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**A Barometer for a Perfect Storm: The Causes of the Zambian
Debt Crisis and Indicators for Tracking Public Debt
Management Progress**

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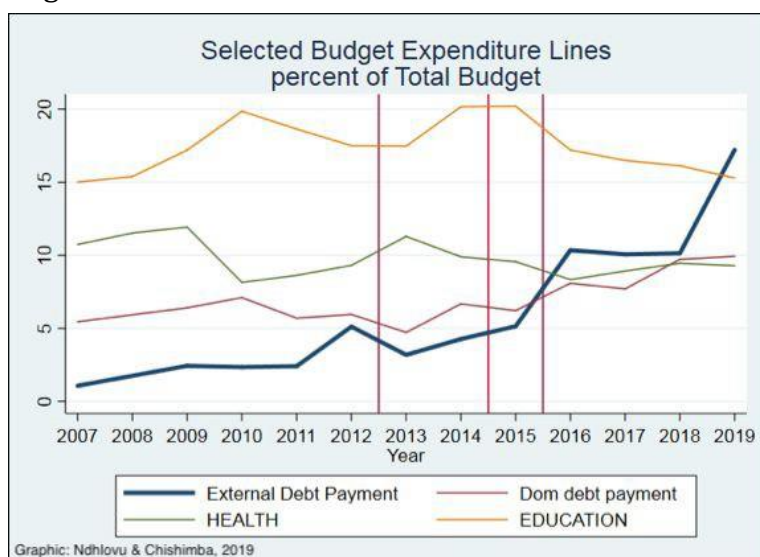
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Abstract

Zambia stumbled into a second debt crisis about ten years after receiving debt relief from multilateral institutions to end its first. In our paper, we utilize a literature review and expert interviews to analyze and explain why Zambia returned to a debt-ridden state. We find that Zambia's modern debt crisis is the result of a perfect storm of macroeconomic, legal framework and governance issues. We then consider ways of measuring government and societal progress in tackling these factors and conceptualize a debt barometer consisting of macroeconomic, legal framework and governance sub-barometers. We first consider how to use existing indicators for these barometers, and then conceptualize potential indicators that could be used to track changes in public debt related to legal framework and governance.

Introduction

Figure 1.



In 2019, the Zambian government is spending more on debt service (27% of expenditure) than on health and education combined (25%) (Ndhlovu & Chishimba, 2019). This illustrates the potential human cost of Zambia's current public debt.

In this paper, we provide context for Zambia's debt situation. More closely, we examine the effectiveness of debt management policies. Although there are works of literature that focus on single factors contributing to Zambia's debt, we describe a comprehensive overview of the situation. The overview begins with a background of Zambia's previous

crisis and relief. We then proceed by detailing the political background of Zambia's debt, external and domestic debt, debt contraction and debt usage. This research paper reveals deficits in systems that have contributed to Zambia's accumulation of debt. This includes ineffective parliamentary processes, transparency and accountability systems, and overall debt management policies and actions.

Following this, we provide a detailed list of potential indicators, specific to Zambia, for an African debt barometer to measure and track Zambia's debt relief progress. The African debt barometer will include three sub-barometers: governance (rule of law), legal framework and macroeconomic barometers. Then, we proceed with a conceptualization of indicators for the aforementioned sub-barometers. We believe, once finalized, the debt barometer could be extrapolated to the remainder of the African continent.

The findings discussed in this paper include the conceptual framework of an African debt barometer, an analysis of existing indicators for the barometer, and an overview of factors resulting in Zambia's debt crisis. Following the discussion, we provide an analysis of our findings and their implications for stakeholders, who seek to promote debt relief. We also hope our findings will further AFRODAD's attempt to generate an African debt barometer.

Methodology

This paper is primarily based on a literature review of relevant sources and interviews with experts. Our literature review comprised relevant scholarly material; multilateral, government and NGO reports; public-debt-related laws; macroeconomic and political indicators; and news articles. We interviewed macroeconomists and lawyers that have worked or currently work on Zambian public debt management policy issues. We connected with these stakeholders through the Southern African Institute for Policy and Research (SAIPAR). Most of these experts were based in Lusaka, Zambia. These semi-formal interviews were conducted in order to hear stakeholders' perspectives on the Zambian debt crisis and on what political economy indicators could be relevant for tracking debt management policy progress. Interviewees were given the option of anonymity because of the politically sensitive nature of the debt crisis.

Research was conducted between June 2019 to July 2019 - a duration of six weeks.

Background

Figure 2.



Previous Crisis and Relief

Zambia's current debt crisis is not its first. The country gained independence in 1964, and had one of the strongest economies in Sub-Saharan Africa up until the mid-1970s due to a strong copper mining industry (Wulf, 1988). Beginning in 1975, copper prices began to fall drastically and Zambia's export revenue declined (Wulf, 1988). The government's balance of payments fell into disequilibrium and it mainly funded its deficits through external borrowing (Wulf, 1988). Significant amounts of its external debt were owed to multilateral institutions, primarily the International Monetary Fund (IMF) and World Bank.

As seen in Figure 2, the nation's external debt stock rose steadily throughout the 1980s and early 1990s, while its Gross Domestic Product (GDP) remained relatively constant throughout the same period (World Bank, 2017, 2018). The World Bank and IMF made arrangements with Zambia for a policy reform program in 1983 (Wulf, 1988). These reforms entailed controversial economic liberalization policies that were eventually scrapped by the Zambian government in 1987 (Wulf, 1988). The debt continued to grow in the years immediately following the attempted 1983 reforms. In 1991, the government

again sought to improve its economy through multilateral guidance, this time with the adoption of Structural Adjustment (Mvula, 2015). The Structural Adjustment Program was again controversial and entailed market liberalization policies and the removal of subsidies, including in the health and education sectors (Mvula, 2015). Many Zambian citizens became unable to afford government healthcare and education, and food insecurity increased (Mvula, 2015). These austerity measures did not lead to substantial GDP growth and progress was not made on the external debt front.

Due to criticisms of the Structural Adjustment Programs and worldwide movements advocating for debt relief for low income countries, the World Bank and International Monetary Fund began the Highly Indebted Poor Country Initiative and the Multilateral Debt Relief Initiative in Zambia at the beginning of the 21st century (IMF, 2005). These initiatives offered debt relief if Zambia implemented various reforms. Zambia completed the initiative in late 2005, and subsequently received significant debt forgiveness from the multilateral institutions. (African Development Bank, 2019). Zambia's external public and publicly guaranteed (PPG) debt stock fell from \$5.84 billion in 2004 to just \$962 million in 2006 (World Bank, 2017). After more than two decades of crippling public debt, the country finally found itself in a sustainable debt situation. The debt stock then increased modestly through 2010, when it stood at \$1.29 billion, reflecting relatively sound debt management policies over this five year period (World Bank, 2017).

