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African Debt Database**

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Africa’s Domestic Debt Boom: Evidence from the African Debt Database*

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Abstract

This paper introduces the African Debt Database (ADD) - a new, comprehensive dataset that traces both domestic and external debt instruments at a granular level. The main innovation is a detailed mapping of Africa’s domestic debt markets, drawing on rich, new data extracted from government auction reports and bond prospectuses. The database covers over 50,000 individual government loans and securities issued by 54 African countries between 2000 and 2024, amounting to a total of USD 6.3 trillion in debt. For each instrument, it provides harmonized micro-level information on currency, maturity, interest rates, instrument type, and creditor. The data reveal the growing dominance of domestic debt in Africa — albeit with substantial cross-country variation. Four stylized facts stand out: (i) the rapid expansion of domestic debt markets, especially in middle-income countries; (ii) the wide dispersion in borrowing costs and real interest rates; (iii) large cross-country differences in maturity structures and associated rollover risks; and (iv) a rising debt-service burden, particularly due to international bonds. Generally, this project shows that debt transparency is both feasible and valuable, even in data-scarce environments.

Keywords: Sovereign Borrowing, Public Debt, Development Finance, Domestic Markets, Africa

JEL classification: F34, H63, O55

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1 Introduction

Africa’s public debt landscape has undergone profound changes over the past two decades, marked by two major shifts. The first — the rapid surge in external borrowing through Eurobonds, Chinese state banks, and multilateral lenders — is well documented and has been extensively analyzed. The second major development — Africa’s domestic debt boom — has, however, received far less attention. The rise of domestic borrowing on the continent has been swift and large, such that, on average, domestic debt liabilities in Africa now exceed external debt. This boom has important implications for debt sustainability, rollover risk, and fiscal management, as emphasized by both the IMF and the World Bank, which have called for better monitoring of domestic debt vulnerabilities in Africa (IMF-WB, 2024). However, effective macroeconomic surveillance and debt-risk analysis have been hampered by a lack of reliable evidence.

A main hurdle for understanding African debt and default risk has been a lack of comprehensive data. Existing datasets on African sovereign debt focus mainly on *external* debt and typically provide aggregate, self-reported statistics. The resulting headline stock data are of limited use, as they conceal the large heterogeneity in instrument types, maturity profiles, and borrowing costs. We are not aware of a reliable and comprehensive source on domestic debt markets in Africa, despite its rapidly growing importance. This lack of adequate data is particularly concerning given the scale of the issue: Africa’s population now exceeds 1.5 billion, and a growing number of countries are facing debt distress or outright sovereign default. As of mid-2025, African countries accounted for nearly half of all distressed sovereign credit and high-yield debt worldwide.¹

This paper aims to address this gap by introducing a new African Debt Database (ADD) which provides granular, harmonized data on over 50,000 debt instruments of 54 African countries from 2000 to 2024. In total, these instruments amount to more than USD 6.3 trillion in nominal commitments. This dataset allows, for the first time, a systematic analysis of domestic and external borrowing patterns using harmonized micro-data, with consistent breakdowns by creditor, currency, maturity, interest rate, and instrument type. The dataset, along with the code required to replicate and update the analysis, are freely available at <https://www.africandebtdatabase.com>.²

Our paper and dataset supersedes and considerably extends in both scope and time coverage the previous Africa Debt Database compiled by Mihalyi and Trebesch (2023), which was also granular

¹This figure is based on the share of sovereigns rated below CCC+/Caa1/CCC+ by at least one major credit rating agency (Standard & Poor’s, Moody’s, or Fitch).

²The dataset published on this website is intended solely for academic and non-commercial research purposes under CC BY-NC-SA 4.0 license. It has been compiled from official government publications and publicly accessible sources across African countries. For any questions or requests, please contact us via the website.

in nature but covered only *external* debt and a much smaller set of instruments. Specifically, [Mihalyi and Trebesch \(2023\)](#) included around 7,000 African loans and bonds issued between 2000 and 2020, with a total volume of USD 790 billion. This is only about one-fifth of the coverage of the new data presented here. The African Debt Database we introduce in this paper thus comes much closer to a full “sovereign debt census” for the African continent.

The database builds on an extensive process of scraping, verifying, and standardizing tens of thousands of primary source documents, including bond prospectuses, auction results, and loans reports. We coded external debt data for all 54 African countries and cover 51 countries on domestic debt. More specifically, we provide granular domestic debt data for 43 African countries and found that another 8 countries have never issued domestic securities.³

We hope that this project serves as a model for similar efforts in other developing regions. Better data on public debt is not merely desirable, but essential in an era of rising debt vulnerabilities and increasingly complex creditor structures. To support global debt transparency, this project offers a replicable framework and open-access infrastructure. Most importantly, our hybrid data collection approach — combining manual and machine-learning methods — demonstrates that debt transparency is both feasible and valuable, even in data-scarce environments.

With regard to the African continent, the dataset allows to revisit stylized facts on public debt from a new angle, one that highlights the heterogeneous evolution of debt across countries and over time. For instance, we uncover sharp divergences in domestic borrowing strategies: some countries have extended yield curves and deepened local markets through structured domestic bond issuance; others have relied on short-term treasury bills as a liquidity stopgap in the absence of external financing. These patterns are invisible in conventional data but become evident when using instrument-level observations, as illustrated throughout the paper.

The paper proceeds as follows. Section 1 introduces the motivation and objectives of the ADD project. Section 2 reviews existing debt data sources and highlights their limitations in terms of coverage, granularity, and comparability. Section 3 details the construction of ADD, distinguishing between external and domestic debt instruments and describing the data collection process and standardization methodology. Section 4 provides an overview of ADD coverage and presents

³The 8 countries with no track record of domestic market debt issuance are Comoros (COM), Djibouti (DJI), Eritrea (ERI), Guinea (GIN), Libya (LBY), Somalia (SOM), Sudan (SDN) and South Sudan (SSD). In 3 countries we could not find sufficiently defined data despite considerably effort, so that they are excluded from the database. For Algeria (DZA) we could only find sparse information on domestic bonds, and nothing on yields or prices at issuance. For Tunisia (TUN), auctions results are available for the latest weeks, but not for historical auctions and related time series. We also could not find publicly accessible archival material. For Zimbabwe (ZWE) we could not find any information on domestic securities.

benchmarking exercises to validate the data against official sources. This section also discusses remaining data gaps and discrepancies, along with the challenges encountered in harmonizing sources. Section 5 presents a set of stylized facts that reveal the growing prominence of domestic debt across African sovereigns, while underscoring the diversity of underlying drivers. It highlights the wide dispersion in interest rates and real borrowing costs, the contrasting maturity structures between domestic and external instruments, and the elevated refinancing risks associated with international bonds. Finally, it documents how rising debt service pressures are reshaping sovereign financing strategies, with an increasing reliance on local markets amid declining net external debt flows. The final section concludes and outlines avenues for future research.

2 Review of Existing Data Sources

With the exception of the Africa Debt Database ([Mihalyi and Trebesch, 2023](#)), on which we build, commonly used cross-country datasets on African sovereign debt remain highly aggregated. The IMF’s World Economic Outlook (WEO), for example, reports only total government debt data at the country-year level, with no further disaggregation. Other prominent sources, such as the World Bank’s International Debt Statistics (IDS), the IMF’s International Financial Statistics (IFS), and the Global Debt Database (GDD), offer partial breakdowns by creditor type, instrument, or currency and often use inconsistent definitions of external and domestic debt ([Eichengreen et al., 2023](#)). Currently, there are no comprehensive domestic debt statistics across Africa. Additionally, none of the existing datasets provides instrument-level detail. Hence researchers and policymakers face significant limitations when attempting to analyze the structure, terms, and risk exposure embedded in sovereign debt portfolios.

We improve on and extend [Mihalyi and Trebesch \(2023\)](#) along two main dimensions. First, we expand the coverage in terms of time and number of instruments to their coverage of external debt. Second, and more importantly, we build completely new domestic debt component series, a critical step forward given that domestic debt now accounts for over 55% of total government debt across the African continent.

Instrument-level data on external debt have become more accessible, but remain fragmented across sources. Multilateral institutions and several traditional bilateral creditors now disclose loan-level information through their own reporting platforms. The OECD compiles data on concessional lending from its member countries, but the dataset is not readily accessible to non-specialists due to its complex structure and limited documentation. Academic efforts have significantly advanced

transparency around Chinese lending to Africa (e.g., [Brautigam et al., 2020](#), [Dreher et al., 2021](#), [Horn et al., 2021](#) or [Gelpern et al., 2025](#)), but these datasets are not integrated with broader debt reporting systems. Market-based debt instruments are somewhat more transparent: daily data on sovereign bonds are available through commercial financial data providers, albeit at substantial cost. A few open-access databases and academic studies offer coverage of selected international bond issuance, but often only report summary terms and cover a narrow subset of African borrowers. Commercial databases tend to bundle together original issuance and bond reopenings, providing a distorted picture of the evolution of bond issuance (for details see [Wong et al., 2025](#))

Disaggregated data on domestic debt are even scarcer than for external liabilities. Many countries now publish issuance calendars and auction results, but significant gaps persist. These include delayed publication, removal of historical documents, inconsistent time series coverage, and the absence of standardized formats. International Financial Institutions do not provide cross-country datasets on domestic debt with consistent disaggregation or broad geographic scope. The African Financial Markets Initiative, launched to address this shortfall, appears to have been discontinued, and its dataset is no longer publicly accessible.

Academic research has made partial progress in addressing these limitations following pioneering work by [Reinhart and Rogoff \(2011\)](#). [Bua et al. \(2014\)](#) assembled data on the structure, maturity, and investor composition of domestic debt for 29 African countries from 1971 to 2011, and [Dafe et al. \(2018\)](#) track the development of the local bond market in 28 countries in Sub-Saharan Africa for the period 2000–14 to study the correlates of the capitalization of these markets. [Arslanalp and Tsuda \(2014\)](#) developed a widely used dataset on the holders of general government debt, building on the IMF’s International Financial Statistics, and continues to update this resource. But none of these authors report instrument-level data covering the full spectrum of public debt. Other proprietary databases (e.g., Bloomberg and LSEG) have instrument-level data on domestic securities. Yet, they come at significant cost and only cover major issuers (like Egypt and South Africa) in a consistent and accurate manner.

To summarize, various instrument-level datasets exist, but data remain scattered, have limited time coverage, are kept behind paywalls, or are only available in text format. It thus remains difficult to obtain a systematic overview of the African debt landscape across instruments, creditors, and years.

3 The Construction of ADD

The African Debt Dataset (ADD) is a new instrument-level dataset combining domestic and external sovereign borrowing across all 54 African countries⁴ from 2000 to 2024. This section describes our methodology, which emphasizes the systematic collection, digitization, cleaning, and harmonization of high-frequency issuance-level data, integrating both domestic and external sources into a single coherent structure.⁵

We distinguish external debt from domestic debt on the basis of currency denomination.⁶

3.1 Domestic Debt

We construct the domestic component of our dataset using instrument-level observations. The data are sourced from a heterogeneous range of national publications—including central bank auction data, finance ministry reports, and stock exchange bulletins—by systematically tracking and retrieving public financial disclosures from central banks, ministries of finance, debt management offices, and national stock exchanges across the 43 African countries included in our dataset (eight countries have never issued domestic securities, bringing actual total domestic debt coverage to 51 countries). See Table 1 for additional details.

The scope of domestic debt in ADD covers financial securities issued by the central government in their respective domestic markets. For many countries, data availability is inconsistent over time, particularly for auctions and issuances in the early years of the sample period. To address this issue, we supplement current sources with archived content retrieved via the Internet Archive’s Wayback Machine.⁷ This strategy allows us to reconstruct time series even when national websites have been restructured, decommissioned, or are no longer accessible. However, for some countries, despite these efforts, we were not able to obtain complete time series of their domestic debt issuances.

⁴See Note 3.

⁵Section 3.2 below draws from Mihalyi and Trebesch (2023).

⁶The residency of the creditor may change over the life of a security, making it an unstable classification. Data on the governing law of instruments—another possible classification criterion—are often not clearly reported.

⁷<https://web.archive.org/>

Table 1: Sources of the Domestic Component of the ADD

Country	Source	Link
Algeria	Not available	-
Angola	BODIVA (Bolsa de Dívida e Valores)	https://www.bodiva.ao/
Bénin	UMOA-Titres	https://www.umoatitres.org/
Botswana	Bank of Botswana	https://www.bankofbotswana.bw/
Burkina	UMOA-Titres	https://www.umoatitres.org/
Burundi	Banque de la République du Burundi	https://www.brb.bi/
Cabo Verde	Bolsa de Valores de Cabo Verde	https://bvc.cv/
Cameroon	Banque des États de l'Afrique centrale	https://www.beac.int/
Central African Republic	Banque des États de l'Afrique centrale	https://www.beac.int/
Chad	Banque des États de l'Afrique centrale	https://www.beac.int/
Comoros	No track record of domestic debt issuance	-
Congo	Banque des États de l'Afrique centrale	https://www.beac.int/
Côte d'Ivoire	UMOA-Titres	https://www.umoatitres.org/
Democratic Rep. of Congo	Ministère des Finances	https://finances.gouv.cd/
Djibouti	No track record of domestic debt issuance	-
Egypt	Central Bank of Egypt	https://www.cbe.org.eg/
Equatorial Guinea	Banque des États de l'Afrique centrale	https://www.beac.int/
Eritrea	No track record of domestic debt issuance	-
Eswatini	Central Bank of Eswatini	https://www.centralbank.org.sz/
Ethiopia	National Bank of Ethiopia	https://nbe.gov.et/
Gabon	Banque des États de l'Afrique centrale	https://www.beac.int/
Gambia	Central Bank of The Gambia	https://www.cb.gm/
Ghana	Central Securities Depository	https://csd.com.gh/
Guinea	No track record of domestic debt issuance	-
Guinée Bissau	UMOA-Titres	https://www.umoatitres.org/
Kenya	Central Bank of Kenya	https://www.centralbank.go.ke/
Lesotho	Central Bank of Lesotho	https://centralbank.org.ls/
Liberia	Central Bank of Liberia	https://www.cbl.org.lr/
Libya	No track record of domestic debt issuance	-
Madagascar	Trésor Public Malagasy	http://www.tresorpublic.mg/
Malawi	Reserve Bank of Malawi	https://www.rbm.mw/
Mali	UMOA-Titres	https://www.umoatitres.org/
Mauritania	Ministère de l'économie et des finances	https://finances.gov.mr/fr
Mauritius	Bank of Mauritius	https://www.bom.mu/
Morocco	Bank Al-Maghrib	https://www.bkam.ma/
Mozambique	Bolsa de Valores de Moçambique	https://www.bvm.co.mz/
Namibia	Bank of Namibia	https://www.bon.com.na/
Niger	UMOA-Titres	https://www.umoatitres.org/
Nigeria	Debt Management Office	https://www.dmo.gov.ng/
Rwanda	National Bank of Rwanda	https://www.bnr.rw/
São Tomé and Príncipe	Banco Central	https://www.bcstp.st/
Sénégal	UMOA-Titres	https://www.umoatitres.org/
Seychelles	Central Bank of Seychelles	https://www.cbs.sc/
Sierra Leone	Central Bank of Sierra Leone	https://bsl.gov.sl/
Somalia	No track record of domestic debt issuance	-
South Africa	South African Reserve Bank	https://www.resbank.co.za/
South Sudan	No track record of domestic debt issuance	-
Sudan	No track record of domestic debt issuance	-
Tanzania	Bank of Tanzania	https://www.bot.go.tz/
Togo	UMOA-Titres	https://www.umoatitres.org/
Tunisia	Not available	-
Uganda	Bank of Uganda	https://www.bou.or.ug/
Zambia	Bank of Zambia	https://www.boz.zm/
Zimbabwe	Not available	-

The dataset is based on thousands of official government documents, often in PDF or scanned formats, covering weekly or monthly auction results, issuance calendars, debt bulletins, and market summaries. To extract information from these unstructured and semi-structured sources, we deploy a digitization pipeline with three components: (i) OCR processing using the Tesseract engine for character recognition; (ii) rule-based Python parsing for semi-structured tables; and (iii) large language model (LLM)-assisted parsing using OpenAI’s GPT API for complex or non-tabular formats. The latter represents an innovation in debt data work: by prompting LLMs with context-aware instructions and output templates, we are able to extract structured issuance data with high consistency from poorly formatted source documents. Crucially, this method also facilitates future updates of the dataset: new data releases can be rapidly parsed and classified using LLM prompts without needing manual recoding or country-specific scripts, making ADD scalable and sustainable over time.

