

New African debts and natural-resource dependence

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Abstract

Many African countries suffered from debt overhang from the 1980s to 2000s. As debt cancellation schemes freed the African countries from debt burden, the formerly indebted countries (re)gained access to external borrowing. Using panel data of 36 countries in Sub-Saharan Africa, including 28 heavily indebted poor countries from 2005 to 2016, the impacts of external debts on the countries' macroeconomy, especially on consumption and domestic investment, are tested. Statistics suggest the possibility that current SSA external borrowing is contributing to the economies' stabilization. However, the regression results show that the current external debt does not foster domestic investment. Despite the favourable economic situation with access to international capital, the dependence on external debt is risky for SSA governments given the changes in the international market.

Keywords: Africa, HIPCs, sovereign debt, procyclicality



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1. Introduction

Since the 1980s, many developing countries, including those in Sub-Saharan Africa (SSA), suffered from the external debt problem. When the international special scheme for debt cancellation was initiated, 33 out of the 39 heavily indebted poor countries (HIPCs) were SSA countries. To date, 30 out of 33 African HIPCs have already reached the completion point (IMF 2018).¹ The bilateral debt cancellation was followed by the multilateral debt cancellation under the Multilateral Debt Restructuring Initiative (MDRI), and in most of the countries, a large part of the external debts was forgiven in the 2000s.

As the debt burden was removed, SSA countries, including former HIPCs, started to borrow externally. Their newly gained access to external capital was a big change in the financial environment and has also brought changes in their domestic economies.

The increasing trend of external debt among developing economies was a universal phenomenon in the 2000s, including among SSA countries (Figure 1). The trend indicates the inclusion of less developed economies into the international financial market. In the meantime, most developing economies enlarged their scale of international trade and GDP. The export-weighted debt is hence not necessarily explosive in relative terms. The increase in the value of external trade by SSA countries also suppressed the average debt share in export to around 25% after 2010 (Figure 2).

However, the recent external borrowing by SSA countries is not without reservation. The resolution of the old debt problem does not necessarily mean that their economic structure has changed and the same problem will never be repeated. The following discussion is based on the concern about whether Africa's new debt and economic situations are different from the old ones that brought about the debt crisis.

1.1. External debt

Aside from the international action for debt cancellation, on the background of increasing the external debt of African countries, there exist international investors who searched for higher yield during the period of low international interest rates. Figure 3 shows a comparison of various interest rates. Since the recent international financial crisis, international interest rates (LIBOR, US Treasury bill rate) have been even lower than the average official interest rates for SSA countries. The flow of capital into the emerging and developing economies, including the SSA countries, was further pushed by the high international commodity prices. On the other hand, Figure 3 also shows that the interest rates the SSA governments had to pay for issuing domestic bonds and treasury bills have been quite high partly because of their shallow domestic financial market, so that external borrowing became a very attractive option.

After the debt cancellation, bilateral and multilateral lending to former HIPCs have resumed.

¹Both HIPC and non-HIPC countries such as Kenya and Nigeria benefited from the debt cancellation (Merotto *et al.* 2015).

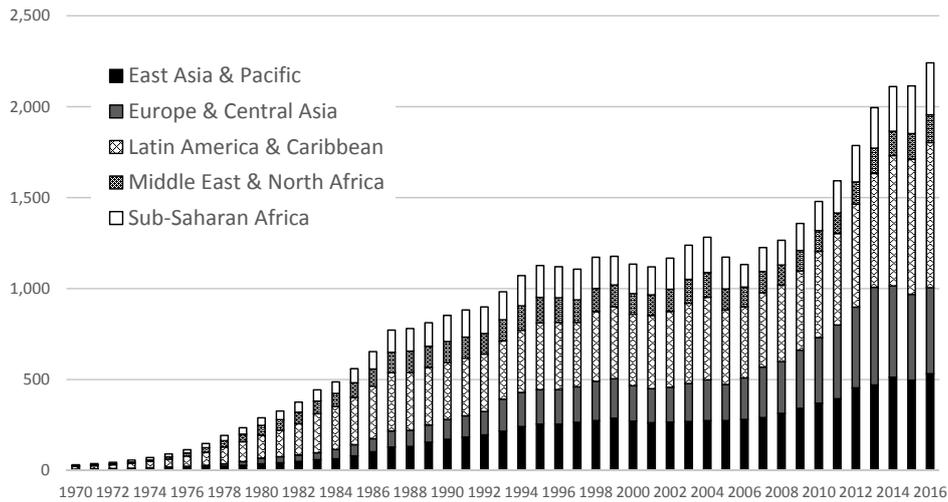


Figure 1. External debt stock by region (current, trillion US\$)

Source: *International Debt Statistics 2018*. Public and publicly guaranteed debt, excluding high-income countries.

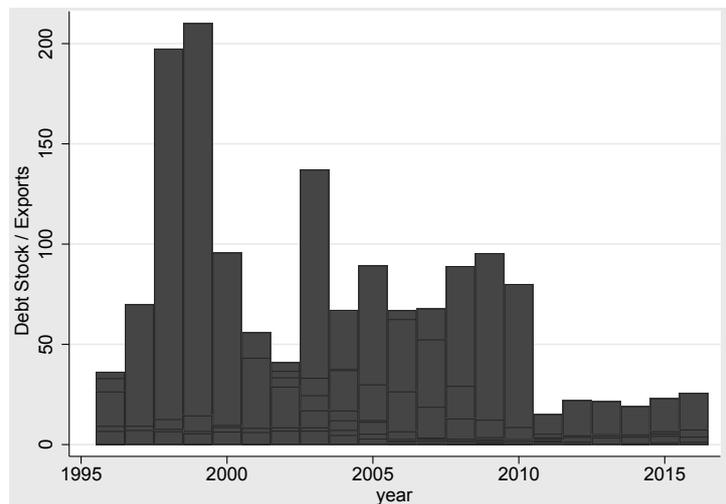


Figure 2. Weighted external debt stock of the Sub-Saharan Africa, 1996-2016

Source: *International Debt Statistics 2018*. Sum of 36 sample countries, weighted by exports.

The completion of the debt cancellation process was an obvious go-signal for some SSA governments to approach the international capital market. In fact, the debt cancellation was not necessarily a requirement for the issuance of sovereign bonds in the foreign market (Eurobond). According to Mecagni *et al.* (2014) and the IMF (2016), most external sovereign bond issuances by African HIPCs occurred well before the completion of debt cancellation, and some countries used the Eurobond proceeds to restructure their debt. The debt maturity (tenor) of Eurobonds issued by SSA countries (including non-HIPCs, excluding South Africa) is 11 years, and the coupon rate is 8.3% on average as of 2014 (Mecagni *et al.* 2014:7).

