Global liquidity, private actors and debt sustainability in Sub Saharan Africa

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Abstract

This article analyses the effect of changes in international financial markets on the debt dynamics in Sub-Saharan Africa (SSA) in recent years. A key development is the rise of the private sector as both a lender and a borrower in African debt markets, a process that is associated with the growing integration of the region into the global financial markets. The article argues that the Debt Sustainability Framework (DSF) of the International Monetary Fund (IMF) and World Bank (WB) has taken some steps to account for this growth of private sector cross-border debt, but such steps still fall short of what is needed. A full appreciation of the importance of private debt implies: first, that debt sustainability in Sub-Saharan Africa be understood in the context of countries' integration in global financial markets and the global liquidity cycles that characterise those markets; second, that the interplay between private and public debt be monitored in order to provide a fuller picture of the impact of private sector debt on fiscal sustainability.

Keywords: Debt Sustainability Framework, International Monetary Fund, World Bank, Global Liquidity, Private Debt, Financial Integration

JEL Codes: F32, F34, F44, P45

INTRODUCTION

When the latest round of multilateral debt relief was approved in 2006, the World Bank (WB), the African Development Bank and the International Monetary Fund (IMF) emerged confident that the 'dragon of unsustainable debt finally had been slain' (Leo, 2009: 1). This

optimism was not seriously shaken by the 2008 financial crisis, as the World Bank argued that 'notwithstanding the severity of the shock … the impact was less pronounced than in other regions' (World Bank, 2010: 154). Economic growth in Sub Saharan Africa (SSA) remained buoyant in 2008 and 2009, leading to the view that the region's growth potential had somewhat decoupled from advanced economies.

The narrative of Africa rising appears however to have been recently replaced by an African debt rising narrative (Adams, 2015). The head of the African Development Bank and the Managing Director of the IMF have warned of the potential of a new debt crisis (Aglionbi, 2016), while the United Nations Conference on Trade and Development (UNCTAD, 2015a) highlights the dangers of a new debt trap (see also IMF, 2018).

This article argues that the Debt Sustainability Framework (DSF), jointly developed by the World Bank and IMF to analyse debt sustainability in Low Income Countries, has shortcomings in its ability to address these recent developments. The shortcomings can be summarized as follows: the DSF largely overlooks the importance of the private sector and the integration of that sector in Sub Saharan Africa's (SSA) external debt structures. The Framework is predominantly geared towards prioritizing an analysis of growth of external debt as arising out of current accounts and trade dynamics. While current accounts dynamics can be an important concurrent factor to a debt crisis, they cannot by themselves reveal all information about debt sustainability, i.e. the ability of a country's residents to finance their debt. In conditions of emerging financial integration, financing a debt depends on countries' ability to access financial markets dominated by private and institutional investors, as well as particular macroeconomic indicators. Despite growing acknowledgement of the inadequacy of the DSF to account for private actors (IMF, 2016b), there is insufficient advancement at the policy level, despite a long history stretching back at least to the emerging market crises of the 1990s, of fiscal crises brought on by external capital outflows of the private sector (UNCTAD, 2016). Although changes have been made, there remains a substantial degree of continuity after the 2008 financial crisis in the approach to debt sustainability as well as the conditionality policies that follow in the wake of debt problems (Gabor, 2010; Güven, 2012; Rakshit, 2009).

The article documents the growing importance of the private sector in SSA's lending and borrowing, as a key dimension of SSA's emergent financial integration. Understanding this phenomenon is crucial to analysing the sustainability of SSA debt. In particular, the recent deterioration in SSA debt indicators can be better understood by examining their dependence on the global cycle that determines the liquidity of international financial markets. 'Global

liquidity' can be defined as the 'ease of international financing in the international financial system' (Caruana, 2013), which depends on the actions of both private and public actors (Landau, 2013; Eickmeier et al. 2013), and in the recent decade has been closely associated with expansionary monetary policy of major advanced economies (Aizenman et al., 2014; Chen et al. 2012; Fischer, 2015; Rey 2013; Shin 2012; 2013). Abundant global liquidity in the post-crisis years has enabled SSA countries to borrow easily and refinance their debts, while exposing them to vulnerabilities of liquidity shrinkages and shifts in the risk appetite of global lenders (Akyüz, 2017; Bonizzi, 2017a; Fischer, 2015; Kaltenbrunner, 2010; Kaltenbrunner and Painceira, 2015, 2017). The growing importance of private actors may also have important consequences via the complex interplay between private and public debt whose interaction and conceptualization is limited in the DSF, as recognised by the latest DSF review (IMF 2017a). These processes, over which SSA countries have little control, deserve to be put more clearly at the core of examinations of debt sustainability.

This article documents the growing importance of financial integration for the impact on recent debt dynamics and shows that debt sustainability is highly contingent on the state of global liquidity. This does not fit with the country-based assessments of debt sustainability nor the domestic policy reforms, such as fiscal contractions, imposed to deal with 'unsustainable' debt.

The article is structured as follows. The next section sets the context of the DSF and its limited capacity to capture the consequence of financial integration in assessing debt sustainability. The following section explores the importance of global liquidity for debt sustainability and the important interplay between private and public sector debt. In the third section, we look at the rise of private actors in SSA's external debt composition, where we find that it is concentrated in a small group of countries and can be understood within the context of greater financial integration. In the fourth section, we show how the degree of financial integration - rather than commodity reliance or previous debt relief - is the main determinant of the recent deterioration of debt sustainability in SSA, emphasizing the key role played by global liquidity in this process. The final section concludes with some policy recommendations.

DEBT SUSTAINABILITY FRAMEWORK: EVOLVING BUT NOT QUITE ENOUGH

Debt sustainability is a heavily debated issue in the theoretical and empirical literature and yet remains hard to pin down in practice (Wyplosz, 2011). Although it remains analytically an ambiguous concept (Guzman and Heyman, 2016), the practise of assessing debt sustainability by the Bretton Woods institutions is necessarily empirical. The majority of SSA economies are classified as Low-Income Countries (LIC) and their debts are reviewed through the joint IMF-WB LIC DSF while for market access countries (MAC) assessments follow the approach specified in IMF (2013a)[1]. The basic framework, introduced in 2005 and revised four times since[2], pools together two separate assessments, one about total external debt and one about public debt. Sustainability is therefore respectively linked to the evolution of the current account and the evolution of the budget deficit, with each including sets of indicators of solvency and liquidity.

The analytical underpinnings of solvency requirements arise from the satisfaction of an inter-temporal budget constraint: 'For a government to be solvent, the present value (PV) of future primary balances must be greater than or equal to the public debt stock. For a country as a whole, the present value of future non-interest current account balances must be greater than or equal to its external debt' (IMF, 2013b). These calculations are based on a number of projections and assumptions about key economic variables, such as the rate of interest relative to the rate of economic growth, as well as the choice of time horizon and discount rate, which in the last review was kept at five per cent for all LICs (IMF, 2017a). Whereas over an infinite time-horizon all debts could be solvent, over a shorter time-horizon this may not be so and therefore liquidity indicators are also monitored. These are based on several measures of debt service ratios, capturing the availability of liquid financial resources to face maturing commitments (IMF, 2013b). The DSF assesses the value of such indicators against indicative thresholds regarding both solvency and liquidity criteria, which are contingent on several variables, the most important of which has traditionally been the institutional quality of the country, as measured by the Country Policy Institutional Assessment (CPIA)[3]. The latest review suggests that this assessment be augmented with currency reserves coverage, world growth, remittances and country growth, and that the baseline debt projections would be subject to new realism tools (IMF, 2017a).

