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Who Lends to Africa and How?
Introducing the Africa Debt Database

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ABSTRACT

WHO LENDS TO AFRICA AND HOW? INTRODUCING THE AFRICA DEBT DATABASE[1]

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Africa's sovereign debt markets are not well understood, partly due to a lack of data. This paper introduces the Africa Debt Database (ADD), the most granular and comprehensive dataset on external borrowing by African governments thus far. Our project moves beyond existing aggregate datasets and instead releases information on individual loans and bonds, in particular on the financial terms of each instrument. Taken together, we cover nearly 7000 loans and bonds between 2000 and 2020, with a total volume of 644 billion USD. Using this data, we study Africa's record lending boom of the 2010s in detail. The debt boom was mainly driven by large sovereign bond issuances in London and New York, as well as growing lending by Chinese state-owned banks. The micro data also reveal a large variation in lending terms across countries, time, and creditors. Sovereign external bonds have interest rates of 6 percent, on average, Chinese banks charge 2-4 percent, and multilateral organizations just 1 percent. Strikingly, many governments in Africa simultaneously borrow large amounts from both private and official creditors, at vastly different rates. The large differences in debt servicing costs are indicative of a cross-creditor subsidy, as cheap concessional loans can be used to pay the high interest to private or Chinese creditors.

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[1]We thank Szabolcs Molnar for excellent research assistance.

1. Introduction

Since the debt cancellations of the early 2000s, debt levels across Africa have been on the rise again. The emergence of new lenders to the continent has also made the debt landscape more fragmented, with China emerging as a major creditor to African governments (Horn et al. 2021). These trends have led to increasing debt sustainability challenges, which have now been further exacerbated by the Covid-19 pandemic. Recent experiences have highlighted the centrality of debt transparency both to avoid defaults and effectively resolving renegotiations. Mozambique's recent default, for example, came after large amounts of previously hidden debt became public knowledge. In Zambia, a key stumbling block during debt renegotiations with private creditors is the role of Chinese debts, in particular the lack of transparency on lending volumes and interest payments (World Bank, 2021).

There is a growing international recognition that better, more granular debt data is needed in developing countries. Multiple international initiatives are under way, but, so far, these remain decentralized and piecemeal. For example, the G7 members have committed to start publishing granular data by end-2021 on their new overseas lending going forward (G7, 2021).[2] The OECD will launch a repository in 2022, with granular data on private sector lending to low income countries based on voluntary disclosure by banks (IIF, 2019 and OECD, 2021). Public debt management offices across Africa are also improving the quality of their national debt reporting.[3] These efforts will over time lead to debt data of much improved quality and granularity. But for the time being, publicly available data remains scarce, especially backward looking data. An African "sovereign debt census" is missing. This paper wants to contribute filling that gap.

The main aim of this project is to increase debt transparency in Africa, by providing rich, micro-level data on the history of external lending by African government in the past 20 years. Existing public datasets on African debt are rather aggregate in nature, typically available at the country-year level, sometimes also broken down by creditor type. This is true for the most widely used international debt database in developing countries, the World Bank's International Debt Statistics (IDS), but also applies to other datasets by international financial institutions (IFIs), such as the IMF's International Financial Statistics, the IMF's Global Debt Database, or its World Economic Outlook (WEO) dataset. Granular data on one type of lending, sovereign bonds, is available by commercial providers such as Bloomberg, but at a subscription cost, while other types of debt such as government-to-government loans, loans by multilateral organization or by Chinese banks are not covered. Multilateral lenders and organizations like the OECD also provide details on their individual loans, but this data is often scattered or available in a format that is not easy to interpret or extract for non-experts. On Chinese lending to Africa, various datasets exist, but this data is not systematically compared or merged with data on other lending to Africa, so that it is difficult to gain a bigger picture across creditors and years (Bräutigam et al., 2020; Dreher et al., 2021).

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[2] The UK has already started to disclose new loans, but no data on interest rates are shown, see https://www.gov.uk/government/publications/ukef-adherence-to-g20-operational-guidelines-for-sustainable-financing-2020-21.
[3] For example, Zambia provided detailed debt data by creditor for the first time in 2021. See https://www.mof.gov.zm/?wpfb_dl=378.

The African Debt Database is set up to overcome these hurdles. It is a publicly available archive of African loans and bonds that is easy to access, easy to understand, and comprehensive in nature. For each bond or loan, we show key characteristics, including their volume, maturity, grace period and interest rate. Our "consensus dataset" is hand-coded and assembled by merging and comparing a broad range of sources and existing datasets, as described below. This granular data allows us to reassess Africa's sovereign debt landscape in a more systematic way. We ask: Who lends to African governments and how.

Taken together, we cover over 7400 loans and bonds between 2000 and 2020, with a total volume of 790 billion USD. Using this data, we study Africa's record lending boom of the 2010s in detail. The debt boom was mainly driven by large sovereign bond issuances in Western capital market as well as growing lending by Chinese state-owned banks. We also find that multilateral organizations participated in the boom, lending much higher amounts than in the 2000s. Furthermore, we document a large variation in lending terms across countries, time, and creditors, by leveraging the rich micro data that is now available. Sovereign external bonds have interest rates of 6 percent, on average, Chinese banks charge 2-4 percent, and multilateral organizations just 1 percent. Strikingly, many governments borrow simultaneously from these different creditor groups, at vastly different rates. The large differences in debt servicing costs are indicative of a cross-creditor subsidy, as concessional loans can be used to pay the higher interest to private or Chinese creditors.

The final database can be downloaded on the Kiel Institute website as well as at our personal websites: https://sites.google.com/site/christophtrebesch/data or https://www.davidmihalyi.com/data-tools.

The remainder of the paper is structured as follows: Section 2 provides an overview of the data collected and sources used, Section 3 shows total lending flows over time, thus documenting Africa's debt boom, and compares our data to aggregate debt statistics by the World Bank. Section 4 benchmarks our results to existing dataset. Section 5 zooms into the loan terms and intra-creditor differences in lending to Africa.

2. The African Debt Database: sources, coding and dataset construction

In this section we discuss the data collected and the sources used, as well as definitions and concepts.

<u>Scope and structure of the dataset:</u> The dataset is gathered instrument-by-instrument, so each loan or bond is a single record. We cover the period between 2000 and 2020 and all of Africa, (all 54 out of the 54 countries on the continent). Due to our emphasis on issuance and micro data, we report commitments rather than disbursements.

As a general rule, we focus on external debt by central governments. External debt is defined by currency, governing law, and place of issuance, with an emphasis on currency. African government debt in hard

currency is thus generally part of this data collection, as are sovereign bonds placed in New York or London or loans extended by Chinese state-owned banks.

More specifically, the following list describes the selection criteria for the dataset:
- We exclude domestic government debt, in particular local currency bonds, even if they are held or issued abroad.
- We include government-to-government loans, including those extended by China's state-owned companies (see below for a definition of official vs. private debt).
- We exclude debt raised by public corporations and debt that is publicly guaranteed, partly due to our focus on government debt but also because of systematic data. In fact, data on lending by state-owned enterprises in developing countries is hard ot get by, as noted by an IMF report, for example: "With a few exceptions, fiscal reporting in SSA countries is usually limited to the central or budgetary central government." (Baum et al. 2020).
- We drop short term debt instruments, thus focusing on external public bonds and loans with maturities of a year or more.
- Regarding debts by private creditors, we focus on sovereign bonds only. This means that, for now, the dataset does not cover bank loans or loans by commodity traders. A main reason why these loans are not included is a lack of systematic data at the loan-level. According to Connelly (2021) international bank lending to African governments is relatively small compared to the large amounts of sovereign bond lending. Moreover, he describes how opaque bank lending continues to be in Africa. Also the lending by commodity trading firms is opaque, but larger in terms of total amounts, in particular in poorer countries like Chad, the Republic of Congo or South Sudan (Mihalyi et al. 2020).
- We focus on loans and bonds and do not include grants in this version of our database.
- We excluded loans where the recipient was a regional organization.

To distinguish between official and private debt, we build on the widely used OECD definition of official lending, according to which "*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 transactions 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 2018, p. 10). Following this definition, all Chinese loans included here are official loans, including the large amounts of lending by state-owned banks. Relatedly, and following Horn et al. (2021), bilateral lenders include the central government, government agencies and state-owned banks. Multilateral lenders are international or regional financial institutions like the World Bank, the African Development Bank or the Islamic Development Bank.

In a next step, we discuss the sources of our dataset.

