYSIS

From 1990 to 2023, ADB's sovereign OCR and ADF lending portfolios had 44 borrowers, of which 8 entered nonaccrual status. Figure 2 shows the number of borrowers in nonaccrual status in each year together with the performing borrowers. The number of borrowers in nonaccrual status in a year peaked at 3. The number of performing borrowers peaked at 40, in 2012. The number of borrowers has increased since 1990 while the number those in nonaccrual status has decreased. Appendix 3 illustrates the results separately for the OCR and ADF portfolios.



The timing, amount, and duration of 10 nonaccrual events from 8 unique borrowers experienced by ADB are shown in Figure 3.³ No other ADB member has defaulted to it. Appendix 2 illustrates the difference between ADB's OCR and ADF.

Borrower	Years in Nonaccrual	Outstanding at Nonaccrual (\$ million)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022
Afghanistan	11.9	573.72ª																																	
Cambodia	1.8	0.64																																	
FSM	0.2	48.70																																	
Marshall Islands	1.3	64.09																																	
Myanmar	14.1	426.41																																	
Nauru	7.9	2.30																																	
Solomon Islands	4.4	82.76 ^b																																	
Viet Nam	2.8	20.31																																	
FSM = Federated S For Afghanistan, t For the Solomon I Source: ADB.	his is the sum o	f \$19.72 million a									<u> </u>							<u> </u>		<u> </u>									·	ivel	y.				

As indicated in Table 1, the average length of a nonaccrual event in the combined sovereign lending portfolio has been 5.6 years, ranging from as short as 0.2 years to as long as 14.1 years.

Table 1: Nonaccrual Duration Summary

Default Duration Summary Statistic	Duration (year)
Average	5.6
Max	14.1
Min	0.2

Source: ADB.

³ ADB placed on hold its regular assistance to Afghanistan effective 15 August 2021. Effective 1 February 2021, ADB placed a temporary hold on sovereign project disbursements and new contracts in Myanmar.

Default Rates in the combined portfolio. From 1990 to 2023, 10 nonaccrual events were observed from 8 unique borrowers. The average default rate over the 34-year period is 0.89%, with a maximum of 6.67% and a minimum of 0.00%, as presented in Table 2. The maximum rate of 6.67% corresponds to the two new nonaccruals in 1990, when the number of borrowing members was lower than it is today. Appendix 1 shows the default frequency per year and portfolio in detail.

Default Rate	Value
Summary Statistic	(%)
Average	0.89
Max	6.67
Min	0.00

Source: ADB.

The incidence of new nonaccruals has decreased over time and as a proportion of the portfolio. Figure 4 shows that four borrowing members entered nonaccrual status from 1990 to 1995, followed by a successively lower number of nonaccruals in succeeding years. Between 2010-2021 there were no new sovereign nonaccruals. Appendix 3 shows the results between ADB's OCR and ADF separately.

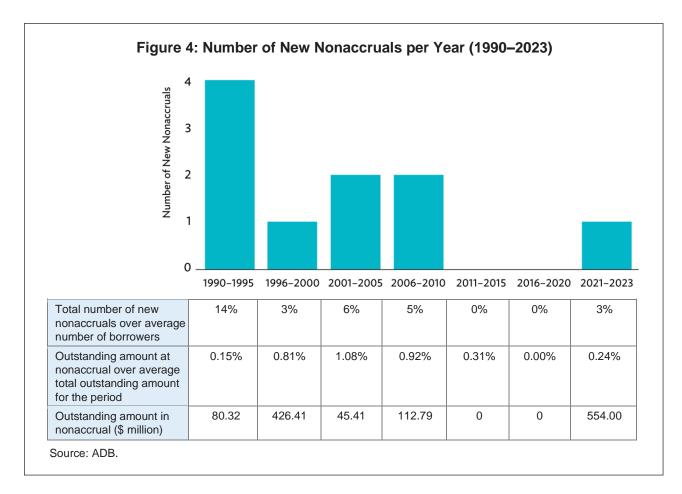


Figure 5 shows the annual default rate and the average annual default rate from 1990 to 2023. ADB's default rate averages 0.89%. There were zero new nonaccruals from 2010 to 2021.