[1] In this article, the MAC approach applies to only four countries: South Africa, Botswana, Gabon and Mauritius.

[2] In 2006, 2009, 2012 and 2017

[3] These are based on Kraay and Nehru (2004). The re-estimated thresholds after the 2012 DSF revision can be found in IMF (2013b).

This comparison may result in debt indicators falling above or below the indicative thresholds under baseline or stress-test scenarios, and a resultant risk signal is given (low, moderate or high) depending on the breaches to the thresholds observed. The most important result of this process is the External Risk Rating, which is assigned by comparing projected evolution of the external debt indicators that relate to Public and Publically Guaranteed debt under baseline and stress test scenarios to respective thresholds, which are dependant primarily on the debt carrying capacity assigned under the CPIA. According to the breaches witnessed, a low, moderate or high risk rating is applied. The External Risk rating has operational significance since it is formally used to help determine lending policy for LICs by the World Bank and IMF.

The DSF has been subject to a number of criticisms, regarding the assumptions, inputs and mechanisms employed. Firstly, the robustness and legitimacy of the CPIA to classify countries' debt-carrying capacity has been questioned (Nissanke, 2013; Van Waeyenberge 2009). Secondly, debt sustainability depends on the projections about the evolution of future variables, projections whose realism and accuracy have been subject to sustained critique (Guzman and Heyman, 2016; IEO, 2002). Those projections are also criticised for being employed in an unduly mechanistic way, via stress tests on baseline scenarios, which often do not take into account feed-back mechanisms from government responses[4] (Martin, 2015; Mustapha, 2014; Wyplosz 2009), prompting efforts to incorporate interactions between the macro variables that are shocked (IMF, 2017a). Third, in practice the DSF has a limited ability to predict actual debt problems[5] (IMF, 2016b: 7). One possible change to address such failings is the more generalized introduction of a probabilistic approach (Berg et al, 2014) partially included for borderline cases after the DSF's 2012 review (IMF, 2013b). The inclusion of more country-specific variables in the underlying methodology that generates the risk rating as opposed to relying on LIC-wide averages seems sensible although the complexity generated has raised concerns about its usability (Martin, 2015) and the IMF (2017a) notes they were only sparsely utilized since the last review. A fourth long-standing criticism is the lack of consideration of private-sector debt (IMF 2016a). The key indicator in the DSF, the External Risk Rating, although emergent from an external debt sustainability

[4] A related criticism is that the magnitude of such stress tests is based on historical averages, which is not appropriate when talking about developing countries, whose economic structure is rapidly changing (Nissanke, 2013).

[5] Of the countries that experienced debt distress over the past years, in only one was the relevant debt distress indicator high in the year preceding the debt distress event (IMF, 2016b).

analysis, which includes public and publicly guaranteed (PPG) external debt and private non-guaranteed (PNG) external debt, is informed solely from the PPG external debt, with the reason given that historically this was the largest source of external risk (IMF, 2013b). Nevertheless, contingent liabilities arising from private sector borrowing could impact public finances, making the excessive reliance on PPG external debt less meaningful. An additional risk rating, the Overall Risk Rating, is also produced to capture risks related to private external or public domestic debt, an innovation welcomed by many civil society organisations (IMF, 2016a). This however has no formal operational significance for lending and policy prescriptions, and was only sporadically used since its inclusion (IMF, 2017a**).**

The latest proposal for reform in 2017 (IMF 2017a) recognises that the DSF lacks tools to assess market-financing shocks. To this end it proposes to introduce a tool to detect vulnerability arising from market financing conditions that may worsen roll-over risk in countries where short-term debt maturities increase market exposure (IMF, 2017a). The tool develops benchmarks for two indicators, gross financing needs and EMBI spreads, which when breached would signal heightened liquidity needs, in particular difficulties in public sector financing. However, once again, the ultimate classification of the External Risk rating is not informed by these benchmarks, but only supports better judgement of the risks a country faces (IMF, 2017a).

Finally, an overarching critique regarding the interpretation of results of the debt sustainability assessments concerns the conditionality reforms that accompany IMF and WB programmes. Typically, the mandated reforms focus solely on a contraction of domestic demand, mainly through fiscal consolidation, with a corollary shrinkage of domestic incomes, in order to reduce indebtedness and reverse balance of payment deficits (Killick, 1995). Such polices are have been criticised for being pro-cyclical and being linked to reductions in social expenditure and increases in poverty, since they include wage and income policies as part of an array of broad reforms mandated by the institutions (Kentikelenis et al, 2016; Oberdabernig, 2013)

In sum, the DSF, while not impermeable to criticism, as the latest rounds of revisions show (IMF, 2016b; IMF, 2016d; IMF 2017a), remains insufficiently equipped to tackle operationally the changing contemporary reality of SSA debt sustainability. In particular, for reasons we develop below, the LIC-DSF [6] still misses the crucial importance of global

[6] For the few SSA countries following the MAC approach, this is slightly different. The MAC approach does take into account the debt profile, including the proportion of domestic debt that is owned by foreign investors. However private sector borrowing is still not directly captured

liquidity affecting the behaviour of private lenders and investors towards SSA debt, as well as the deeper implications of private sector indebtedness. We turn to this in the next section.

GLOBAL LIQUIDITY AND PUBLIC AND PRIVATE DEBT INTERDEPENDENCE

Behind the DSF lie fundamental analytical challenges. The DSF remains tied to the traditional view that trade dynamics govern SSA debt. As exemplified by Moss (2006: 5) 'the most important factor in the emergence of the African debt problem has been the underlying lack of expansion in real income of exports. The volatility of export earnings has been linked to commodity price cycles which greatly affect the sustainability indicators that are linked to export earnings (Leo, 2009; Muhanji and Ojah, 2011). The most recent Regional Economic Outlook published by the IMF (2017b), highlights the recent rise in external debt, predominantly due to export revenue decreases and thus greater current account deficits. External deficits are closed through conditionality policies which include contraction of income via pro-cyclical fiscal consolidation, without heed to the negative consequences brought by the concomitant contraction in domestic demand.

The prevalent focus on current accounts as the key determinant of debt sustainability, grounded in basic national accounting identities, can be misleading, and can potentially misconceive the nature of international debt-related flows. International lending and borrowing results in gross *monetary* flows, which determine debt as a transnational monetary claim on financial assets, as opposed to a claim on real resources. All international monetary transactions, including debt servicing, require *financing*, i.e. cash flows, rather than saving, i.e. unspent income[7]. While such cross-border cash flows may originate from trade in goods and services, they are not, in principle, necessarily related to any particular real economic activity.

Whether a debt is sustainable therefore not only depends on cash flows from export earnings, but also, crucially, on the willingness of lenders to finance and especially refinance it. A country that is unable to refinance its debt, or can only do so at very high interest rates

and global liquidity is not featured among the macro-financial shocks at the core of the MAC assessments. Furthermore, as it will be shown, many countries still under the LIC framework have in fact become more financially integrated.