According to the *International Debt Statistics 2018*, Guinea (2004), Ghana (2004), Senegal (2009), Zambia (2012), Uganda (2012), Rwanda (2013), Mozambique (2013), Ethiopia (2014), Cameroon (2014), Madagascar (2014), and Côte d'Ivoire (2014) issued the Eurobond for the



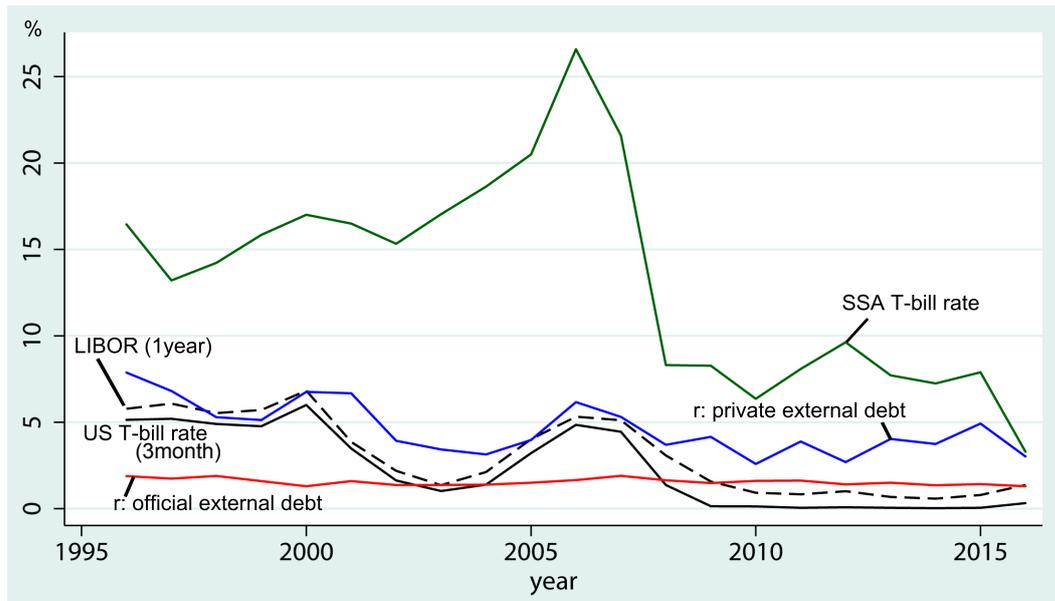


Figure 3. Interest rates, 1996-2016

Source: LIBOR, US T-bill rate, and SSA T-bill rate are based on IFS, and the interest rates for external debt are based on the International Debt Statistics.

Note: SSA T-bill rate is the average of 19 countries from the sample. Interest rates for external public and publicly guaranteed debts (to official/private creditors) are averages of the sample countries, and the rates are the average of the interest on new external debt commitments.

first time (The World Bank 2018a), and some of these countries issued it again in the succeeding years (years of the first issuance of Eurobond in parentheses).² Several countries also succeeded in issuing a private (publicly non-guaranteed) Eurobond. The share of the Eurobond and external bank loans in the total debt of the SSA countries is still small, given the fact that bilateral and multilateral debts share the majority of external borrowing for most of the SSA. However, the debt cancellation has changed the financial environment, especially for SSA governments, as it offers new options for financing their deficit.

1.2. Conventional challenges and new debts

The SSA countries experienced relatively fast growth in the 2000s, especially compared with the 1980s and 1990s. One important factor supporting the growth was the commodity boom. International commodity prices, especially those of natural resources such as metals and energy increased in the 2000s. There was a volatile period around 2007 and 2008, but prices remained high compared with the 1990s. The high prices have fostered new exploration and development of new natural resource production projects, even in geographically and politically difficult areas in the SSA. Today, majority of SSA countries, though in varying degrees, export mining-related natural resources. While the volume of natural resource export differs by country, the sample statistics (explained in the next section) show that their dependence on resource export, measured

²As in the case of Mozambique, in some countries, 'sovereign debt' is sometimes issued through an unofficial opaque process, and the debt statistics may be understating the reality of debt.

by the share of natural resources in the total goods export by SSA countries, is increasing year by year. This reflects the high international resource prices in the 2000s on one hand, and on the other, suggests that majority of SSA countries are not succeeding in diversifying the revenue source and economic structures.

It is a stylized fact in the literature that resource-dependent economies are unstable, economically and politically, and prone to shocks. The problems of economies with abundant exhaustible natural resources and economic dependence on them are often discussed as ‘resource curse’ (Auty 1990, Gelb *et al.* 1988, Sachs and Warner 2001). A wide range of problems, from changes in exchange rate and industrial structure (Dutch disease) to corruption, incidence of violence, and domestic conflicts, are included in the resource curse (Corden and Neary 1982, Corden 1984, Karl 1997, Collier and Hoeffler 2000). On the other hand, Van der Ploeg and Poelhekke (2009) argue that the resource price volatility is negatively correlated with per capita output growth, and growth volatility is higher in resource-dependent countries. This suggestion is noteworthy given the analysis by Ramey and Ramey (1995) that volatile economies in general grow slower.

While natural resource abundance and dependence are old problems and present conventional challenges to many developing countries, it is worth noting that natural resource abundance post debt cancellation can have a different meaning, as the future natural resource revenue can be viewed as the collateral for external debt, which enables external borrowing even for a relatively low-income country (Ketkar and Ratha 2009).³ Moreover, it is widely known that some countries, especially China, are offering loans (or grants) in exchange for the natural resources. Such decisions can be also backed by the recent high prices of the resources.

Among the economic problems stemming from natural resources, one problem closely linked to external debt and capital inflow is the procyclicality of the macroeconomy. For resource-rich countries, external credit often tends to be readily available when the resource revenue is high and the economy is buoyant, but it becomes more costly and harder when the economy slows down, which is exactly when the government is in need of hard currency. Aside from this problem, most African countries suffer from weak tax collection systems, which lead to chronic budget deficits in meeting the high demand for spending on development projects. In countries where fiscal rules are not established or institutionalized, government expenditure easily increases when revenue and capital inflow increase, but it is difficult to reduce spending even when revenue decreases. Alesina *et al.* (2008) analyse the reason for fiscal procyclicality in developing countries based on a theoretical model and empirical tests. They conclude that governments spend more on the demands of voters, and more corrupt governments tend to

³The distinction between resource *abundance* and resource *dependence* is critical. Determining how the resource endowment is measured has been an issue in examining the existence of the ‘resource curse’ (e.g., see Alexeev and Conrad 2009). On the other hand, in this analysis, resource dependence is the focus since it suggests the absence of other industries within the economy to buffer the resource price and revenue volatility. Resource abundance does not necessarily mean economic dependence.

have a procyclical fiscal policy. Thornton (2008) also analyses the economic procyclicality of African countries using data from 37 African countries and shows that their *consumption* is more procyclical than the economy itself. On the other hand, Berg *et al.* (2013) discuss the procyclicality of resource-dependent economies and analyse the validity of resource funds to stabilize the economy by enabling countercyclical government spending.

The nature of the international capital flow is indeed procyclical: Capital flows in when the economy is growing, and the flow reverses when the economy is slowing down. The literature suggests that resource abundance is a disadvantage for developing economies and resource dependence should be overcome, but economic procyclicality (or the ‘boom and bust’) is also often discussed as one of the challenges for stabilization of the economies, regardless of natural resource dependence. Easterly *et al.* (2000) highlight that the stability of growth is correlated with higher growth, and they additionally suggest that financial development is important for stabilizing the growth. Related to this point, Talvi and Végh (2005) reveal the contrasting facts between developing and developed economies that while fiscal policies in developing countries tend to be procyclical, they tend to be acyclical or countercyclical in developed economies. Using a similar argument, Alesina *et al.* (2008) conclude that procyclical governments incur a large debt when the economy is buoyant. Frankel *et al.* (2013), on the other hand suggest that institutional quality has a strong correlation with the countercyclicality of fiscal policy.

These previous findings leave us with several questions related to the procyclicality of the new external borrowings by SSA countries. The first question is about whether resource-rich countries are externally borrowing more, given the recognition of future resource revenue as a collateral for external borrowing. The second question is about procyclicality and whether recent external borrowing is cyclical to the economic conditions of debtor countries. The third question is whether the negative correlation between government fiscal procyclicality and growth, as suggested by Talvi and Végh (2005), is also applicable to SSA countries in the new debt period. The final question is more fundamental: Are the new external borrowings contributing to investment, or are they consumed, and by whom?

The rest of this paper is constructed as follows. Section 2 describes the data and model specification. Section 3 addresses the first three questions regarding procyclicality. Section 4 discusses the econometric model to address the third question and presents the regression results. Section 5 concludes.

2. Data

A panel dataset is used in this analysis that consists of debt and macroeconomic statistics of 36 countries in the SSA, including 28 HIPCs, for the period from 2005 to 2016. Several countries, such as Angola and Nigeria, are excluded due to the large scale of their economies. Some observations are missing depending on the country and year, and this resulted in an unbalanced panel. The list of the countries is presented in Appendix B.