For each country, we construct a standardized spreadsheet at the instrument level, with each row corresponding to a unique debt instrument (bill or bond). Variables captured include international and national identifiers (e.g., ISIN, local codes), issuer entity (whether the Ministry of Finance or the Central Bank on behalf of the Treasury), instrument type, currency, coupon and frequency, issuance and maturity dates, auction and issuance prices, total amounts offered, bid and issued, bid-to-cover ratios, and yield metrics. Variables related to domestic market functioning (total amounts offered, bid amounts, bid-to-cover ratios, subscription rates) are not published in ADD, and will be a topic of future research.

Instruments are subsequently cleaned and harmonized into a unified schema using Pandas-based mappings. All financial figures are validated against proprietary datasets from Bloomberg and LSEG, and each record is traceable to an original source document stored in our internal repository. Domestic debt instruments were classified as “Domestic Bill” (if maturity $T \leq 1$ year) or “Domestic Bond” (if $T > 1$), based on computed maturity in years.

When either the issuance price or the yield is missing, we calculate the missing value using standard fixed-income formulas based on the instrument’s maturity and payment structure. For zero-coupon bills (defined as zero-coupon instruments with a maturity of less than or equal to 365 days) yields are computed from prices using the following formula:

$$y = \left(\frac{100 - P}{100} \right) \cdot \frac{360}{T} \cdot 100 \quad (1)$$

where P is the issuance price, the face value is 100 and T the time to maturity in days.

For zero-coupon bonds that have maturities longer than one year, we derive the yield to maturity (YTM) based on:

$$y = \left(\frac{100}{P} \right)^{\frac{1}{n}} - 1 \quad (2)$$

where n is maturity in years.

For longer-term coupon-bearing bonds, if the coupon C and price P is known but the yield is missing, we apply the approximate current yield formula:

$$y = \frac{C}{P} \cdot 100 \quad (3)$$

In cases where yields were available but prices were missing, we derived prices using inverse formulations.

To estimate the *ex-post* real cost of borrowing, we compute inflation-adjusted yields using annual consumer price index (CPI) data from the IMF's *World Economic Outlook* (WEO). For instruments that have already reached maturity, we use actual inflation rates as reported by the IMF's *WEO*. For instruments that have not yet reached maturity, we use the projected inflation rate provided by the IMF's *WEO*. The annual CPI indices are computed by chaining annual inflation rates as follows:

$$\text{CPI}_t = \text{CPI}_{t-1} \cdot \left(1 + \frac{\text{annual inflation rate}}{100} \right) \quad (4)$$

For each bond, we identify the CPI at issuance CPI_0 and at maturity CPI_T . Whenever both values are available together with the nominal yield y and the maturity T , we apply the Fisher formula to calculate the real yield:

$$r = \left(\frac{1 + \frac{y}{100}}{\left(\frac{\text{CPI}_T}{\text{CPI}_0} \right)^{1/T}} - 1 \right) \cdot 100 \quad (5)$$

This approach leads to simplified estimates of the real cost of borrowing in the domestic markets. As this approximation is less suitable for domestic bills with a maturity of less than a year, when we describe the real cost of borrowing, we only include domestic bonds with maturities larger than one year.

Each issuance is converted into millions of USD using BIS exchange rates at the time of issuance and then classified by year-quarter to match the time unit of the external debt side. BIS statistics do not always cover the full period. Specifically, for some domestic currencies, data for 2023 and

2024 are not available. In these cases, we apply the latest exchange rate available. The currencies with the largest gaps (more than 6 months) are: ETB (Ethiopian Birr), GNF (Guinean Franc), LRD (Liberian Dollar), STD (São Tomé and Príncipe Dobra), SLE (Sierra Leonean Leone), and TZS (Tanzanian Shilling).

3.2 External Debt

As for domestic debt, data on external debt are compiled on an instrument-by-instrument basis, with each loan or bond recorded as a separate entry. Reflecting our focus on issuance and micro-level data, for loans, we report debt commitments rather than disbursements.⁸ The dataset covers external debt contracted by central governments. This choice reflects both our focus on government debt and the lack of reliable data on borrowing by state-owned enterprises and subnational governments in developing countries. In particular, such data remain difficult to obtain in Sub-Saharan Africa, where fiscal reporting is generally limited to the central or budgetary central government (Baum et al., 2020). The exception is data on Chinese lending, which also includes borrowing by public corporations, as these loans are both the most prevalent and the best documented in the available source data.

External debt is defined using a combination of currency denomination, governing law, and place of issuance—with primary emphasis placed on currency. Accordingly, African government debt issued in foreign currency is typically included in the external debt dataset, as are sovereign bonds placed in markets such as New York or London, and loans extended by Chinese state-owned banks or other national development banks. Bonded debt, denominated in foreign currency, is classified as external regardless of whether it is held by domestic or foreign investors. Note that by prioritizing currency denomination, we depart from the balance of payments definition of external debt, which classifies debt based on the residency of the creditor (IMF, 2013).

The external debt dataset excludes short-term instruments and reports only bonds and loans with an original maturity greater than one year (short-term debt is instead included in the domestic debt dataset). Grants and borrowing by regional organizations are also excluded.

In terms of loans, our dataset includes all multilateral and government-to-government loans, including those extended by China’s state-owned companies (see below for the distinction between

⁸Commitments reflect the contractual terms at loan origination. Disbursements - especially for project loans - may take place over several years. While this makes them more relevant for liquidity analysis, comprehensive disbursement data are less consistently available across creditors and provide a more imperfect metric of the financing choices available at any point in time.

official and private debt). At this stage, the dataset does not cover commercial loans extended by private banks or other actors such as commodity traders. This exclusion is primarily due to the lack of systematic, loan-level data and the continued opacity of such lending in Africa (see [Connelly, 2021](#) and [Mihalyi et al., 2022](#)). We also do not account for guarantees. Future updates of the dataset will try to cover this gap.

To distinguish between official and private debt, we follow the OECD definition of official lending, which states: “Official transactions are those undertaken by central, state or local government agencies at their own risk and responsibility, regardless of whether these agencies have raised the funds through taxation or through borrowing from the private sector. This includes lending by public corporations, i.e. corporations over which the government secures control by owning more than half of the voting equity securities or otherwise controlling more than half of the equity holders’ voting power; or through special legislation empowering the government to determine corporate policy or to appoint directors.” ([OECD, 2024](#)). Based on this definition, we classify all Chinese loans in our dataset as official, including the substantial volumes extended by state-owned banks. This classification is not without controversy. In several debt restructuring cases, some lending by Chinese state-owned banks was treated as commercial rather than official lending.

In line with [Horn et al. \(2021\)](#), we define bilateral lenders as comprising central governments, government agencies, and state-owned banks. Multilateral lenders refer to international or regional financial institutions such as the World Bank, the African Development Bank, or the Islamic Development Bank.

We construct the external debt component of the African Debt Database using six main sources, covering 9,543 loans and bonds totaling USD 1,082 billion issued between 2000 and 2024.

Official loans reported to OECD (3491 loans): The OECD’s Creditor Reporting System (CRS) is a rich but rarely used source for granular foreign debt data. The CRS covers lending by a broad range of bilateral lenders, in particular those who are members of the Development Assistance Committee (DAC), additional reporting countries such as Saudi Arabia or the United Arab Emirates, as well as multilateral lenders such as the World Bank or African Development Bank. The raw data in the CRS needs to be cleaned and systematized. The data is broken down to the level of so called “activities” funded by the official creditors, with commitments and disbursements of each donor and creditor being tracked on a yearly basis. Because single loans are split up into “activities”, we aggregate commitment amounts across entries which have the same financial terms, parties, and commitment dates. We use the loan data as initially provided in the year of initial commitment and only use financial terms provided for subsequent years to complete

missing data or to correct obvious errors. Because some multilateral creditors and other agencies disclose their data on a voluntary basis, key financial terms such as interest rates are often missing. Additionally, official loans that are not concessional (hence not relevant for OECD’s computation of official development assistance) may be omitted from reporting.

World Bank lending (3481 loans): For the World Bank (WB), we collect the data directly from its website, thus complementing the information from the OECD’s CRS. The WB provides detailed yearly information on loan commitments and disbursements for both IDA and IBRD’s lending. We follow [Morris et al. \(2020\)](#) in compiling and cleaning the data. For some (198 observations) IBRD loans, notably the flexible loans (FSL), the lending rates were not reported and are left blank.

Chinese lenders (1469 loans): We use the loan level dataset published by AidData ([Custer et al., 2021](#)) for Chinese lending from 2000–2021. This dataset provides granular, detailed, and reliable information about the known universe of projects (with development, commercial, or representational intent) supported by official financial and in-kind commitments (or pledges) from China. To clean this dataset, we again follow the methodology of [Horn et al. \(2021\)](#).

IMF lending (238 loans): We use the dataset compiled by [Horn et al. \(2020\)](#) covering the lending terms of all IMF programs of the continent. In all cases, we include the original lending terms provided and do not factor in any additional increases or surcharges levied on borrowers for maintaining large outstanding balances for protracted periods ([Stiglitz and Gallagher, 2021](#)).

US bilateral lending (52 loans): We use the loan level data published by the United States Department of the Treasury under its Foreign Credit Reporting System.

External bonds (200 bonds): The data on external sovereign bonds is drawn and compiled from a broad range of freely-available sources, including academic publications ([Bonizzi et al., 2020](#), [Wong et al., 2025](#)), bond prospectuses, debt management offices, government and central bank websites, OECD debt transparency portal, and investor websites such as cbonds, boerse-online.de, finanzen.net, bondsupermart.com, or investing.com. Each data point was hand-coded, manually reviewed, and validated. To assure that the information from these freely available sources are correct and complete, we cross-checked each bond and debtor country bond list with information by financial data providers such as Refinitiv Eikon and Bloomberg. In contrast to some data providers, such as Bloomberg, we explicitly account for bond reopenings—cases in which an existing bond is issued again under identical terms—thereby increasing the volume of debt outstanding.

Table 2: Variables included in the merged ADD dataset

Variable	Description
ISO3	Three-letter ISO 3166-1 country code of the borrowing country
Country	Name of the borrowing country
BorrowerType	Type of borrowing entity: Central government/JV=Joint Venture/SOE=State-owned enterprise (for borrowing from Chinese creditors)
BorrowerAgency	Name of the borrowing government entity or agency
CreditorName	Name of creditor country if bilateral loan, name of creditor institution if multilateral loan, Bondholders if sovereign bond or Domestic Markets for domestic debt
CreditorName_short	Abbreviations for multilateral institutions, short creditor country names
CreditorGroup	Classification of creditor: e.g., Multilateral, Bilateral (including Chinese creditors), Private (only external bonds), Domestic Markets.
CreditorAgency	Name of the lending agency (E.g., ministries, bank names, SOE names, multilateral creditor agency names, etc.)
CreditorAgencyType	Type of lending agency, if available (e.g., central government, SOE, multilateral development bank, etc.)
year	Year of loan commitment or bond issuance
quarter	Quarter of loan commitment or bond issuance (e.g., Q1, Q2)
Amount_m	Commitment amount in the case of loans, original amount issued in case of bonds and bills (both international and domestic). When securities are re-opened, it is presented as a new security with the amount being the net issued amount. All are reported in the original currency of denomination.
Amount_musd	Commitment amount in the case of loans, original amount issued in case of bonds and bills (both international and domestic). When securities are re-opened, it is presented as a new security with the amount being the net issued amount. All are measured in million USD and converted using BIS exchange rates.
Currency	Currency of issuance (ISO3 currency code)
instrument_type	Standardized instrument classification: e.g., Domestic Bond, with maturity > one year , Domestic Bill, with maturity <= one year International Bond , China Loan
interest	Nominal yield at issuance (in percent). All floating rates were transformed into a fixed rate equivalent using the following method: average reference rate of the commitment year + margin.
real_interest	Inflation-adjusted yield, computed via Fisher formula
price	Issuance price (per 100 nominal units)
coupon	Coupon rate (for coupon-bearing instruments)
structure	Type of interest rate in the case of OECD loans: fix or floating (variable). Repayment structure in case of bonds: sinking fund or bullet (or unknown). Type of facility in case of IMF loans. All bonds and bills have fixed interest rates.
reference_rate	Reference index for floating instruments (e.g., LIBOR, SOFR), if applicable
margin	Spread over the reference rate (in basis points)
maturity	Number of years between issuance date and the date when the principal on the loan or bond is due (last tranche).
grace	Number of years between the commitment date and the date of the first installment (for external debt) ⁹
source	Original source file, link, or document reference

3.3 Final Output: ADD

We merge clean and harmonize domestic and external debt data sets into a unified instrument-level database—the ADD—that covers sovereign debt instruments in the 54¹⁰ African countries from 2000 to 2024, systematically mapping and transforming source-specific variables into a unified output. This creates direct comparability between domestic and external instruments while preserving the distinct features of each data source.

This structure enables a wide range of micro-level analysis, including breakdowns by instrument, maturity profile, creditor structure, real cost of funding, and debt issuance strategy across time and creditor groups. It also serves as a blueprint for the scalable construction of sovereign debt datasets in other emerging market regions, facilitated by LLM-based parsing.

Each record in the final dataset represents a single debt instrument at issuance, with traceability to the original document or source from which it was extracted. Table 2 describes the variables included in the ADD dataset.

4 Coverage and Benchmark

4.1 Domestic Debt

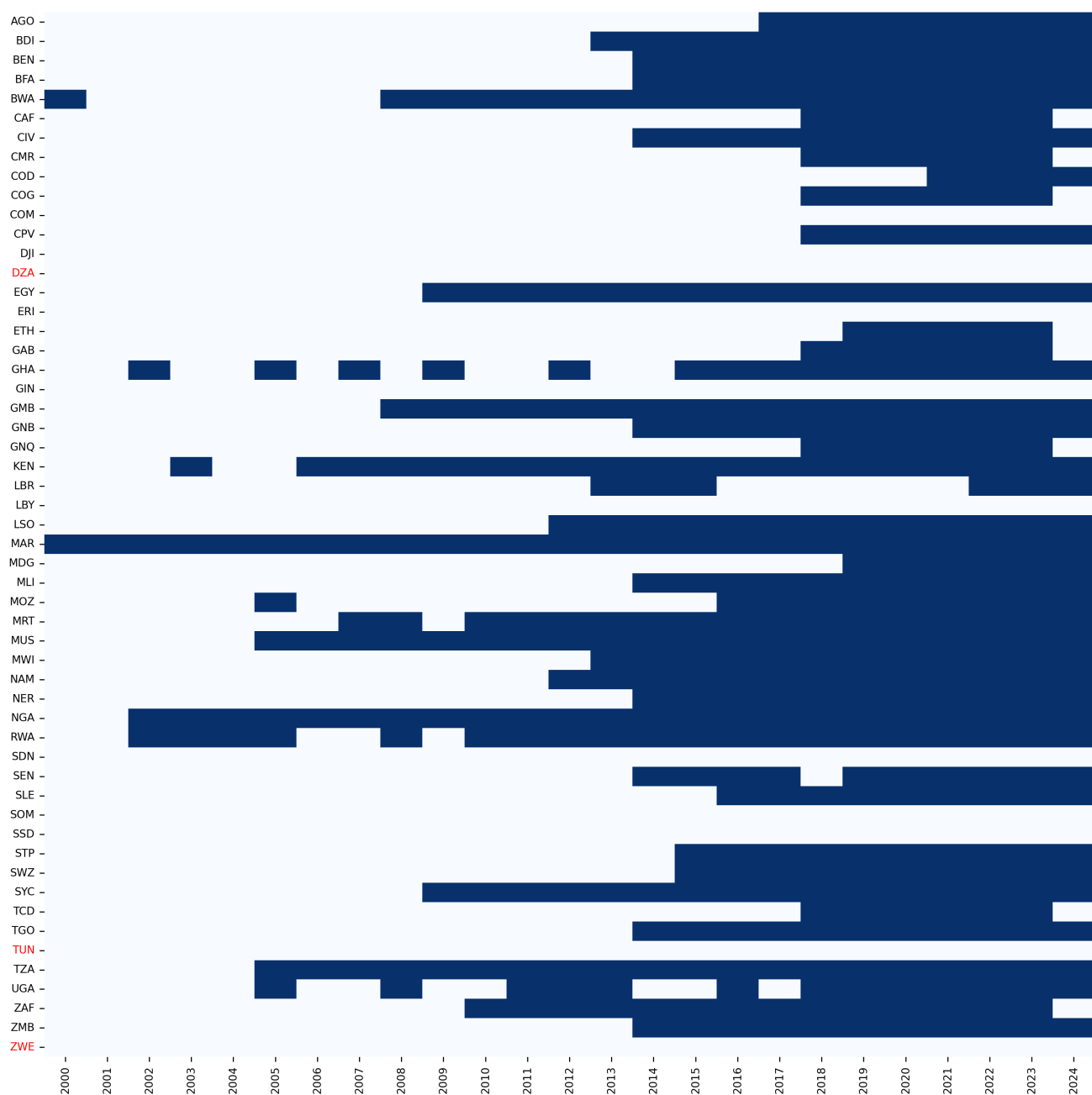
Figure 1 visualizes the instrument-level debt data coverage (issuance records) across 54 African countries over the period 2000–2024. While we have tried to collect data for all the 54 African sovereigns, we managed to collect information only for 43. Each blue cell indicates the availability of domestic debt market issuances for a given year and country; white cells indicate the absence of data. The data coverage is sparse before 2010, improves progressively from 2012 onwards, and peaks in density between 2015 and 2023. This pattern reflects the growing importance of marketable domestic debt instruments, improvements in reporting practices and increased access to national data repositories.