[7] These views have been recently put forward by a number of authors (Borio and Disyatat, 2011; 2015; Bonizzi, 2017b), but can be traced further back to Keynes and the 'liquidity' approach to finance (Keynes, 1937).

or at very short maturities, can potentially be forced to default on its obligations[8], regardless of its current account or government budget deficit. Of course, in conditions of perfectly closed financial accounts, being able to finance a debt becomes roughly equivalent to having a balanced current account (net of any change of currency reserves). But such a perspective becomes questionable when looking at the contemporary reality of financial openness and integration. The work of Lane and Milesi-Ferretti (2003; 2007; 2018) documents an exceptional expansion of cross-border asset holdings over the past two decades which increasingly involves low and middle income countries, including, as we will show, some SSA countries. A myriad of private agents conducts daily financial transactions through increasingly liberalised markets so that gross cross-border holdings and financial flows are several orders of magnitude bigger than their corresponding net figures. Debt sustainability therefore hinges on private actors' behaviour in relation to the financing of countries' external debt because those actors' transactions determine the cash flows from which debts are serviced.

It does not follow that current account deficits are irrelevant to debt sustainability. The size of the current account deficit affects private actors' willingness to refinance debt. Furthermore, a large current account deficit makes the adjustment process that follows a debt default more painful for the domestic economy, because, in the absence of debt financing, private agents and the government may find themselves deprived of the foreign currency to pay for imports and thus forced to contract spending. Nevertheless, a current account deficit *per se* is a neither a necessary nor sufficient condition to determine the (un)sustainability of debt.

A primary determinant of private actors' behaviour regarding debt financing, and thus a determinant of SSA debt sustainability, is the fluctuation of liquidity of global markets. There is no consensus as to the ultimate causes of movements of global liquidity[9], but it depends on the extent to which both public and private agents are prepared to extend liquidity internationally (Landau 2013; Eickmeier et al. 2013). In the post-crisis era, global liquidity has expanded primarily as a result of US and other major central banks' expansionary monetary policy – characterised by low interest rates and Quantitative Easing – that has

[8] Under the assumption, which is largely the case in SSA that such a debt is denominated in foreign currency.

[9] See Borio (2016) for a discussion of this.

induced a search for yield by global investors, generating spillovers throughout the emerging and developing world (Chen et al. 2012; Fischer 2015; Rey 2013; Shin 2012; 2013).

Ample global liquidity eases the sustainability of debt. Under such conditions borrowers in SSA and elsewhere can easily refinance their debts, by accessing funds at low interest rates and long-term maturities. Additionally, global liquidity tends to appreciate developing countries' currencies – as it draws capital inflows - thus lowering the burden of foreign currency debts. Conversely, developing countries become exposed to the risk of liquidity shrinkages in the future (Akyüz, 2017; Bonizzi, 2017a; Kaltenbrunner, 2010; Kaltenbrunner and Painceira, 2015; 2017). Should global liquidity contract, tougher financing conditions, including higher interest rates, and depreciating currencies could induce countries into debt distress and render debt unsustainable.

Fluctuations in global liquidity also drive changes in private sector external debt. Those changes may then generate pressures on the sustainability of public sector debt through three primary mechanisms. First, private sector external indebtedness affects the foreign currency reserves position of a country. Although foreign currency reserves are an asset of the government, they hedge not only the foreign indebtedness of the government, but also of the private sector, in the sense that the private sector may, indirectly, rely on those reserves. Should private sector payments to foreign lenders rise, governments may face the dilemma of intervening in the currency markets, *de facto* allowing private borrowers to draw on such reserves, or trying to keep their reserves untouched, thereby devaluing the currency. Both options have significant consequences for debt sustainability, with the former leading to exhaustion of reserves and the latter leading to destabilisation of the value of domestic currency. While the value in the domestic currency unit of foreign currency reserves may increase as a result of the devaluation of domestic currency, the value of external government borrowing would also rise *pro rata*, increasing the domestic burden of debt.

Second, governments cannot totally disregard the external borrowing of their private sector. In small dual sector developing countries, where the more dynamic modern sector is more integrated with foreign markets, large private businesses are likely to be 'systemic' in the sense that a breakdown in their private external debt payments may have severe effects on the business cycle. Such structural links between governments and the private sector have been reinforced by policies of privatisation and growing public-private cooperation in financing arrangements, such as Public-Private Partnerships and 'blended' private financial resources with development assistance (Bonizzi et al., 2015 Martin, 2015; Van Waeyenberge, 2015). A government may even come under pressure from governments of countries where

creditor banks are based to take over the management of the private sector debt. As UNCTAD (2015b) warns, historically low public debt is not a reason for complacency in light of rapid rises of private sector debts, considering the frequency and historical precedent with which these get nationalised in times of crisis.

Third, sovereign debt sustainability depends on the extent and direction to which the government is able to use the foreign currency inflows from increasing private sector indebtedness to replace its own foreign currency debt with domestic currency debt[10]. While this eases the burden of public-sector debt, by converting it into domestic currency, the process is conditional upon rising private sector foreign currency indebtedness. In the case of a retreat of foreign lending to the private sector, governments cease to be able to use private sector capital inflows to refinance government foreign debt into local currency and may be forced to take up foreign currency debt on unfavourable terms.

In sum, external debt sustainability, in conditions of increasing financial openness and integration, does not depend solely and directly on current account positions or fiscal balances. Instead, it is contingent on the state of global liquidity, and the systemic interplay of private-sector debt with sovereign debt, which makes private indebtedness appear as a problem of fiscal sustainability in times of crisis. Such considerations remain insufficiently appreciated by the current version of the DSF. In the rest of the article we will empirically show why these are relevant for SSA.

PRIVATE ACTORS AND EMERGING FINANCIAL INTEGRATION IN SSA

According to the DSF, currently only four countries in SSA, Botswana, Gabon, Mauritius and South Africa, are defined as having market access. However, as this section will show, the extent of financial integration goes beyond what the MAC-LIC distinction accords. To show this, we study the external debt statistics of 35 SSA countries contained in the World Bank International Debt Statistics (IDS) database[11].

[10] In a boom, a country's private sector is able to attract portfolio flows and loans. The foreign currency counterpart of this is deposited in the domestic banking system, in exchange for the local currency to buy financial securities. The government issues domestic securities whose proceeds are used to buy the foreign currency in the domestic banking system. The government then uses the foreign currency to repay its foreign currency borrowing, as illustrated in the case of Mexico at the end of the 1980s (Toporowski, 2014).

[11] See appendix for details. The following figures refer only to long-term external debt, since short-term debt figures in the World Bank database do not allow for a distinction between private and public lenders.

As shown in Figure 1, the debt profile of the region has changed substantially over the past fifteen years. Crucial to this change has been the increasing presence of private actors in SSA debt markets, both as borrowers and as lenders.

[Insert Figure 1 here]

The rise of private lenders is seen in the reshaping of the PPG debt composition via the rise of private participation in SSA's public borrowing. Official creditors (bilateral and multilateral) accounted for about 80 per cent of total external debt in 2000 and in 2014 only accounted for about 44 per cent. The presence of private creditors in the PPG debt has increased from 15 per cent to about 30 per cent of total external debt in the same period, driven mostly by an expansion in sovereign bond markets, whose total market capitalisation at the end of 2015 stood at US$73bn.