External debts of a country consist of bank loan and bond, both public ('public and publicly guaranteed,' PPG) and private ('publicly non-guaranteed,' PNG). In addition, developing economies receive bilateral and multilateral loans, both concessional and non-concessional. Regarding the sample countries, the composition of external debt varies from country to country, but bilateral and multilateral debts still share the majority of debt for SSA countries. Given that, for most countries, the debt problems of the 1980s and 1990s arose due to the accumulation of bilateral and multilateral debt, the situation of public-led capital flow has not changed dramatically.

The debt statistics are obtained from the *International Debt Statistics 2018* (The World Bank 2018a), and macroeconomic indicators are obtained from the *World Development Indicators* (World Bank 2018b). In using the debt data, some studies use the net statistics (such as net transfer) of debt flow. However, as Powell and Tavella (2015) discuss, cancelling out the inflow and outflow of capital leads to loss of information on the capital movement, because large capital inflow is often associated with large outflow. Therefore, in this analysis, the inflow (disbursement) is used to capture the flow of external capital as debt.⁴

The official debt information is recorded by international institutions, and the statistics are recently compiled under the *Joint External Debt Hub* by the Bank for International Settlements, International Monetary Fund, Organization for Economic Co-operation and Development, and the World Bank. On the other hand, despite its large existence in the African economies, the official statistics for Chinese loans are not obtainable. In this analysis, the estimates of Chinese loans are considered based on the database constructed by the *China Africa Research Initiative* at Johns Hopkins University (China Africa Research Initiative 2018).

Trade statistics of SSA countries often suffer serious defects, and there are often huge gaps between the figures reported by different data sources. In this analysis, the export statistics are based on the UN Comtrade database, but taken in the reverse way. That is, the export of SSA countries is calculated as the sum of imports by other countries (reporters) in the world, as long as they are in the database. The import statistics reported in UN Comtrade is CIF data (including cost, insurance, and freight), and the export statistics are FOB data (free on board). Thus, the export and import values differ in exclusion (inclusion) of insurance and freight besides cost, and therefore this method overstates the export values and understates the import values. Nonetheless, the reversed trade statistics are the best available approximate for the sample countries to maximize the data coverage of the countries.

To control the dependence on natural resources, the share of natural resource export is also calculated using the UN Comtrade database. Natural resource here include oil and ores (specified under the UN HS codes 26 and 27) and the articles thereof (specified under the UN HS codes 71, 72, 73, 74, 75, 76, 78, 79, 80 and 81). Summary statistics are reported in Appendix C.

⁴In the previous versions of the analysis, the outflow of capital, amortization of debt, and interest payment were also included in the analysis. However, as amortization usually takes place regularly at a constant amount, no statistically significant results were obtained.

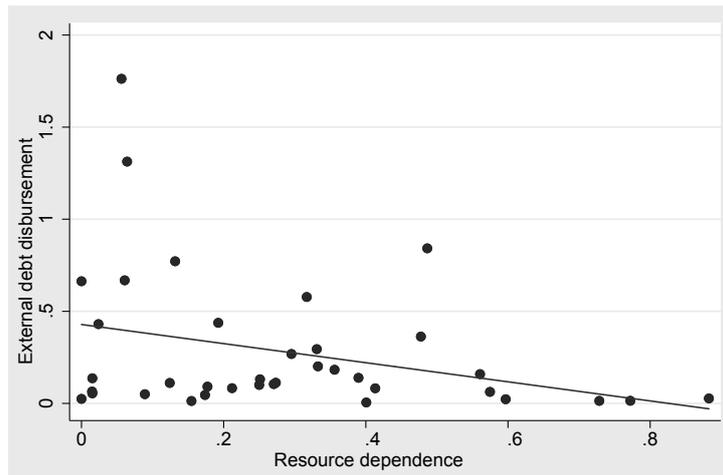


Figure 4. Resource dependence and external debt, 2016

Note: Resource dependence is calculated as the resource export divided by total goods export (UN Comtrade), and the debt disbursement is denominated by total export to control the economic size. For statistical details, see Appendix.

3. External debt and procyclicality

3.1. Resource dependence and external debt

Resource abundant countries may be able to incur debt using the natural resource as *de facto* collateral. However, movement of the international commodity prices will directly affect the value of the collateral, and thus the capacity to access the external credit increases when resource revenue is high, which can lead to procyclical government spending. In this context, as Van der Ploeg and Poelhekke (2009) argue, the linkage between natural resource dependence and external debt may exacerbate the volatility of the economy.

Figure 4 shows the plot of correlations between resource dependence (country mean for the sample period) and external debt disbursement (weighted by export) for 2016. It shows a clear negative correlation, and the tendency does not change in different years, even when debt disbursement is replaced by total debt stock. Against the expectation, existence of the natural resource and the future prospect of resource revenue does not necessarily result in more external borrowing. While the sample excludes some big economies, such as Angola and Nigeria, inclusion of those countries does not affect the negative correlation between resource dependence. This suggests that mere abundance of natural resources does not grant access to credit.

3.2. External debt and procyclicality

If the government of faster growing countries are borrowing more, it suggests an existence of economic procyclicality. Table 1 shows the partial correlations between external debt and output growth rate of the sample countries. Various lags are included, but none of the correlations are statistically significant, suggesting that there is no correlation between past and current growth and external debt disbursement. This at least suggests that recent external borrowing by the SSA countries is not triggered by their rapid growth.

Table 1. Correlations between output growth and external debt

	ppg disbursement	png disbursement	total disbursement
gdp	-0.0019 (0.9586)	-0.0126 (0.7289)	-0.0046 (0.8982)
with 1 year lag of gdp	-0.0078 (0.8345)	-0.0131 (0.7242)	-0.0105 (0.7768)
with up to 2-year lags of gdp	0.0130 (0.7328)	0.0030 (0.9366)	0.0134 (0.7245)
with up to 3-year lags of gdp	0.0238 (0.5415)	-0.0062 (0.8727)	0.0219 (0.5739)

Note: P-values are in parentheses. *gdp* denotes GDP growth rate, and *ppg* and *png* denote ‘public and publicly guaranteed’ and ‘publicly non-guaranteed’ debt, respectively. Debt disbursement is denominated by export value to control the economic size.

Given that neither the natural resource nor high economic growth is enabling external borrowing by SSA countries, it is worth to examine the characteristics of countries that have access to external capital. Asiedo (2003) and Djimeu (2018) offer a hint regarding this point. They suggest the importance of the institutional quality of SSA countries for attracting foreign direct investment (FDI) and ensuring growth after debt relief. Figure 5 shows a scatter plot of institutional quality and external disbursement in 2016. The countries with higher institutional quality have relatively larger external borrowing. This positive correlation is stable since 2009 and 2010 even if another index of institutional quality or detailed statistics for debt disbursement is taken, or another year is taken. However, before 2009, positive relations between institutional quality and bilateral and multilateral disbursement are absent (the index for institutional quality is only available since 2005). This suggests a possibility that public loan conditions for the SSA have changed since 2009 or the institutions of loan-taking countries have improved. A further investigation is beyond the scope of this study, but the bottom line is that as the external borrowing of the SSA increased after 2009, international capital flowed into the economies with higher institutional quality.

3.3. Government fiscal procyclicality and external debt

The existing literature suggests that economic volatility is negatively correlated with growth (Ramey and Ramey 1995, Van der Ploeg and Poelhekke 2009). This point is tested with the current dataset. Figure 6 shows the scattered plot of growth volatility (standard deviation of the annual growth rate) and long-term growth rate (mean for the period between 1996 and 2016). The negative correlation is in accordance with the existing studies, suggesting that the higher the economic volatility, the lower the long-term growth rate.