The Current Debt Crisis and Comparisons to the Last

In 2011 the country's debt levels started to substantially rise again, initiating the debt acquisition trend that has led to the current crisis (World Bank, 2017). By 2017, the external PPG debt reached \$8.88 billion, over \$3 billion higher than the debt had ever been during the previous crisis (World Bank, 2017). This is not to say that this crisis is worse than the last, however, as the Zambian economy has grown substantially in the 21st century, as depicted in Figure 2. In 2017, the country's external PPG debt to GDP ratio was 34.3% whereas external PPG debt exceeded GDP for nearly two decades, from 1985 to 2003, during the last crisis. (World Bank, 2017, 2018). There are still reasons for concern, however, as the nation's total public and publicly-guaranteed debt including domestic arrears at end-2018 was high at 73.1 percent of GDP (IMF Staff, 2019). Additionally, the bulk of the external loans Zambia currently holds are non-concessional, whereas the majority of the country's external debt holdings during the end of the last crisis were concessional (World Bank, "Zambia Concessional Debt %", 2017). This has resulted in high debt servicing costs (27% of government expenditure in 2019) in the current crisis (Ndhlovu & Chishimba, 2019). There are also several other indicators and

reports that reveal the country’s current elevated risk of debt distress. In the IMF’s Debt Sustainability Analysis for Zambia in 2017, the staff reported that under current policies, Zambia had a high risk of debt distress that is augmented by significant risks stemming from domestic public and/or private external debt (IMF staff, 2017). Zambia’s credit ratings have also been on a downward trend in recent years and all three major credit rating agencies have downgraded Zambia in 2019 (Trading Economics, 2019). Zambia’s current credit ratings reflect a high risk of distress, as seen in Figure 3. There is also less hope of receiving debt relief in the modern crisis because Zambia’s current external lenders are likely to be less forgiving than the multilateral and Paris Club lenders that previously held a large portion of Zambia’s public debt (Simumba, 2018). This shift away from multilateral and Paris Club creditors can be seen in Figure 4. The fact that a new debt crisis arose so shortly after the nation received debt relief will also discourage international help.

Figure 3

Agency	Rating	Outlook	Date
Fitch	CCC	negative	27-Jun-19
Moody's	Caa2	negative	23-May-19
S&P	B-	negative	22-Feb-19

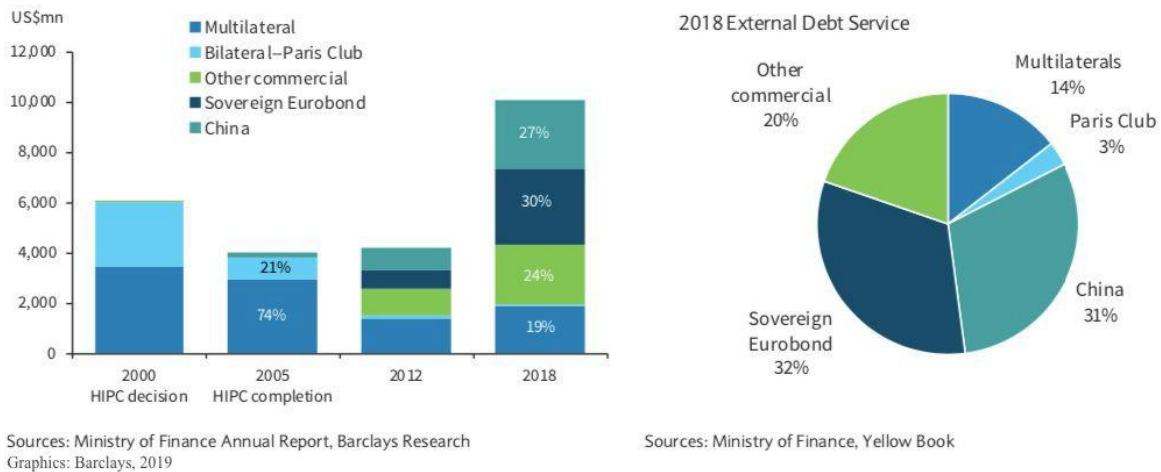
Source: Trading Economics, 2019

Political Background

In 2011, the Patriotic Front assumed power. They had campaigned on a promise of economic development through massive infrastructure investments (Chooma, 2016). When Michael Sata, the Patriotic Front candidate, assumed the presidency, he found the country with solid macroeconomic indicators, reserves and credit ratings (Chooma, 2016). The nation achieved the World Bank’s middle-income country status the same year, 2011 (World Bank, 2019). This new status, along with austerity measures in high-income countries, made Zambia less able to access multilateral and bilateral concessional loans (Simumba, 2018). Therefore, to fulfill its campaign promise, the government began utilizing Zambia’s newfound creditworthiness to access external loans. These external loans largely came from the international bond market and from non-Paris club nations, particularly China.

External Debt

Figure 4: Zambia's External Debt Composition



Source: Barclays, 2019

Figure 4 depicts Zambia's external debt composition. From 2000 to 2018, external debt has become more diverse. As of 2018, there is a much greater reliance on sovereign Eurobonds, Chinese Loans, and other commercial debt, and a much smaller reliance on Paris Club bilateral loans. For the purpose of this paper, we will focus on Sovereign Eurobonds and Chinese Loans, as they have contributed the most to Zambia's current external debt composition.

Eurobonds

The largest source of Zambia's external debt is Eurobonds, as seen in Figure 4. Eurobonds are appealing to the government because the funds available are large and there are no direct conditions attached to the funding, unlike World Bank, IMF and Chinese loans (Simumba, 2018). The government should exercise caution when contracting them, however, because they come with non-concessional interest rates and can lead to large debt problems if not managed well (Simumba, 2018). Zambia has had three issuances of Eurobonds which are all listed on the London Stock Exchange in US Dollars (IMF staff, 2017) (Markets Insider, 2019).

Table 1: Eurobond Issuances

Issue Year	Maturity	Amount	Coupon Rate
2012	2022	\$750 million	5.375%
2014	2024	\$1 Billion	8.5%
2015	2025-27	\$1.25 Billion	8.97%

Sources: IMF staff, 2017, Markets Insider, 2019

As seen in Table 1, each of Zambia’s Eurobond issuances was more expensive than the last in both principal and interest rate. A total of three billion USD was contracted in a period of just four years. This amount has become more concerning in recent years because of the appreciation of the US Dollar (USD) in relation to the Zambian Kwacha (ZMK), which can be seen in Figure 5.

Figure 5: 1 USD to ZMK Exchange Rate (2013-19)



Source: Google, 2019

When the second Eurobond was issued in April 2014, 1 USD was equivalent to a little over 6 ZMK. In July of 2019, 1 USD is equivalent to a little under 13 ZMK (Google, 2019). Using current interest rates, if the government pays the 2014 Eurobond’s interest or principal from its stores of kwacha, it will pay about twice the amount it would have had the exchange rate remained constant since issuance. The Bank of Zambia holds foreign reserves to mitigate such currency exchange risks, but these reserves have been diminishing in recent years. According to the Centre for Trade Policy and Development, Zambia’s foreign exchange reserves declined from 2.4 Billion USD in April 2017 to 1.2 Billion USD, or 1.7 months of imports, at the end of March 2019 (Chabala, 2019; IMF Staff,

2019). This sudden decline has caused stakeholders to fear that the government will have insufficient reserves to cover the first Eurobond's 750 million USD bullet payment (Chabala, 2019). The second and third Eurobonds, worth 2.25 billion USD, mature just a few years after the first, making it seem unlikely that the central bank will have sufficient foreign reserves to cover all three when they are due. Absent substantial changes in the government's foreign reserves policies, the government will either have to restructure, default, or default and subsequently restructure its Eurobond debt (Barclays, 2019).