The rise of private borrowers is seen through the increased external borrowing of SSA's private sector. Between 2000 and 2015 the importance of PNG debt has been growing from a very small proportion (about six per cent) to about a quarter of total external debt in 2015. While about 80 per cent of this is commercial bank debt, private sector bonds outstanding have grown over the period, from US$1.3bn to US$15bn or otherwise, from under 1 per cent of total external debt to 5 per cent of total external debt. In comparison to means to pay, on average for the region PNG bonds grew from 2 per cent of exports and 5 per cent of reserves in 2000 to 6 per cent of exports and 12 per cent of reserves in 2015.

The growing presence of private actors is indicative of the emerging financial integration of SSA. SSA public and private debt has become part of the investable world of global investors. As of 2016, a total of 15 countries[12] accessed international bond markets in SSA, most for the first time (Sy, 2015; Tyson, 2015). The importance in global markets is testified by inclusion of SSA debt in leading JP-Morgan bond indices: the US dollar denominated EMBI index and local currency bond index GBI-EM[13]. Similarly, corporate bonds have been issued by four countries: South Africa, Ghana, Nigeria and Angola, whose private issuers

[12] All countries in our FC group plus Ethiopia and Rwanda.

[13] See for example this fund by JP-Morgan, which includes the benchmark allocation of the EMBI index http://www.jpmorganassetmanagement.lu/en/showpage.aspx?pageid=44&fundid=22&shareclassid=7605.

have become part of internationally traded indices[14]. In some cases, this has been a deliberate policy design: Nigeria's 2011 US dollar bond issuance 'had three strategic objectives: (1) ensuring Nigeria's presence in the international market, (2) helping to attract foreign direct investment by increasing information disclosure, and (3) providing a benchmark for sovereign, subnational, and corporate issuances' (Meccagni et al., 2014). Thus, although SSA remains a small component of global financial markets, it has emerged as a potentially attractive market for foreign lenders and investors.

This can be seen in Figure 2 which presents data of flows and holdings of SSA bonds intermediated by mutual funds. It is evident that monthly flows become much more substantial overtime. For example, in June 2013 alone there were outflows of over a billion US dollars from the region's bond markets. As a comparison, in October 2008, at the peak of the Lehman Brothers crisis, the outflows were about US$350mn. Flows to African bond markets have been positive in most months since the crisis, with dips in the second half of 2011 and 2013. As a result, asset holdings – which also include capital and currency gains – soared to about US$26bn at the end of October 2013. This is more than a third of the size of the bond markets, indicating a substantial participation of foreign asset managers into African bond markets. The oversubscription by foreign investors of many bond issuances is a clear demonstration of high demand of the asset class by return-seeking investors (Obiasi and Stein, 2015).

[Insert Figure 2 here]

Not all SSA countries have been equally affected by this process. In a majority of SSA countries, official lenders remain the main creditors of external debt. To better account for this heterogeneity we split our sample into two groups. Mirroring UNCTAD's definition of commodity dependence, we define countries as financially connected (FC) if their reliance on official debt is less than 60 per cent. The results of this division show that the presence of private actors is increasingly sizeable only in the FC group. In non-FC countries the median proportion of official PPG debt to total external debt remains close to 80 per cent, declining only slightly since the turn of the century (Figure 3). In FC countries on the other hand more

[14] The emerging market corporate bond index (CEMBI) by JP Morgan includes companies from those four countries (https://www.ishares.com/us/products/239525/).

than half of external debt involves a private actor, and about 15 per cent on average is PNG debt, compared to 0.5 per cent in non-FC countries[15].

[Insert Figure 3 here]

The growing interest in SSA debt by global private investors is concentrated within a group of 11 countries. While still a minority of countries within SSA, this is a significantly larger group compared to the MAC classification[16]. The classification into LIC and MAC thus partly misses the dynamic involvement of private actors in several SSA countries' debt markets. In the next section, we show how identifying this pattern is crucial to monitoring where problems to sustainability may arise.

DEBT SUSTAINABILITY AND FINANCIAL INTEGRATION

Taking a long-term perspective, debt sustainability across several SSA countries has been characterised by a generalised improvement. Positive growth rates[17] and debt relief initiatives, such as the Highly-Indebted Poor Country and the Multilateral Debt Relief initiatives, led to the size and the burden of external debt in the 2000s to decline. Indeed, where countries are classified according their HIPC status[18], the importance of the debt-relief initiatives to reduce debt stocks in the 2000s is evident primarily through the decline of the solvency indicator (see Figure 4). The great wedge between the two groups prior to debt-relief initiatives has however narrowed, bringing the HIPC countries' debt indicators to broadly align with non-HIPC countries. Most importantly, signs of deterioration are evident since 2012, rising markedly in 2015, in both HIPC and non-HIPC countries. Debt relief, historically a key element, is less informative as a factor behind current debt dynamics in SSA.

[Insert Figure 4 here]

[15] This is in line with the recent study by Presbitero et al. (2016), which shows that developing countries that have access to international capital markets are typically larger, with higher GDP per capita, and lower initial levels of indebtedness, which broadly corresponds to the profile of our FC group.

[16] Eight countries that are included in our FC group are not MAC according to the DSF. Our FI does not include Botswana given its still very high reliance on official credit. See appendix for a full list.

[17] Real GDP growth averaged 4 per cent yearly in the 2000-2011 decade, including the global recession in 2009, based on World Bank WDI data.

[18] See appendix for further details.

Current accounts and export dynamics are a key focus for the analysis of external debt sustainability in SSA within the DSF. This works primarily through the impact of commodity prices. Commodities account for more than 60 per cent of total exports on average throughout the 2000-2014 period in 27 out of 35 countries in our sample, making them commodity-dependent according UNCTAD's definition (UNCTAD, 2014). Despite this close–to-universal dependence within our sample, there exists considerable heterogeneity with respect to the importance of commodity exports for different economies. We therefore divide our sample between those countries that are commodity dependent *and* where exports constitute an important component of GDP, which we call commodity exporters (CE) and the rest (Non-CE). This type of distinction appears clearly in recent accounts of SSA prospects, for example, it features prominently in the recent Regional Economic Outlooks (IMF, 2017b,c) which describes a heterogeneous economic path between countries that are commodity exporters as compared to those that are less resource intensive. Net commodity importers or countries with a low reliance of commodity exports as a component of their economy are likely to see their prospects improved (cf Battaile et al, 2015, IMF 2017a). These trade dynamics are reflected in the trade balances data[19]: CE countries had a substantial trade surplus of about 8-10 per cent to GDP until 2012, which then fell dramatically to a small deficit in 2015 while non-CE countries had a sizeable and growing deficit throughout the period that moderately improved since 2012.

These different trade dynamics cannot however be easily linked to the debt sustainability indicators. When looking at Figure 4, the solvency and liquidity indicators in commodity exporting (CE)[20] countries have deteriorated since the global financial crisis, especially in 2014-2015 as the trade balance deteriorated sharply. However, the non-CE group has not benefitted from the fall in commodity prices, with DSF indicators worsening in the same period. Similarly, another key transmitter of export shocks to debt sustainability, the exchange rate, also shows mixed evidence of the impact of commodity prices. Exchange rate depreciation vis-à-vis the US dollar increases the real value of dollar external debt and therefore the domestic burden of debt[21]. Commodity exporters' currencies tend to be

[19] Source: UNCTAD

[20] See details in the appendix.