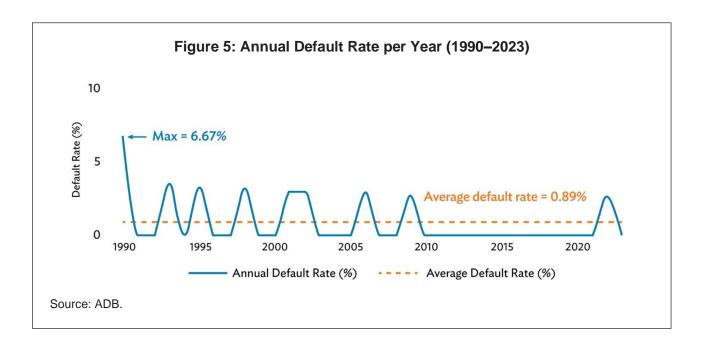
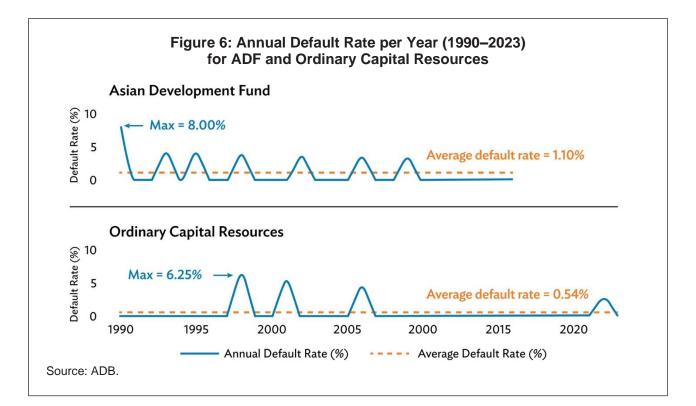
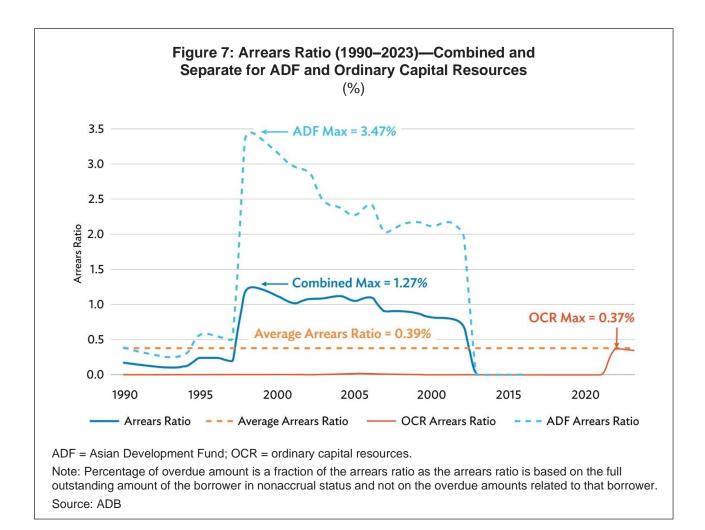


Figure 6 shows the annual default rate per year for OCR and ADF separately. OCR experienced a lower average default rate of 0.54% while ADF experienced an average default rate of 1.10%.



The arrears ratio is the amount of outstanding loans to borrowers in default as a percentage of the total outstanding loans. Figure 7 shows that the arrears ratio for the combined portfolios peaked at 1.27% in 1998. During 2013–2021, ADB's arrears ratio was zero.



IV. LOSS GIVEN DEFAULT ANALYSIS

As all principal and interest have been recovered on all loans classified as nonaccrual, loss given default for ADB represents the economic loss resulting from not charging interest on interest for loans declared nonaccrual.

Table 3 summarizes key LGD statistics. The average LGD in the combined portfolio is 3.83%. The maximum LGD is 16.06%, and the minimum LGD is 0.004%. Ten defaults were observed, but only for eight countries. Two countries emerged from nonaccrual status but reentered, with one still in nonaccrual status.

LGD Summary Statistic	Value (%)
Average	3.83
Max	16.06
Min	0.004

Table 3: Loss Given Default Summary

Source: ADB.

ADB participates in debt relief under the enhanced initiative for heavily indebted poor countries.⁴ The heavily indebted poor countries debt relief for the borrower in nonaccrual status occurred after it settled its overdue loan service payments in 2002. It is applied only when the remaining loan service payments are made; hence, it does not affect the LGDs presented in this report.

⁴ Asian Development Bank. 2008. Policy for Providing Heavily Indebted Poor Countries Relief from Asian Development Fund Debt and Proposed Debt Relief to Afghanistan.

Table 4 below compares the LGD between the OCR and ADF portfolios. While the total principal of \$7 million for OCR defaults (excluding the ongoing OCR default) is significantly lower than the sum of ADF defaults at \$445 million, the average LGD of OCR at 7.35% is higher than ADF's 2.79%.⁵ Despite OCR's higher contractual interest rate, ADF has a higher maximum due to a lengthy default by one of the borrowing countries.