For several countries, we achieve extensive and consistent coverage across time. Kenya (KEN), Morocco (MAR), and Nigeria (NGA) exhibit continuous series spanning a decade or more. Zambia (ZMB), South Africa (ZAF), Gabon (GAB), and Tanzania (TZA) also show multi-year coverage, particularly concentrated in the mid-2010s to early 2020s. These cases correspond to countries

¹⁰See Note 3.

with more transparent issuance calendars and data repositories.

Figure 1: Data coverage of domestic debt in ADD



By contrast, a number of countries exhibit either very limited or highly fragmented coverage. Examples include Sierra Leone (SLE), Rwanda (RWA), Mozambique (MOZ), Guinea-Bissau (GNB),

and Namibia (NAM), where data appear only for isolated years. In other cases, such as Mauritania (MRT) and Equatorial Guinea (GNQ), the data are clustered around specific periods (e.g., 2012–2018), with gaps before and after. Lesotho (LSO) and Liberia (LBR) also have large gaps in coverage.

A small subset of countries is shown in red in the figure, reflecting cases where domestic debt instruments likely exist but could not be retrieved from national sources. These include: Algeria (DZA), Tunisia (TUN), and Zimbabwe (ZWE). By contrast, eight countries, Comoros (COM), Djibouti (DJI), Eritrea (ERI), Guinea (GIN), Libya (LBY), Somalia (SOM), Sudan (SDN), and South Sudan (SSD), are shown in black with no data across the entire period, as they are not known to have issued domestic debt instruments to date. These cases reflect either long-standing fragility, dollarization, or the absence of local debt markets. ¹¹

We compare outstanding debt computed from our instrument-level domestic debt data under the assumption that all bills and bonds follow a bullet repayment structure ($\text{ADD Outstanding}_{it}$) with a benchmark measure (DOM2_{it}) obtained from IMF IFS monetary statistics. The benchmark is calculated as the sum of IFS entries 12A, 12B, 22A, 22B, 42A, and 42B, following the methodology used by [Arslanalp and Tsuda \(2014\)](#). The percentage deviation from the benchmark is computed as:

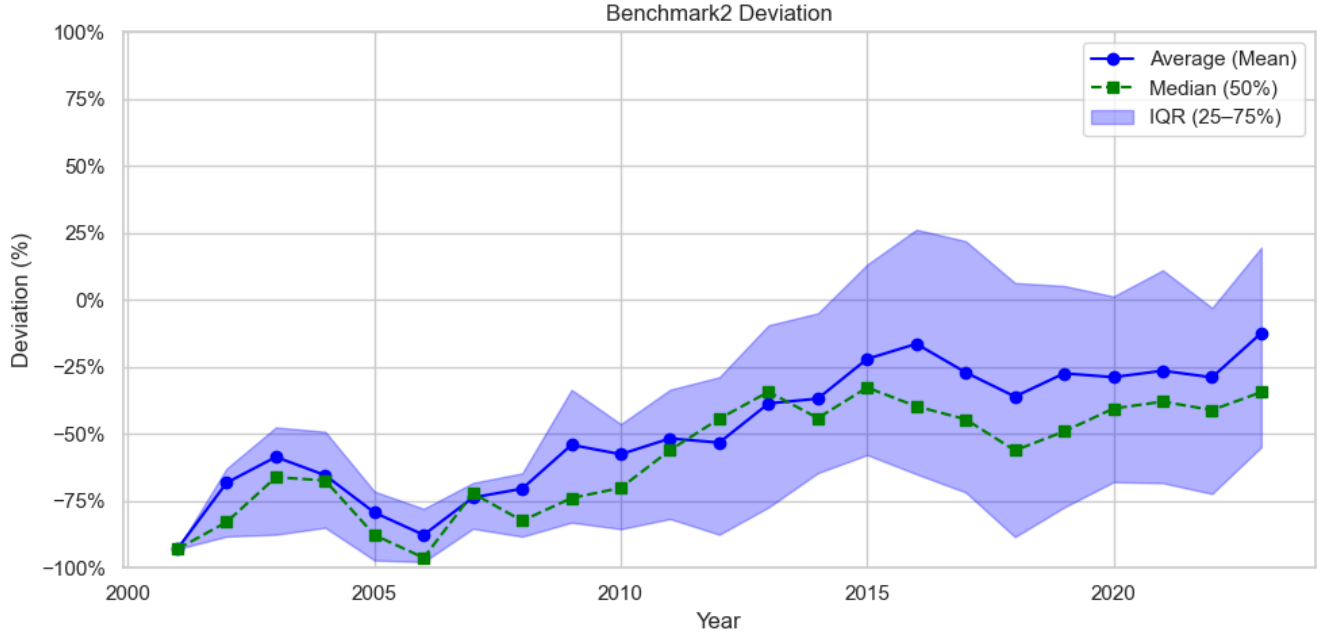
$$\text{Deviation}_{it} = \frac{\text{ADD Outstanding}_{it} - \text{DOM2}_{it}}{\text{DOM2}_{it}}$$

Figure 2 shows the cross-country average and median deviations, along with the interquartile range. In the early years, the average deviation is large and negative, reflecting a data gap of more than 75% between ADD and official IMF statistics. However, this gap narrows significantly over time, indicating a marked improvement in instrument coverage. By 2015, the average deviation falls to approximately 25%, suggesting that ADD captures, on average, around 75% of central government domestic debt. Part of the remaining negative discrepancy stems from differences in the coverage between ADD and the benchmark. Specifically, DOM2_{it} includes central bank advances and loans from domestic depository corporations to the central government, which are not captured in ADD data. ¹² On the other hand, the positive difference could be explained by the share of foreign holdings of domestic securities. The IMF IFS statistics are based on the residency criteria, while ADD entries are classified based on the issuance market.

¹¹See Note 3 for further information.

¹²Figure 2 does not include data for Botswana due to large data inaccuracies in the IFS database used to estimate DOM2 .

Figure 2: Deviation of Outstanding Domestic Debt vs. IFS Benchmark



4.2 External Debt

To evaluate the coverage of our external database, we benchmark against the aggregate figures reported by the World Bank’s International Debt Statistics (IDS). Specifically, we compare total debt new public and publicly guaranteed (PPG) external debt commitment plus IMF purchases (credit draw-downs) for African countries covered by IDS over the period 2000–2023.¹³

ADD captures approximately 73% of the total external debt volume reported by the World Bank (Table 3). There are gaps observed for non-Chinese bilateral creditors and external bonds, with ADD covering only 67% and 71% of the IDS totals, respectively. By contrast, Chinese lending and multilateral borrowing (including IMF) is well covered, with ADD totals closely matching those of IDS.

The main data gap in ADD is the lack of data on non-bond, non-Chinese private debt, such as bank loans and trade credits. These instruments tend to be opaque and are not consistently reported. Coverage of bilateral lending varies significantly by creditor. It depends largely on

¹³The WB IDS does not include any data on Equatorial Guinea, Namibia, Seychelles, but they are included in ADD. Among them combined, they have less than 14 billion USD worth of debt in ADD, a small share of the total reporting gap between the two sources.

whether the creditor reports to the OECD’s Creditor Reporting System (CRS), which primarily captures concessional flows. Many bilateral donors, including China, do not formally report to the OECD. Despite this, ADD achieves relatively high coverage for Chinese debt through data collected by research institutions. Additional discrepancies arise from differences in the scope of coverage. ADD focuses on central government debt (except in the case of China), while IDS includes a broader category of public and publicly guaranteed (PPG) debt. The two datasets also differ in their definition of external versus domestic debt. ADD classifies debt based on the currency of issuance, whereas IDS sometimes (but not always, see [Panizza, 2008](#)) uses the residency of the creditor.

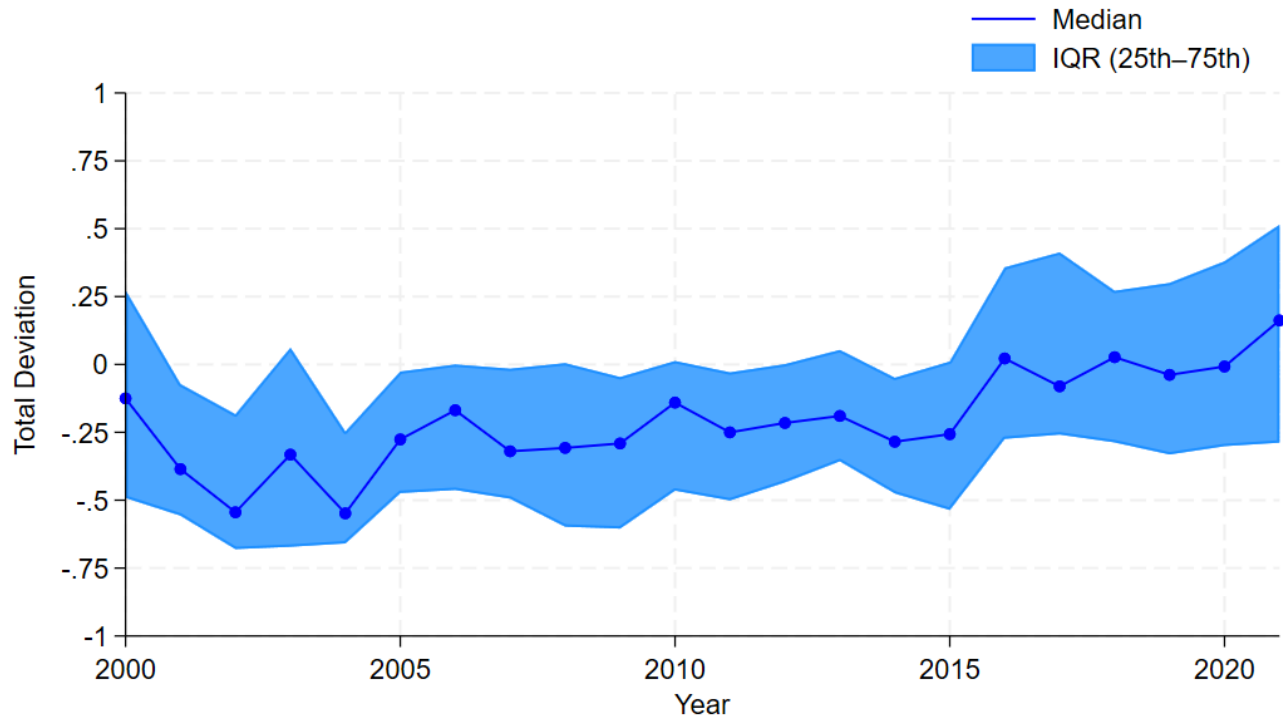
ADD’s coverage of external debt has shown gradual improvement over time. Figure 3 plots the annual deviation between ADD and World Bank IDS debt stock figures from 2000 to 2021.¹⁴ The solid blue line shows the median deviation, while the shaded area represents the interquartile range across countries. Negative values indicate a shortfall in ADD relative to IDS, reflecting incomplete coverage—particularly in the early years. The shortfall was most pronounced in the early 2000s but narrowed progressively over time, with significant improvement observed after 2015.

Table 3: Comparison of ADD and World Bank IDS Debt by Creditor Type (USD mn)

Creditor Type	ADD Debt	WB IDS Debt	Share (%)
Multilateral	547,868	566,390	97%
Bilateral, non-China	100,465	150,866	67%
External bonds	190,817	269,122	71%
Private (non-bond, non-China)	0	254,932	0%
China, all	243,112	243,012	100%
Total	1,082,262	1,484,322	73%

¹⁴ADD has more limited external debt data after 2021, therefore this benchmarking is limited to 2000-2021.

Figure 3: Deviation of Outstanding External Debt vs. IDS Benchmark



4.3 Data Gaps and Discrepancies

The data gaps described above stem from limited coverage of certain lender types, variations in institutional reporting practices, and inherent limitations in source documentation. This section examines the key drivers of these gaps, highlights best practices observed across countries, and outlines the remaining structural challenges.

While domestic debt markets in Africa have grown significantly over the past two decades, systematic reporting remains highly uneven across countries and over time. Among the 43 countries for which at least partial data were recovered, high-frequency and well-structured reporting is concentrated in a few cases—most notably Nigeria and the member states of the West African Economic and Monetary Union (Benin, Burkina Faso, Guinea-Bissau, Côte d’Ivoire, Mali, Niger, Senegal, and Togo). In these countries, centralized institutions—such as the Central Bank of Nigeria and dedicated data platforms like UMOA-Titres—routinely publish detailed and timely auction results, often in accessible formats such as CSV.

Despite regular updates to websites and data repositories by central banks, the depth and consistency of documentation vary widely. In many cases, data are provided only in PDF reports, requiring additional parsing and manual extraction. Metadata—such as ISIN codes or auction yields—are often missing or inconsistently reported, with variations in definitions across instruments. In some countries, reporting is even more limited and ad hoc, sometimes restricted to a single year and lacking historical continuity. Moreover, government websites are frequently updated without archiving past content, leading to the permanent loss of earlier data. Ideally, best practices in domestic debt reporting would include the maintenance of dedicated websites—managed by debt management offices (DMOs) and/or central banks—with comprehensive and accessible archives. These should feature auction calendars and results published in structured formats (e.g., CSV or XML), timely and historical issuance records, and detailed metadata such as instrument identifiers, interest rates, bid/cover ratios, and, where available, investor participation. Public dashboards or statistical portals that promote post-trade transparency are also highly effective tools. These practices would significantly reduce the cost of data collection, minimize interpretation errors, and facilitate independent validation by researchers and market participants. However, they are rarely followed in a systematic or consistent manner across African countries. In many cases, reporting remains fragmented, with limited use of structured formats, inconsistent metadata, and a lack of archival continuity. This results in high data collection costs, increases the risk of interpretation errors, and hampers independent validation by researchers and market participants.¹⁵

Another key limitation is that the domestic component of ADD currently covers only marketable securities. The largest data gaps relate to central bank advances to the central government, loans from domestic banks, and derivative instruments, which are not systematically reported.

On the external debt side, recent years have seen notable improvements in debt reporting by both borrowers and creditors, as well as by international financial institutions. An increasing number of debt management offices in developing countries now publish the financial terms of newly contracted loans in their regular reports. Several creditors have also begun disclosing the terms of their new lending to developing countries on a loan-by-loan basis.