[21] Although the currency composition of PPG debt has changed, debt denominated in US dollars still constitutes the majority of external debt - about 60 per cent of the total - a proportion that has increased since the crisis at the expense of the Euro and other advanced currencies.

positively correlated with commodity prices[22]. Figure 5 suggests that for several SSA countries, such a relationship seems to exist, since most CE countries' currencies appreciated in the commodity price boom (2005-2008 period) and have been depreciating since 2011. However, some non-CE countries' currencies, such as the South African Rand, have also depreciated sharply. Conversely, Cote d'Ivoire, a CE country, only experienced a minor depreciation.

[Insert Figure 5 here]

In light of the theoretical discussion made in previous sections, it is not surprising there is no straightforward link between commodity prices, current accounts and the deterioration of debt sustainability indicators. Borrower and lender behaviour ultimately determine the dynamics of debt as a monetary relation. While 'real' factors are significant influences in this process, monetary and financial dynamics are also important, increasingly so in conditions of financial integration.

Dividing the sample of countries by the criteria of FC or non-FC developed in the previous section is highly informative to explore the changes in debt sustainability. It is important to note that the group splits almost evenly between CE (6 countries) and non-CE (5 countries) as well as HIPC (6 countires) and non-HIPC (5 countries). Overall, both FC and non-FC groups had trade deficits throughout the period, although the deficit in non-FC countries was higher[23].

While FC countries have historically had lower debt levels, the post-crisis deterioration of their debt ratios compared to the non FC-group is significant: looking at Figure 4, the FC group is the only group where indicators clearly deteriorated since 2008. Although starting from different levels, between 2008 and 2015 the PPG external debt to export ratio increased from approximately 20 per cent to 92 per cent in the FC group, while barely increased from 86 per cent to 93 per cent in the non-FC group. The corresponding liquidity indicators grew (i.e. deteriorated) from 2.4 per cent to 3.4 per cent in FC countries, while declining from 3.2 per cent to 2.8 per cent in non-FC countries.

Further evidence of the significance of financial integration is seen when a two-sample t-test for equal mean is performed to show which categorisation is the most meaningful to

[22] See for example Chen et al. (2010)

[23] Source: Authors' calculation based on UNCTAD

understand recent debt deterioration. As the results shown in Table 1 make clear, FC countries show a statistically significant higher mean in the changes of both DSF liquidity and solvency indicators to exports in the post-2008 period, compared to non-FC countries. The CE/non-CE categorisation on the other hand does not produce statistically significant tests.

[Insert Table 1 here]

The emerging process of financial integration is therefore crucial to the recent evolution of the SSA's debt and its sustainability. As discussed, this implies that financing conditions become heavily susceptible to the shifts of global liquidity, which are in turn heavily influenced by changes in US monetary policy[24] (Chen et al. 2012; Shin 2012; Rey 2013). Three indicators are used to investigate the change of global liquidity. The first indicator is the expected T-Bill rate, as this captures the expectations of future monetary policy and funding conditions, and is therefore a forward-looking indicator of global liquidity. The second is the 'shadow' Federal Funds rate, developed by Wu and Xia (2016): unlike the official target rate, the shadow rate can go below the zero-lower bound, and thus captures the additional expansionary effect of unconventional monetary policy. The third indicator is the Volatility-Index (VIX), which measures the implied volatility that investors expect from the S&P 500 index. As discussed, beside monetary policy, global liquidity also depends on private actors' appetite for risk, and the VIX is frequently used as an indicator of investors' confidence: higher levels mean high expected volatility, lower investors' risk appetite, and therefore limited provision of global liquidity.

Figure 6 displays the volatility of global liquidity through the evolution of these three indicators. From 2009, the shadow fed funds rate and the expected T-Bill rates kept falling until mid-2014. Since then however, the tapering and unwinding of Quantitative Easing has driven a clear policy tightening, which culminated in the FED funds target rise that happened in December 2015 (FOMC, 2015). The VIX has also remained relatively flat between the summer of 2011 – after the peak of the Eurozone crisis – and the middle of 2015, where the

[24] Investors may also have systematic bias against particular markets. As reported by Olabisi and Stein (2015) and Presbitero et al. (2016), African countries pay higher interest rates than what could be warranted by their fundamentals at all times, reflecting the general 'distrust' of African government as debtors.

spike indicates a contraction of global investors' risk appetite. These measures evidence ample provision of global liquidity in the post-crisis environment, but a clear contraction in 2015.

[Insert Figure 6 here]

The impact of global liquidity on SSA financing conditions is clear when looking at Figure 7. This shows the sovereign bond yield spread over global bond yields for selected African countries – all part of the FC group except Rwanda. These markedly increase over the course of 2015, as global liquidity contracted. Noticeably, the increase in Rwanda, the only non-FC country, has been smaller than in all other countries.

[Insert Figure 7 here]

Correlation coefficients also testify the impact of global liquidity on bond spreads (see Table 2). There is a significant positive correlation between bond spreads and the VIX index and the expected T-Bill rate[25], a result in line with other recent findings (Presbitero et al. 2016). Rwanda, a non-FC country, displays the lowest correlation with both, showing that global liquidity affects all countries financing conditions, but FC countries to a greater extent. Most importantly, only in FC countries, where private actors have a sizeable presence, do these factors translate in economically significant impacts on debt sustainability indicators: in Rwanda official debt is almost 75 per cent, resulting in a smaller impact of global liquidity on total debt burdens.

[Insert Table 2 here]

This section has evidenced that the recent evolution of debt sustainability in the FC group have been majorly affected by the state of global liquidity. The ability of both private and public sector in certain larger and more connected African countries to access private sector credit is a product of the easy liquidity conditions that emerged in the post-crisis era. Low borrowing costs and ample liquidity induced many SSA countries to tap into global capital

[25] Correlation with the Wu-Xia shadow rate is not shown, as the monthly frequency of this variable, would make the sample size too small.

markets, in some cases leading the way for their own private sector to do the same. The emerging signs of reversal of the current global liquidity cycle reveal potential side-effects of such a strategy, as global investors start demanding higher spreads, reducing their exposure to 'frontier' markets, including SSA. This testifies the extent to which SSA has become exposed to new vulnerabilities, as a result of financial integration (Akyüz, 2017; Kaltenbrunner and Painceira 2015; 2017).

These processes, over which SSA countries have no control, remain insufficiently appreciated in the DSF whose indicators remain static with respect of changes in global liquidity. Even the MAC-DSA, which as indicated only applies to four countries in our sample, does not include global liquidity amongst its key scenario shocks. The latest review of the DSF has highlighted this point, suggesting a greater role for liquidity considerations (IMF 2017a). At present, however this is yet to be operationalised.

CONCLUSION

Recent evolution of debt sustainability indicators in SSA can be most cogently explained by the degree of participation of private lenders and borrowers in SSA debt structures. This has been the product of a partial contraction of the global liquidity cycle, as indicated by the co-movement between bond spreads, global indicators of risk appetite and expected changes in monetary policy. At the same time the private sector has extended its foreign borrowing, raising concerns about its future interplay with growing public debt. The current DSF still takes a country-based, static view and is unable to fully take these dynamics into account.