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, namely the so-called Development Assistance Committee (DAC) members and additionally 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.[4] 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 (2470 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 therefore we kept them blank. [5]

Chinese lenders (1149 loans): We use the loan level dataset published by AidData (Custer et al., 2021) for Chinese lending from 2000-2017. 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 implemented the methodology created by Horn et al. (2021). For the years 2018-2019 we use the SAIS-CARI dataset (Bräutigam et al., 2020). No data on lending terms for Chinese lenders is available for 2020.

IMF lending (187 loans): We use the dataset compiled by Horn et al. (2020) which includes the lending terms of all IMF programs of the continent. In all cases, we use 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 & Gallagher, 2021).

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[4] The Development Assistance Committee (DAC) has 30 high income country-members including the major traditional bilateral creditor countries to the continent (UK, Germany, Italy, Japan, etc).

[5] The formulas and the country groupings for calculating the interest rates have also changed over time.

<u>USA bilateral lending (42 loans)</u>: We use the loan level data published by the United States Department of the Treasury under its Foreign Credit Reporting System.

<u>External bonds (154 bonds):</u> 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, Stoppok & Trebesch, 2021), 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 Thomson Eikon. Unlike some data sources such as Bloomberg, we account for bond re-openings, meaning bond issuances that re-open and thus add to an already outstanding existing bond with the exact same terms.

The resulting, combined Africa Debt Database consists of 7493 loans and bonds with a total amount of 790 billion USD borrowed between 2000 and 2020. Box 1 provides an overview on the variables covered and their definition.

<div align="center">Box 1: Variables in the African Debt Database</div>

Variable category	Variable name	Description
Borrower info	Country	Name of the borrowing country
	Iso3c	iso3c code of the borrowing country
	BorrowerType	Type of borrowing entity: Central government/JV=Joint Venture/SOE=State-owned enterprise
	BorrowerAgency	Name of borrower agency. [Yet to clean up. Data very messy for OECD. Probably need to drop].
Creditor info	CreditorName	Name of creditor country if bilateral loan, name of creditor institution if multilateral loan, Bondholders if sovereign bond
	CreditorName_short	Abbreviations for multilateral institutions, short creditor country names.
	CreditorGroup	Bilateral/multilateral/private. Chinese loans are considered as bilateral, if the creditor is the central government or another government agency or a state-owned policy bank. Chinese SOE and state-owned commercial bank loans are considered as private.
	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.)

| Basic information	Year	Year of loan commitment or bond issuance
	Amount_musd	Commitment amount in the case of loans, original amount issued in case of bonds. When bonds are re-opened, the re-opening amounts are not considered. All are measured in million USD and were converted using market exchange rates.
Financial terms	Interest	Interest rate of loan. All floating rates were transformed into a fixed rate equivalent using the following method: average reference rate of the commitment year + margin.
	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 have fixed interest rates.
	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 commitment date and the date of the first installment.
Data source used	Source	Short citation of the source of the loan terms.

3. Africa's debt boom

Figure 1 shows the scale and dynamics of Africa's borrowing boom since 2000, based on our new dataset. The number of newly issued debt instruments per year roughly doubled between the late 2000s and the late 2010s, while the volume of new yearly debt commitments grew about four fold. These trends look very similar when using the aggregate, off-the-shelf data from the World Bank's International Debt Statistics for the same countries and years (Figure A.1 in Appendix).

Figure 1: Africa's debt boom as captured in the African Debt Database (ADD)
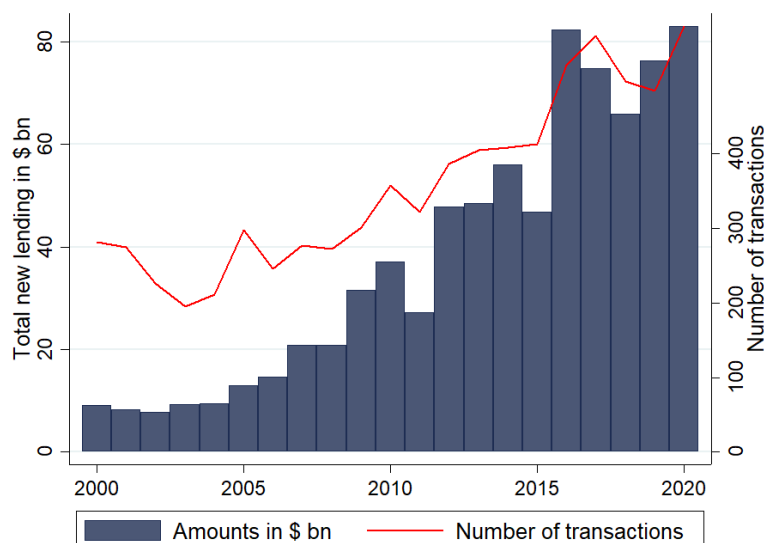
The database also captures the changing composition of creditors to Africa observed in the last two decades. Notably, one can track the rise in debt from Chinese creditors and that of bonded debt, which account for the largest part of the lending boom since 2010. In 2020, there is a surge in multilateral lending in response to the crisis (Figure 2). These patterns are roughly in line to those depicted by the International Debt Statistics, (Figure A.2 in Appendix).

Figure 2: Which creditors are driving Africa's sovereign debt boom?
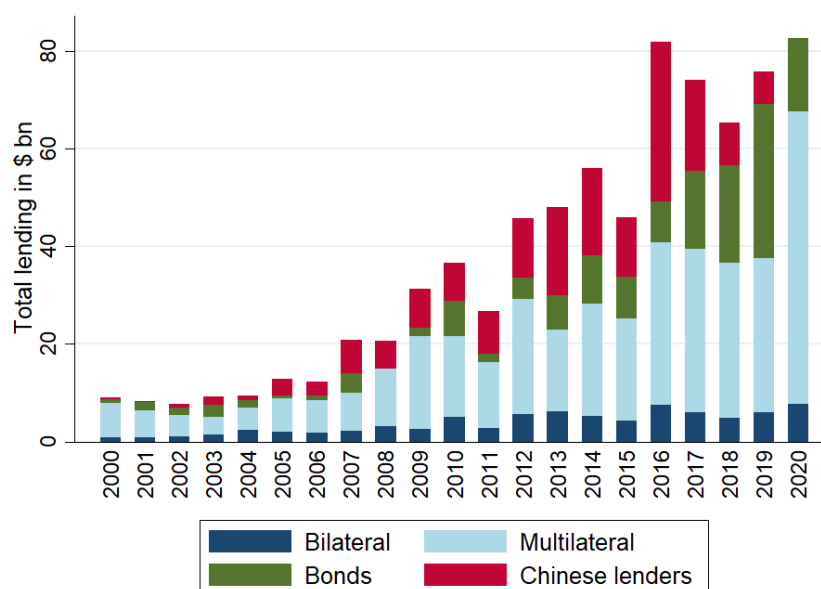
We have only 154 bonds in the dataset compared to thousands of multilateral or bilateral loans. Nevertheless, bonds account for a substantial fraction in total lending, because single issuances are very large, as shown in Figure 3.

Figure 3: Sovereign bond issuance are far larger, on average, than official creditor loans
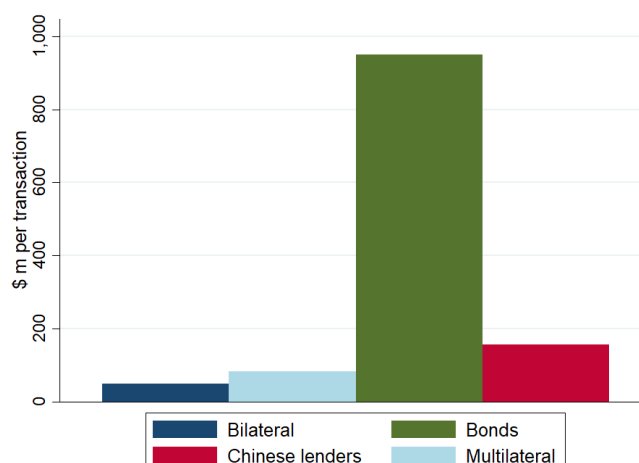
4. Benchmarking our database

To evaluate the coverage of our database, we benchmark against the aggregate figures reported by the World Bank IDS. Specifically, we compare the volumes captured (aggregate debt commitment volumes) in both ADD and IDS using a set of 49 countries for which the IDS has data and covering 2000-2020.[6]

The ADD's debt coverage is 71% of the total volume reported by the World Bank (See Table 1). The coverage is better for Chinese and multilateral loans (108% and 107%, respectively) and worse for bilateral and private debt (45% and 39%, respectively). The fact that ADD has over 100% coverage across multilaterals is explained by the fact that IDS excludes IMF lending from its reporting. The large gap observed in private lending is driven in large part by the ADD's limited coverage of non-bond private debt. This lending category represents above 200 billion USD (or 20%) of Africa's total sovereign external debt. External bonds issued by state owned enterprises or debt with government guarantees are also missing from ADD and may explain the gap observed for sovereign bond coverage. There is large variance in bilateral debt coverage depending on the reporting country, as shown in the additional breakdown across key creditors (Table 2). The ADD covers only 60% of loans from Germany in contrast to over 88% for Japan. The gap in bilateral loan coverage is likely the result of incomplete reporting to the OECD CRS, as Japan's government appears to share more comprehensive data with the OECD than Germany. Many bilateral creditors do not share data with OECD at all. In contrast, the data on Chinese loans gathered by research institutes have higher coverage than IDS. This is line with evidence of incomplete reporting to IDS documented by Horn et al. (2021).