Chinese Loans

Zambia's second largest source of external debt is China (Barclays, 2019). These loans are typically provided by the Industrial and Commercial Bank of China, the Chinese Development Bank and Exim Bank (Simumba, 2018). In the foreseeable future, China will continue to play a prominent role in public financing in both Zambia and, more broadly, the African continent. Chinese loans are enticing, from the perspective of African governments, because they have below market interest rates and repayment options are flexible (Simumba, 2018). Additionally, unlike most multilateral loans, Chinese loans are not conditional on meeting governance benchmarks or international standards (Simumba, 2018).

Table 2. Zambia's External Debt 2012 - 2017 (US\$ millions)

	2012	2013	2014	2015	2016	2017
Total External Debt from Chinese	831.09	862.67	1074.67	1660.32	1775.01	2332.82
Total Government External Debt	3480.66	3512.93	4806.83	6704.37	6947.1	8738.95
Percentage Chinese	24%	25%	22%	25%	26%	27%

Source: Simumba, 2018

In Table 2, from 2012 - 2017, the total external debt from China has grown nearly 300% from 831.09 (US\$ million) to 2332.82 (US\$ million) (Simumba, 2018). This is proportional to the increase of total government external debt, as the ratio of Chinese debt to total external debt has risen just three percent over the same period (Simumba, 2018). The increasing amount of Chinese Loans to Zambia is concurrent with China's "Going Global Strategy" (China Policy, 2017). This proposition sought to establish multinational companies, particularly in infrastructure and extractive resource industries (ie. timber and ivory), in opportunistic locations for capacity cooperation, such as the African continent and parts of Latin America (China Policy, 2017). Easy access to Chinese capital has allured Zambia's government, and enabled them to fund projects with uncertain economic developments. In 2018, Chinese Loans accounted for 27% of Zambia's external debt load and 31% of Zambia's external debt service (Barclays, 2019). The main downside of Chinese loans is that they are typically conditional on employing Chinese firms and laborers (Simumba, 2018). The money provided by a Chinese loan is often sent directly to the Chinese firm in charge of the infrastructure project, bypassing the Zambian government's coffers (Simumba, 2018). This non-competitive contracting process raises concerns over whether Zambia is getting the best returns for their Chinese-owed money. Due to the contracting requirements, the Zambian and Chinese government generate many joint ventures. In these joint ventures, Chinese firms and labor substitutes Zambian firms and labor. Since financial resources are allocated to Chinese firms and workers, the Zambian government does not maximize economic development. The profits and experienced workers generated by Zambian debt funded projects will likely repatriate to China and leave the Zambian economy not much better off. The improvement of Zambians' social welfare and employable skills is undermined by the minimal transfer of knowledge to Zambian companies and labor force due to the non-competitive contracts. Zambian firms are initially unable to compete with the scale of financing options that Chinese firms provide and later become unable to compete due to a lack of experience. This illustrates a cycle of dependence on Chinese Loans, which has contributed to the rise of external debt.

Findings: Overview

During the research process, we relied on a literature review and expert interviews to generate our findings. We describe our findings in two forms: (1) causes of the debt crisis and (2) conceptual framework for the African debt barometer. The former comprises debt contraction, debt usage, government revenue concerns, and domestic debt. In the latter, we first detail existing indicators which could be used for an African debt

barometer. Then, we provide conceptual indicators.

Findings: Causes of Debt Crisis

Debt Contraction Procedure

The Ministry of Finance (MoF) plays the largest role in Zambia's debt contraction. This sector of Zambia's government is responsible for determining when, where and how much to borrow, as well as the terms of a loan (Ndhlovu & Chishimba, 2019). Such a large responsibility, coupled with minimal checks and balances, exacerbates the outcomes of negative actions taken by the MoF. The primary check on the ministry's debt contraction is legislative oversight. For many years this came in the form of a statutory debt limit, under which the MoF could borrow at will (Ndhlovu & Chishimba, 2019). For about 15 years, from 1998 to 2013, the statutory debt limit was 20 billion kwacha (new currency) (Ndhlovu & Chishimba, 2019). In 2013, debt loads were approaching the ceiling due to the recent 750 million USD Eurobond issuance. Therefore, in November 2013, the Minister of Finance asked parliament to raise the limit to 35 billion kwacha, a 75 percent increase, to increase room for continued borrowing (Ndhlovu & Chishimba, 2019). In 2014, the government proceeded to issue a new Eurobond, totaling 1 billion USD. Afterwards, in June 2015, the Zambian government again raised the statutory debt ceiling, this time from 35 billion kwacha to 60 billion kwacha (Ndhlovu & Chishimba, 2019). Less than a year later, in February 2016, the Minister of Finance revealed to parliament that the external debt position was 72.68 billion kwacha, over 12 billion kwacha above the limit (Ndhlovu & Chishimba, 2019). In response, parliament raised the statutory debt limit to 160 billion kwacha (Ndhlovu & Chishimba, 2019). This pattern of the MoF requesting debt ceiling increases whenever it was close or in excess, and the National Assembly subsequently approving them, reveals a lack of effective legislative oversight over debt contraction. This problem has persisted despite attempts at reforms. The Zambian constitution was amended in the beginning of 2016 with the following clause regarding debt contraction:

- Article 63. "(2) The National Assembly shall oversee the performance of the executive functions by... (d) approving public debt before it is contracted."
(*Constitution of Zambia Amendment Act No. 2 of 2016, 2016*)

While the requirement for prior legislative approval of debt contraction is now included

in Zambia's constitution, this clause has not yet been put into effect.¹ The Attorney General has interpreted Article 21 of the Constitution of Zambia Act, 2016, and Article 206 of the Constitution of Zambia Amendment Act, 2016, to together indicate that Article 63 requires further legislation by the National Assembly to be put into effect.² Until the National Assembly takes this action, the rules of the old constitution remain, meaning that the National Assembly currently only approves annual budget estimates and does not directly approve the contraction of new debts³. Sometimes new debts are contracted prior to the annual budget estimates approval, indicating that legislative approval is sometimes disregarded completely. When legislative approval occurs after a debt has already been contracted, it is called legislative rubber stamping. Legislative approval also isn't required for parastatal debt, despite the fact that these loans are usually publicly guaranteed and could therefore become public debts. Despite there being some laws in place that attempt to place checks on executive debt contraction, but they are often avoided. This occurs, in part, because the judiciary doesn't hold the executive accountable.