Bonds remain the most transparent form of external debt. Prospectuses and investor reports are generally accessible, and commercial data providers such as Refinitiv and Bloomberg offer robust coverage. However, bond reopenings are often bundled with initial issuances in commercial databases, obscuring net financing flows. ADD addresses this limitation by disaggregating

¹⁵For additional details on domestic debt reporting and best practices, see the World Bank's Domestic Debt Securities Heat Map at <https://www.worldbank.org/en/data/interactive/2024/08/12/domestic-debt-securities-heatmap/>.

reopenings and aligning net issuance with official debt statistics.

Other forms of external commercial lending remain a major data gap. A voluntary disclosure initiative by banks, aimed at improving transparency around government lending, was short-lived—the OECD platform hosting it shut down after only two banks submitted data.

Debt data published by international financial institutions have also become increasingly detailed, including breakdowns by creditor country. However, they still do not provide information at the instrument level (see [Rivetti and Mihalyi, 2025](#) for further discussion on recent progress, best practices, and remaining challenges).

5 Stylized facts

In this section, we present a set of stylized facts that illustrate the growing prominence of domestic debt across African sovereigns, while highlighting the diversity of underlying drivers. We document the wide dispersion in interest rates and real borrowing costs, the contrasting maturity structures between domestic and external instruments, and the elevated refinancing risks associated with international bonds.

5.1 The Rise of Domestic Debt: Similar Trends, Different Drivers

Domestic debt issuance has surged across African sovereigns since 2010, with market size more than tripling—from USD 150 billion to nearly USD 500 billion. Domestic borrowing has now overtaken all other sources of public finance on the continent—including multilateral, bilateral, and market-based external borrowing.

The remarkable growth of domestic debt markets represents a structural shift in sovereign financing. While this expansion was initially driven by short-term instruments—particularly treasury bills with maturities under one year—since 2022, roughly half of all newly issued domestic securities have had maturities exceeding one year (Figure 4).¹⁶ Although multilateral lending continues to rise, it remains relatively modest in scale. Paris Club and other bilateral flows have become minimal. The sharp pullback in Chinese lending after 2021, partly in response to defaults in Ghana and Zambia, has further shifted the financing landscape toward domestic markets. Taken together,

¹⁶The trend toward longer maturities since 2022 is strongly influenced by South Africa and Egypt.

these dynamics signal a major transformation in the composition of sovereign liabilities and the geography of creditor exposure.

Before turning to the dataset, we clarify a key conceptual distinction. Whereas most studies and datasets on sovereign debt focus on the level and composition of debt stocks, our analysis centers on **issuance**—a flow variable capturing new borrowing over time, similar to the approach in [Wong et al. \(2025\)](#). We emphasize debt issuances rather than stocks, as issuances provide real-time information about fiscal policy choices, market appetite, and rollover capacity. Issuance data allow us to detect shifts in the marginal investor base, identify changes in borrowing costs, and capture the maturity structure of new borrowing. In contrast, stock data represent cumulative outcomes that often obscure these dynamics.

This distinction matters for empirical interpretation. Differences in instrument maturity can lead to substantial divergence between the stock of debt and the volume of new issuance. Consider a country i with a constant debt stock of size D in year t , split evenly between a ten-year foreign-currency bond and a one-year local-currency bond. Suppose the government maintains this structure and runs a balanced budget. While the stock remains stable at D , the short-term bond must be rolled over annually. Between years $t + 1$ and $t + 9$, all new issuance is in local currency, despite half the debt stock being in foreign currency.

A similar logic applies to cross-country comparisons. Suppose two countries both maintain a constant debt stock of size D . Country L issues bonds with a uniform maturity profile averaging five years, while Country S issues only one-year bonds. Over a ten-year horizon, Country L rolls over $D/5$ per year, while Country S refinances the entire stock annually. Despite identical debt levels, issuance flows differ significantly due to maturity structure.

While the aggregate picture (Figure 4) is informative, it conceals substantial cross-country differences. South Africa and Egypt together account for a disproportionately large share of total domestic debt volumes. Nevertheless, the underlying trend remains robust even when these countries are excluded: domestic debt has become the predominant source of financing for African sovereigns (Figure 5). This evolution reflects structural changes in public financing strategies in response to heightened volatility in external financing conditions, the increasing frequency of exogenous shocks—including the global financial crisis, the COVID-19 pandemic, and climate-related disruptions—and the progressive development of local debt markets. Against this backdrop, African governments have increasingly turned to domestic borrowing to meet a growing share of their financing requirements.

Figure 4: Sovereign Borrowing by Instrument Type

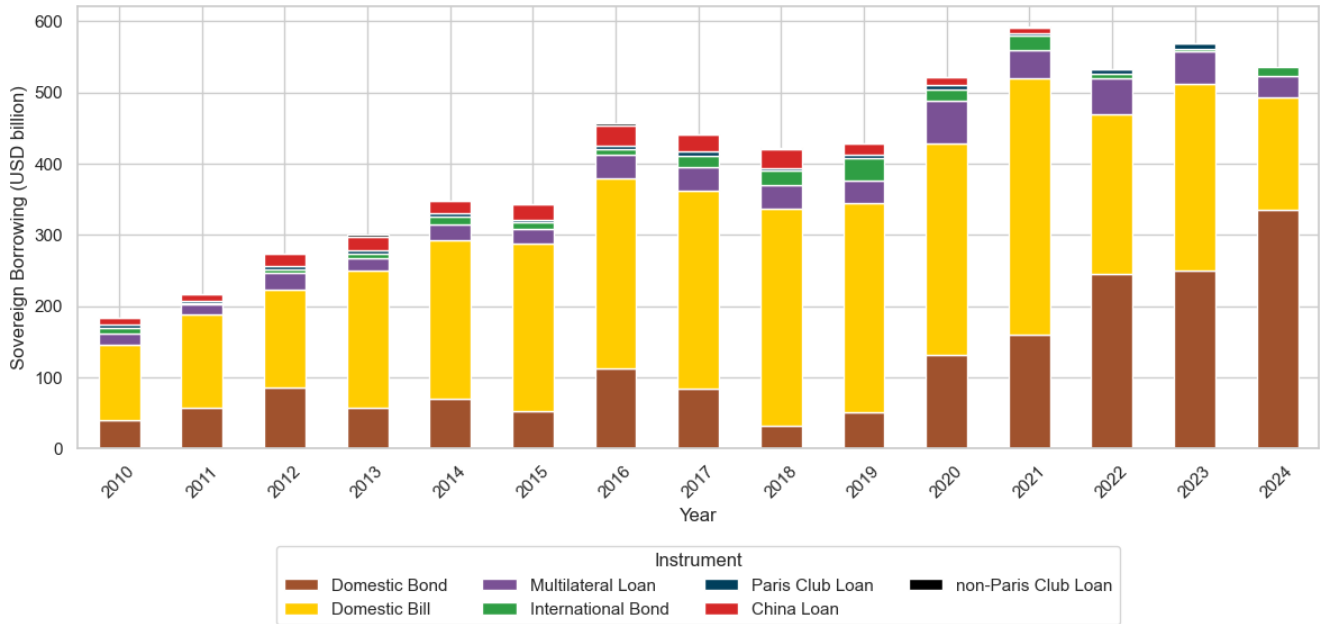
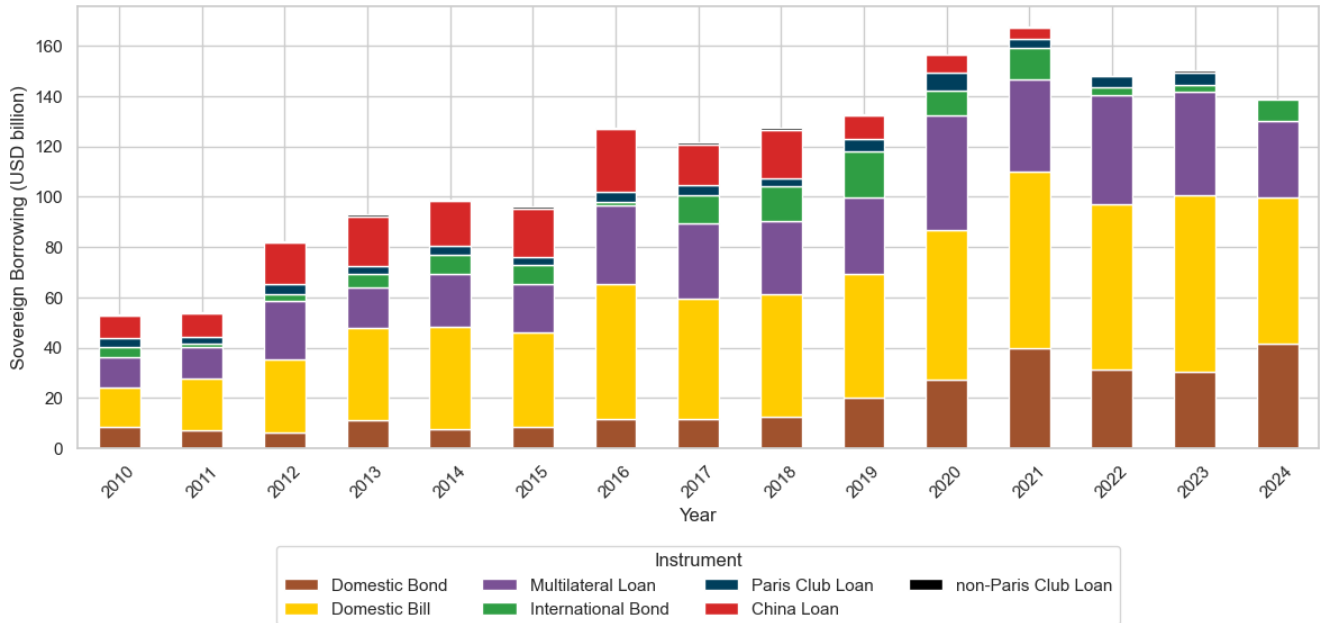


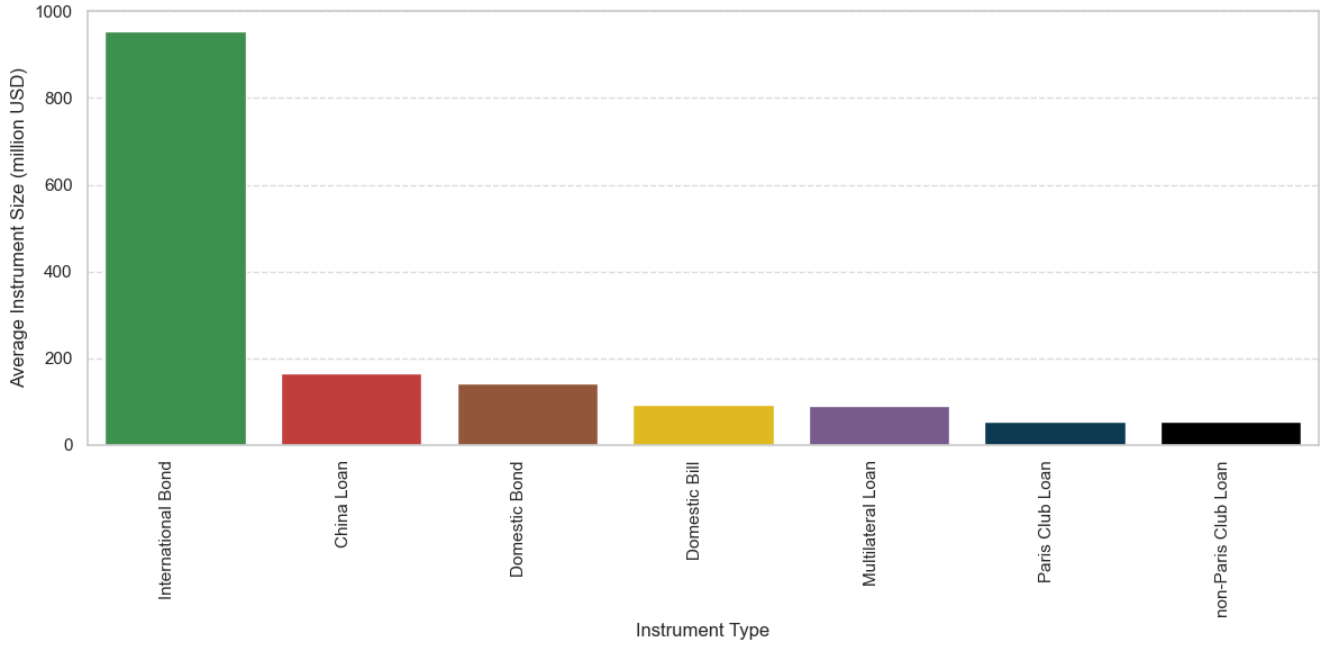
Figure 5: Sovereign Borrowing by Instrument Type (excluding Egypt and South Africa)



The granular data underlying these figures suggest different uses of domestic debt instruments across countries: some rely almost exclusively on short-term Treasury bills, while others have

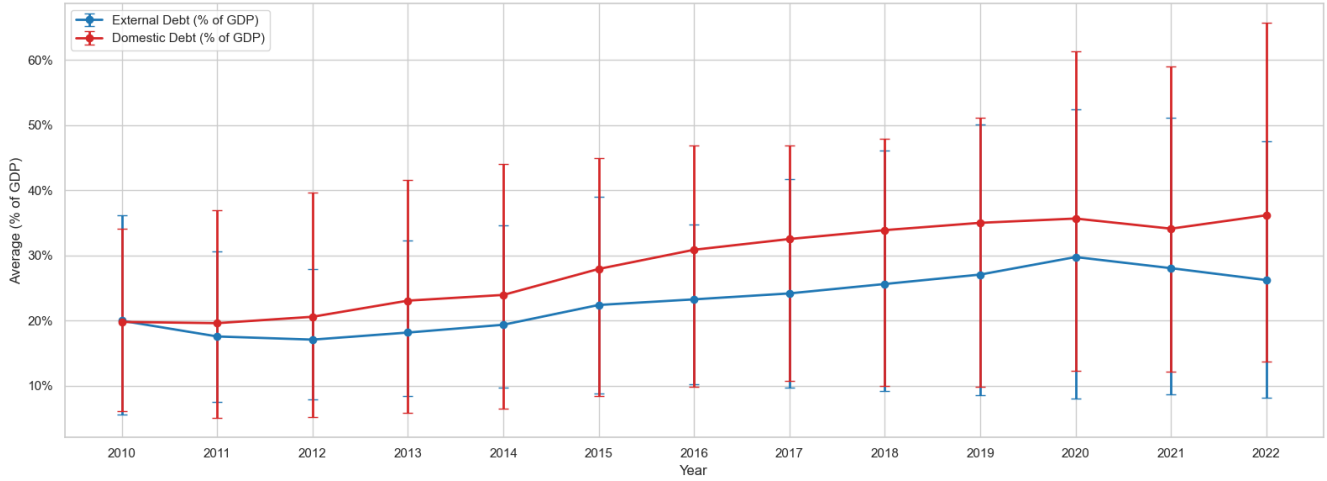
progressively shifted toward issuing longer-term bonds. In contrast, access to international bond markets remains highly concentrated and episodic. While ADD records only around 200 international sovereign bond issuances, these instruments account for a substantial share of total external borrowing. The average size of a Eurobond issuance far exceeds that of individual domestic securities or multilateral and bilateral loans (Figure 6). This magnitude—combined with their cost and maturity profiles—explains their macroeconomic significance despite the relatively low frequency of issuance.

Figure 6: Average Instrument Size



Focusing on debt stocks rather than issuance, [Arslanalp and Tsuda \(2014\)](#) document a significant increase in the share of domestic debt in African sovereign portfolios over the past decade (Figure 7). In line with our findings, they also highlight substantial cross-country heterogeneity in both the pace and nature of this shift. Figure 7 is based on the public dataset of [Arslanalp and Tsuda \(2014\)](#), last updated in May 2025. Dots represent cross-country means, while vertical lines indicate the 10th and 90th percentiles.

Figure 7: Composition of African Debt, based on Arslanalp and Tsuda (May 2025)



Leveraging on our micro-level, instrument-specific data, our analysis further unpacks this heterogeneity, reinforcing the importance of granular approaches in assessing the evolving composition of public debt across the region.