On the other hand, Talvi and Végh (2005) suggest a positive correlation between economic volatility and government fiscal procyclicality. Based on the current sample, Figure 7 shows the correlation between growth volatility and the government fiscal procyclicality calculated as the covariance of GDP and government consumption. The results should not be compared directly, as Talvi and Végh (2005) use the standard deviation of real output as the measure

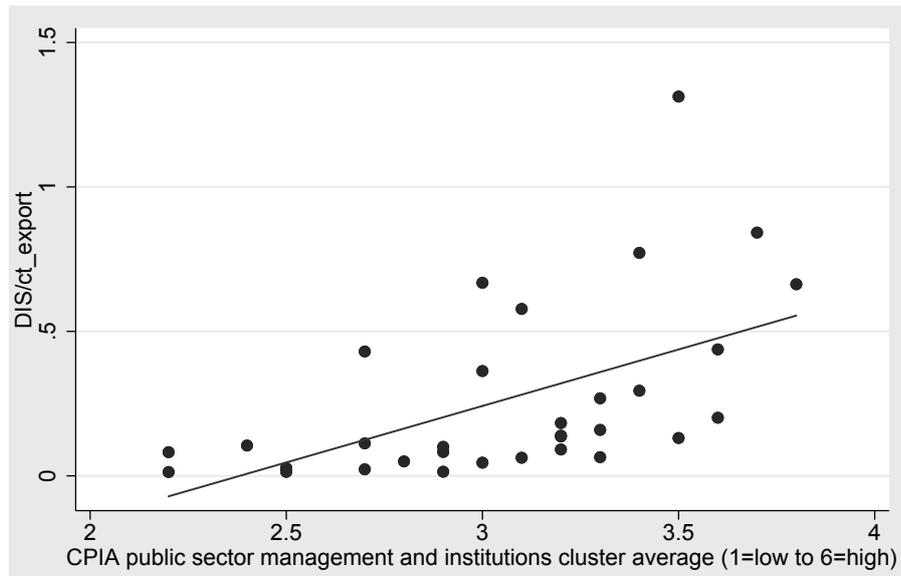


Figure 5. Institutional quality and external debt, 2016

Note: The index for institutional quality is taken from *Country Policy and Institutional Assessment* by the World Bank. For details of statistics, see Appendix.

of economic volatility.⁵ Nonetheless, it is interesting that, contrary to their suggestion, the correlation between economic volatility and government fiscal procyclicality is negative for the SSA countries, suggesting that the higher the government fiscal procyclicality, the lower the growth volatility. Figure 8 further shows that the higher the government fiscal procyclicality, the higher the rate of long-term growth. Finally, Figure 9 shows the positive correlation between long-term growth rate and government external debt procyclicality measured as the covariance between external debt disbursement and government consumption. These correlations suggest that recent African government spending is positively affecting the economies' stabilization, and government spending supported by external debt is associated with higher long-term growth rate. Given the relatively large economic share of the government sector in SSA countries, these results should not be surprising. The private sector is still small in African countries; thus, government consumption has a large influence on the whole macroeconomy, and government spending can be strongly linked to external borrowing.

4. External debt for investment or for consumption?

Externally raised capital is often used to finance the current account deficit in developing countries. The question then is, what is imported? This is indeed a recurrent question, as Wall (1968) discusses the relationship between import and growth (in criticizing Raúl Prebisch for his argument of 'trade, but not aid') stating that if the import is to serve for economic growth, it needs to be of capital goods, not consumer goods.

⁵The difficulty in calculating real values for the statistics of African countries hinders the usage of the equivalent statistics in this analysis.

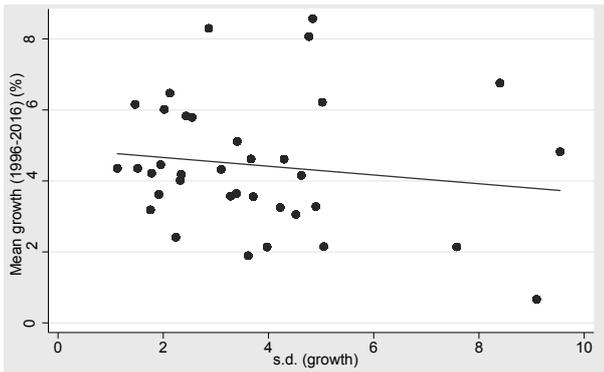


Figure 6. Growth volatility and growth

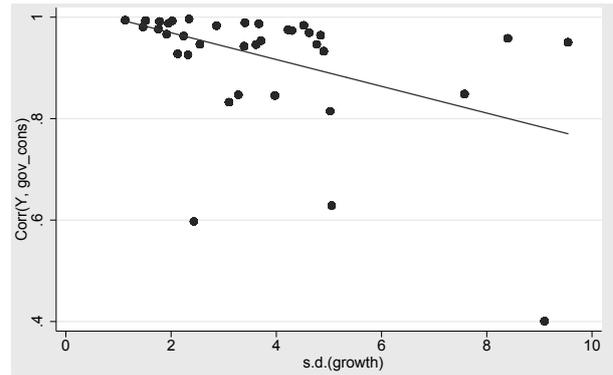


Figure 7. Growth volatility and fiscal procyclicality

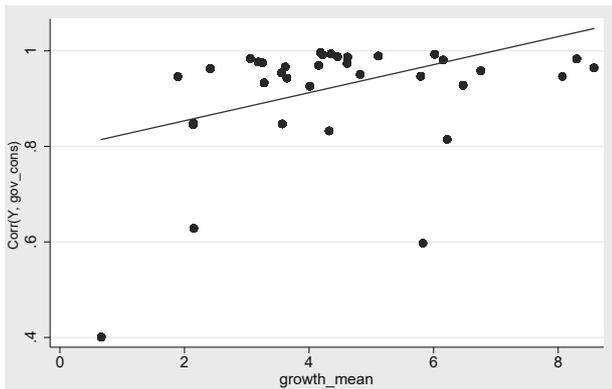


Figure 8. Growth and fiscal procyclicality

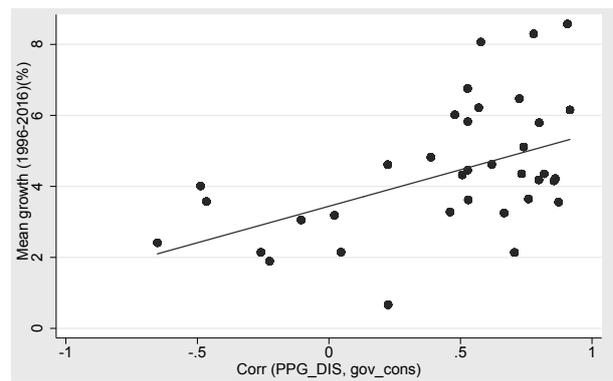


Figure 9. External procyclicality and growth

In an economic sense, the borrowed money needs to be invested in productive projects so that the debt can be paid back in the future with interest. However, in reality, external debt, especially concessional debt tends to be incurred and granted to support a consumption of the government in trouble. The discussion about the purpose of *international aid* is clearer on this point. Burnside and Dollar (1998) argue that if the development aid is not allocated for productive investment, it should support the consumption of the poor. In case of aid for very poor countries, they suggest that supporting the consumption is not necessarily a problem, but ‘the issue is, whose consumption’ (ibid.:10). The discussion about aid should not simply be applied to public loans and sovereign debts, as the difference between aid and sovereign debt is vague, especially for developing countries.

Based on this understanding, the econometric model is specified to observe the influence of external debt on investment and consumption. As Talvi and Végh (2005) point out, it is often very difficult to classify government spending into investment and consumption. While this is basically due to the limitation of the official statistics, they also argue that government investment in unproductive projects should be regarded as consumption since it does not produce future revenue, although the criteria for classifying productive and unproductive project is very vague. In this study, consumption is categorized as private or government, although government consumption may include investment. On the other hand, investment statistics do not distinguish

between private-led or public-led.