According to legal Professor Muna Ndulo, the Zambian supreme court has at times adopted a doctrine of 'executive supremacy,' that offers incredibly excessive deference to the executive (Ndulo, 2013). The combination of a lack of legislative oversight and excessive judicial deference to the executive illustrates that separation of powers is not the reality in Zambia.⁴ This is partially due to the fact that the president is almost always a member of the majority in the national assembly, due to election rules. The president also has the ability to appoint members of parliament, which makes his majority even stronger. Opposition parties remain weak because of formal systems such as these, but also because of a lack of transparency. The government does not publish many reports and proposals regarding expenditure and budgeting. The country received just an 8 out of 100 on the 2017 Open Budget Index, indicating that "Zambia provides the public with scant budget information" (Open Budget Partnership, 2017). When opposition parties and advocacy groups lack information it makes it difficult for them to hold the government accountable. In addition, limited opposition to the majority party stems from fear.⁵ There may be repercussions, such as diminished power and influence, for opposing the government too aggressively. This applies to the media as well as minority politicians. According to Freedomhouse's 2016 report on Zambia, "Freedoms of speech and the press are constitutionally guaranteed, but the government often restricts these rights in

¹ Interview with a senior official that collaborates with the Ministry of Finance

² Interview with a senior official that collaborates with the Ministry of Finance

³ Interview with a senior official that collaborates with the Ministry of Finance

⁴ Interview with a law professor at the University of Zambia

⁵ Interview with a senior official that collaborates with the Ministry of Finance

practice” (Freedomhouse, 2016). An example provided was when “The editor of and a reporter for the *Post* newspaper were arrested in July for publishing allegedly classified information about a corruption probe involving a presidential aide” (Freedomhouse, 2016). The executive’s extensive control over debt contraction and relevant information has played an important role in enabling the development of the debt crisis.

Debt Usage

The government initially planned to use its external debts to fund infrastructure investments under the theory that the infrastructure projects would reap substantial economic and social returns that would make up for the interest being paid. The bulk of the Eurobond payments were appropriated for infrastructure purposes, although the former Minister of Finance Margaret Mwanakatwe stated that some of the second and third eurobonds were used for general budget support (Moonga, 2018). The use of this high interest-rate debt for general budget support challenges the notion that the debt will pay for itself through economic growth. Unfortunately, several of the infrastructure projects funded with the debt have also failed to substantially grow the tax base.⁶ Rather than the expected outcome of increased growth through debt usage, it seems the opposite is occurring because the “large fiscal deficits and rising debt service have resulted in domestic expenditure arrears, taking a toll on growth” (IMF Staff, 2019). One reason why the infrastructure investments are not having the desired returns is that there is no appraisal process for the projects.⁷ Although appraisal processes are not perfect, they can at least offer some sense of the returns a proposed project offers or whether the price for the work being done is reasonable. If the government has a good appraisal process in place, the government can selectively fund projects with large economic and social returns and greater ensure that debt is used effectively. The lack of an appraisal process has allowed overpriced projects to be implemented. A World Bank study in 2017 found that Zambia paid \$360,000 per kilometre of road, which is more than twice the African average (The Economist, 2018). Road building has been one of the government’s main infrastructural priorities, but excessive expenditure is not unique to that category and is rather widespread in government procurement. A main reason for this is corruption, a widespread problem in Zambia. In Transparency International’s 2018 Corruption Perceptions Index, the country scored a 35 out of 100 and ranked 105th out of 180 countries worldwide (Transparency International, 2019). According to a report by the government’s Financial Intelligence Centre, the country lost an estimated 4.9 billion kwacha to corruption in a nine month period in 2018. Such losses were particularly

⁶ Interview with a Senior Macroeconomics Fellow at the Zambia Institute for Policy Analysis & Research

⁷ Interview with a senior official that collaborates with the Ministry of Finance

prevalent in public procurement activities, which includes infrastructure construction (Government of Zambia Financial Intelligence Centre, 2018). This excerpt from the centre's report explains how corruption can occur at different stages of the public procurement process:

Government purchasing procedures generally involve:

- *Drawing up of specifications*
- *Tender process*
- *Awarding stage*
- *Implementation of the contract*

Certain specifications are manipulated to disadvantage other bidders. After the specifications have been drawn, the tender process commences. This involves the bidding and the awarding of contracts. The implementation stage is also susceptible to corruption as most contracts are not performed as per contractual obligation. Procurement corruption has led to the crowding out of legitimate businesses.

Source: Government of Zambia Financial Intelligence Centre, 2018

Government officials can manipulate the public procurement procedures to funnel overpriced contracts to 'tenderpreneurs', businesspeople that utilize their political connections to secure government contracts for personal gain. These tenderpreneurs often reciprocate by providing kickbacks to the officials that help their firms secure the contracts. The clear losers in this scenario are the taxpayers that overpay for subpar goods and services.

Another potential reason why Zambian infrastructure projects are overpriced is that Chinese loans typically come with non-competitive contracting clauses, requiring that the project contracts with Chinese firms and utilizes Chinese labor.⁸ This lack of competition means that Chinese firms and laborers may overcharge for the work they complete. The heavy use of Chinese and other foreign firms has also led to a dependence on them due to the lack of knowledge transfer to Zambian firms. Engineering Institution of Zambia (EIZ) Vice-President for Finance and Administration Abel Ng'andu said in 2017, "Right now, about 80 per cent to 90 per cent of the money [the] government is putting in the construction sector just goes to foreign contractors" (Rose, 2017). Chinese and other foreign firms' near-monopoly on infrastructure construction in Zambia makes it difficult for Zambian firms to compete and potentially offer the government lower prices.

A fourth potential reason why the government overpays for public procurement is its

⁸ Interview with Trevor Simumba, Macroeconomist and author of paper on Zambia's debt to China

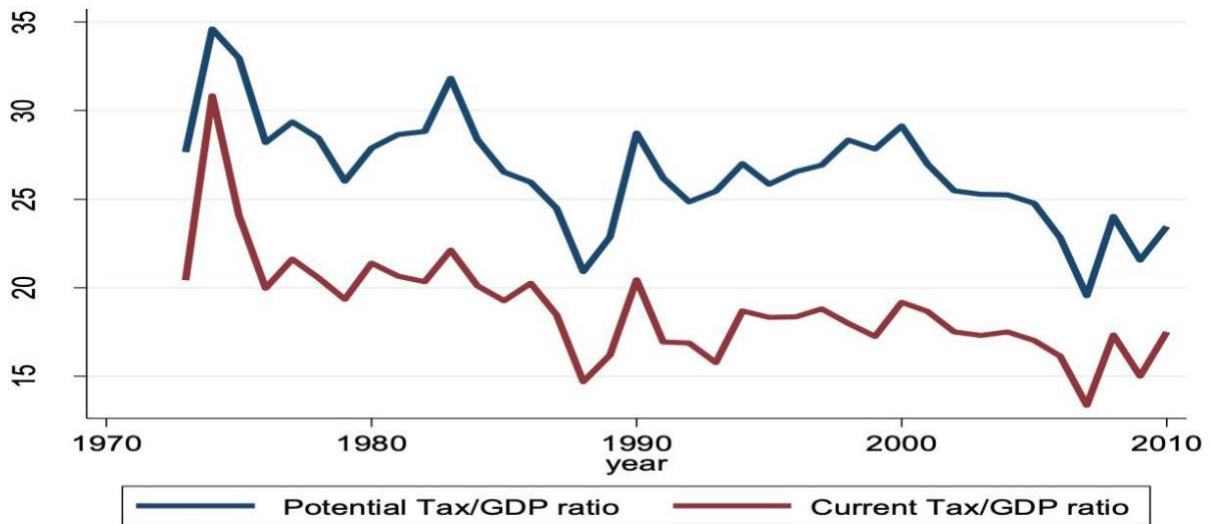
previous failure to pay contractors on time.⁹ When the government accumulates arrears and delays payments to contractors, this costs the contractors due to the time value of money. Rational contractors begin to charge the government more for their work because they expect that their money may be held up for a while. In a sense, the contractors effectively include an interest cost in their bids for government tenders. The contractors would potentially also increase the amount of their bid if their expected payout is reduced due to a perception that they may never be paid in full or at all.