Tanzania and Uganda exemplify countries where the expansion of domestic debt has been accompanied by clear signs of market development—alongside peers such as Nigeria, Rwanda, and Mauritius. Between 2010 and 2024, both countries significantly increased their local issuance volumes while progressively raising the share of medium- and long-term instruments (Figures 8 and 9). This trend suggests a deliberate policy effort to lengthen the yield curve, supported by a credible macroeconomic policy framework, sustained GDP growth, and a consistent record of positive primary balance (cf. [World Bank \(2025\)](#)). Furthermore, the development of the domestic market in these countries has also been fostered by private and public (other than the central government) issuers, who increasingly rely on domestic securities for their funding mix (e.g., Tanga UWASA’s corporate green bond in the Tanzanian domestic market in 2024).

In contrast, Ghana and Mozambique exhibit a more liquidity-driven borrowing profile, characterized by a predominance of short-term domestic debt. Although local issuance volumes have increased in nominal terms, the maturity structure remains heavily concentrated in Treasury bills (Figures 10 and 11). This pattern may reflect a reactive reliance on domestic markets in response to tightening or deteriorating financing conditions.

Figure 8: Sovereign Borrowing by Instrument Type: Tanzania

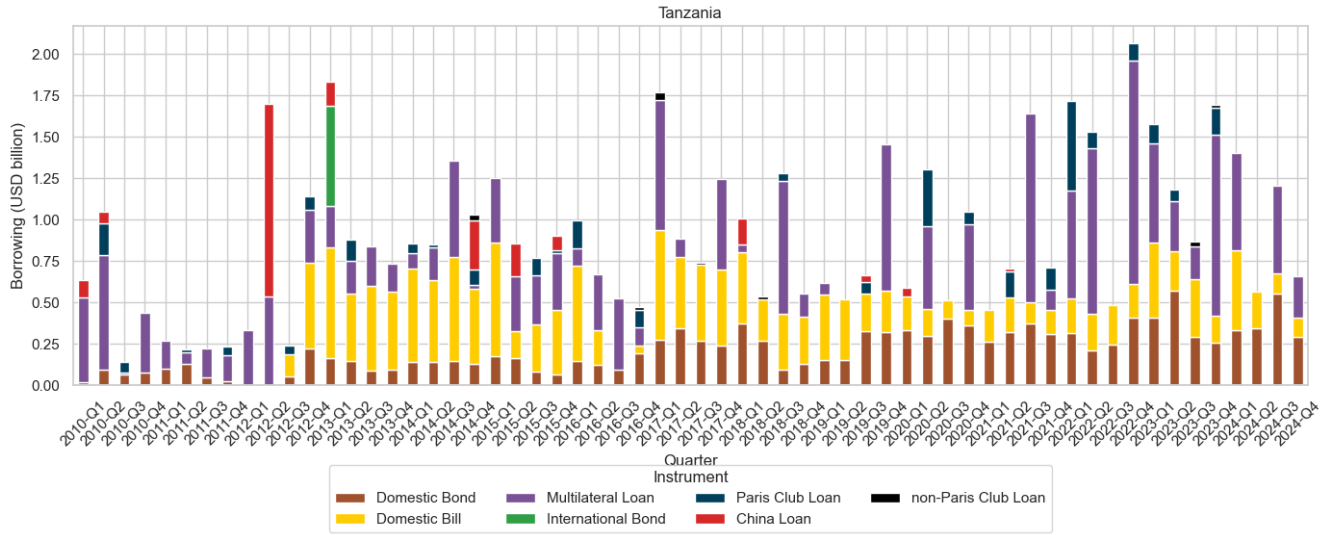


Figure 9: Sovereign Borrowing by Instrument Type: Uganda

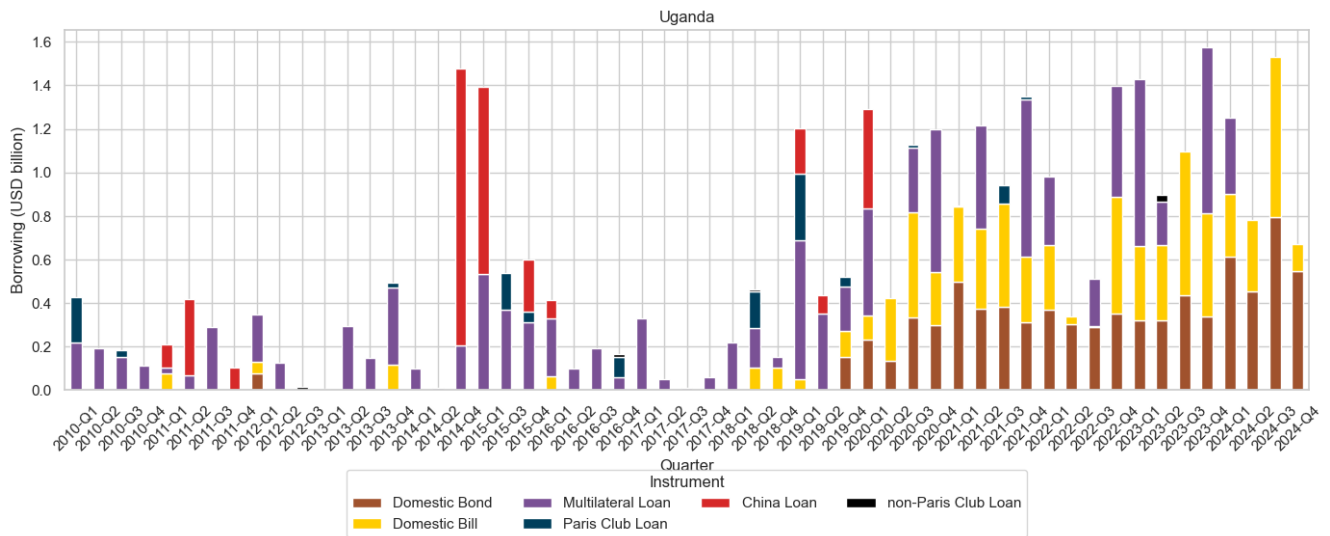
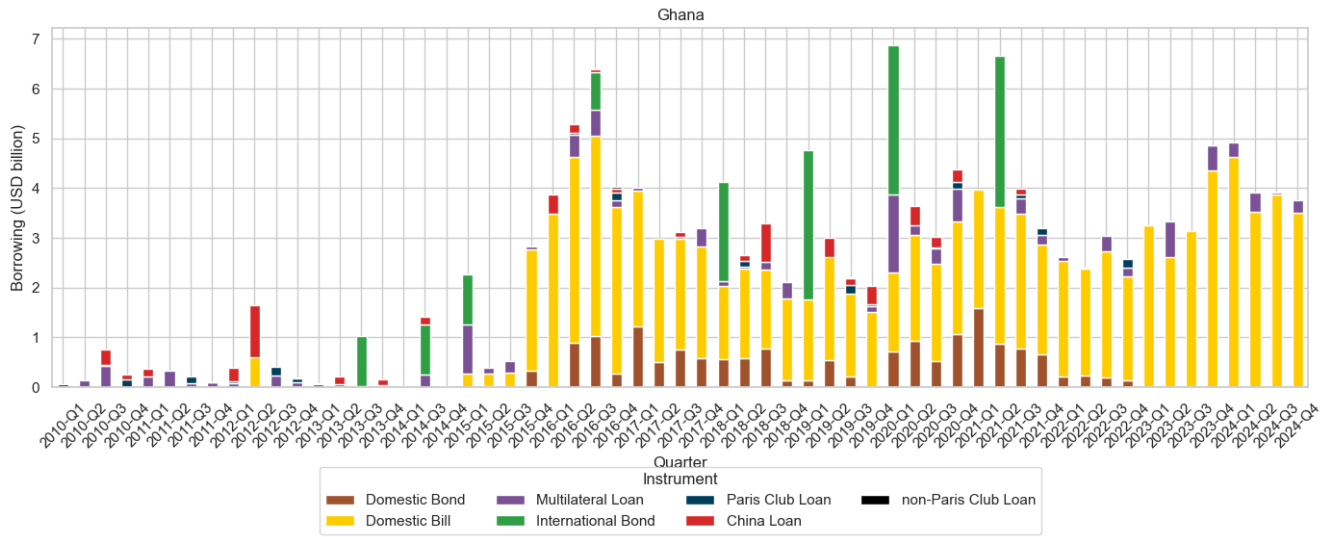


Figure 10: Sovereign Borrowing by Instrument Type: Ghana



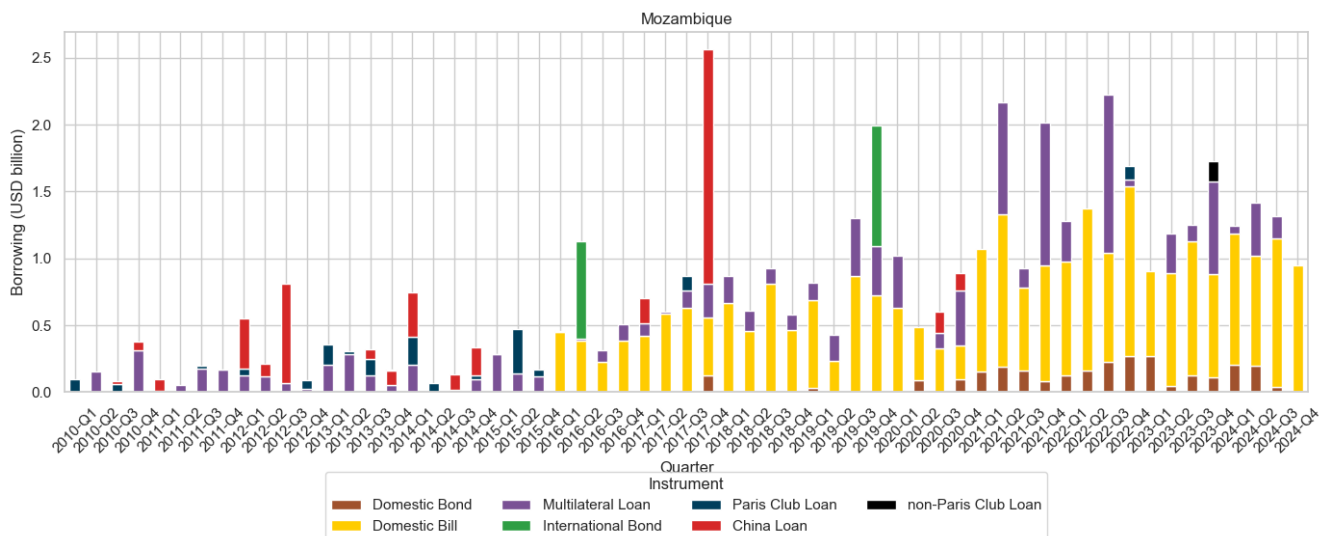
In Ghana (Figure 10), following the restructuring of domestic debt (the Domestic Debt Exchange Program (DDEP)), executed between December 2022 and March 2023, the authorities have not resorted to issuances of T bonds. Since the DDEP the demand for securities has been lower, with around 20% of domestic debt auctions not fully subscribed.

In the case of Mozambique (Figure 11), a series of adverse external shocks in 2024—combined with delays in the rollout of LNG projects—have severely constrained access to external financing. Real GDP contracted by 4.4% year-on-year in Q4 2024, reflecting a deterioration in macro-fiscal conditions. In response, the government has increasingly resorted to short-term domestic instruments to meet immediate financing needs. This trend has been further aggravated by revenue shortfalls, intensifying liquidity pressures. With a large stock of near-term maturities, Mozambique carried out a domestic debt exchange in 2025, which a credit rating agency treated as selective default.

These contrasting trajectories reflect two distinct domestic financing regimes. On the one hand, market-builders are countries that have actively invested in the development of local market infrastructure, implemented strategies to manage duration risk, and fostered a stable domestic investor base—efforts typically supported by sound macroeconomic fundamentals. On the other hand, liquidity-constrained borrowers have turned to domestic financing as a reactive measure in response to tightening external financing conditions and rising funding needs. In these cases, borrowing is often concentrated in short-term instruments, reflecting limited market depth and constrained capacity to extend maturities or effectively manage refinancing risks. For further discussion on the

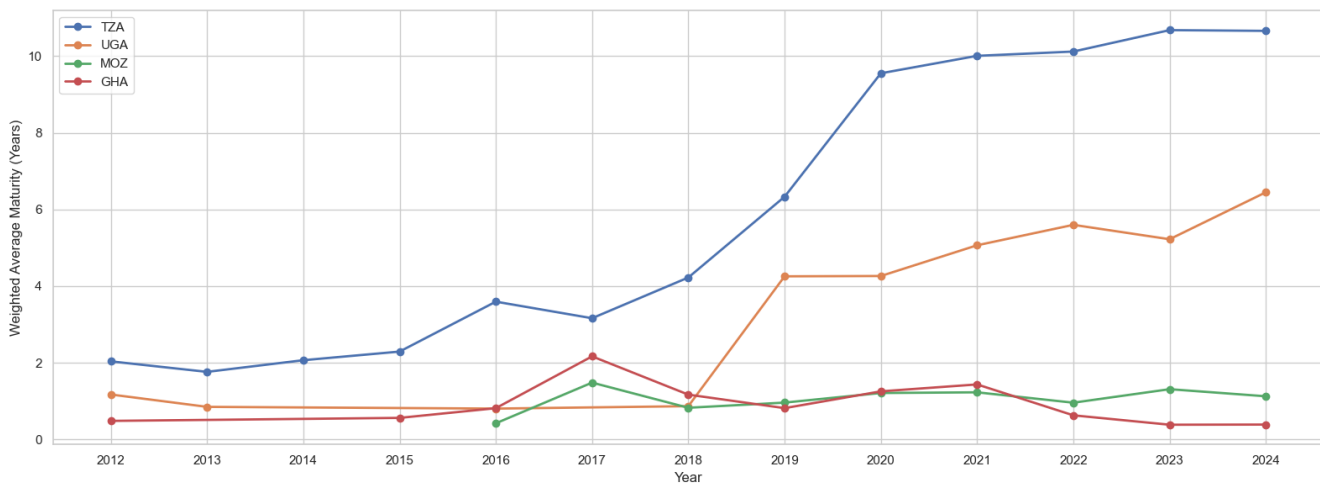
enablers of domestic market development, see IMF (2023).

Figure 11: Sovereign Borrowing by Instrument Type: Mozambique



The divergence becomes particularly evident when comparing weighted average maturities (WAM) over time. As shown in Figure 12, Tanzania and Uganda display a consistent extension of WAM, indicative of improved market depth and duration management. In contrast, Ghana and Mozambique remain reliant on short-term instruments, leaving them more vulnerable to rollover and liquidity risks.

Figure 12: Weighted Average Maturity



These descriptive statistics and stylized facts highlight the potential of the ADD dataset to support rigorous empirical research on the determinants of sovereign domestic borrowing. Future work will leverage the dataset’s micro-level granularity to empirically assess the influence of macroeconomic fundamentals, market development indicators, institutional reforms, and external shocks on governments’ reliance on domestic versus external sources of financing.

5.2 Debt Maturity: Structural Constraints and External Market Realities

Understanding the tenor of different debt instruments is critical for evaluating rollover risk, liquidity exposure, and the fiscal space available for countercyclical policy. While headline debt ratios offer only a static snapshot of sovereign indebtedness, the maturity structure provides dynamic insights into how fiscal pressures unfold over time—revealing whether governments are securing more stable, long-term financing or remain dependent on short-term instruments that amplify refinancing risks.

Instrument-level data reveal striking heterogeneity in debt maturities across financing sources. As shown in Figure 13, multilateral and bilateral official loans—including those from Paris Club creditors—tend to offer the longest maturities, often exceeding 25 years and in some cases extending up to 50 years. Such long-term financing provides predictability and plays a crucial role in supporting debt sustainability, particularly when offered on concessional terms.

By contrast, Chinese loans have somewhat shorter maturities, typically in the range of 10 to 20 years. This reflects their concentration in infrastructure and resource-backed lending, where disbursements and repayments are aligned with shorter project cycles.

Domestic and international bonds have maturities generally ranging from 7 to 15 years, though subject to considerable variation. The length of domestic securities is often constrained by the depth and development of local markets. In contrast, the maturity of international bonds varies substantially, influenced by fluctuations in global market sentiment, investor risk appetite, and liquidity conditions.