To capture the movements in domestic investment, two different statistics, capital goods import (*ct.k*) and gross fixed capital formation (*gfkf*) are used. The former statistics are based on the assumption that external borrowing must be closely related to changes in imports, while the latter are understood as changes in domestic investment as a result of trade and transactions. To capture the changes in consumption, three different statistics are employed. Consumer goods import (*ct.cons*) is assumed to reflect the changes in imports closely related to consumption, while private consumption (*p.cons*) and government consumption (*gov.cons*) reflect consumption of the private and public sectors respectively. Categorization of imported goods into consumer goods and capital goods is based on the UN Comtrade Broad Economic Categories.

4.1. Model

The regression models are specified for investment and consumption separately, as following.

$$\Delta \mathbf{Investment}_{i,t} = \alpha + \beta_1 \mathbf{Debt} + \beta_2 \mathbf{X}_{i,t} + \lambda_i + \varepsilon_{i,t}, \quad (1)$$

$$\Delta \mathbf{Consumption}_{i,t} = c + \theta_1 \mathbf{Debt} + \theta_2 \mathbf{X}_{i,t} + \mu_i + \epsilon_{i,t}. \quad (2)$$

$\Delta \mathbf{Investment}_{i,t}$ denotes domestic investment (first difference), and $\Delta \mathbf{Consumption}_{i,t}$ denotes consumption (first difference). \mathbf{Debt} is the vector of public debt disbursements, as described below. $\mathbf{X}_{i,t}$ is the vector of control variables such as grants, technical grants, FDI inflow, exchange rate, resource dependence, resource revenue changes, and changes in institutional quality. λ_i, μ_i are country-specific time-invariant effects, and $\varepsilon_{i,t}, \epsilon_{i,t}$ are error terms. The regressions are run as the fixed effect model.

External debts are categorized into four basic types: bank loans, bonds, bilateral loans, and multilateral loans. Bank loans and bonds are further categorized as public and private. Bilateral and multilateral loans are further categorized as concessional and non-concessional. As is clear from the Figures A.1 and A.2, the majority of external borrowing by SSA countries is public. For this reason, only public debt information is used in the regression analysis. Both multilateral and bilateral loans include concessional and non-concessional debts. For all variables, stationarity is checked beforehand by unit root tests.⁶ The list and detailed definitions of the variables are shown in Appendix D.

4.2. Results

4.2.1. External debt and investment

Table 2 reports the regressions of investment on external debt. Surprisingly, none of the debt variables are statistically significant except for Chinese loans, suggesting that external debt after 2005 is does not affect the domestic investment of debtor countries. Chinese loans are negatively correlated with the domestic investment, but this may indicate not the causality but

⁶Results of the unit root test are not reported but provided on request.

the tendency of the Chinese loan receivers. When the investment is measured by the gross fixed capital formation (regressions 1 and 2), the technical grant (*tech.grant*) is positively correlated with investment. Resource dependence (*resource.r.ct*) has a negative coefficient, suggesting that resource-dependent countries tend to invest less, though they do import more capital goods when resource revenue (*D.resource*) increases. Changes in nominal exchange rate (*mpd.ex.r*) are negatively correlated with domestic investment, suggesting that currency depreciation negatively affects domestic investment. Changes in the index of institutional quality (*D.CPIA.public*) are positively correlated with investment, suggesting that improvement in institutional quality (measured as the quality of public sector management) is associated with increases in domestic investment.

4.2.2. External debt and consumption

Table 3 reports the regressions of consumption on external debt. For government consumption, bilateral debt is correlated negatively. This implies that bilateral loans to SSA countries tend to be countercyclical. However, the coefficients of multilateral debts are larger, positive, and statistically significant. This suggests that multilateral debt disbursement fosters government consumption. For consumer goods imports, bank loans are negatively correlated, but the reason is unclear from this analysis. On the other hand, external bond is negatively correlated with private consumption while bank loan is positively correlated with private consumption. This can be interpreted to mean that disbursement of sovereign bond is functioning countercyclically, but the linkage and time lags between the government decision of sovereign debt issuance and negative shocks in private consumption are unclear. On the other hand, Chinese loans are positively correlated with private consumption. Again, this may indicate the existence of bias that Chinese loans are granted to countries whose market is large and consumption growth is strong. Resource dependence has no correlation with consumption, although an increase in resource revenue is positively correlated with increases in government consumption and consumer goods import. The exchange rate is correlated negatively with all indicators of consumption, suggesting that currency depreciation negatively affects consumption behaviour. The coefficient is especially large (with a negative sign) for private consumption, and this should reflect the fact that private consumption is strongly affected by the cost of imported goods. Finally, institutional quality has no correlation with consumption.

Table 2. External debt and investment: 2005-2016

	(1)	(2)	(3)	(4)
	gfkf	gfkf	ct.k	ct.k
fdi	-0.01 [0.08]	-0.00 [0.09]	-0.01 [0.03]	-0.00 [0.03]
tech.grant	4.19*** [1.21]	4.23*** [1.29]	0.74 [0.45]	0.78 [0.48]
grants	0.03 [0.06]	0.01 [0.06]	0.01 [0.02]	0.01 [0.02]
ppg.bi.dis	0.14 [0.21]	0.14 [0.22]	-0.11 [0.08]	-0.13 [0.08]
ppg.bd.dis	0.22 [0.16]	0.22 [0.17]	0.02 [0.06]	0.02 [0.06]
ppg.bk.dis	0.30 [0.27]	0.23 [0.28]	-0.01 [0.10]	-0.05 [0.11]
ppg.mi.dis	-0.20 [0.33]	-0.26 [0.36]	0.08 [0.12]	0.07 [0.13]
D.resource	0.05* [0.03]	0.05 [0.03]	0.02** [0.01]	0.02** [0.01]
resource.r.ct	-0.53** [0.22]	-0.52** [0.24]	-0.17** [0.08]	-0.18** [0.09]
mpd.ex.r	-1.76*** [0.31]	-1.78*** [0.33]	-0.70*** [0.11]	-0.74*** [0.12]
china.loan	-0.34*** [0.08]	-0.34*** [0.09]	-0.00 [0.03]	-0.01 [0.03]
D.CPIA.public		0.85** [0.40]		0.40*** [0.15]
cons	0.29* [0.17]	0.30* [0.18]	0.08 [0.06]	0.10 [0.06]
r2	0.328	0.342	0.272	0.301
N	386	355	424	389

Note: Standard deviations are in square brackets. *, **, and *** denote 10%, 5%, and 1% significance levels, respectively. All regressions include year dummies and country fixed effects. For the debt instruments, bi, bd, bk, and mi denote bilateral, bond, bank, and multilateral, respectively.