	LGD %
OCR	
Average	7.35
Max	10.99
Min	0.61
ADF	
Average	2.79
Max	16.06
Min	0.004

Table 4: Loss Given Default Summary for Ordinary Capital Resources and ADF

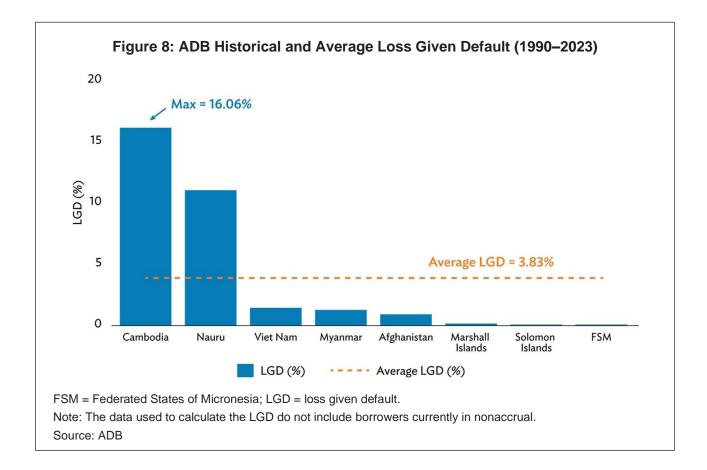
ADF = Asian Development Fund;

OCR = ordinary capital resources.

Source: ADB.

⁵ OCR lending generally has higher interest rates than ADF lending hence the higher perceived opportunity cost from not charging interest on overdue interest, i.e., higher economic loss in percent of overdue principal.

Figure 8 below shows ADB's historical observed LGD as a chart together with the average historical LGD at 3.83%.





APPENDIXES

APPENDIX 1: DEFAULT RATES IN ADB SOVEREIGN LENDING PORTFOLIO (1990-2023)

	Ordinary	Capital Res	ources	Asian	Developme	nt Fund		Combined				
Year	Performing Borrowers	New Defaults	Default Rate (%)	Performing Borrowers	New Defaults	Default Rate (%)	Performing Borrowers	New Defaults	Default Rate (%)			
1990	15	0	0	23	2	8.00	28	2	6.67			
1991	15	0	0	21	0	0	26	0	0			
1992	15	0	0	22	0	0	27	0	0			
1993	13	0	0	24	1	4.00	28	1	3.45			
1994	13	0	0	23	0	0	27	0	0			
1995	14	0	0	24	1	4.00	30	1	3.23			
1996	14	0	0	24	0	0	29	0	0			
1997	15	0	0	24	0	0	29	0	0			
1998	15	1	6.25	26	1	3.70	31	1	3.12			
1999	18	0	0	27	0	0	34	0	0			
2000	17	0	0	27	0	0	33	0	0			
2001	18	1	5.26	27	0	0	33	1	2.94			
2002	17	0	0	28	1	3.45	33	1	2.94			
2003	17	0	0	28	0	0	33	0	0			
2004	18	0	0	28	0	0	33	0	0			
2005	20	0	0	29	0	0	34	0	0			
2006	22	1	4.35	29	1	3.33	34	1	2.86			
2007	24	0	0	29	0	0	35	0	0			
2008	26	0	0	31	0	0	37	0	0			
2009	28	0	0	30	1	3.23	37	1	2.63			
2010	29	0	0	31	0	0	38	0	0			
2011	30	0	0	31	0	0	38	0	0			
2012	31	0	0	31	0	0	40	0	0			
2013	27	0	0	33	0	0	39	0	0			
2014	29	0	0	33	0	0	39	0	0			
2015	30	0	0	33	0	0	39	0	0			
2016	27	0	0	33	0	0	39	0	0			
2017 ^a	39	0	0				39	0	0			
2018	39	0	0				39	0	0			
2019	39	0	0				39	0	0			
2020	38	0	0				38	0	0			
2021	38	0	0				38	0	0			
2022	38	1	2.56				38	1	2.56			
2023	37	0	0				37	0	0			
Total								10				

ADF = Asian Development Fund; OCR = ordinary capital resources.

^a ADB's OCR data from 2017 to 2023 includes the concessional OCR loans from its merger with the ADF. Hence, from 2017 to 2023, ADB's combined data is identical to ADB's OCR data.

Source: ADB.

APPENDIX 2: NONACCRUAL EVENTS IN ADB SOVEREIGN PORTFOLIO

Ordinary Capital Resources

Borrower	Years in Nonaccrual	Outstanding at Nonaccrual (\$ million)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2040	2010	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	0	2023
Afghanistan	Ongoing	554.00																																	
Marshall Islands	1.3	3.82																																	
Myanmar	5.1	0.86																																	
Nauru	7.9	2.30																																	