Table 1 Public external borrowing by creditor group: ADD vs WB IDS ($ million)

	ADD debt ($m)	WB IDS debt ($m)	Percentage
Bilateral, non-China	80 660	178 536	45%
China, all	179 946	167 092	108%
Multilateral	383 391	358 281	107%
Private	146 343	375 528	39%
Total	790 340	1 118 373	71%

*WB IDS figures are total public and publicly guaranteed debt commitments across reporting countries in Africa 2000-2020.

The coverage across borrower countries is relatively more uniform, as the lending volumes reported in ADD correlate strongly with country values reported by the World Bank. (see Figure A.3. in the Appendix).

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[6] The WB IDS does not include any data on Equatorial Guinea, Namibia, Seychelles, but they are included in the ADD. Among them combined, they have less than 3 billion USD worth of debt in ADD, a fraction of the total reporting gap between the two sources.

Table 2 Public external borrowing from selected key creditors: ADD vs WB IDS ($ million)

	ADD debt ($m)	WB IDS debt ($m)	Percentage
China	179 946	167 092	108%
France	30 769	50 733	61%
Germany	11 897	19 681	60%
Japan	16 221	18 341	88%
AfDF/ADB	66 358	80 260	83%
IDA/IBRD	174 065	167 480	104%
Bondholders	146 343	232 327	63%

5. How African governments borrow: interest rates and maturity

In this section, we rely on the 5603 loans and bond observations with a value of 551 billion USD for which we also have interest rate information. This represents 75% of observations and 70% of the total lending volumes. We aggregate creditors into two groups, namely (i) private creditors, essentially, sovereign bonds, and (ii) official, which covers all multilateral and bilateral debts, including all Chinese bank loans.

Figure 4: Private versus official debt: distribution of interest rates
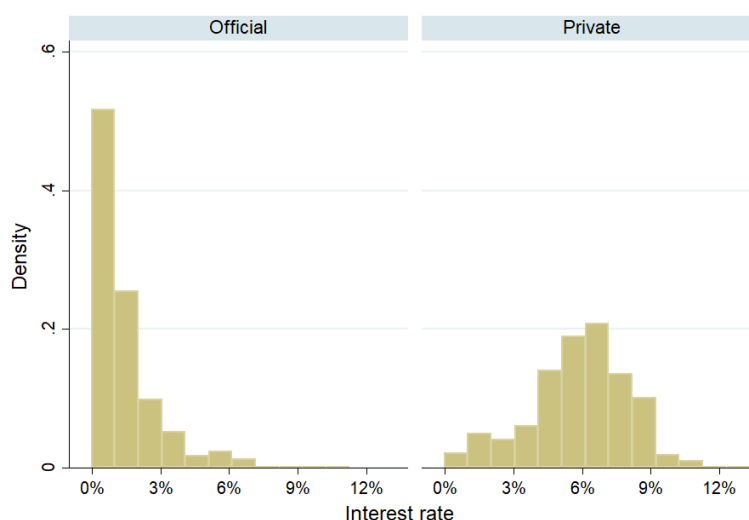
Based on this classification, Figure 4 shows that the median interest rate is below 1% for official sector lenders, while it is a 6.25 % for private sector lenders (sovereign bonds). This is a striking difference in debt servicing costs. Moreover, Figure 5 shows that official and private rates have diverged over time. While the average coupons on sovereign external bonds has notably increased over the past 20 years, the interest rates on official loans have fallen. As a result, the gap between average private and official loan interest rates grew from about 0.5-1 percentage points in the 2000s to about 5 percentage points in recent years.

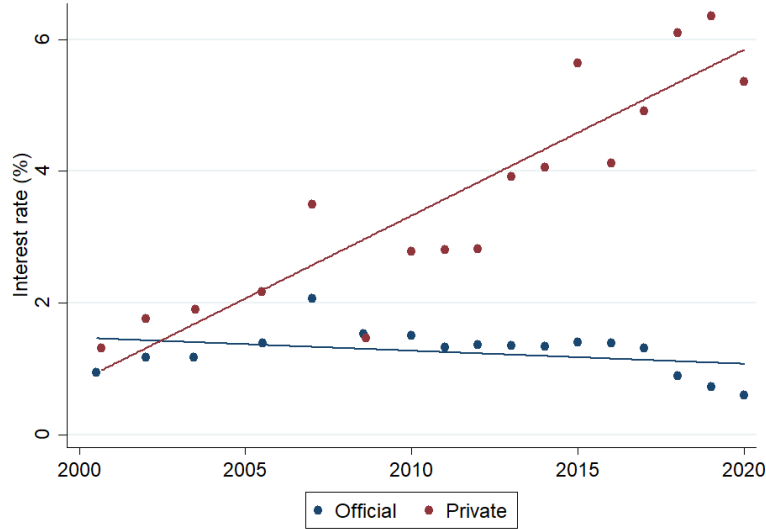Figure 5: Private vs official debt: trends in average interest rates (binned)

Figure 6 shows that official creditors lend with much longer maturity. Around 45% of official loans have a maturity of 30 years. For bonds, a 10-year maturity is the most common choice by far (about 35% of all private instruments). When averaging by commitment volumes, the maturity of official debt (25 years) is about 8 years longer than that of bonds (14 years).

Figure 6: Private versus official debt: distribution of maturity
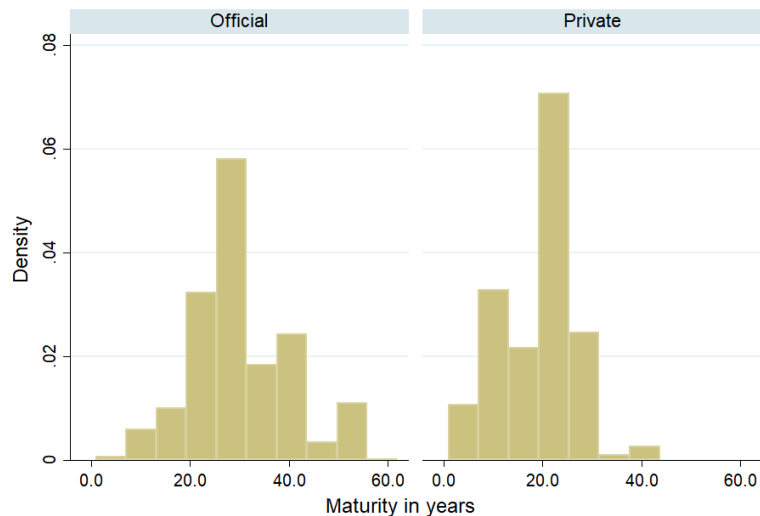
We can also contrast the financial terms observed in the Africa Debt Database with those reported by the WB IDS. Tables 3 and 4 shows that the values are close in most instances especially for interest rates and maturities. The somewhat lower interest rates on official lending observed in ADD compared to IDS may be caused by missing non-concessional official loans. Further comparisons between World Bank and ADD terms over time can be found in the Appendix. The tables confirm just how large the difference in lending

rates are. While bilateral loans from Japan have average interest rates below 0.5%, external bonds carry an average interest rate of over 6%. The fact that official rates are lower is not per se surprising, as official lenders provide loans in part for developmental purposes and are often required that their loans meet concessionality thresholds.[7] Moreover, official lenders are often seen as senior to other creditors and better protected from default, at least de jure (the de facto seniority order is less obvious, see Schlegl et al. 2019). At the same time, private investors lend mainly with a profit motive, may have higher costs in securing the capital they lend on, and face higher repayment uncertainty. The result are high risk premia on sovereign bonds (Meyer et al. 2022).