Table 3. External debt and consumption: 2005-2016

	(1)	(2)	(3)	(4)	(5)	(6)
	gov.cons	gov.cons	ct.cons	ct.cons	p.cons	p.cons
fdi	0.06 [0.06]	0.07 [0.07]	0.00 [0.02]	-0.00 [0.03]	-0.14 [0.22]	-0.16 [0.25]
tech.grant	0.40 [0.89]	0.35 [0.95]	1.01*** [0.34]	1.07*** [0.37]	-1.79 [3.33]	-1.28 [3.57]
grants	0.02 [0.04]	0.02 [0.05]	-0.01 [0.02]	-0.02 [0.02]	-0.06 [0.15]	-0.12 [0.17]
ppg.bi.dis	-0.29* [0.16]	-0.31* [0.16]	0.05 [0.06]	0.04 [0.06]	-0.07 [0.58]	-0.20 [0.61]
ppg.bd.dis	0.06 [0.12]	0.07 [0.13]	-0.04 [0.05]	-0.05 [0.05]	-0.84* [0.46]	-0.85* [0.48]
ppg.bk.dis	0.28 [0.20]	0.29 [0.21]	-0.16** [0.08]	-0.18** [0.08]	1.67** [0.75]	1.44* [0.78]
ppg.mi.dis	0.62** [0.25]	0.65** [0.27]	0.09 [0.09]	0.09 [0.10]	0.65 [0.88]	0.44 [0.95]
D.resource	0.08*** [0.02]	0.08*** [0.02]	0.02** [0.01]	0.02** [0.01]	0.05 [0.08]	0.06 [0.08]
resource.r.ct	0.06 [0.16]	0.07 [0.18]	-0.05 [0.06]	-0.05 [0.07]	-0.83 [0.61]	-0.90 [0.66]
mpd.ex.r	-1.22*** [0.22]	-1.25*** [0.24]	-0.22*** [0.09]	-0.24** [0.09]	-4.59*** [0.82]	-4.84*** [0.88]
china.loan	-0.03 [0.06]	-0.03 [0.07]	0.04 [0.02]	0.04 [0.02]	0.82*** [0.23]	0.78*** [0.24]
D.CPIA.public		0.17 [0.30]		0.18 [0.11]		1.79 [1.10]
cons	0.06 [0.12]	0.05 [0.13]	-0.02 [0.05]	-0.01 [0.05]	1.35*** [0.45]	1.50*** [0.48]
r2	0.231	0.240	0.236	0.248	0.206	0.213
N	398	367	424	389	424	389

5. Conclusion

This study analysed the nature and influence of new external debt on SSA countries after cancellation of the old debt. The results suggest that the new debt disbursement is not based on the favourable economic situation of debtor countries. This clearly reflects the fact that new African debt is not yet purely market-based, and the main actors are not private companies but still governments. Recently, the economies of SSA countries have been growing, and government spending associated with obtainable external loans is an important factor behind this growth. This can be understood as an evidence of the international capital market (re)gaining its function in helping the macroeconomic stabilization of developing countries after the debt cancellation. However, as the international market tightens, the sustainability of new debts becomes a concern. For example, Ghana has rolled over its Eurobond issued in 2007 (US\$750 mil., 8.5%, 10 years) in 2016, with a higher interest rate and shorter period (US\$750 mil., 9.25%, 5 years). While the majority of bilateral and multilateral lending is still concessional, the share is declining by year, and the past experience of HIPC's that accumulated bilateral and multilateral debts suggests that it does not warrant an optimistic view. What is equally serious, based on the regression analysis, is that the new debt disbursement after the debt cancellation is fostering not investment but consumption, and this result is consistent with other studies showing that debt cancellation in African countries did not boost domestic investment.

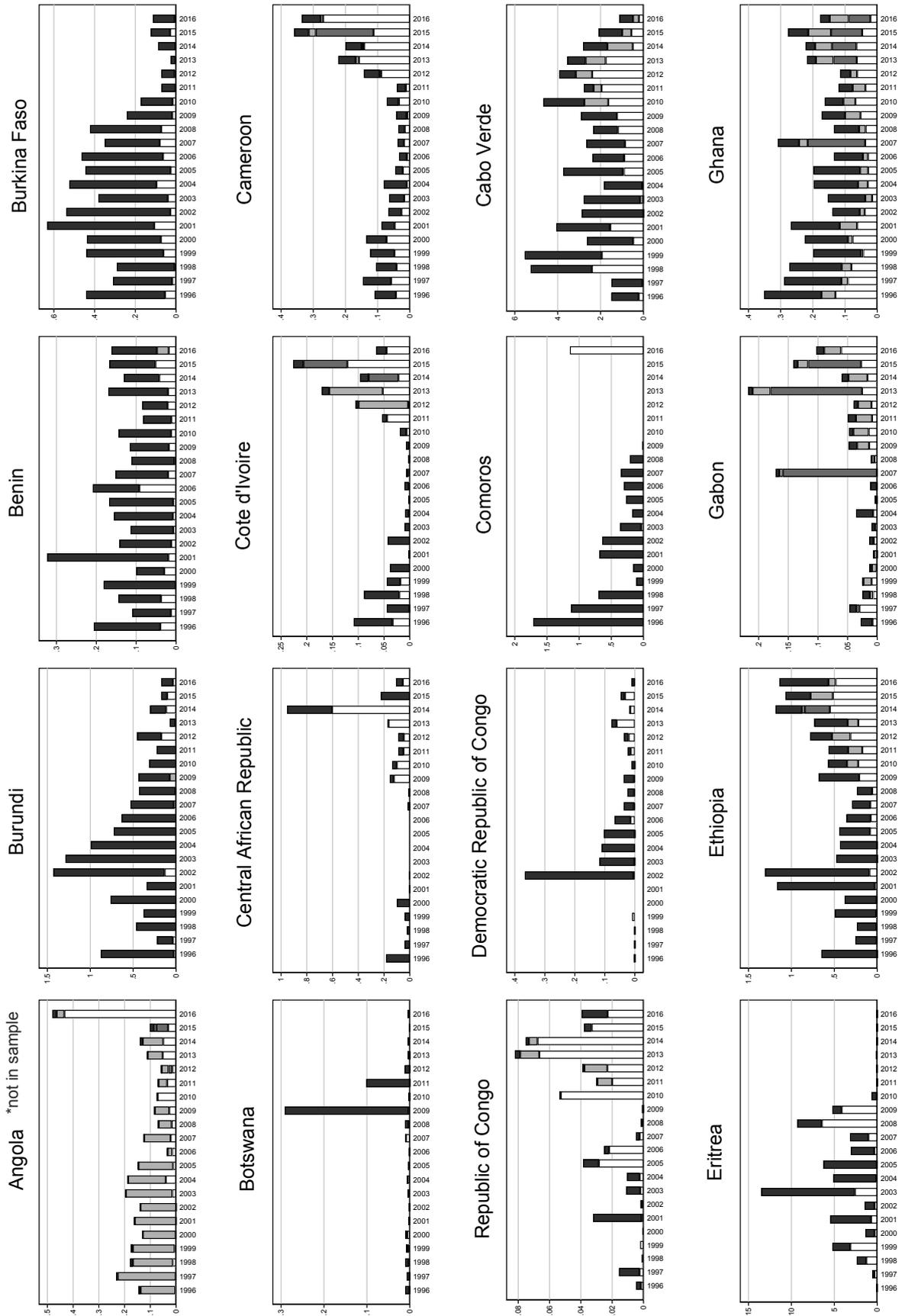
After the recent changes in the financial environments of SSA countries, these countries have already passed the crisis period and have been welcomed into the international capital market. However, this analysis suggests that the current debt still supports government consumption. According to Burnside and Dollar (1998), this implies that capital flows to SSA countries are still of the old type: money to support the consumption of the poor through government consumption, although the reality may differ by country. SSA economies are becoming more open to the international market, but whether the situation under the African new external debt is really 'new' requires a further look.