Government Revenue Concerns

National debt arises from deficit spending, when government expenditure exceeds revenue. Zambia's public debt has arisen due to both excessive expenditure and limited revenue. The largest issue Zambia's government faces regarding revenue is low tax compliance rates. According to an interview with a senior official that collaborates with the Ministry of Finance, "tax compliance for many taxes are about 50%." One difficulty with tax compliance is Zambia's large informal sector. (Phiri & Nakamba-Kabaso, 2012). A 2012 Zambia Institute for Policy Analysis and Research (ZIPAR) paper found that over the period 1973–2010, "informal GDP has averaged 47.7% of official GDP per annum and that the informal sector's tax potential has averaged 42% of total tax revenues per annum" (Phiri & Nakamba-Kabaso, 2012). The informal sector and tax evasion due to informality has remained a constant throughout Zambia's history, as shown in Figure 6. In 2010, the total amount of tax revenue lost due to informality was equivalent to 6% of GDP (Phiri & Nakamba-Kabaso, 2012). The 2018 budget deficit, on a commitment basis, was equivalent to 10% of GDP (IMF Staff, 2019). Assuming the amount of tax evasion due to informality has not significantly changed since 2010, the 2018 budget deficit, and therefore 2018 debt accumulation, could have been more than halved if the informal sector were fully incorporated into the formal sector. In the real world, of course, compliance enforcement of the informal sector is expensive, and potentially costs more than it's worth (Phiri & Nakamba-Kabaso, 2012). Tax evasion due to informality is nevertheless a challenge in reducing government debt, and additionally poses challenges when the government attempts to recoup its investment in infrastructure projects. If the economic growth produced by an infrastructure project is mostly in the informal sector, the government's tax base will grow at a lesser rate than the economy, making it difficult to afford the project's interest payments.

⁹ Interview with a senior official that collaborates with the Ministry of Finance

Figure 6: Tax evasion due to informality, assumes 0 compliance costs



Graphic: Phiri & Nakamba-Kabaso, 2012

Tax evasion also takes other forms, including false accounting, when companies overstate their expenditure to reduce their profits and, therefore, their tax obligations (Government of Zambia Financial Intelligence Centre, 2018). Another tactic is group company loans, when companies externalize funds to their parent companies, and then receive the funds back in the form of loans, allowing them to reduce their tax liability because interest on the loans receives tax relief (Government of Zambia Financial Intelligence Centre, 2018). Third, some companies use personal accounts for business, which affects the completeness and accuracy of business records and compromises tax compliance (Government of Zambia Financial Intelligence Centre, 2018). Another major issue in Zambian tax evasion is Illicit Financial Flows (IFFs), which are typically in the form of trade mispricing in the copper industry (AU/ECA Conference of Ministers, 2015). Trade mispricing in the African continent's copper industry caused 2.9 billion USD of illicit financial flows in 2010 (AU/ECA Conference of Ministers, 2015). Since Zambia accounts for 65% of the continent's IFFs in copper, the Zambian government was unable to apply taxes on nearly two billion dollars worth of copper-industry financial flows in 2010 alone (AU/ECA Conference of Ministers, 2015). Why do Zambia-based individuals and companies evade taxes?

The obvious economic answer is that they believe they can save money because of the unlikelihood they will face punishment. A more psychological answer also exists, that Zambians don't feel that their money is well spent when given to the government because of corruption and the other issues with government expenditure discussed in the debt

usage section.¹⁰ A final reason why government revenue is low is that many of Zambia's parastatals are inefficient and generate low, if any, profits. According to an Auditor General Report on the parastatal accounts, only two of the 25 majority state owned enterprises posted dividends during fiscal year 2016 (Auditor General, 2017). This offers little hope that the parastatals will substantially increase government revenue and help eliminate the budget deficit.

Domestic Debt

The current debt crisis has largely been the result of public and publicly guaranteed external debt (36.5% of GDP in 2016), but domestic debt (24% of GDP in 2016) plays a role as well (IMF Staff, 2017). Domestic debt rose significantly from 12.4% of GDP in 2011 to 24% of GDP in 2016 (IMF Staff, 2017). Additionally, domestic debt's composition has been changing to reflect relatively stable debt loads from securities alongside large increases in domestic arrears and financing from the Bank of Zambia (BoZ) and commercial banks. In 2011, domestic debt from BoZ, commercial banks and arrears made up only about 7% of domestic debt and 1% of GDP, while in 2016 the category represented 50.2% of domestic debt and 12.1% of GDP (IMF Staff, 2017). Domestic arrears, about 33% of 2016 domestic debt, were about twice as large as domestic debt from BoZ and commercial banks, about 17% of 2016 domestic debt (IMF Staff, 2017). This reveals an especially sharp rise in domestic arrears. According to IMF Staff (2019), the domestic expenditure arrears are a result of large fiscal deficits and rising debt service. Rising debt service is mostly attributable to external loans, as seen in Figure 1, which indicates that Zambia's accumulation of domestic arrears is more of a product of external debt accumulation than a standalone issue (Ndhlovu & Chishimba, 2019). Government delays in payments to contractors, wage payments to government employees, and VAT refunds to businesses all stem from the root issue of expensive external debt. Domestic debt accumulation can in turn make external debt default more probable. According to the former Minister of Finance, Mrs. Margaret Mwanakatwe, domestic arrears has been having an adverse effect on economic activity (Lusaka Times, 2018). This is due to the fact that when private businesses and individuals lack the money they are owed, they are unable to spend or invest it in ways that will grow the economy. Government revenues tend to grow along with the economy, meaning that less growth makes it more challenging for the government to close its budget deficit and pay off its debts. Growth is projected to decline from 3.7% in 2018 to 2.3% in 2019 (IMF Staff, 2019). This low growth rate is due to multiple factors, including drought and domestic expenditure arrears (IMF Staff, 2019).

¹⁰ Interview with a senior official that collaborates with the Ministry of Finance

Causes of Debt Crisis Summary

Several factors, political, institutional and economic have created a perfect storm of poor debt management in Zambia. We divide these factors into three categories, legal framework, governance, and macroeconomics. Legal framework factors are due to structural problems regarding the laws. Governance factors are the result of the government and citizen actions that go against the letter or spirit of the law or, in the absence of suitable laws, against widely accepted best practices for governance. Macroeconomic factors concern the international and national landscape that affect sovereign borrowing. We recognize that some factors may be applicable to multiple categories. For example, poor transparency can stem from a lack of laws requiring that documents be made publicly available, but can also stem from a government choosing not to follow publishing requirements. Nevertheless, we have attempted to place each factor in the most applicable category.