Figure 13: Distribution of Maturity by Instrument Type

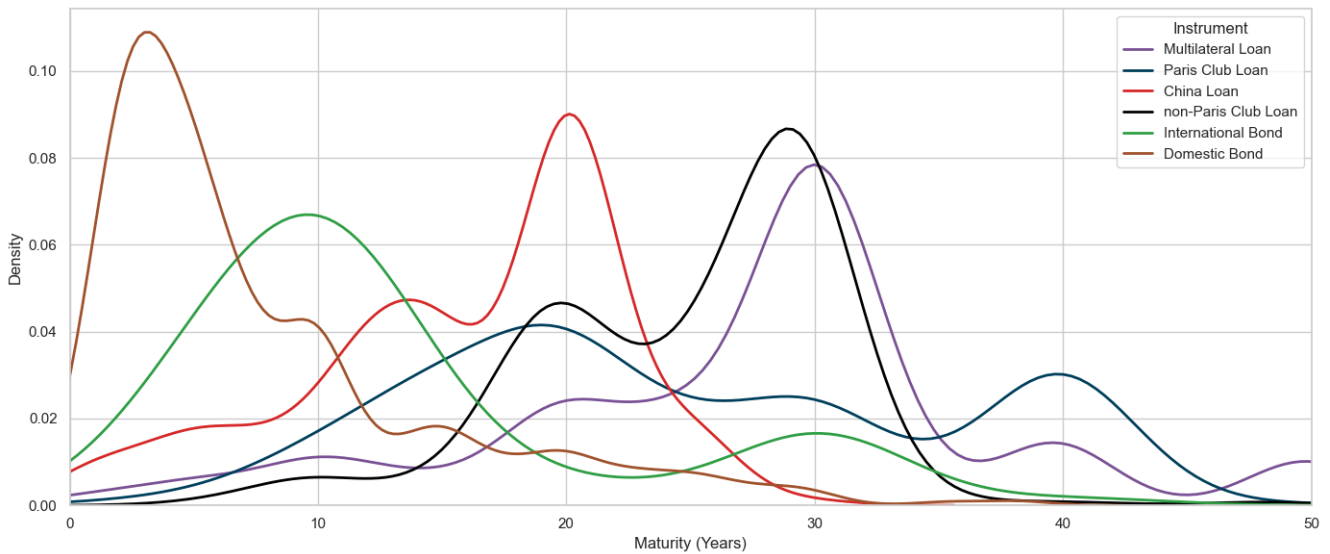


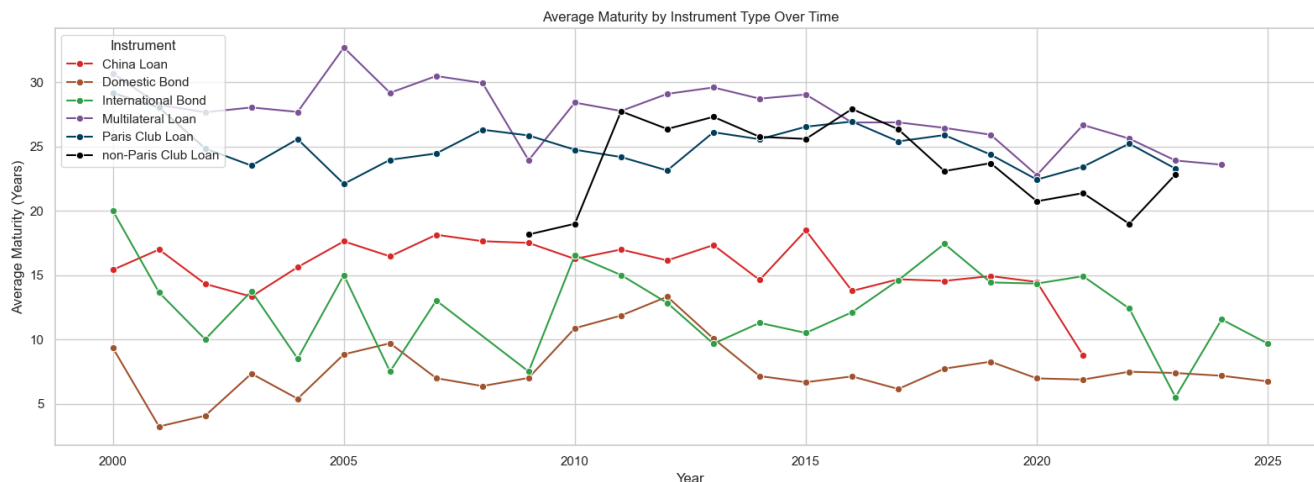
Figure 14 complements the overall maturity distribution shown in Figure 13 by tracing the evolution of average maturities by instrument type over time. Several distinct patterns emerge. Multilateral and Paris Club loans consistently exhibit the longest maturities, averaging over 25 years throughout the observed period. In contrast, non-Paris Club bilateral loans initially followed a similar maturity profile but have experienced a notable decline since 2015. This trend may reflect a shift in lending terms or composition, potentially indicating a move toward more commercially oriented arrangements or shorter project cycles.

Domestic bonds have remained within a relatively narrow maturity range—typically between 8 and 10 years—highlighting persistent structural constraints in local capital markets despite ongoing reform efforts. Meanwhile, international bonds, once considered a tool for securing medium-term financing, have shown a declining maturity trend since 2019. This likely reflects tightening global financial conditions, reduced investor appetite for frontier markets, and increasing challenges to market access.

Providing the full maturity profile for all African countries—across creditor types and instruments—is a major contribution of ADD and a foundational step for granular debt risk analysis. It allows for country-specific assessments of rollover vulnerability, debt service concentration, and the potential effects of external shocks on refinancing conditions. In particular, ADD enables the computation of Weighted Average Time to Maturity (WATM) at the portfolio level for each country—across and within creditor types. By tracking changes in WATM over time, we can better

assess the effectiveness of debt management strategies and anticipate potential stress points in sovereign refinancing cycles.

Figure 14: Average Maturity in Years by Instrument Type



5.3 Interest Rates Dispersion and the Real Cost of Domestic Borrowing

We now turn to the cost of sovereign borrowing. Interest rates are a critical lens through which to assess debt sustainability, risk pricing, and investor confidence. Nominal borrowing costs vary substantially across instrument types, reflecting differences in concessionality, market risk, and macroeconomic fundamentals. Yet nominal rates alone are not sufficient: once adjusted for inflation, real interest rates often reveal negative returns on domestic securities—particularly in lower-income and high-inflation economies. This is a typical sign of financial repression ([Reinhart and Sbrancia, 2015](#)).

Nominal interest rates vary systematically across creditor types and instruments, following a clear gradient from multilateral loans to domestic market borrowing. Multilateral financing remains the cheapest source of funds, with interest rates consistently below 2%—and, for many countries receiving concessional terms, below 1% in recent years. Bilateral loans and Chinese financing carry moderately higher rates, while international bonds are priced at market rates and exhibit significantly greater volatility. Ex-ante, domestic bonds and Treasury bills constitute the most expensive sources of financing on a nominal basis, with rates regularly exceeding 10% (Figure 15 and Table 4). In 2024, the average cost of domestic bonds surpassed 12%, compared to multilateral

loans, which remained below 1%.¹⁷

Figure 15: Average Interest Rates by Instrument Type

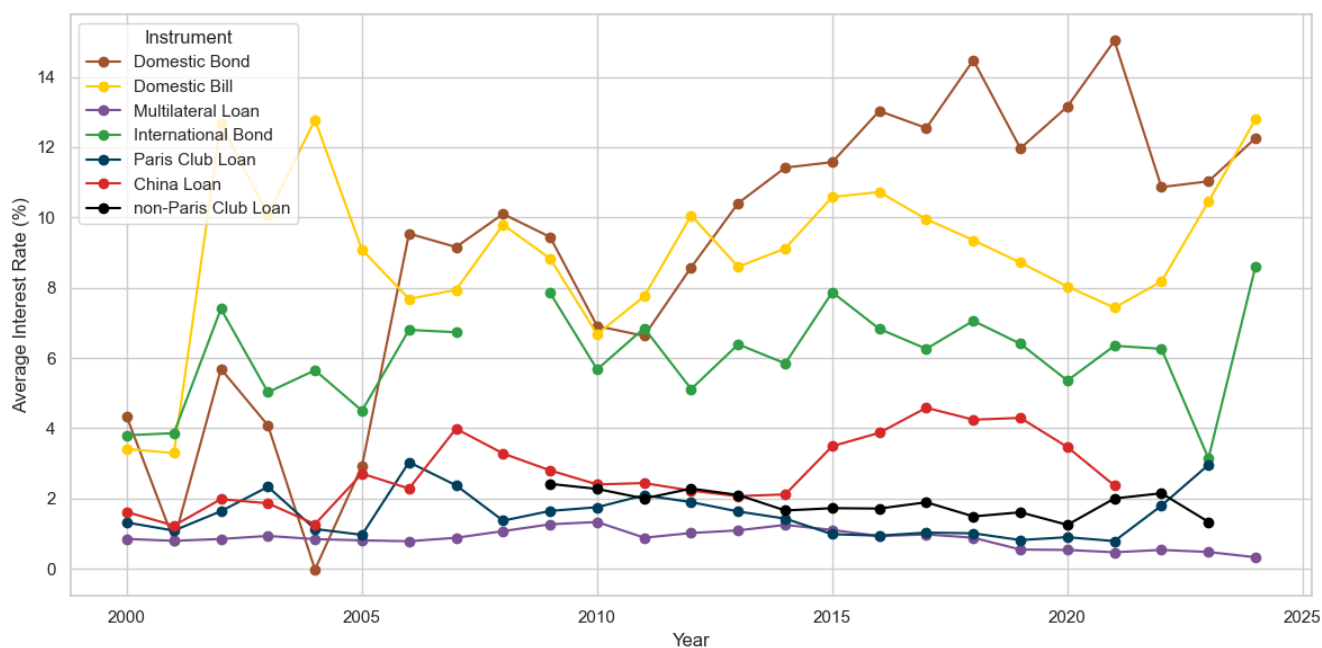


Table 4: Mean and Median Interest Rates by Instrument Type

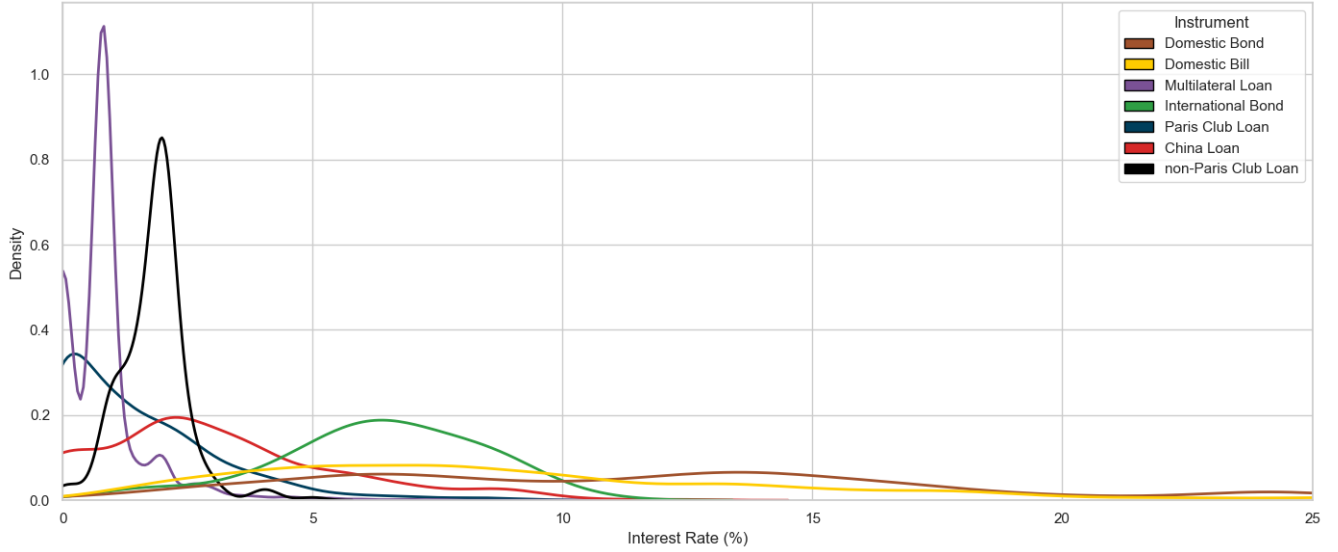
Instrument Type	2010		2019		2024	
	Mean	Median	Mean	Median	Mean	Median
Domestic Bond	5.40	3.08	11.91	11.20	12.84	12.36
International Bond	5.68	5.65	6.43	6.90	8.36	8.00
China Loan	2.22	2.00	4.24	2.85	n.a.	n.a.
Paris Club Loan	1.87	1.90	0.82	0.60	n.a.	n.a.
non-Paris Club Loan	2.60	2.50	1.54	2.00	n.a.	n.a.
Multilateral Loan	1.09	0.80	1.01	0.80	0.72	0.00

Multilateral and bilateral loans are tightly clustered at low rates, while bonds—especially domestic ones—exhibit broader dispersion and heavier upper tails (Figure 16). This suggests not only higher

¹⁷Due to limited recent reporting, average interest rates on bilateral debt instruments cannot be reliably estimated for the most recent years.

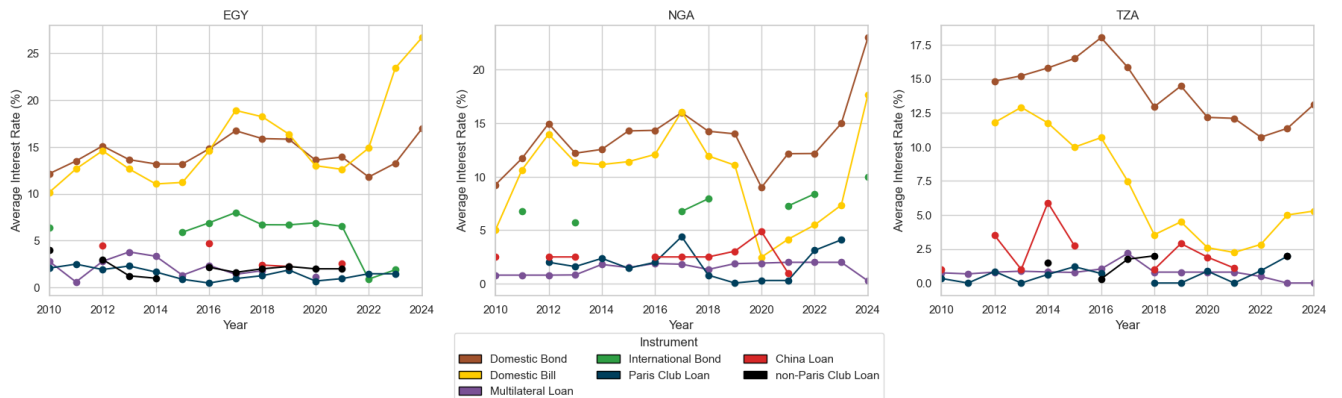
cost but also increased exposure to interest rate volatility for governments relying on local currency markets.

Figure 16: Distribution of Interest Rates by Instrument Type



To provide further details, Figure 17 compares Egypt, Nigeria, and Tanzania. While the general ranking of interest rates across instruments holds, only in the case of Tanzania—up until 2020—we observe that interest rates on domestic bonds are consistently higher than those on short-term bills.