Acknowledgments

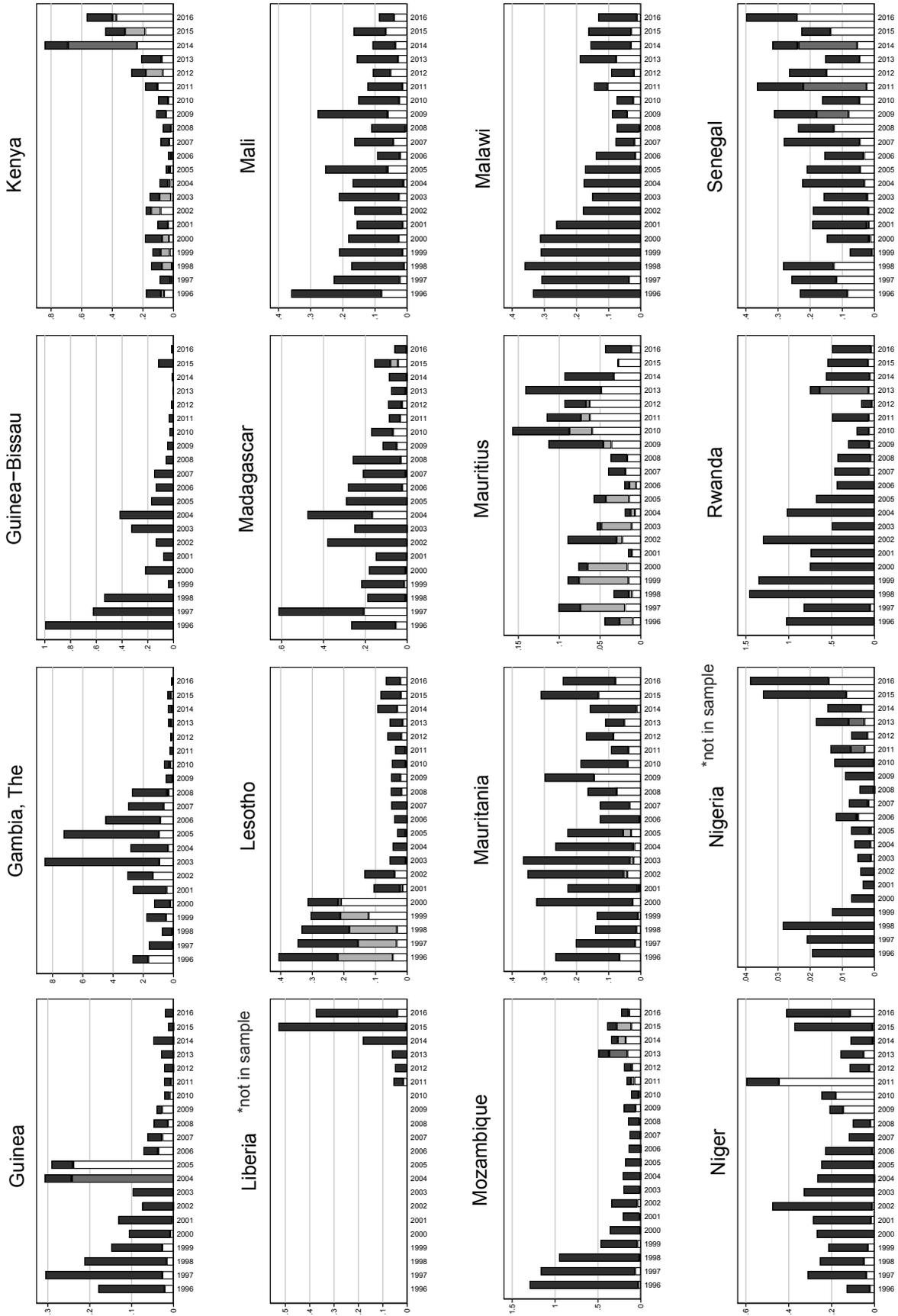
Previous versions of this analysis were presented at the 8th Spring Meeting of Japan Society of International Economics at Hokkaido University on June 16, 2018, and the International 'UP-TUFS Seminar' at the University of Pretoria on September 13, 2018. The author is grateful for valuable comments and suggestions by the commentators and participants of the sessions. The remaining errors are exclusively the author's. This research is financially supported by the ASC-TUFS and JSPS KAKENHI Grant Numbers JP15K16581 and JP18K18248.

A. Debt statistics

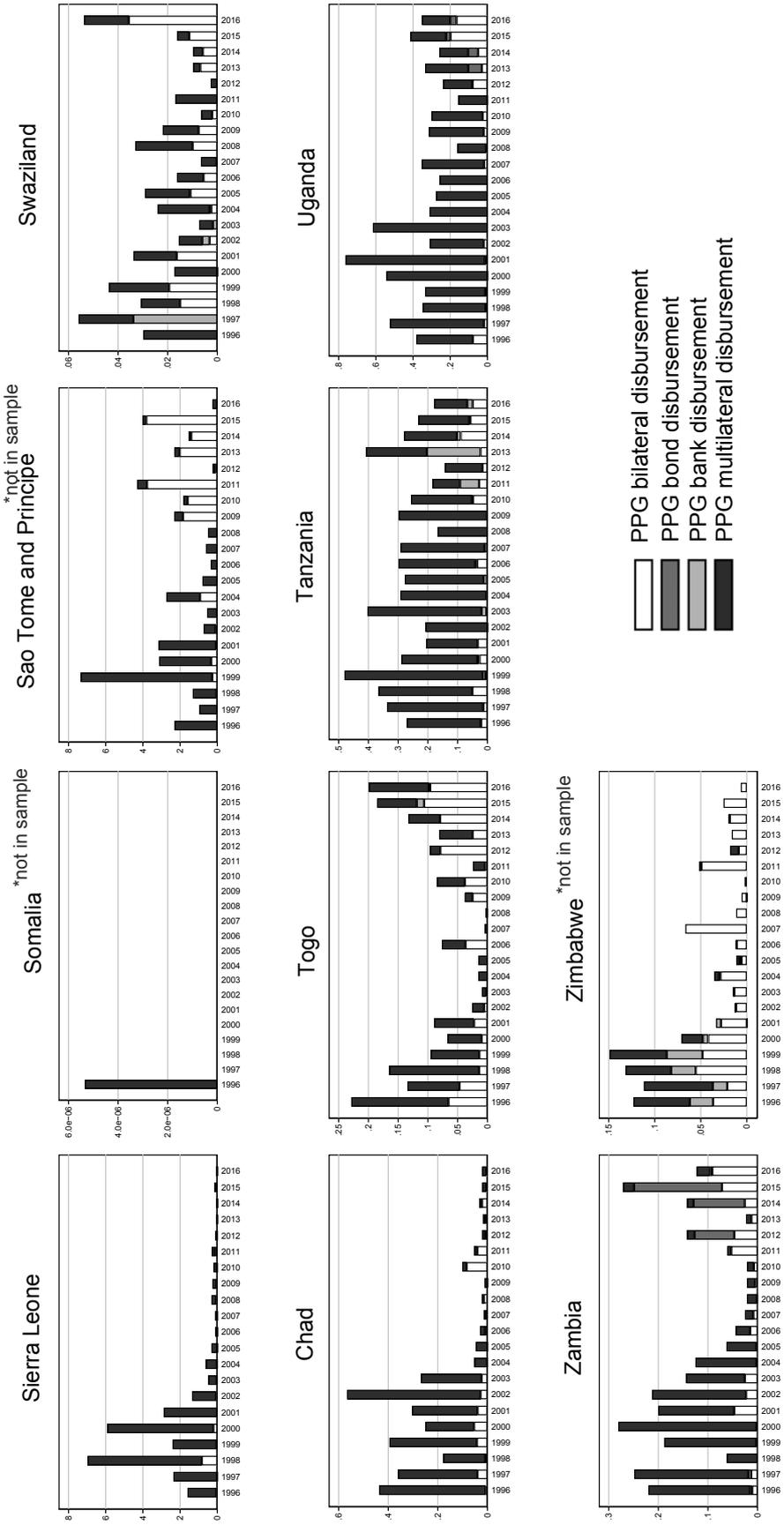
Figure A.1. Public and publicly guaranteed debt disbursement (share of goods and service exports, %)



Continued from Figure A.1.