Table 3: Interest rate across individual creditors

| | Interest rate | | Maturity | |
	ADD	WB IDS	ADD	WB IDS
China	3,2	3,1	15,5	15,5
France	1,7	2,3	20,6	16,0
Germany	1,7	2,4	19,2	16,6
Japan	0,5	1,3	33,8	29,2
AfDF/ADB	0,9	1,1	28,4	28,9
IDA/IBRD	0,8	1,3	26,6	33,8
Bondholders	6,2	5,9	14,5	18,8

Table 4: Borrowing terms by creditor groups: ADD vs WB IDS

| | Interest rate | | Maturity | |
	ADD	WB IDS	ADD	WB IDS
Bilateral, non-China	1,3	1,9	24,7	20,9
China, all	3,2	3,1	15,0	15,5
Multilateral	1,0	1,6	21,8	27,9
Private	6,2	5,2	14,5	15,6
Total	2,8	3,2	19,1	20,1

What is more surprising in that many countries in Africa borrow similarly large amounts from official *and* private lenders. This means that a sovereign taps international bond markets with a six or seven percent coupon and at the same time arranges concessional loans at just one percent interest rates. Figure 7 shows a few country examples, focusing on six major economies in Sub-Saharan Africa. All six countries have a rather similar distribution of interest rates across the portfolio, with a large share of external government debt borrowed at an interest rate well below 2% (from the World Bank and bilateral Western lenders), while

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[7] For example, countries under IMF programs may be limited to borrowing with a 35 percent grant element, a calculation based on interest rate, maturity and grace period.

the remainder is borrowed at 5-10% (from China and bondholders). The aggregate lending rate of 2.5%-4% therefore hides a large heterogeneity in debt servicing costs across creditors.

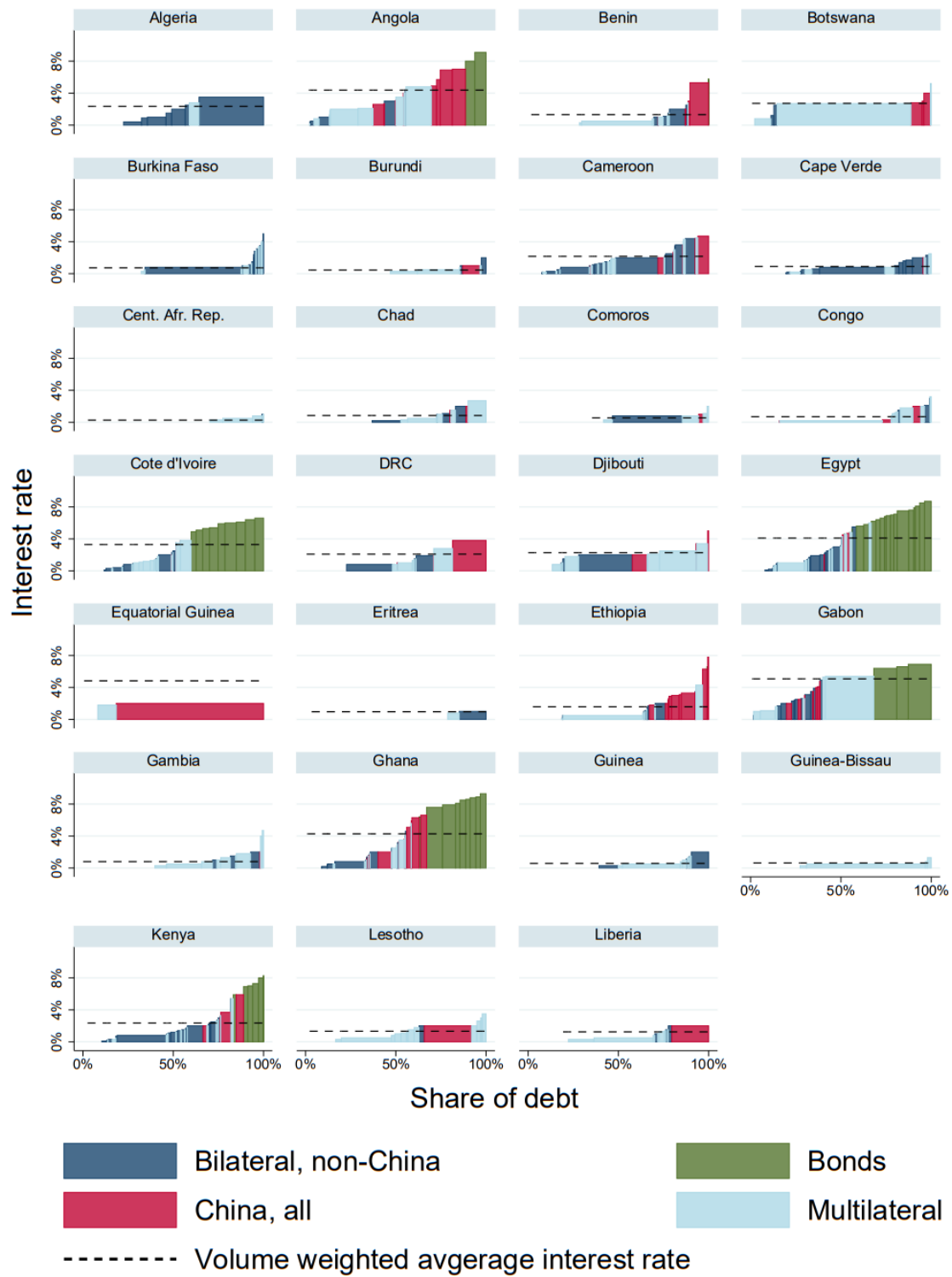Figure 7: Interest rates across creditors - selected country cases
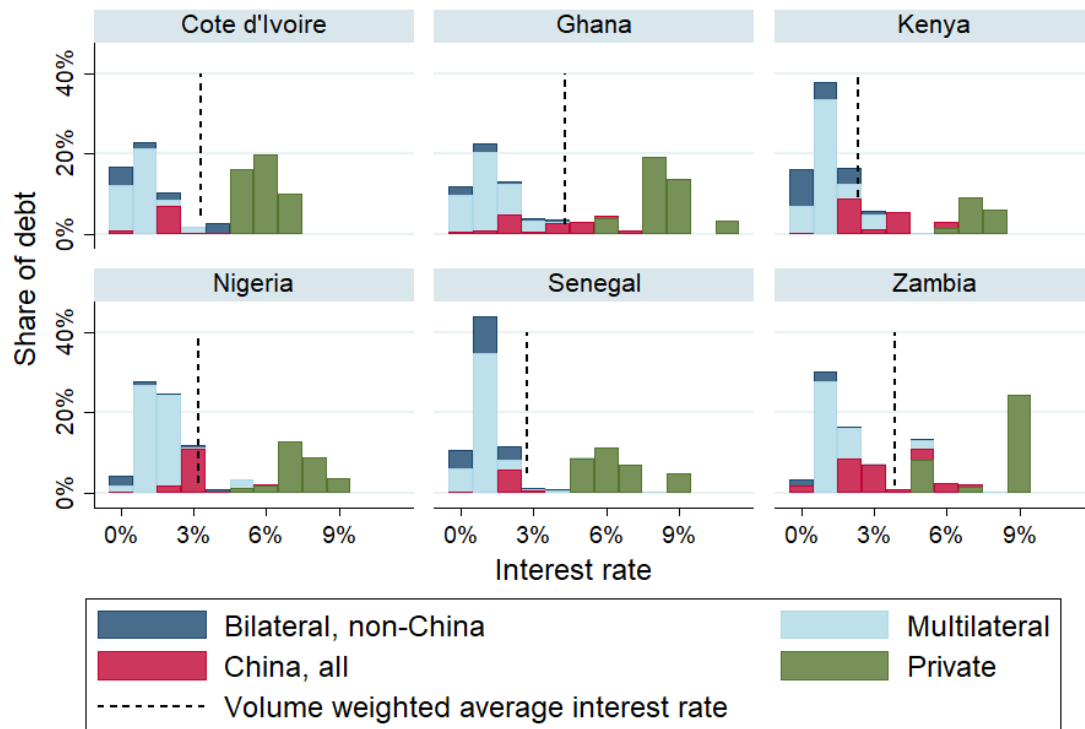
In Figure 8 we use the entire database to plot the distribution of interest rates on external sovereign debt instruments in Africa by creditor type. The width of a bar represents the share of total borrowing at any particular interest rate. The figure is further confirmation on the large differences in interest rates across creditors in Africa's external sovereign debt arena. It is striking how expensive sovereign bond debts are in comparison to other funding sources. It is also interesting to see that Chinese official loans are substantial and that they show systematically higher rates than other official loans but well below bond rates.
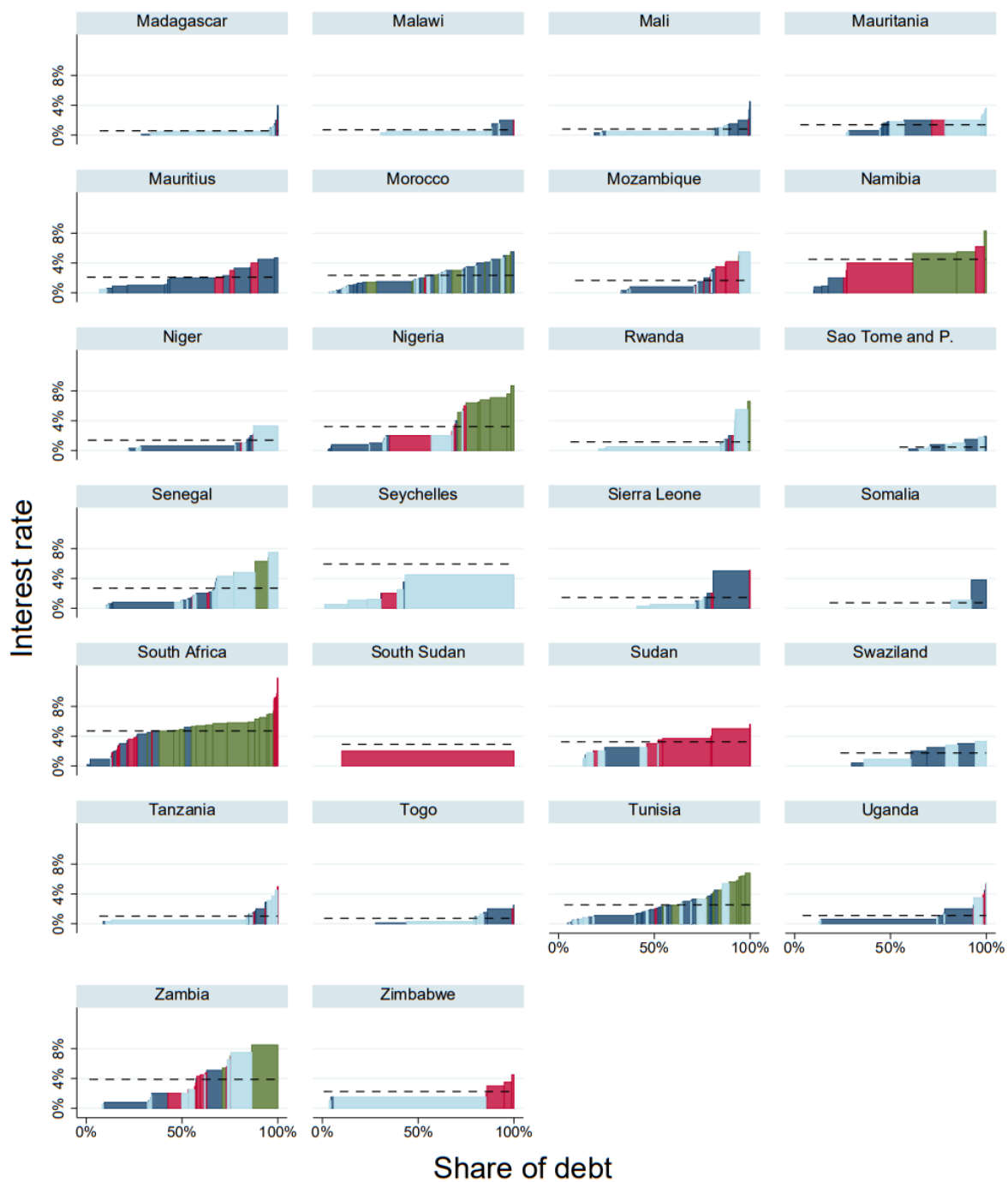
Figure 8: The anatomy of African sovereign debt interest rates - distribution across creditor types
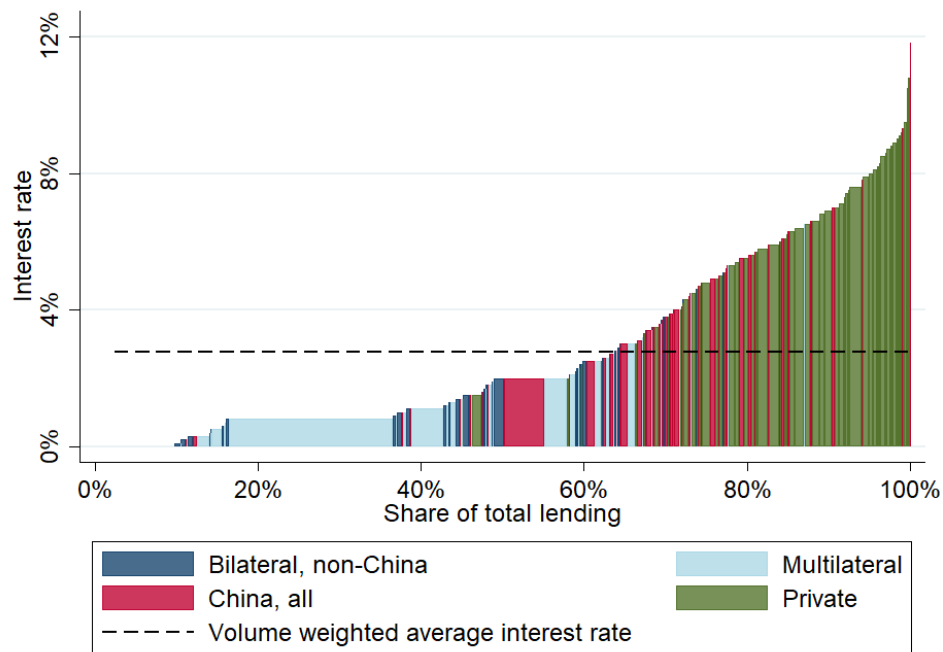
We next show the same figure broken down by borrower country (Figure 9). Again, the same pattern emerges. The same countries borrow at low interest rate from one type of creditors (official) and at much higher rates from others (bondholders). Chinese loans show a more mixed picture, with comparatively low rates in some countries and comparatively high rate in others.