Asian Development Fund

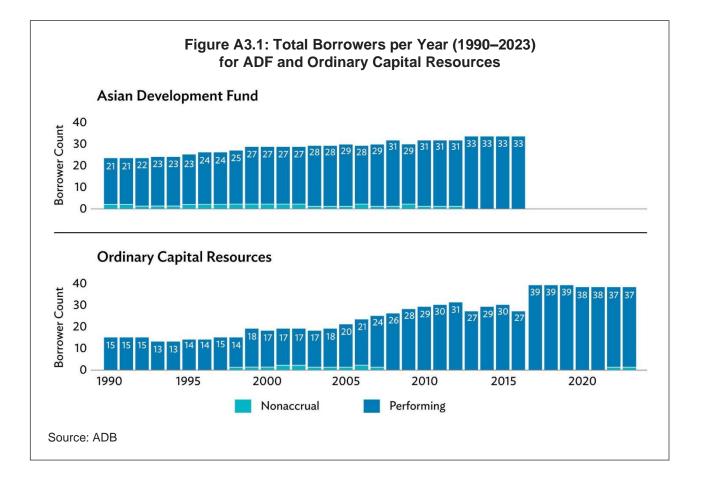
Borrower	Years in Nonaccrual	Outstanding at Nonaccrual (\$ million)	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Afghanistan	9.9	19.72																																		
Cambodia	1.8	0.64																																		
FSM	0.2	48.70																																		
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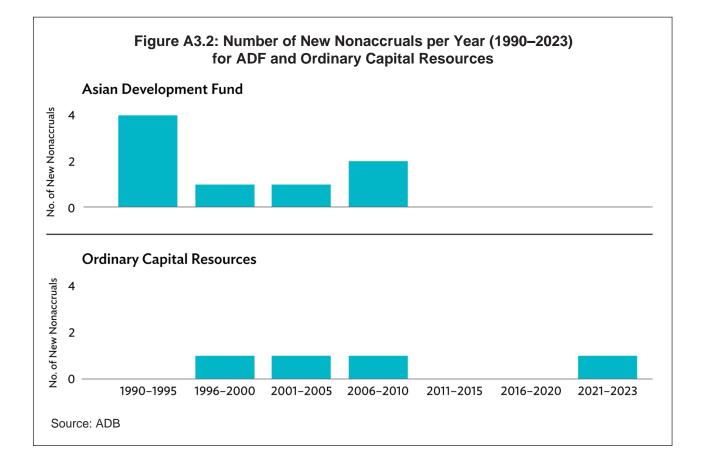
FSM = Federated States of Micronesia.

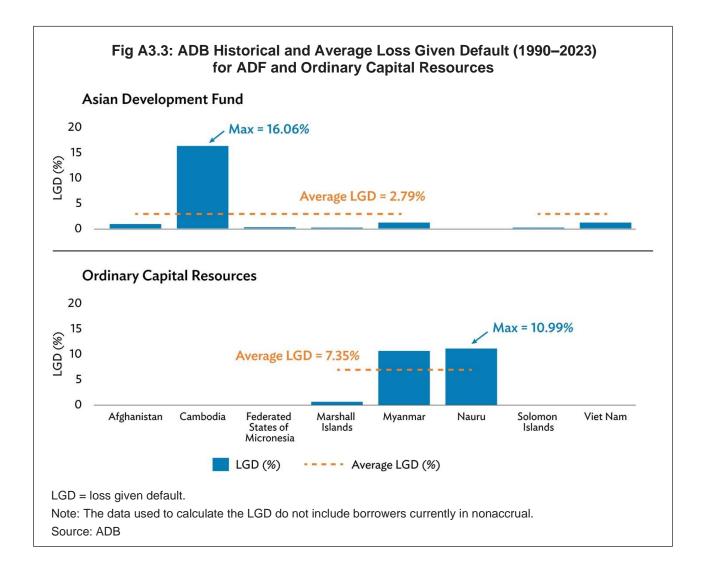
^a For the Solomon Islands, this is the sum of \$39.65 million and \$43.11 million outstanding at nonaccrual at the beginning of 1995 and 2002, respectively. Note: Outstanding at nonaccrual amounts are based on the borrower's outstanding loans at the beginning of the year of the default. The data presented in this report are calculated starting from 1990 when the nonaccrual policy was adopted. Consequently, Cambodia and Viet Nam are assumed to have entered nonaccrual status in 1990 rather than at the date the loan balance was overdue for more than 180 days in years before 1990.

Source: ADB.

APPENDIX 3: DEFAULT DATA COMPARISON FOR ADB ORDINARY CAPITAL RESOURCES AND ADF LENDING ACTIVITIES







About the Asian Development Bank

ADB is committed to achieving a prosperous, inclusive, resilient, and sustainable Asia and the Pacific, while sustaining its efforts to eradicate extreme poverty. Established in 1966, it is owned by 69 members—49 from the region. Its main instruments for helping its developing member countries are policy dialogue, loans, equity investments, guarantees, grants, and technical assistance.



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