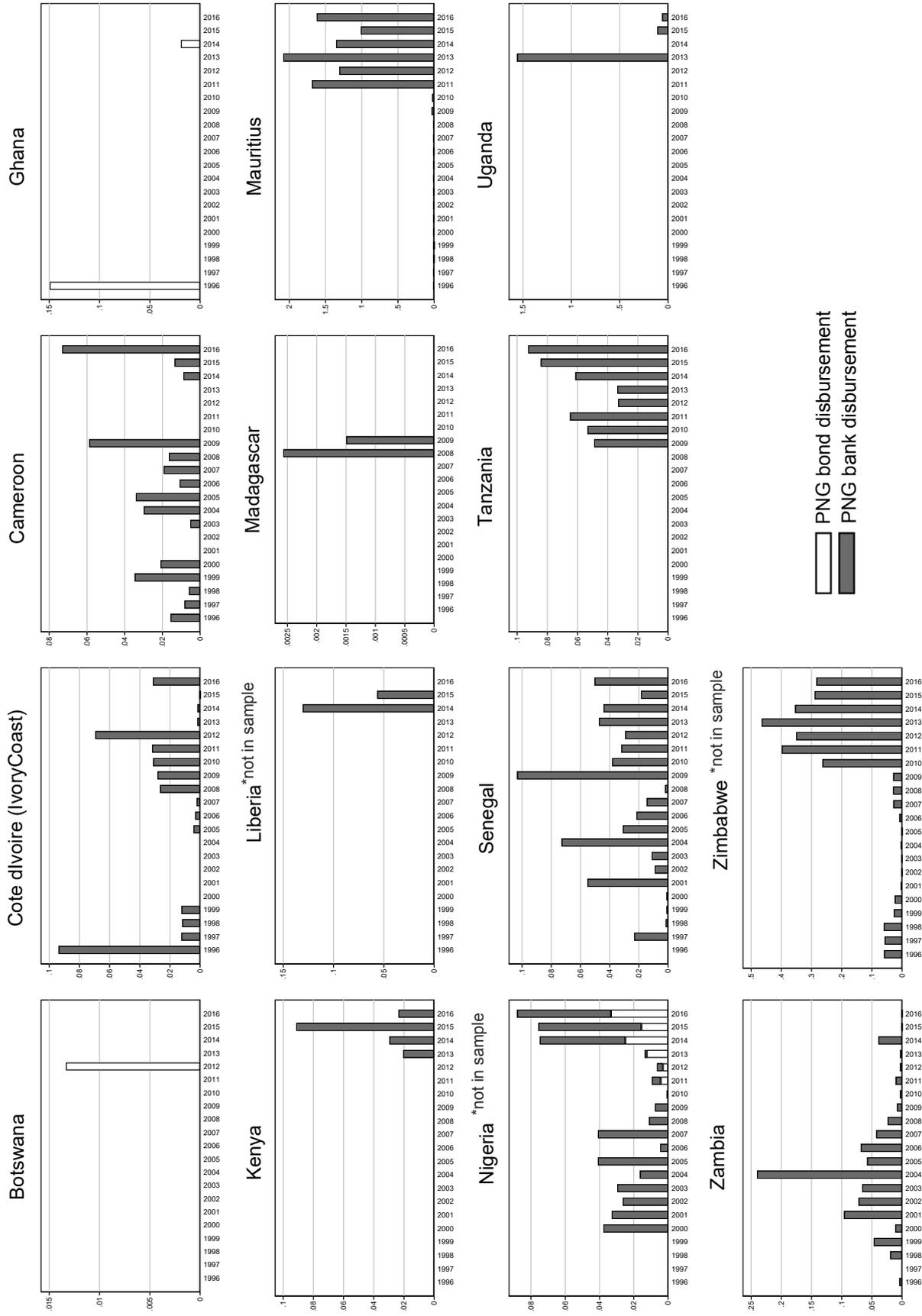


Continued from Figure A.1.



Data source: *International Debt Statistics 2018* (The World Bank 2018a).

Figure A.2. Publicly non-guaranteed debt disbursement (share of goods and service exports)



Data source: *International Debt Statistics 2018* (The World Bank 2018a).

B. Sample countries**non-Heavily Indebted Poor Countries**

Botswana	Cape Verde	Eritrea	Gabon
Kenya	Lesotho	Mauritius	Swaziland

Heavily Indebted Poor Countries

Benin	Burkina Faso	Burundi	Cameroon
Cape Verde	Central African Republic	Chad	Comoros
Congo	Coté d'Ivoire	DRC	Ethiopia
Gambia	Ghana	Guinea	Guinea-Bissau
Madagascar	Malawi	Mali	Mauritania
Mozambique	Niger	Rwanda	Senegal
Sierra Leone	Tanzania	Togo	Zambia

C. Summary statistics

	mean	sd	min	max	observations
gfkf	3.06	3.71	0.02	28.83	398
ct.k	0.80	0.89	0.02	5.31	432
gov.cons	1.75	1.71	0.05	9.42	409
ct.cons	0.83	0.84	0.03	4.90	432
p.cons	8.13	9.50	0.00	56.05	432
fdi	0.40	0.67	-0.68	5.50	428
tech.grant	0.07	0.07	0.00	0.36	432
grants	0.67	0.92	0.00	6.98	432
resource.r.ct	0.32	0.31	0.00	0.98	432
mpd.ex.r	0.05	0.13	-0.23	1.22	428
ppg.bi.dis	0.12	0.25	0.00	2.13	432
ppg.bd.dis	0.05	0.23	0.00	2.75	432
ppg.bk.dis	0.04	0.15	0.00	1.25	432
ppg.mi.dis	0.16	0.21	0.00	1.67	432
china.loan	0.13	0.45	0.00	6.32	432
mpd.ex.r	0.05	0.13	-0.23	1.22	428
resource	1.17	1.99	0.00	11.93	432
CPIA.public	2.70	1.05	0.00	4.10	432
growth.mean (1995-2016)	4.44	1.81	0.67	8.57	432

D. Data definitions and sources

variable	definition and source
ct.cons	Consumer goods imports, UN Comtrade, based on Broad Economic Categories (BEC), includes foods, consumer goods, and non-industrial transport.
ct.k	Capital goods imports, UN Comtrade, based on BE classification, capital goods.
gfkf	Gross fixed capital formation, current US\$. World Development Indicators (WDI) 2018.
gov.cons	Government consumption, current US\$. WDI 2018.
p.cons	Private consumption, current US\$. WDI 2018.
export	Export, current US\$. UNCTAD.
resource	Resource export, sum of imports by the world, based on HS codes 26 (ores), 27 (crude oil), 71 (precious metals), 72 (iron and steel), 73 (iron and steel article), 74 (copper and articles thereof), 75 (nickel and articles thereof), 76 (aluminium and articles thereof), 78 (lead and articles thereof), 79 (zinc and articles thereof), 80 (tin and articles thereof), and 81 (metals n.e.s and articles thereof), UN Comtrade.
grants	Grants, excluding technical cooperation, current US\$, International Debt Statistics (IDS) 2018.
tech.grants	Technical cooperation grants, current US\$, IDS 2018.
fdi	Foreign direct investment, net inflows, current US\$, IDS 2018.
gdp	Gross Domestic Product, current US\$, WDI 2018.
mpd.ex.r	Exchange rate, annual change divided by the country mean for the sample period, WDI 2018.
CPIA.public	Indicator for institutional quality, Country Policy And Institutional Assessment (CPIA) public sector management and institutions' cluster average (1=low to 6=high). WDI 2018.
china.loan	Chinese loans. <i>Chinese loans to African governments, 2000-2017</i> , estimated by the China Africa Research Initiative at Johns Hopkins University.
png.bd.dis	Publicly non-guaranteed, bonds (disbursement, current US\$), IDS 2018.
png.bk.dis	Publicly non-guaranteed, commercial banks and other creditors (disbursement, current US\$), IDS 2018.
ppg.bi.dis	Public and publicly guaranteed, bilateral (disbursement, current US\$), IDS 2018.
ppg.bd.dis	Public and publicly guaranteed, bonds (disbursement, current US\$), IDS 2018.
ppg.bk.dis	Public and publicly guaranteed, commercial banks (disbursement, current US\$), IDS 2018.
ppg.mi.dis	Public and publicly guaranteed, multilateral (disbursement, current US\$), IDS 2018.

Note: All US\$ values are in billions.

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