Figure 17: Average Interest Rates by Instrument Type: Case Study Comparison



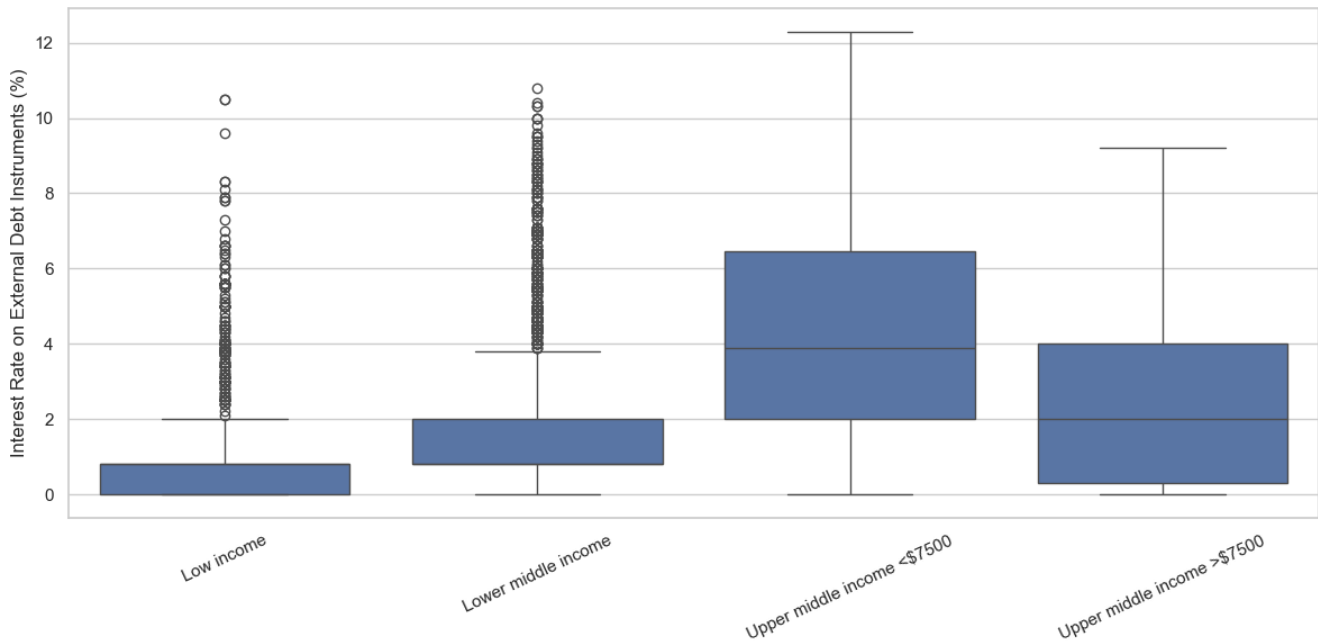
We further examine the distribution of interest rates across countries grouped by income, following

the World Bank classification. We split the upper-middle-income category into two subgroups: countries with a per capita income between USD 4,500 and USD 7,500, and those with per capita income between USD 7,500 and USD 14,000.¹⁸

Looking at external debt, we find that low- and lower-middle-income countries have the lowest average interest rates, largely due to their reliance on official creditors and a substantial share of concessional loans (Figure 18). However, these countries also display high dispersion in interest rates, as illustrated by the presence of a large number of outliers (the dots above the top whiskers).

Average interest rates are highest among upper-middle-income countries with per capita income below USD 7,500, likely reflecting a combination of weaker credit ratings (relative to richer countries) and greater reliance on market-based instruments—such as bonds—compared to poorer countries. In contrast, wealthier countries within the upper-middle-income group pay lower average rates despite having a larger share of marketable debt, suggesting stronger creditworthiness and better access to favorable borrowing terms.

Figure 18: Distribution of Interest Rates of External Debt Instruments by Income Group

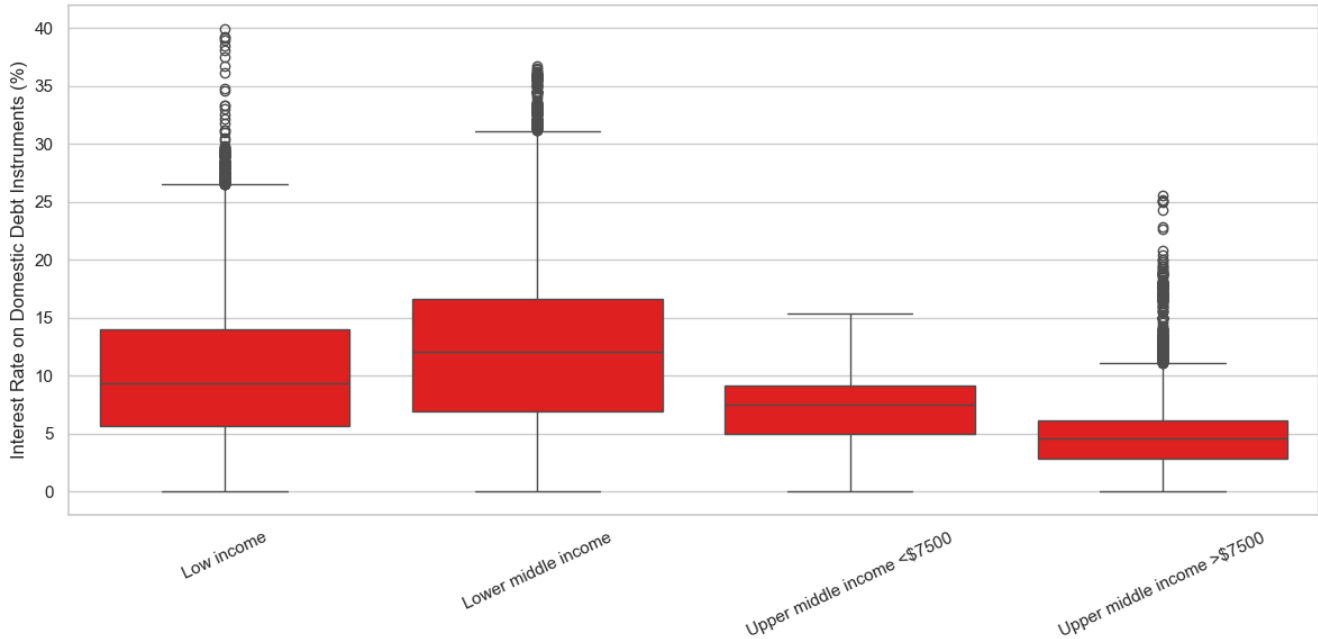


The pattern reverses in domestic markets. In Figure 19 low-income and lower-middle-income coun-

¹⁸According to the World Bank classification based on 2023 gross national income (GNI) per capita, calculated using the World Bank Atlas method, countries are grouped as follows: low income, USD 1,145 or less; lower-middle income, USD 1,146–4,515; upper-middle income, USD 4,516–14,005; and high income, more than USD 14,005.

tries consistently pay higher domestic rates than upper-middle-income peers. Weaker monetary credibility and more fragile financial sectors in lower-income countries likely explains this domestic premium.

Figure 19: Distribution of Interest Rates of Domestic Debt Instruments by Income Group



When we weight interest rates on domestic instruments by issuance size within each country, we find that bonds carry higher average interest rates than bills. However, there is substantial overlap in the distribution of bond and bill rates. Bill rates tend to be significantly more volatile than longer-term instruments, and we occasionally observe a flattening—or even an inversion—of the yield curve (Figure 20). A divergence appears in the years 2018–2024, when short-term interest rates declined significantly more than those on longer-term bonds.

A key reason why developing countries have historically struggled to borrow in their own currency is the risk that governments may be tempted to inflate away local-currency debt. Theoretical models highlight a fundamental trade-off: issuing long-term, fixed-rate debt in local currency can reduce rollover risk and shield government balance sheets from the adverse effects of currency depreciation. However, it also increases the risk of inflationary pressures and damages credibility, as governments may face incentives to inflate their obligations (Calvo, 1988; Ottonello and Perez, 2019). As a result, borrowing in foreign currency or at shorter maturities tends to carry lower (*ex ante*) interest rates (Broner et al., 2013; Du et al., 2020).

Figure 20: Average Interest Rates of Domestic Markets Instruments Weighted by Issuance for Each Country

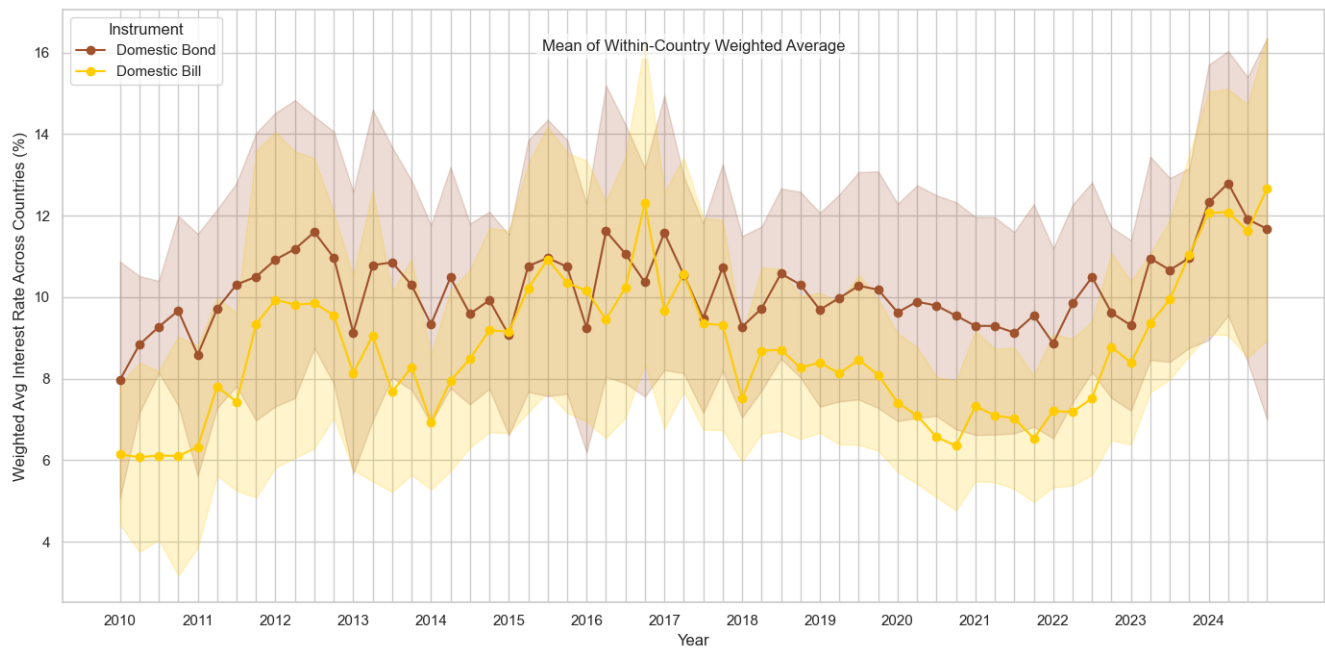
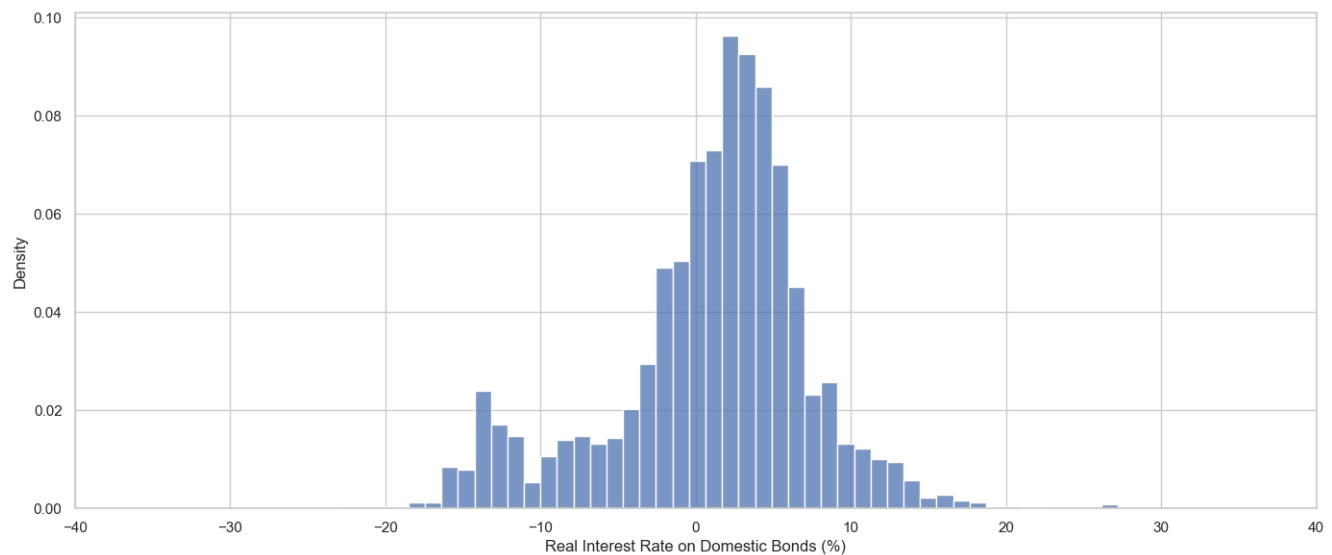


Figure 21: Distribution of Real Interest Rates of Domestic Debt Instruments



Empirical patterns emerging from ADD support this view. Figure 21 displays the distribution of inflation-adjusted real yields. Although real yields are, on average, slightly positive, the distribu-

tion is left-skewed, indicating that many bonds carry negative real yields—sometimes reaching as low as -20% per year.

Also, for real rates, there is substantial heterogeneity across countries. In some cases, extremely high inflation drives real yields deep into negative territory, with values reaching -30% in Egypt and -40% in Nigeria. In Tanzania, average real yields are higher, but still occasionally drop below -30% , likely due to inflation spikes between 2008 and 2012, when annual price increases exceeded 15% (Figure 22). As a reminder, inflation-adjusted real yields (Equation 5) are calculated based on the cumulative increase in price over the lifetime of the security using the Fisher equation.

Figure 22: Distribution of Real Interest Rates of Domestic Debt Instruments: Case Study Comparison

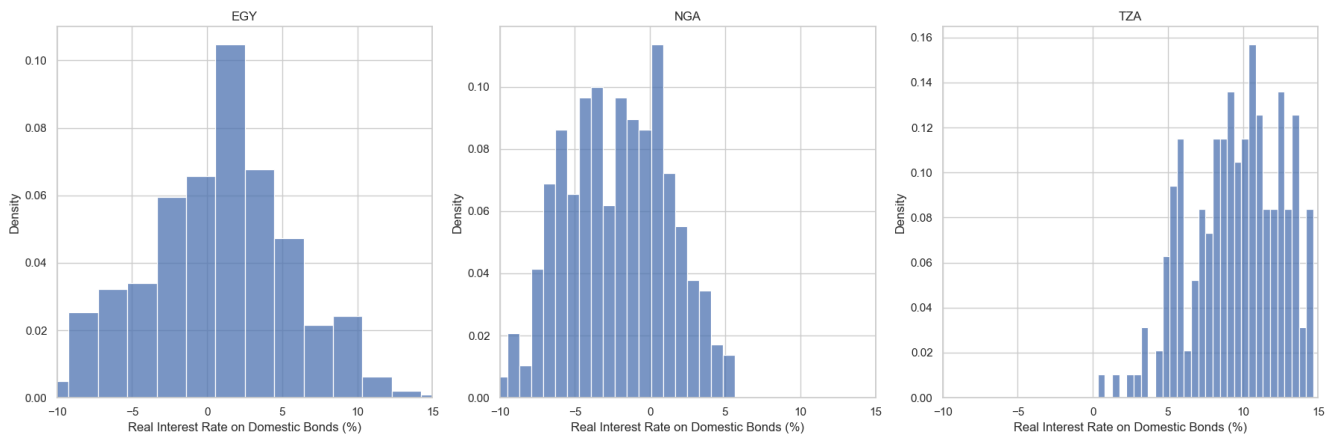
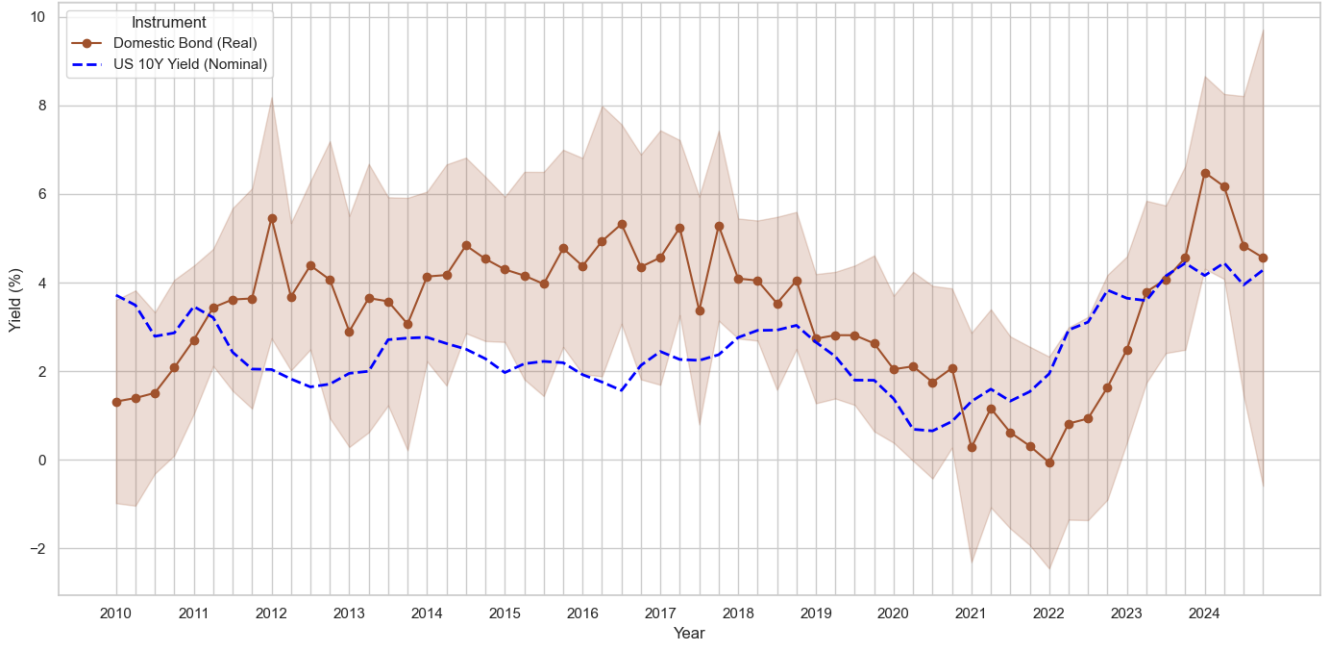


