

Context

This package supports the study “**Managing Agricultural Credit Risk in the Face of Natural Disasters**”. It contains data, outputs, and documentation for reproducibility following World Bank guidance.

Data Statement

Dataset	Source	Availability
ACRM Study Charts Reproducibility.xlsx	Interviews conducted by the team	Disclosed with the reproducibility package after removing the data from countries
Share of employment in agriculture.xls	WDI indicator SL.AGR.EMPL.ZS	https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS
Share of GDP in agriculture.xls	WDI indicator NV.AGR.TOTL.ZS	https://data.worldbank.org/indicator/NV.AGR.TOTL.ZS
Table 3_Summary of disaster events per country.xlsx	EM-DAT custom request	https://doc.emdat.be/docs/data-structure-and-content/emdat-public-table/

How to Reproduce

1. **Figure 3** (only code-based figure):

Ensure R and the following packages are installed:

- rmarkdown
- tidyverse (includes dplyr, ggplot2, readr)
- readxl
- scales

Run from the package folder: `rmarkdown::render("Figure 3_Reproducibility.Rmd")`

This script reads WDI inputs and bank lending data, calculates shares for 2023, and saves outputs to `outputs/figures/`.

2. **Other figures/tables:**

Derived from Excel workbooks (ACRM Study Charts-Reproducibility.xlsx and the tab “Data for Pivot”).

Description of exhibits

In the following table, the outputs of each table and figure are explained.

Table/Figure	Description
Figure 1	Calculation is embedded in the Fig 1 tab.
Figure 2	Calculation is embedded in the Fig 2 tab.
Figure 3	Results can be reproduced using R code.
Table 3	Data were downloaded from EM-DAT based on a custom request. For each country-year, the number of disaster occurrences was calculated by disaster type.
Table 4	Summarize the average outstanding loan portfolio by financing institution type.
Figure 4	Calculation is embedded in the Fig 4 tab.
Figure 5	Calculation is embedded in the Fig 5 and Fig 6 tab.
Figure 6	Calculation is embedded in the Fig 5 and Fig 6 tab.
Table 5	Summarize the average PAR1 loan portfolio by financing institution type.
Table 6	By financing institution type, the average percentage of PAR1 considered viable and the average percentage of viable borrowers that repaid their loans were calculated.
Figure 7	Calculation is embedded in the Fig 7 tab.
Figure 8	Calculation is embedded in the Fig 8 tab.
Figure 9	Calculation is embedded in the Fig 9 tab.
Table 7	Summarize the average agricultural loan written off after a disaster by different impact assessment. Data for the Type of Assessment is in column AD of the Data for PIVOT (29 FIs).
Figure 10	Calculation is embedded in the Fig 10 tab.
Figure 11	Calculation is embedded in the Fig 11 tab.
Table 8	Average of the effectiveness of forbearance measures by financial institution type.
Table 9	Summarize the average percentage of loans written off by different forbearance measures.
Table 10	Calculate the average of loan defaults, percentage of agricultural portfolio, percentage of total portfolio after a disaster, and total amounts written off by financial institution type. The amount written off is the product of the average % of total portfolio written off and the average size of outstanding loan portfolio.
Table 11	Average percentage of affected borrowers benefiting from forbearance measures and new credit provision by financial institution type.
Table 12	Summarize the average percentage of agricultural loan portfolios written off after the most recent disaster, and agricultural loans written off as a share of total loan portfolio, by loan portfolio size.

Table 13	Summarize the average percentage of agricultural loan portfolios written off after the most recent disaster, by whether financial institutions have tailored agricultural loan products.
Table 14	Summarize the average percentage of agricultural loan portfolios written off after the most recent disaster, by whether financial institutions have specialized loan officers on staff.
Table 15	Summarize the average percentage of agricultural loan portfolios written off after the most recent disaster, by damage assessment methodology.
Table 16	Summarize the average percentage of agricultural loan portfolios written off after the most recent disaster, by whether financial institutions have dedicated default policies and procedures.
Figure 12	Calculation is embedded in the Fig 12 tab.
Figure 13	Calculation is embedded in the Fig 13 tab.