Legal Framework (de jure):

1. Limited legislative oversight over debt contraction
2. Limited separation of powers
3. No appraisal process for infrastructure projects

Governance (de facto):

1. Legislative rubber stamping and excessive judicial deference to executive
2. Lack of transparency and publishing
3. Corruption, particularly in public procurement
4. Low tax compliance and low parastatal profits
5. Restriction of opposition voices
6. Past arrears leading to contractor overcharging

Macroeconomics:

1. High interest rates or non-competitive contracting clauses
2. Appreciation of USD
3. Investor appetite

Findings: Debt Barometer

Introduction

Recognizing the need to measure Zambia's debt management, we propose the use of a debt barometer. A debt barometer is an indicator for understanding a country's debt situation and the effectiveness of its debt management policies. Our hope is that a debt barometer would be able to identify and combat debt-related weaknesses preventing efficient development. A barometer could serve as a metric for use in advocacy and encourage competition between and within countries to meet guiding principles of AFRODAD's African Borrowing Charter (AFRODAD, 2018). The African Borrowing Charter provides several best practices that an African nation should follow to sustainably balance public debt levels and economic development. One of the specific aims of the charter that we consider with the barometer is: "to improve the transparency of political and institutional processes" (AFRODAD, 2018). In addition, there are efforts to establish guidelines for a country to borrow responsibly, relating to various processes, state actors, management of debt, public guarantees, debt financed projects, and fiscal policy. The charter is pursuing a vision shared in "The Africa We Want: Agenda 2063" (African Union Commission, 2015). The primary goal of the agenda is to contribute to inclusive growth and sustainable development of Africa. While there are nine essential guidelines listed in the African Borrowing Charter, we will focus on three in the development of our African debt barometer. These principles include legal framework, transparency and accountability, and disclosure and publication. We focused on the previously mentioned principles because we feel they are the most important and quantifiable of the non-macroeconomic principles.

AFRODAD's Tatenda Nyachega previously created an African Debt Barometer concept note that we have used in our work. We are grateful that he shared his concept note with us as his barometer provides a comprehensive understanding of how well a country is managing its debt load based on macroeconomic indicators. Due to this previous work, we focused primarily on how we could contribute to governance and legal framework barometers. We first examine how we could create a barometer by using Nyachega's conceptual macroeconomic barometer and existing indicators for governance and rule of law. We then consider how we would create new indicators for a country's debt-related governance and rule of law.

Barometer from Existing Indicators

Our first step in this project entailed reviewing what indicators for tracking debt-related governance and legal framework already exist. We found several relevant indicators that measure components of these principles and attempted to make barometers using them.

Our barometer consists of three sub-barometers based on the three categories of causal factors we found for the Zambian debt crisis:

1. Legal Framework
2. Governance
3. Macroeconomic

We believe these three sub-barometers incorporate a holistic political economy approach to debt management that reflects the spirit of the African Borrowing Charter.

In the complete weighing of the barometer, a stakeholder suggested the governance barometer should weigh more than the legal framework and macroeconomic barometers.¹¹ This is because declines in macroeconomic indicators are theoretically reflective of poor governance and legal framework. An indicator seeking to prevent and proactively respond to potential debt crises should place greater import on the root causes than on the responding metrics. We also believe governance should weigh more than legal framework based on our observations of the causes of the current Zambian debt crisis. We observed some poor outcomes despite decent written laws because the government is often not held accountable for skirting them. Based on these reasons, we propose the following weights assigned to the barometers:

1. Governance barometer (40%)
2. Legal framework (30%)
3. Macroeconomic barometer, borrowed from AFRODAD's African Debt Barometer concept note by Tatenda Nyachega (30%)

Many of the existing indicators we have encountered are difficult to place between the legal framework and governance barometers. We believe that indicators measuring the strength of policies and institutions and indicators on levels of oversight and public participation more naturally align with the legal framework barometer. Indicators for

¹¹ Interview with a Senior Macroeconomics Research Fellow at Zambia Institute for Policy Analysis & Research

rule of law, corruption and transparency seem to align more with the governance barometer. We readily admit that these divisions are not flawless.

Legal Framework

Legal framework is synonymous with what is written in law. The legal framework component on the barometer will assess whether debt contraction policies consider the interests of citizens. In other words, the legal framework barometer seeks to measure the quality of a country's debt related laws. We drew inspiration from one of the African Borrowing Charter's guiding principles, Legal Framework. This principle states, "Public debt contraction and use shall be anchored in constitutionalism; backed by a legal framework and rule of law; based on coherent and coordinated structures with predictable rules and regulations, supported by a debt management strategy for long term debt sustainability. (AFRODAD, 2018)"

Following a literature review and several interviews with experts, we believe these are the best existing indicators for a legal framework barometer:

1. The Country Policy and Institutional Assessment (CPIA) by the World Bank (WB)
2. CPIA by the African Development Bank (Different indicators and publisher, same name)
3. Open Budget Survey by International Budget Partnership (IBP)
 - a. Public participation in Budget Process
 - b. Budget Oversight by Legislature
 - i. Formulation/ Approval
 - ii. Execution/ Audit
 - c. Budget Oversight by Audit Institution

Several of the World Bank's CPIA factors are applicable to assess a country's legal framework, however, calculations for these metrics are unclear. The entire methodology for the CPIA indicators is not publicly available (World Bank, n.d.). For each of the criteria, the World Bank has prepared guidance to help staff assess the country's performance, by providing a definition of each criterion and a detailed description of each rating level. The ultimate determination for a country's ranking is done by the bank's staff based on their professional judgement. The influence of World Bank staff judgement is both a strength and a downside of this indicator. It allows the indicator to potentially account for aspects of a country's governance that are not reflected in quantitative metrics, but could also leave the indicator subject to professional staff's biases. The

Independent Evaluation Group, however, evaluated the CPIA methodology in 2004, and it concluded that the CPIA is reliable and there is no evidence of bias (World Bank, n.d.). The IEG also found some overlaps in indicators and stated that the CPIA should focus more on implemented policy than proposed policy (World Bank, n.d.). The IEG affirmed that the professional staff's judgement should play a key role in determining the scores (World Bank, n.d.). The World Bank revised the CPIA afterwards to better follow the IEG's recommendations, potentially improving the indicators (World Bank, n.d.). The CPIA is only performed for International Development Association borrowers, which means that in 2017 there were 38 African nations assessed of the 54 African nations recognized by the UN, unfortunately leaving 16 without ratings (World Bank, n.d.). A criticism of the World Bank's CPIA by one of our interviewees was that it is too static from year to year and does not adequately reflect real-time changes.¹² The World Bank's CPIA involves scoring various components of a country's policies and institutions on a scale of 1 to 6.

The African Development Bank also publishes CPIA results from a 1 to 6 ranking. These CPIA ratings are similar to the World Bank's, although they do not have all of the same criteria. While the AfDB has aligned CPIA criteria with the World Bank, the African Development Bank is responsible for their scores (African Development Bank, 2018). In similar fashion to the World Bank's methodology, the African Development Bank's CPIA relies on their expert's assessments. It is published biannually, with the most recent year being 2018. We found less information on the reliability of the African Development Bank's CPIA than on the World Bank's CPIA.