While we do not offer specific technical 'solution', some suggestions about incorporating global liquidity into sustainability assessments can be provided. The first is to allow for additional flexibility during crises which could be done by making debt thresholds dynamic rather than static. Thresholds and indicators need to be counter-cyclically linked to global liquidity conditions, as to allow the DSF to be used as a way to 'lean against the wind', all the more so since Basel III imposes higher constraints on bank lending and the Federal Reserve moves away from quantitative easing. In conditions of expanding/shrinking global liquidity, debt thresholds should be more/less stringent. This could partly counter the boom-bust dynamics originating in debt markets. Secondly, private sector debt should be more effectively accounted for. This means including a more detailed assessment of contingent liabilities as well as the impact of private sector debt on foreign exchange reserves and the ability of governments to refinance their debt in domestic currencies through the influx of credit to the private sector from abroad. Importantly, it should also induce policy actions to

tackle debt within the *private* sector, rather than considering it as a fiscal policy problem. The most recent IMF review (IMF, 2017a) addresses aspects of these concerns, though it remains to be seen how meaningfully these will be operationalised.

We remain sceptical however as to whether technical fixes to the underlying methodology of constructing the thresholds are enough to adequately protect LICs from deteriorating economic situations arising from a volatile external environment. If a global liquidity squeeze pushes more countries into higher risk brackets, the onus of dealing with this consequence falls on the debtor country. To the extent that debt sustainability in SSA is partly determined globally rather than locally, it requires global solutions. As discussed, no consensus exists as to the ultimate cause of global liquidity cycles, but nonetheless policy coordination, including on regulation in the key global financial centres is crucial for their management. We maintain that debt sustainability in SSA is, to an increasingly important extent, contingent on the successful implementation of such policy coordination.

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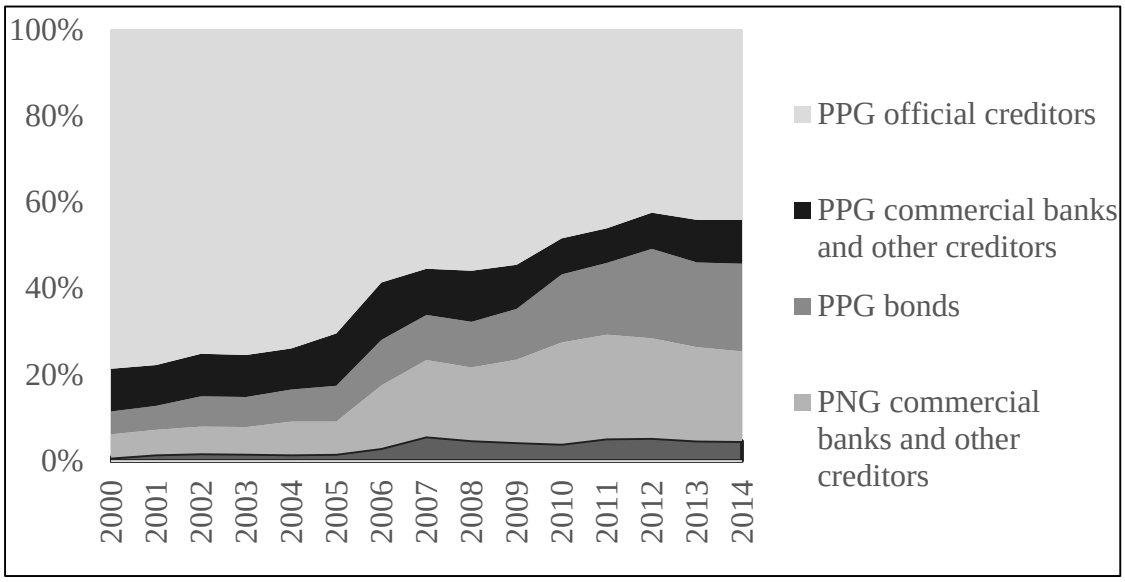
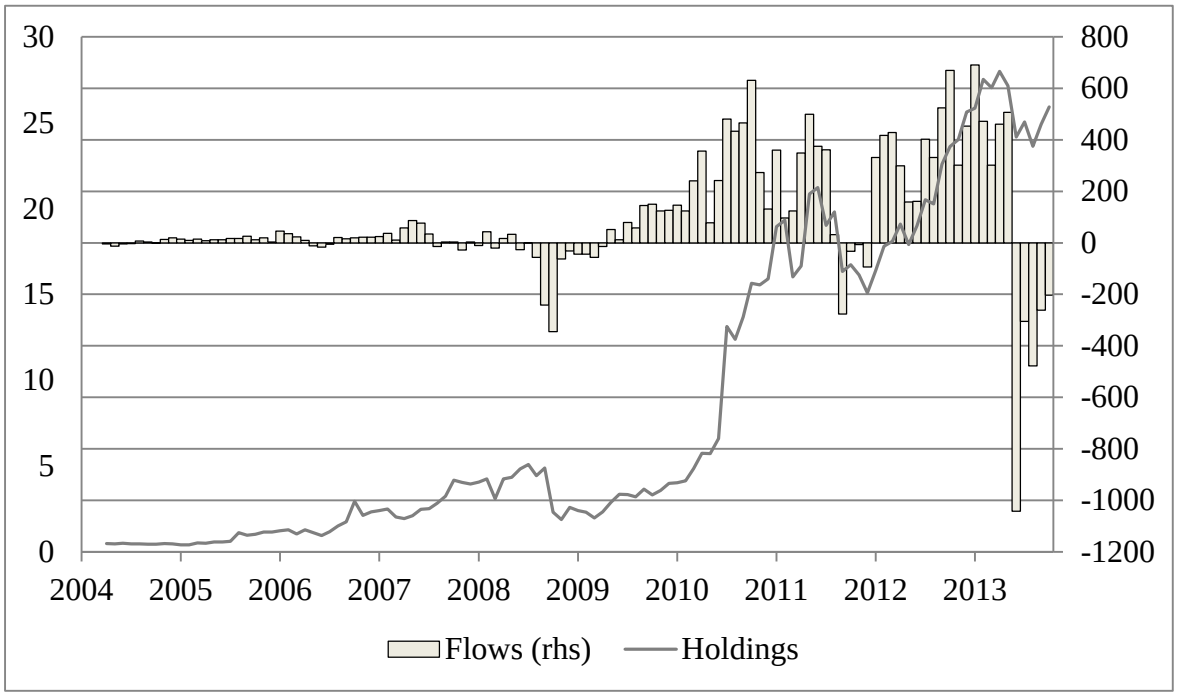
List of Figures

Figure 1. Long-term external debt composition



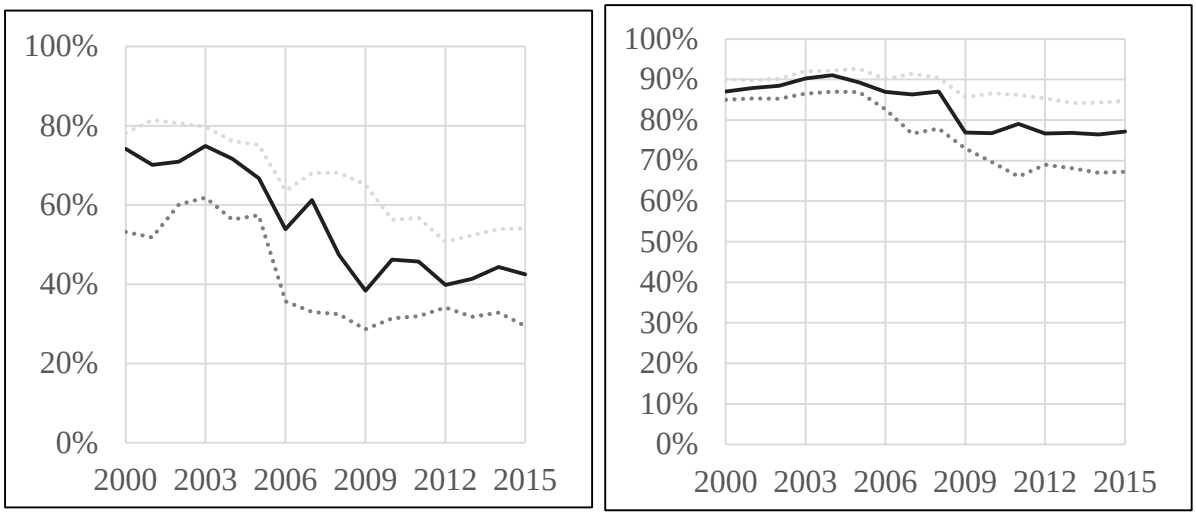
Source: Authors' calculations based on World Bank IDS.