Figure 23 compares the quarterly evolution of real interest rates on domestic bonds—averaged across countries and weighted by issuance—with the nominal yield on 10-year US Treasuries. The trajectory of real yields in domestic markets exhibits three distinct phases: a steady upward trend until 2012, a gradual decline from 2013 to 2019, followed by a sharp drop from 2020 to early 2022, coinciding with the COVID-19 shock and the implementation of expansionary monetary policies in both advanced and emerging economies. Since 2022, real yields have surged, peaking in 2023–2024 amid tightening global financial conditions and high inflation.

The US 10-year yield, plotted in blue, follows a broadly similar shape—albeit at lower levels—underscoring the correlation between global financial conditions and domestic borrowing costs. The divergence in 2020–2022, when real domestic yields fell below the US benchmark, may reflect the temporary effect of inflationary surges across African markets. The convergence in 2023–2024 could suggest the subsequent tightening of domestic monetary policy, driving up nominal rates.

Figure 23: Average Real Interest Rates of Domestic Markets Instruments Weighted by Issuance for Each Country



This section highlights the substantial heterogeneity in borrowing costs across instruments, countries, and over time—underscoring the segmentation of sovereign financing markets in Africa. By leveraging the granular instrument-level detail of ADD, we provide a systematic comparison of nominal and real interest rates across both domestic and external debt. These findings open important avenues for future research. In particular, ADD could enable the construction of local currency sovereign risk indicators (as in [Du and Schreger \(2016\)](#)), dollar-equivalent foreign investors’ returns on domestic securities; it enables the analysis of inflation pass-through into interest rates, and the empirical testing of theoretical predictions on monetary and fiscal policy trajectories (in line with [Hadzi-Vaskov et al. \(2025\)](#)), term premia, and currency denomination. Such work could deepen our understanding of the constraints faced by sovereigns seeking to borrow in their own currency (trying to address the “original sin” problem) and help refine policy guidance on domestic debt market development. The ADD could also provide a valuable lens through which to study recent dynamics of debt currency conversion, such as the growing trend of Chinese loans being swapped from USD into CNY ([Bloomberg \(2025\)](#)). By capturing instrument-level variation in borrowing costs, ADD would make it possible to identify which loans are the most expensive—and therefore where swaps could generate the largest savings—as well as which loans have the longest maturities, where currency conversion could yield longer-term advantages. This would allow researchers and policymakers to quantify how such operations affect sovereign financing costs, risk exposures, and

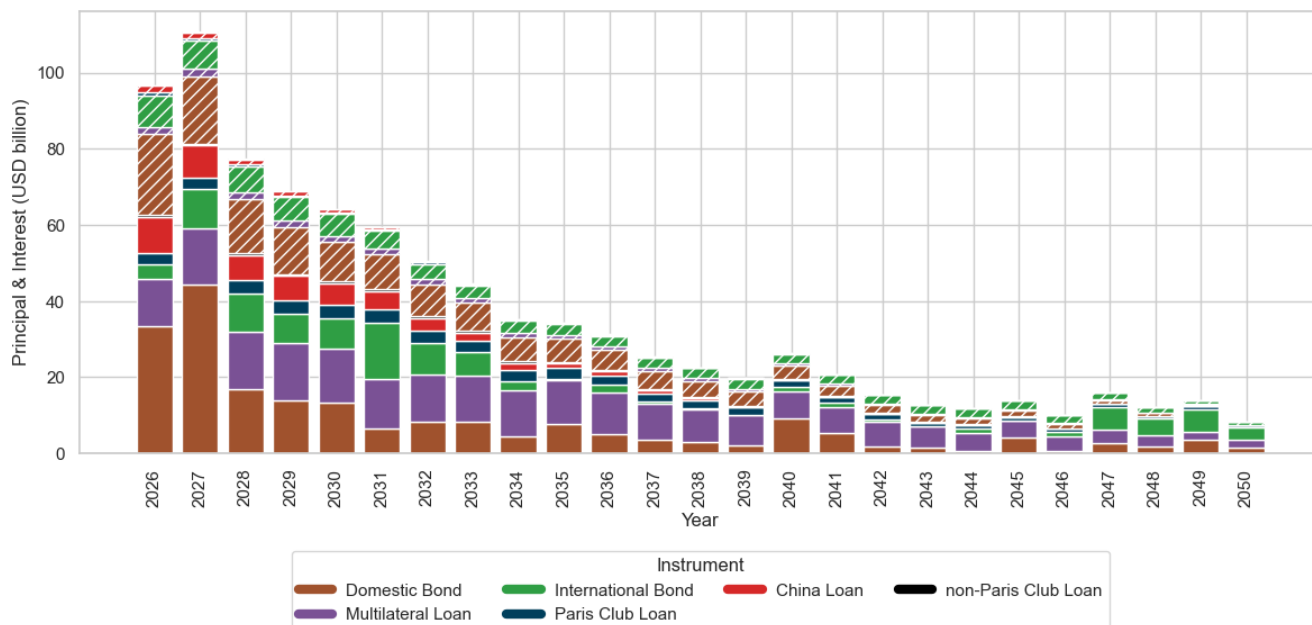
also clarify the distribution of benefits between borrowers and creditors.

5.4 Debt Service Pressures and the Reconfiguration of Sovereign Financing Towards Domestic Instruments

Having analyzed the maturity structure, the cost of capital, and real yield dynamics, we now examine how debt service obligations are distributed over time and how this shapes sovereign financing strategies. The evolution of repayment schedules—especially under tightening global financial conditions—has direct implications for rollover risk, liquidity management, and the balance between external and domestic borrowing.

Figure 24 presents the consolidated debt service profile for the region through 2050, distinguishing between interest (patterned bars) and principal (solid bars) payments. The repayment structure is heavily front-loaded: total annual debt service exceeds USD 100 billion in 2026 and remains above USD 60 billion until 2030. This elevated burden is driven primarily by interest and amortization on international and domestic bonds, reflecting the costliness and shorter maturities of market-based debt.

Figure 24: Debt repayment Schedule



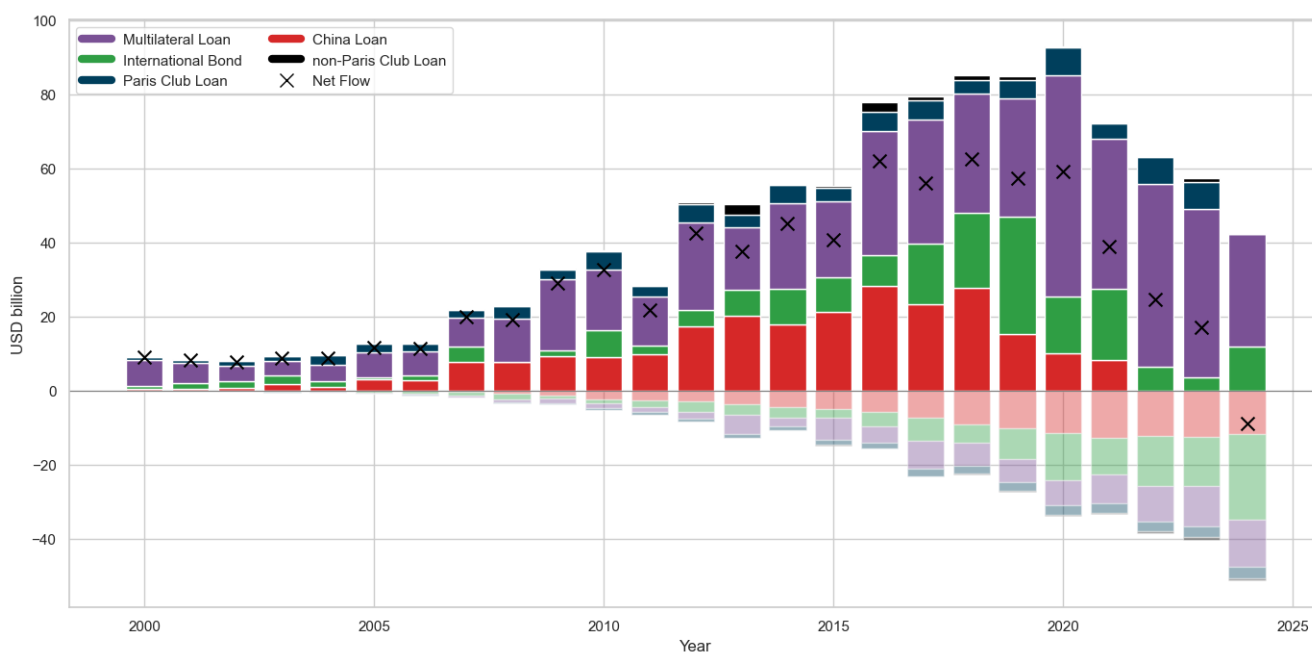
By contrast, multilateral and bilateral loans exhibit smoother amortization and lower interest

costs, consistent with their concessional terms. This pattern highlights the continued importance of official creditors in providing stable, long-term financing—particularly during global tightening cycles.

The drop in repayment obligations after 2036 reflects both the maturity structure of current instruments and the absence of long-term amortization schedules in the available data for certain bilateral creditors—notably China. Conversely, the presence of international bonds maturing in the 2040s and even 2050s—issued by Morocco, Namibia, Nigeria, and South Africa—illustrates how select issuers have begun to tap ultra-long maturities on international markets, albeit in limited volumes and among better-rated sovereigns.

Our data also allow us to examine patterns in debt flows, specifically, how much African countries repay versus how much they newly borrow. Net external debt flows peaked during the 2016–2020 period, when African countries were borrowing approximately USD 60 billion more per year than they were repaying (Figure 25, where disbursements are shown in positive values, repayments (principal and interests) in negative values, and the difference marked with an “X”).

Figure 25: Net External Debt Flows by Instrument Type



Since 2021, net external debt flows have declined steadily, turning negative in 2024. This shift reflects a sharp contraction in recorded new external lending, particularly in market-based financing (e.g., international bonds) and official bilateral lending. However, this trend must be interpreted

with caution. Notably, Chinese lending appears to come to a near standstill in our dataset after 2021—reflecting the cut-off date of the data source.¹⁹ Similarly, for other bilateral lenders data is not yet available beyond 2023. The apparent decline in external inflows is therefore partly driven by data limitations.

The decline in external financing has coincided with a visible expansion of domestic debt issuance. As previously discussed, governments have increasingly turned to local markets, not only to bridge fiscal gaps (*Liquidity-constrained borrowers*) but also to reduce dependence on volatile external funding (*Market-builders*). This shift is evident in both the volume and maturity profile of domestic instruments, with several countries lengthening the tenor of their local debt stock.

However, this reconfiguration is not without cost. Domestic borrowing carries higher nominal and real interest rates. Moreover, the front-loaded nature of local debt repayments—combined with inflation and currency risks—can amplify rollover pressure if local market conditions deteriorate or investor confidence weakens.

This section provides new evidence on the tension between short-term repayment pressures and the drying up of external financing options. The ADD dataset enables a consolidated view of debt service schedules by instrument type and creditor category across African sovereigns. It highlights the increasing burden of market-based debt and the reliance on domestic markets as external flows contract.

6 Conclusions

ADD represents a major advance in the sovereign debt data landscape, offering the most comprehensive and granular dataset to date on both external and domestic public borrowing by African governments. By systematically collecting, digitizing, and harmonizing issuance-level data from over 50,000 debt instruments between 2000 and 2024—amounting to more than USD 6.3 trillion—ADD provides unprecedented insight into borrowing volumes, terms, and structures. This is particularly significant for domestic debt, which has long been underrepresented in global datasets.

Through this paper, we presented a first look at the emerging patterns in African debt issuance, including a sharp rise in domestic borrowing and wide variation in borrowing costs, maturities, and repayments schedules. We also estimate the ex-post real borrowing costs—a critical metric for debt management. These findings illustrate the analytical power of ADD and only begin to

¹⁹Media reports and other data suggest new lending has wound down considerably since.

tap its potential.

Looking ahead, we plan to leverage ADD to analyze how African governments’ borrowing strategies adjust in response to economic shocks and how they evolve in response to financial market development. Shocks to be analyzed include commodity price fluctuations, global (including GFC and COVID) and domestic economic shocks, and climate-related events. In addition, the ADD could be used to support future research on domestic debt defaults and restructuring processes, with a focus on how these episodes influence the subsequent development of domestic debt markets. All these questions appear to be highly relevant in the current context of structurally declining official financial flows, calls for private sector participation, and investors’ appetite for local currency bonds amid risks to the US dollar hegemony.

The instrument-level data can bring new depth in studying the process of deepening of local financial markets, by tracing the emergence of yield curves, issuance profiles, and maturities lengthening. We may also study the role of reforms that facilitate foreign investor participation, such as the inclusion of LC bonds in global bond indices (Arslanalp et al., 2020), the emergence of Euroclear-able LC instruments that improve settlement and secondary market trading²⁰, and the development of regionally integrated debt markets, such as the West African CFA zone.²¹ These structural factors likely contribute to the recent domestic debt boom and merit deeper empirical exploration.

We are committed to making ADD publicly available to foster transparency and support evidence-based policymaking. The dataset will be freely accessible online, along with full documentation and source references. While challenges remain—particularly in expanding the coverage of commercial and syndicated bank lending, and ensuring full coverage of domestic securities—future versions will aim to close these gaps.

Beyond its value for researchers and policymakers, ADD represents a first-of-its-kind effort to conduct a public debt census across Africa - serving not only academic and official stakeholders but also civil society organizations and the broader public. Amid intensifying calls for debt transparency and accountability, ADD offers an open-access platform to scrutinize public borrowing and inform democratic debate. It complements and reinforces initiatives such as Georgetown University’s “Public Debt is Public” initiative²², by greatly improving transparency at scale, and grounding it in a replicable empirical infrastructure.

²⁰South Africa has long issued Euroclear-able bonds; Nigeria and Côte d’Ivoire have followed suit in recent years, and Egypt is reportedly preparing similar arrangements.

²¹The WAEMU region has pursued a harmonized approach to debt issuance, with regional auctions and standardized instruments across member states.

²²See more on <https://mccourt.georgetown.edu/news/sovereign-debt-forum-massive-data-institute/>

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