The International Budget Partnership is most famous for its Open Budget Index, but it also releases scores on Public participation in Budget Process, Budget Oversight by Legislature (broken down into the Formulation/ Approval and Execution/ Audit stages), and Budget Oversight by Audit Institution (Open Budget Partnership, 2017). These scores largely align with what we are trying to assess, although they focus more on general budget procedures than on debt contraction specifically.

If we were to create a legal framework barometer from existing indicators, a potential breakdown could be to assign 50% weight to International Budget Partnership data and 50% weight to World Bank CPIA indicators. The African Development Bank CPIA indicators seem to easily substitute with the World Bank's, but we found less information on their reliability.

¹² Interview with a Senior Macroeconomics Research Fellow at the Zambia Institute for Policy Analysis & Research

Potential breakdown of weights:

1. IBP Public Participation in Budget Process (12.5%)
2. IBP Budget Oversight by Legislature
 - a. Formulation/ Approval (12.5%)
 - b. Execution/ Audit (12.5%)
3. IBP Budget Oversight by Audit Institution (12.5%)
4. WB CPIA Quality of Budgetary and Financial Management Rating (16.67%)
5. WB CPIA Debt Policy Rating (16.67%)
6. WB CPIA Fiscal Policy Rating (16.67%)

The formula would first convert the CPIA scores from a 1-6 scale to scores out of 100, and then would multiply each of the data points by their weights and sum them, producing a legal framework score out of 100. We feel this barometer would serve as a decent metric of assessing a government's broad debt-related legal framework because it considers financial policy ratings as well as public participation and oversight concerns.

Governance

The governance barometer measures a country's rule of law. In other words, governance assesses a country's ability to adhere to policy and law. We aligned the barometer with disclosure and publication as well as transparency and accountability, which are described in the African Borrowing Charter. Listed below are a description of the two sets of principles used in the governance barometer:

Disclosure and Publication: "African governments have an obligation to disclose and publish relevant terms and conditions of all financing agreements to citizens and should respond openly to requests for related information from them."

Accountability and Transparency: "The process for obtaining financing and assuming public debt obligations and liabilities shall be transparent and accountable."

Source: AFRODAD, 2018

The governance barometer will comprise three parts, including corruption, rule of law and transparency indicators. Corruption indicators, in this sense, describe the level of corruption in the public sector. Rule of law indicators describes a country's ability to adhere to standardized law. Lastly, transparency indicators focus on financial disclosure in the public sector (ie. financial reporting). We believe these factors, collectively, capture

the essence of how well a government follows their debt-management laws and widely accepted best practices.

Listed below are the proposed parts of the governance barometer, with their weights:

1. Corruption Indicators (40%)
2. Rule of Law Indicators (35%)
3. Transparency Indicators (25%)

Following a literature review and several interviews with stakeholders, we believe the following indicators should be considered in the development of the governance barometer:

1. Worldwide Governance Indicators - Rule of Law
2. Corruption Indicators
 - a. Corruption Perception Indicators by Transparency International
 - b. WB CPIA Transparency, Accountability and Corruption in the Public Sector Rating
3. Transparency Indicators
 - a. AfDB Quality of Budgetary and Financial Management
 - b. Open Budget Index Published by the Open Budget Survey
 - c. Afrobarometer's Survey Data Rule of Law Indicators

The Worldwide Governance Indicator (WGI) project reports aggregate governance indicators for 200 countries. The WGI project covers six dimensions of governance: voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The six aggregate indicators are reported with a range from -2.5 to 2.5. For cross-country comparisons, aggregate indicators are reported in percentile rank terms from 0 to 100. Higher scores percentiles reflect better outcomes for both methods of reporting data. The aggregate indicators are composed of several enterprise, citizen and expert respondents. The datasets summarize 30 individual data sources, developed by private sector firms, non-governmental organizations, think tanks, and other sources. The weighting of the data sets is unclear.

For the purpose of the governance barometer, we believe WGI's rule of law metric is an appropriate indicator for the rule of law component. According to WGI, rule of law captures the extent to which citizens abide to the rules of a society. There is an emphasis placed on contract enforcement and property rights. Rule of law also captures

information on a country's judiciary process, crime rates and perceptions and data on a police force. The main issue with the use of this indicator is that it is attempting to measure a country's general rule of law, while we are more narrowly interested in a country's rule of law regarding public finance.

Corruption Indicators

As mentioned earlier, the WGI project focuses on six dimensions of governance. One of these dimensions, control of corruption, is clearly applicable as a potential corruption indicator. Control of corruption "captures perceptions of the extent to which public power is exercised for private gain the prevalence of private gain. ("WGI Documentation," n.d.)" Factors included in this potential indicator are corruption among public officials, diversion among public funds, and irregular payments in tax collection as well as import and export. Like the rule of law indicator, the methodology for the control of corruption indicator is unclear.

The Corruption Perception Index, published by Transparency International, ranks 180 countries and territories by levels of public sector corruption (Transparency International, 2019). Experts and businesspeople use a scale of 0 to 100. In this scale, 0 signifies maximum corruption and 100 represents a clean public sector. As of 2012, Transparency International has revised their methodology in a way that allows for comparison of scores on a yearly basis. The 2018 CPI relies on 13 surveys and expert assessments. According to the Corruption Perception Index, in 2018, Zambia scored a 35, marking a two point decrease in a year.

The World Bank's CPIA includes a data set on transparency, accountability and corruption. The scale is from 1 to 6, where a 1 represents low transparency and accountability and an elevated presence of corruption. A 6 represents high levels of transparency and accountability and few corruption issues. In 2017, Zambia scored a 3, signifying a moderate level of transparency and accountability and some corruption issues.

Transparency Indicators

The AfDB's CPIA measures the quality of budgetary and financial management. We believe this is applicable as a transparency indicator. The quality of budgetary and financial management aligns closely with the descriptions of transparency and accountability as well as disclosure and publication. Like the WB's CPIA, the scores range

from 1 (very weak) to 6 (very strong). In 2018, Zambia received a 3.88, marking a .12 decrease in two years.

The Open Budget Survey Indicators (OBSI), provided by the International Budget Partnership, tracks the African Borrowing Charter's principles of transparency and accountability and disclosure and publication. One challenge is that their indicators are only published biannually, making a barometer metric using their indicators less responsive to shorter-term changes. Budget processes typically occur once a year, however, so a two year updating schedule may be an acceptable frequency for this category of indicator.

Afrobarometer's survey data, among other topics, assesses the public perception of a government's transparency. This may be a less useful indicator than the Open Budget Survey because it attempts to examine public perception about what the government's processes are rather than attempting to directly examine the government's processes. Afrobarometer releases new survey results approximately every two or three years, but delays survey results from being released for a year to allow for their in-house analysis.

Macroeconomic

The conceptual macroeconomic barometer created by AFRODAD's Tatenda Nyachega analyzes three dimensions of debt. This includes the debt situation, the trends and patterns (over a period of three to five years), and debt dynamics. There are four listed objectives of AFRODAD's conceptual African debt barometer. These are:

1. To establish the pattern, trends and situation of debt in Africa.
2. To analyze debt relief solutions in Africa.
3. To provide comprehensive data that reflects revisions on Africa's debt.
4. To establish the driver, dynamics and composition of debt in Africa.