Figure 2. Flows and holdings of SSA bonds funds by mutual funds



Source: Author's calculation based on Emerging Portfolio Research Fund, holdings are in US dollar billions, flows are in US dollar millions

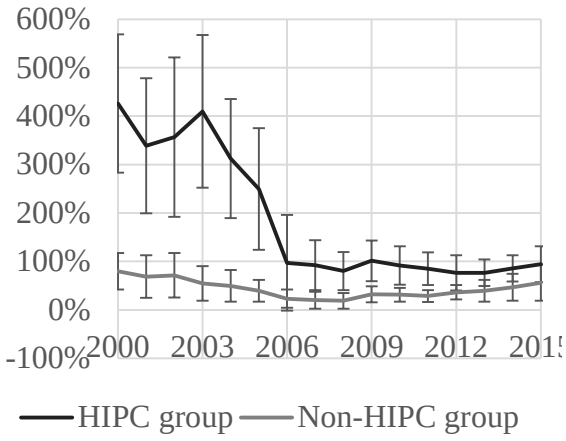
Figure 3. Incidence of official debt. FC and non-FC countries



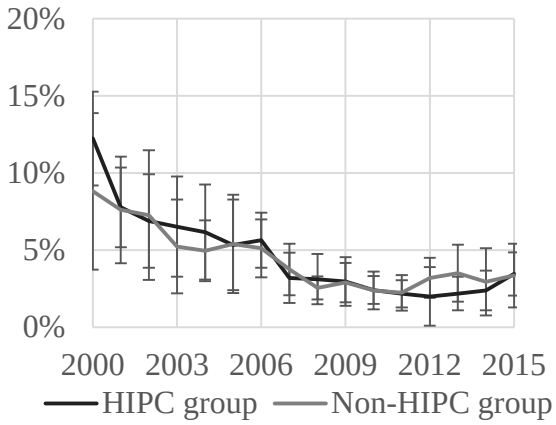
Source: Authors' calculations based on World Bank IDS. Note: The black line shows median values, dotted lines show the interquartile range.

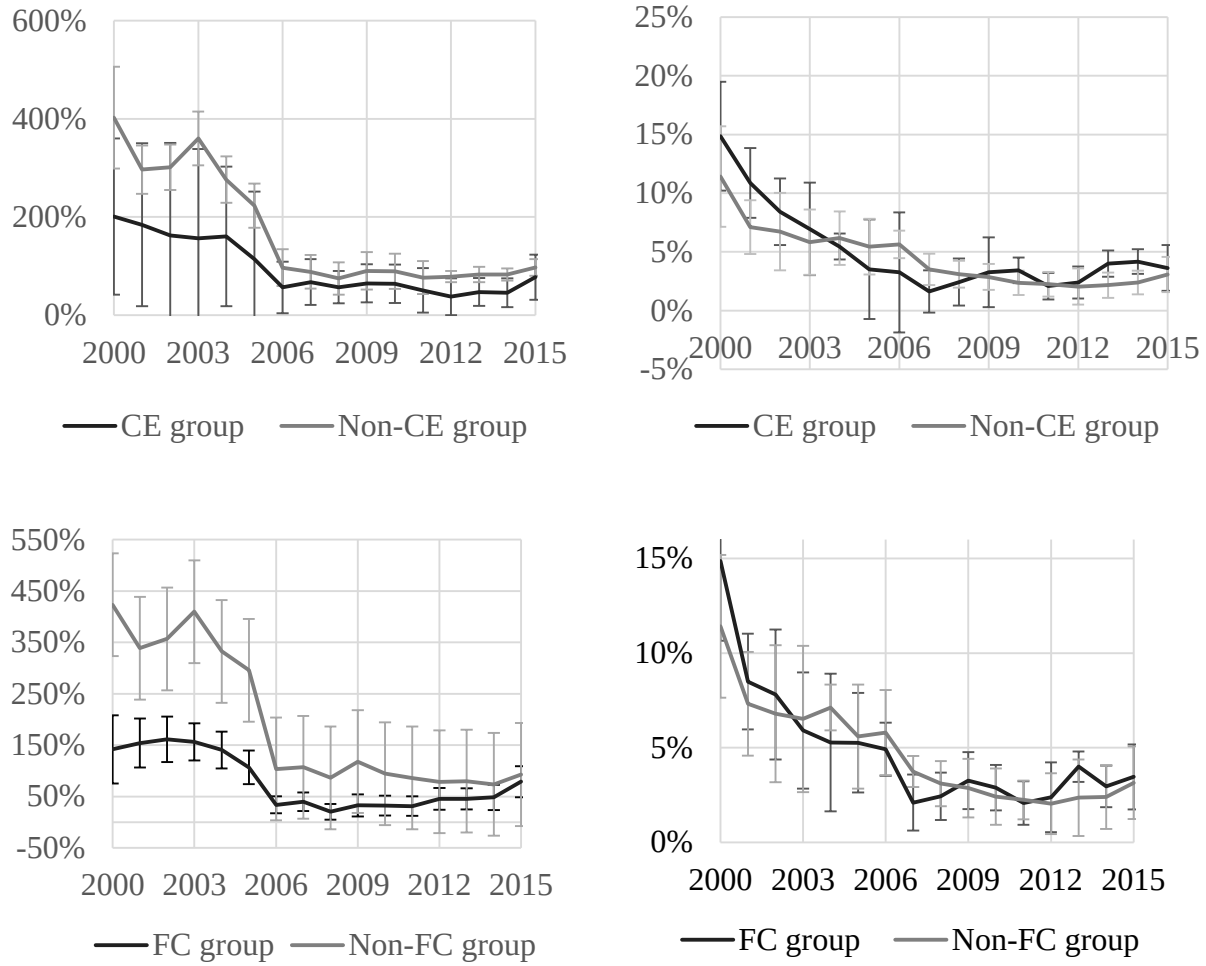
Figure 4. Selected External DSF indicators