Figure 9 Cumulative distribution of borrowing rates on debt for countries in Africa

Madagascar · Malawi · Mali · Mauritania · Mauritius · Morocco · Mozambique · Namibia · Niger · Nigeria · Rwanda · Sao Tome and P. · Senegal · Seychelles · Sierra Leone · Somalia · South Africa · South Sudan · Sudan · Swaziland · Tanzania · Togo · Tunisia · Uganda · Zambia · Zimbabwe

Interest rate

Share of debt

Bilateral, non-China
China, all
Bonds
Multilateral
Volume weighted avgerage interest rate

Finally, we analyze the disparities observed across country groups. We split observations into groups based on the income level of the borrower country at the time of the borrowing. As shown in Figure 10, for each group a box and whisker's plot depicts the distribution of interest rates. The box's ends show the bottom and top quartile, while the line in between shows the median. The dots beyond the whiskers show outliers. For low income countries (with a GNI per capita below $1,085 USD), the figure reveals that the majority of the borrowing happens at a small range of interest rates below 1%, although with some outliers. The range of interest rates stars to widen for lower middle income group ($1,085-$4,256) with a median value below 2%. In the next income bracket ($4,256-$7,500) the average interest rate is the highest 3% and the disparities in interest rates are also the widest. The country observations with highest income ($7,500+) is somewhat lower and the range is again smaller.

Figure 11 shows the creditor split for the same income groups. The share of private credit (bonds) is very small in low- and lower middle-income countries, and is largest for the third income group. The patterns on the share of private credit mirrors those observed for average interest rates and interest rate disparity.

Figure 10: Interest rate variation across country groups
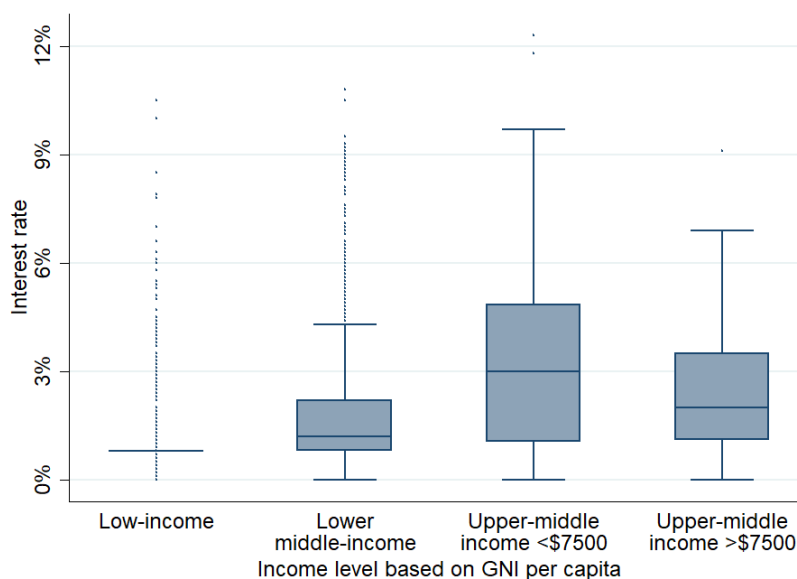
Countries at the bottom of Africa's income distribution rely heavily on highly concessional official loans (mostly from multilateral agencies), whereas the richest countries rely primarily on private borrowing. Even so, a large fraction of the continent's countries relies heavily on both cheap and expensive credit at the same time.