The macroeconomic indicators from AFRODAD's conceptual barometer, with their weights, include:

1. Public debt to GDP (PD/GDP): 20%
2. Public debt to annual government revenue (PD/AGR): 25%
3. External debt to GDP (ED/GDP): 20%
4. External debt to annual export earnings (ED/AEE): 10%
5. Debt service to annual export earnings (DS/AEE): 25%

A few of our interviewees suggested we consider debt service to government revenue. This measure has been relevant to Zambia's situation where debt service is 27% of 2019 expenditure and in 2018 expenditure exceeded revenue by about 10% of GDP (Ndhlovu & Chishimba, 2019; IMF Staff 2019). Such an indicator could imperfectly measure how likely it is that the government is sacrificing expenditure in other areas due to debt service. Such expenditure sacrifices could lead to reduced growth. It also could reflect the risk of default, but this risk is largely already considered through debt service to annual export earnings.

Four risk levels for the five indicators of AFRODAD's conceptual barometer. The different classifications include:

1. No risk: 0 - 10%
2. Slightly critical: 11 - 30%
3. Critical: 31 - 70%
4. Very critical: 70 - 100%

Conceptual Indicators

Although we found several relevant indicators for concepts tied to debt management policies, and were able to conceptualize barometers off of them, we feel new indicators would need to be created to truly assess a country's debt-related legal framework and rule of law.

Potential Legal Framework Indicator

If we were to create a debt-related legal framework indicator, we would utilize a survey asking whether various rules are in place. This survey would consist of some yes/no questions, but more quantitative indicators would also be used, although they would require more data collection and, therefore, time. We envision this survey being styled in a similar manner to the Open Budget Survey, but with debt focused content. The survey would be sent to someone perceived by the survey conducting organization (SCO) as unbiased, yet familiar with the government's procedures. The respondent would answer the questions and return them to the SCO. The SCO would then have analysts review the respondent's answers to have some assurance that the respondent answered honestly and accurately.

Examples of the types of questions that would be included:

1. Does the constitution require prior legislative approval for debt contraction? (Y/N)
 - a. Do publicly guaranteed parastatal debts require approval before contracting? (Y/N)
2. Is there a statutory debt ceiling? (Y/N)
 - a. If yes:
 - i. What percent of GDP is the ceiling? (%)
 - ii. Are there limits in place regarding how frequently or how much the debt ceiling can be raised? (Y/N)
 - iii. Are there debt contraction freezes if the debt ceiling is exceeded? (Y/N)
3. Does the constitution mandate an independent judiciary? (Y/N)
 - a. Are the judiciary's funding sources independent? (Y/N)
4. Are there laws requiring appraisal processes for infrastructure projects? (Y/N)
 - a. Are these appraisal reports required to be made public?

(Y/N) Potential Governance Indicator

Our governance indicator would be similar to our legal framework indicator, but would ask not whether there are rules in place, but rather whether various rules are followed. The questions would largely mirror those in the legal framework indicator.

Examples of the types of questions that would be included:

1. What percent of the debts contracted in the past year were approved by the legislature prior to contraction? (%)
2. What percent of parastatal debts contracted in the last year received prior legislative approval? (%)
3. Does the government stay within its statutory debt ceiling or, if no ceiling exists, within 50% of GDP? (Y/N)
 - a. If no, how many months during the past three years have they exceeded it? (%)
4. Is the judiciary independent de facto? (Y/N)
 - a. Has the highest court cited the doctrine of executive supremacy within the past ten years? (Y/N)
5. What percentage of infrastructure projects in the last year were appraised before the debt was contracted for them? (%)
6. What percentage of last year's contracted projects have publicly available appraisal reports? (Y/N)

The benefits of these potential indicators is that they would be debt-specific and measure compliance with public debt best practices. It also would reveal whether a nation needs to focus more on improving its laws or improving compliance with laws, as well as identifying specific areas for improvement. It would encourage the development of a strong legal framework that is difficult for the government to abuse, while also encouraging the government to follow best practices even if they are not spelled out in the law.

Discussion

Our theory is that poor legal framework and poor governance along with access to credit results in poor debt management outcomes. This is evident in Zambia's case. Zambia has a challenging path to improve debt management policies. Stakeholders can take positive steps to encourage the government to adopt better laws and policies and to consistently follow and enforce them. The creation of a debt barometer with legal framework and governance components will help inform both advocates and government officials regarding ways to improve.

We hope that our work helps further the development of an African debt barometer. We have identified several potential indicators that could be used in the barometer, however, transitioning from conceptual barometers to a functioning and publishable barometer would require much more work. This work would include choosing a specific methodology and assigning fair weightings for various components of the barometer. We have made some suggestions regarding these choices, but ideally any barometer concept would undergo a period of criticism and revision before being implemented. Several components of our conceptual indicators would need to be flushed out much more if they were being used to develop a functional indicator. This is most evident with the conceptual indicator based on our own survey questions. We believe an indicator based on our ideas would need to include many more questions. A method of creating numerical scores from the survey would also need to be developed.

We hope that any African debt barometer is squarely aligned with the goals of the African Borrowing Charter. We tried to take into account the charter's guiding principles throughout our conceptual barometer, but we sometimes missed opportunities to consider the charter's more specific policies. This is an area our conceptual barometers could be improved upon.

Our hope is that a flushed out debt barometer could be used beyond Zambia in order to identify methods to promote economic development throughout the African continent. A barometer could promote healthy competition among African nations to adopt strong debt management policies and to rigorously follow them. Such changes in states' behaviors could help avoid further African debt crises.

Limitations

There were several limitations in this research project. First, we had limited time. To develop a comprehensive and original debt barometer, more time is necessary than six weeks. Our time constraint limited the holisticity of the end result. Given more time, we would have fully developed the African debt barometer, particularly dedicating more time to our original indicators. Another limitation of our conceptual barometer is the difficulty of accurately quantifying principles. Legal framework and governance indicators are difficult to quantify because there is no one clear method for collecting quantifiable data. Another limitation of this research project includes the transparency and accessibility of data. Some indicators, included in the barometer, may not be fully accurate because governments may publish skewed data to appear as if they have lower public debt burdens than they really have. Additionally, we found that the willingness of data sources to disclose specific information, especially regarding their methodologies, is variable.

We also came from a background with little prior knowledge about Zambia's debt, public finance, and debt management policies. The political economy of Zambia is quite different than that of our home country, the USA, so it took us some time to understand Zambia's practices. It also required time for us to learn jargon specific to international finance (ie. Eurobonds).

Conclusion

Zambia's debt crisis was the result of several political economic factors that can be grouped into legal framework, governance and macroeconomic categories. These factors can be roughly tracked with existing indicators, although they would be more accurately measured through the creation of new indicators. Further research could be done to compare the causes of Zambia's debt crisis to the causes of other nation's debt issues. This would allow a better formulation of conceptual indicators for debt-related legal framework and governance. Eventually, a debt barometer could be used across the African continent to encourage the adoption of sound public debt management policies.

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