PPG debt to exports



PPG debt service to exports

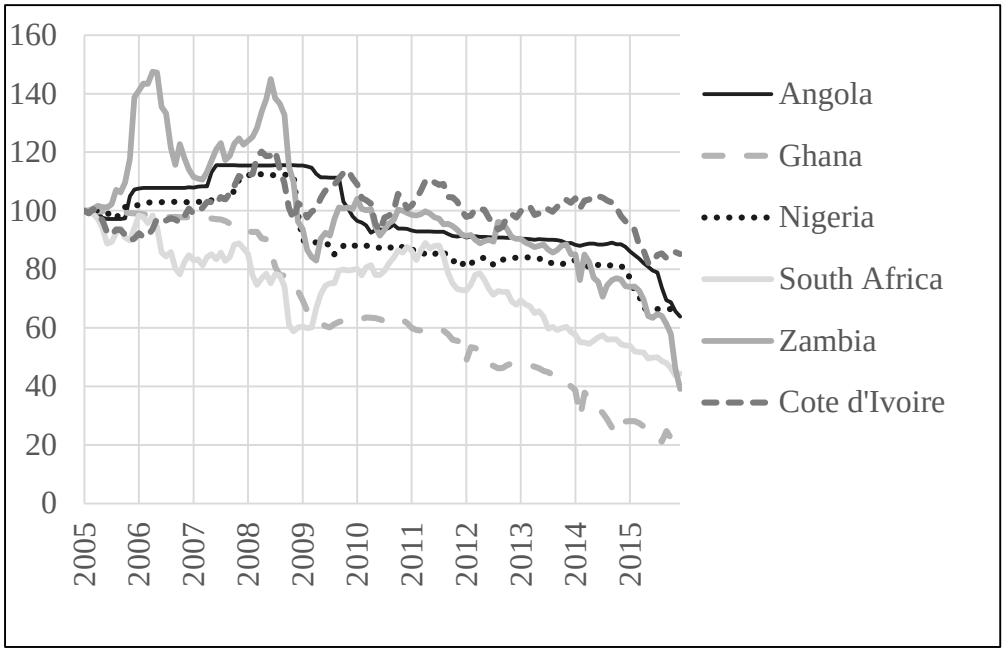




Source: Authors' elaboration based on World Bank International Debt Statistics (IDS) and IMF World Economic Outlook (WEO).

Note: The figures show the median value for each of the country groups. The bars show the interquartile ranges. These figure show the ratio to exports. Other figures, calculating the other DSF solvency and liquidity ratios have been calculated and are available from the authors on request.

Figure 5. Exchange Rates, 01/01/2005=100, Selected Countries



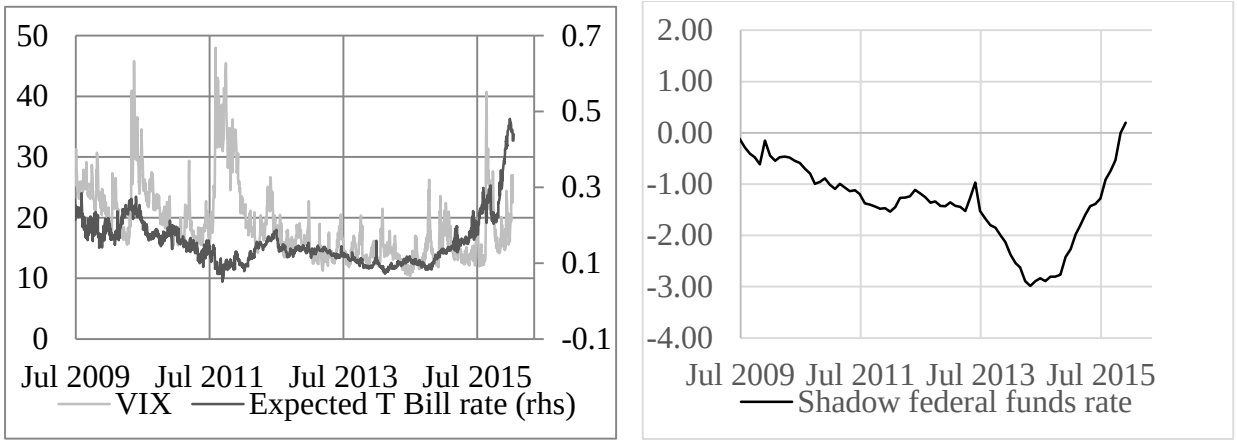
Source: World Bank Global Economic Monitor, exchange rates vis-a-vis US dollar

Table 1. Two-samples t-test for equal mean.

		CE vs non-CE	*FC vs non-FC*
Solvency	Full sample	0.248	0.167
	2008-2015	0.122	0.054
Liquidity	Full sample	0.456	0.487
	2008-2015	0.155	0.043

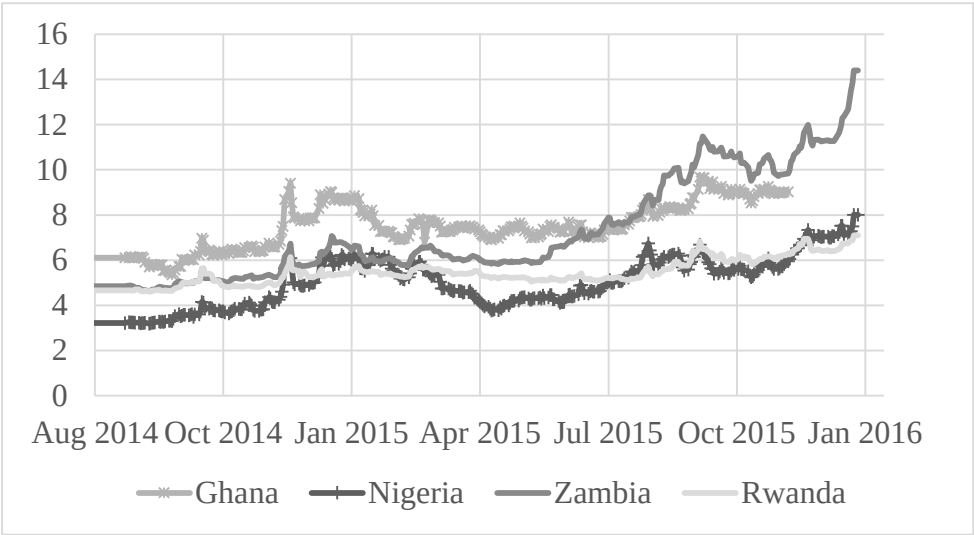
Note: Null hypothesis is equal mean. This is a one-tail test, the table shows p-values, rejection implies statistically significant different means between the country groups. The test is done for the change in liquidity and solvency indicators shown in Figure 4. Source: Authors' calculation based on World Bank International Debt Statistics (IDS) and IMF World Economic Outlook (WEO).

Figure 6. Global liquidity



Source: Bloomberg and Wu and Xia (2016). Note: Expected T-Bill and Wu-Xia shadow rates are expressed in percentage points.

Figure 7. Sovereign bonds spreads per cent



Source: Author's calculation based on Bloomberg Bond Indices. Note: Yield spreads are calculated as the difference between the yields on foreign currency bonds, based on indices for each of the countries, and the yields on Bloomberg bond index for global developed countries debt. These indices are part of Bloomberg's own produced Bond indices.

Table 2. Correlation coefficients

	Ghana	*Nigeria*	*Zambia*	*Rwanda*
VIX	0.35	0.44	0.34	0.23
Expected T-Bill	0.61	0.57	0.81	0.56

Note: Shows correlation coefficients between VIX and sovereign bond spreads. Significance tests show significance at the 1 per cent level for all coefficients. Source: Authors' calculation from data from Bloomberg.