Figure 11: Creditor composition across country groups
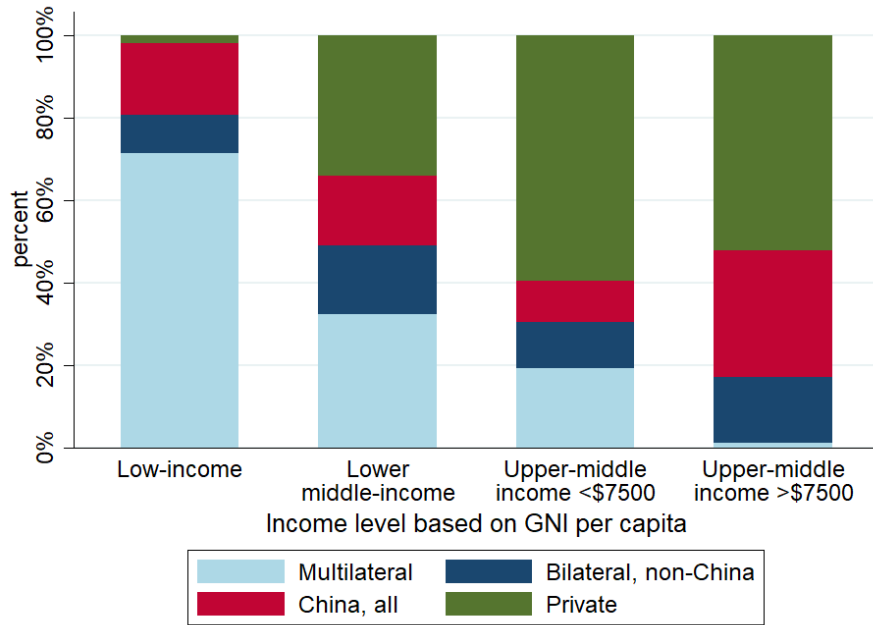
6. Conclusion and outlook

The Africa Debt Database fills a gap in international debt reporting and demonstrates that it is both feasible and desirable to collect instrument-level data on debt in developing countries. By drawing on publicly available sources, we were able to gather data on the key terms of more than 7000 loans and bonds to Africa committed between 2000-2020. Our data covers over 50 different bilateral, multilateral and private creditors and adds up to 790 billion USD in debt commitment. This represents 62% of the aggregate debt commitment figure reported by the World Bank for Africa during this same period.

The comprehensive micro data reveal previously unknown facts on Africa's sovereign debt universe. The most striking insight is the large dispersion in borrowing terms across creditor types. Many African governments borrow heavily from official creditors, at interest rates of below 1%, while tapping international bond markets at interest rates of 7% or even 10%. Reporting just one aggregate interest rate series on external government debt hides crucial variation. The gap in debt servicing costs is also suggestive of a systematic cross-creditor subsidy, as cheap taxpayer-financed official loans can be used to service expensive bonds held by US and European hedge funds.

We hope that the data, which is publicly available, will facilitate research and analysis on Africa's growing external sovereign debt market. The data may also serve as a useful source of information for policymakers who want to understand the large differences in borrowing conditions across creditors, countries and years. Indeed, borrower country governments could possibly use the micro data to negotiate better terms on new

loans, while multilateral and bilateral lenders may want to benchmark their newly offered terms to the set of outstanding instruments. Furthermore, the micro data can help to better understand and reconcile the often large discrepancies in reported debt statistics (Rivetti, 2022).

Looking ahead, more work is needed. Our benchmarking exercises revealed discrepancies and misreporting problems, especially when it comes to private creditors, but also by Western governments. Private loans, often in the form of syndicated loans from banks, is the largest current gap in the data, which we hope to fill in future versions of the dataset.

References

Ayadi, R., & Avgouleas, E. 2020. Preventing and Managing Debt Crises: The Role of Debt Transparency. EMEA Policy Paper.

Baum, A., Medas, P. A., Sy, M., & Soler, A. 2020. Managing Fiscal Risks from State-Owned Enterprises. IMF Working Paper No. 2020/213

Bonizzi, B., Laskaridis C., & Griffiths, J. 2020. Private lending and debt risks of low-income developing countries. Overseas Development Institute.

Bräutigam, D., Hwang, J., Link, J. & Acker, K. 2020. Chinese Loans to Africa Database. Washington D.C.: Johns Hopkins University, China Africa Research Initiative.

Connelly, S. 2021. The Tuna Bond Scandal: The continued lack of transparency in bank-to-state credit facilities agreements. Journal of International Economic Law, 24(3), 649-671.

Custer, S., Dreher, A., Elston, T.B., Fuchs, A., Ghose, S., Lin, J., Malik, A., Parks, B.C., Russell, B., Solomon, K., Strange, A., Tierney, M.J., Walsh, K., Zaleski, L., & Zhang, S. 2021. Tracking Chinese Development Finance: An Application of AidData's TUFF 2.0 Methodology. Williamsburg, VA: AidData at William & Mary.

Dreher, A., Fuchs, A., Parks, B., Strange, A.M., & Tierney, M. J. 2017. Aid, China, and Growth: Evidence from a New Global Development Finance Dataset. AidData Working Paper 46.

Dreher, A., Fuchs, A., Parks, B., Strange, A., & Tierney, M. J. (2021). Aid, China, and growth: Evidence from a new global development finance dataset. American Economic Journal: Economic Policy, 13(2), 135-74.

Gallagher, K. P. 2019. China's Global Energy Finance. Boston: Global Development Policy Center, Boston University.

Gallagher, K. P. & Myers, M. 2019. China-Latin America Finance Database. Washington D.C.: Inter-American Dialogue.

G7 Finance Ministers & Central Bank Governors Communiqué 2021. https://home.treasury.gov/news/press-releases/jy0215

Horn, S., Reinhart C. M., & Trebesch, C. 2021. China's overseas lending. Journal of International Economics, 133, 103539.

Horn, S., Reinhart C. M., & Trebesch, C. 2020. Coping with disasters: two centuries of international official lending (No. w27343). National Bureau of Economic Research.

Horn, S., Reinhart C. M., & Trebesch, C. 2020. Coping with Disaster: Two Centuries of International Official Lending, CEPR Discussion Paper 14902.

IIF 2019. Voluntary principles for debt transparency. Washington DC

Meyer, J., Reinhart, C. M. & Trebesch, C. 2022. Sovereign Bonds since Waterloo. The Quarterly Journal of Economics. Forthcoming.

Mihalyi, D., Adam, A., & Hwang, J. 2020. Resource-backed loans: pitfalls and potential. Natural Resource Governance Institute.

Morris, S., Parks, B., Gardner, A., & Parks, B. 2020. Chinese and World Bank lending terms: A systematic comparison across 157 countries and 15 years. Center for Global Development.

Rivetti, D. 2022. Public Debt Reporting in Developing Countries. World Bank Policy Research Paper 9920.

Schlegl, M., Trebesch, C., & Wright, M. L. (2019). The seniority structure of sovereign debt (No. w25793). National Bureau of Economic Research.

Stiglitz, J. & Gallagher K. 2021. Understanding the Consequences of IMF Surcharges: The Need for Reform. GEGI Policy Brief 017.

OECD. 2018. Converged Statistical Reporting Directives for the Creditor Reporting System and the Annual DAC Questionnaire. Paris: OECD.

OECD 2021. OECD Debt Transparency Initiative. https://www.oecd.org/finance/debt-transparency/

OECD 2022. OECD Debt Transparency Initiative: Trends, challenges and progress. OECD Business and Finance Policy Papers, No. 03, OECD Publishing, Paris.

World Bank 2020. World Bank Debtor Reporting System – What it Measures. World Bank Development Economics Data Group, Washington D.C.

World Bank 2021. Debt Transparency in Developing Economies. The World Bank.

Appendix

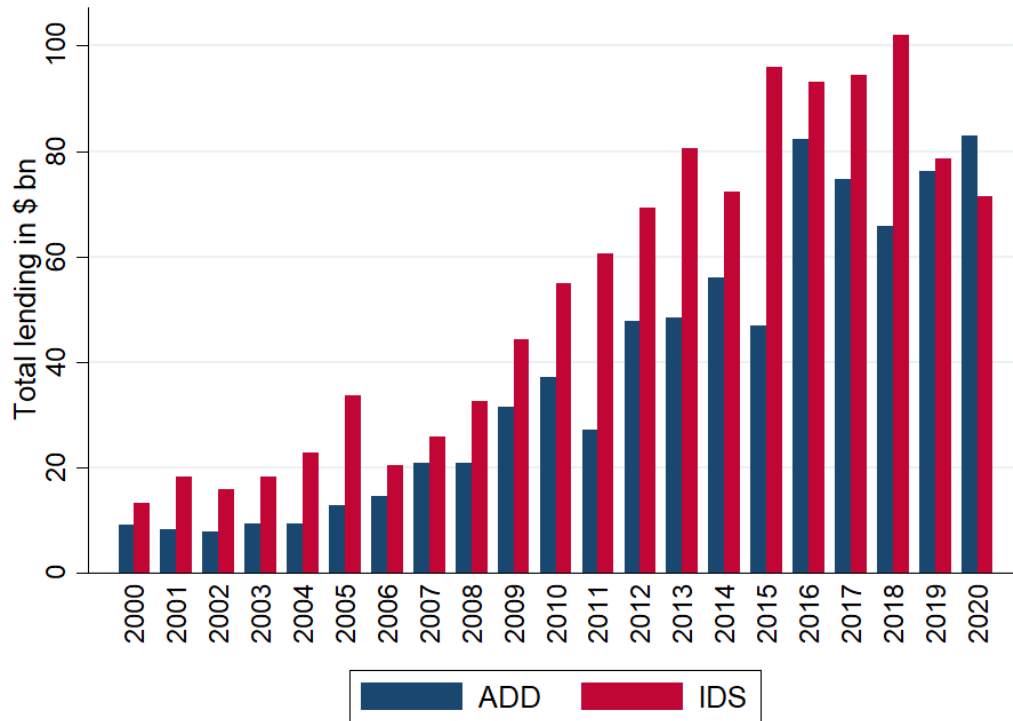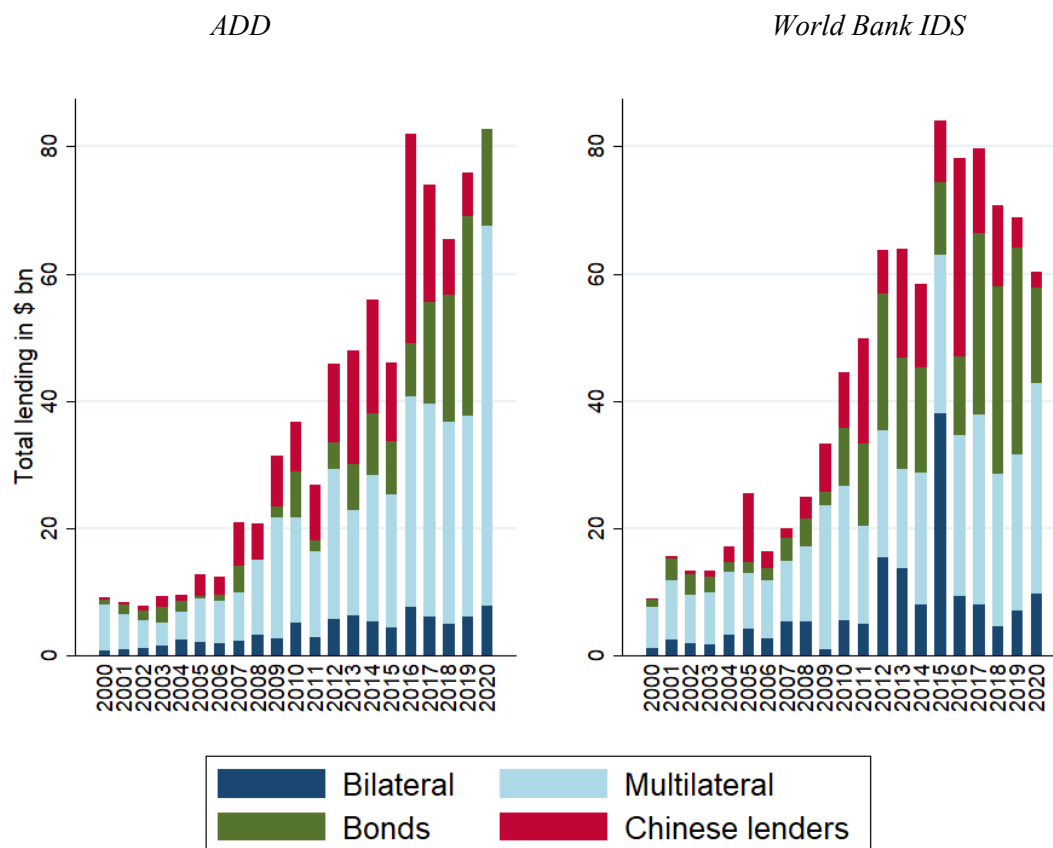Figure A.1 Total lending amounts of ADD compared to WB IDS

Figure A.2: Benchmarking total lending amounts by creditor groups - ADD vs.World Bank IDS

ADD   *World Bank IDS*

Note for figure A.2: The graph on the right (WB IDS) uses a wider range of creditors. It shows all bilateral and multilateral lenders not just OECD DAC, World Bank and Chinese. The massive spike in the IDS bilateral data in 2015 is caused by a Russian loan to Egypt for building a new nuclear power plant ($25billion). The lack of IMF loans in IDS lead to less sharp reported increase in multilateral lending in 2020 than shown in ADD.

Figure A.3: Benchmarking debt to GDP ratios - ADD debt commitments vs. World Bank debt stocks
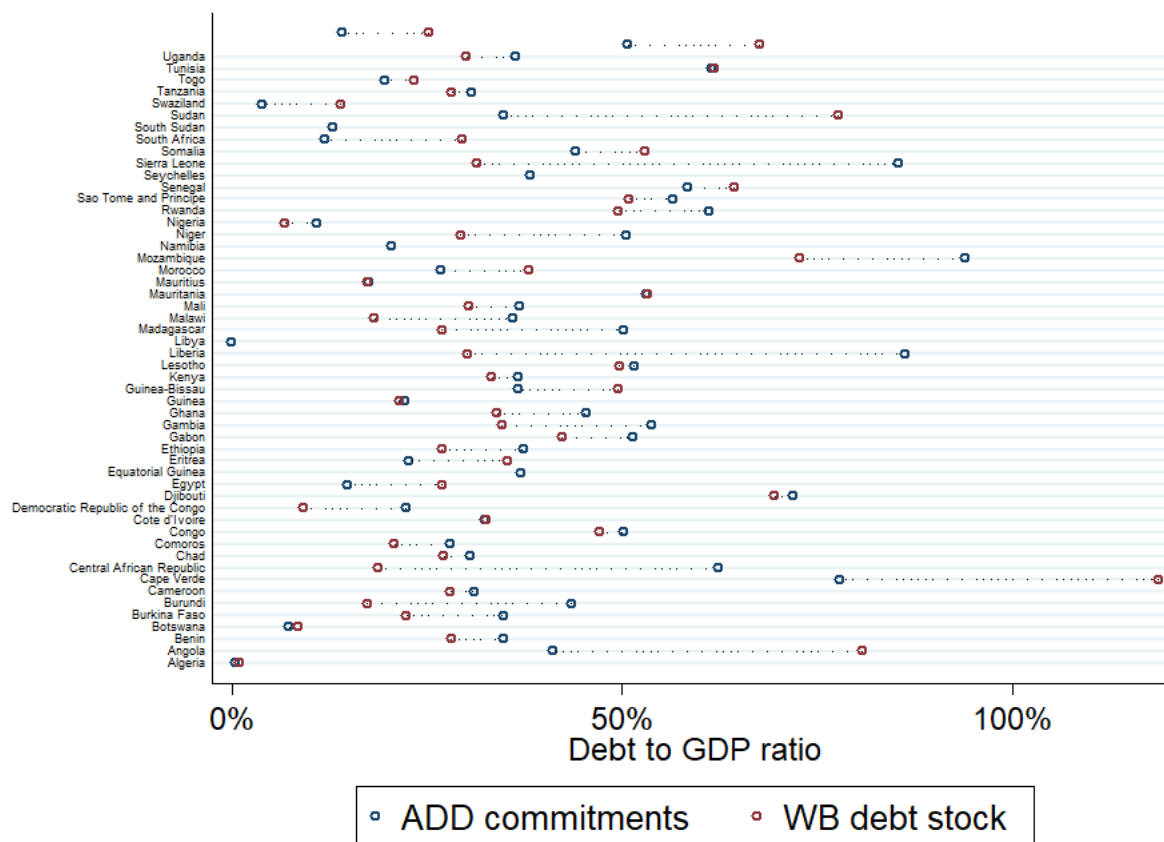
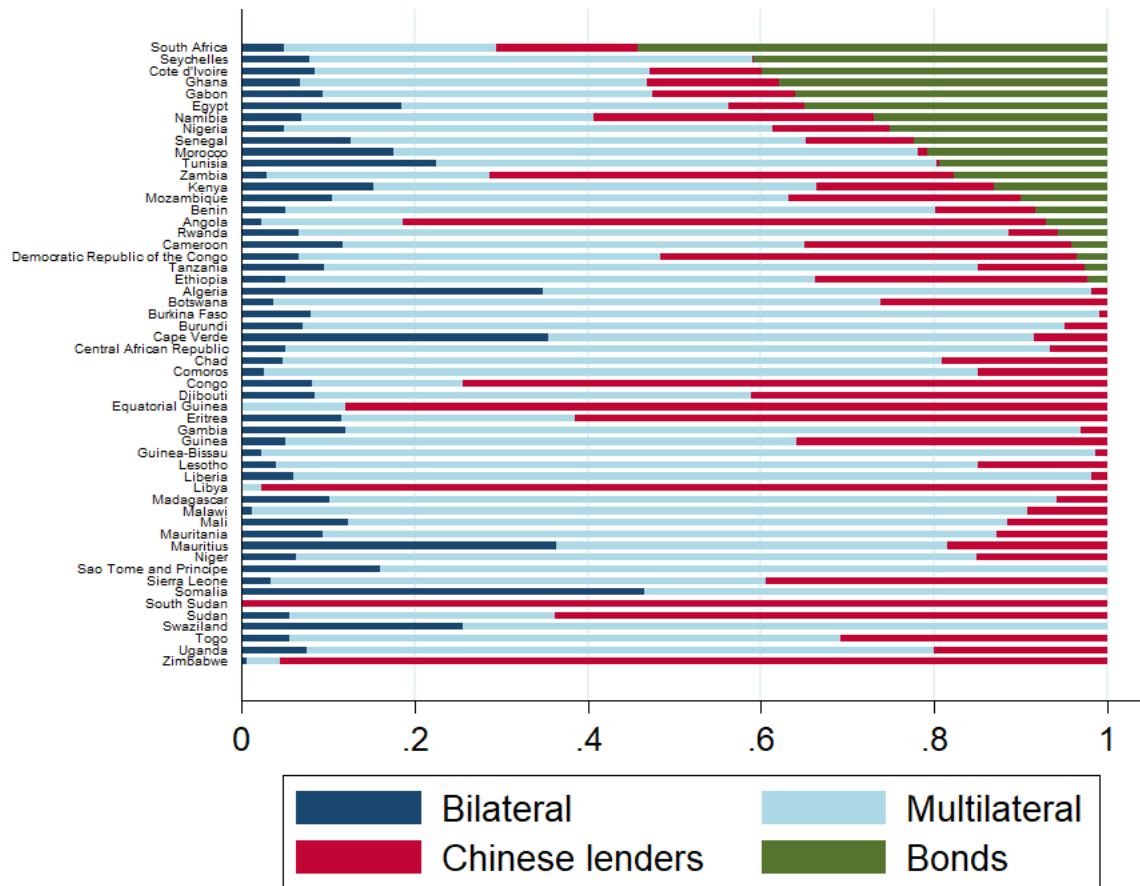Figure A.4: Creditor composition by debtor country in ADD

Figure A.5: Benchmarking interest rates for
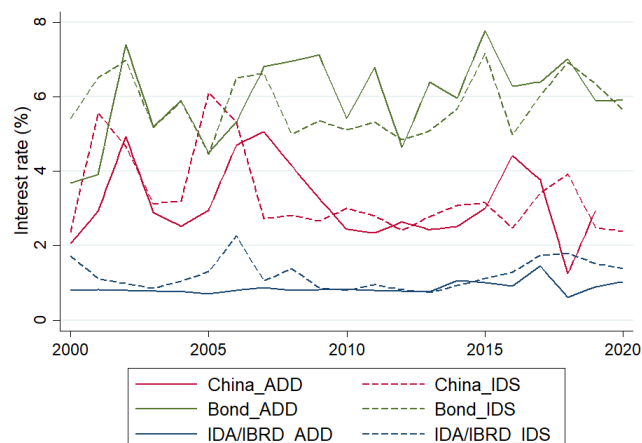selected creditors – ADD vs. World Bank IDS

Figure A.6: Benchmarking maturities for
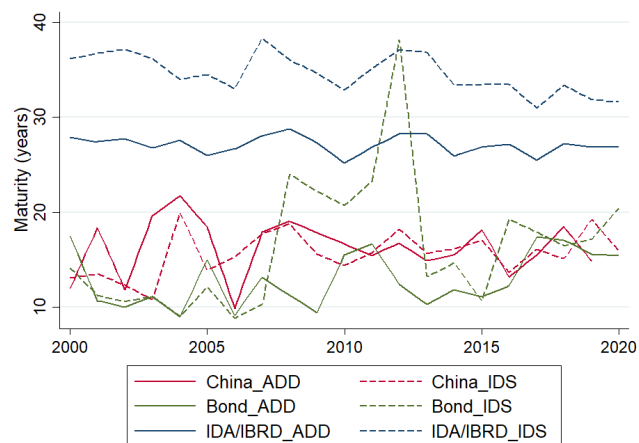selected creditors – ADD vs. World Bank IDS

Figure A.7: Benchmarking grace period for
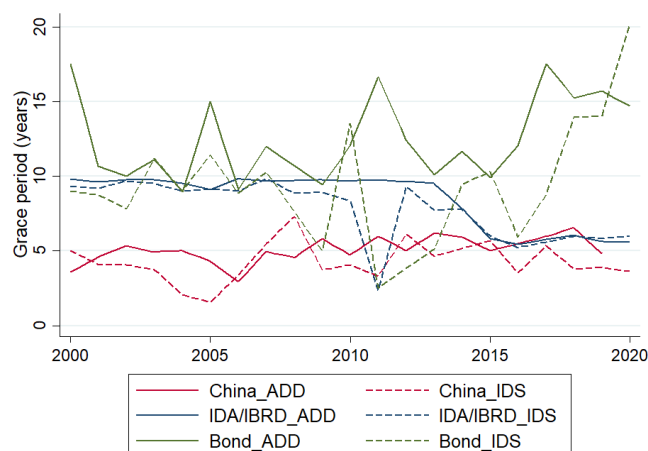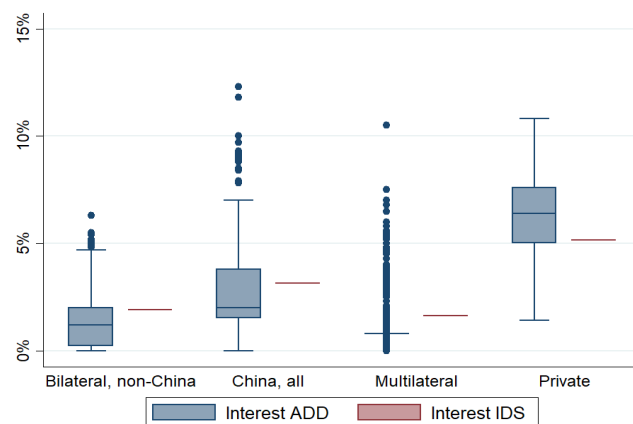selected creditors – ADD vs. World Bank IDS

Figure A.8: Box and whisker plot of ADD interest
rate by creditor group vs IDS average rates

*Note: World Bank loans dominate multilateral
lending terms, which are heavily clustered on a
0.75% interest rate hence the small width for the box
on ADD interest rates for multilateral lenders.

Table A.1: Coverage of public cross-country instrument-level debt databases

Database	Number of loans	Value of loans ($bn)
ADD	7493	790
EMEA DTP	321	88
OECD DTI	43	56

This table compares the data coverage of the African Debt Database with the Debt Transparency Initiative Portal (OECD, 2022) and the Debt Transparency Portal (EMEA, 2020) as of July 2022