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Abstract

Historically, countries that have achieved and sustained high growth rates over long periods are those that were able to maintain high domestic saving rates, enabling strong and sustained domestic investment. In the case of African countries, domestic saving has remained low, leading to high investment-saving gaps and increased dependence on external capital. A key reason is the inadequate performance in domestic saving mobilization in the public sector and in the private sector. But an important factor that has been overlooked is the leakage of resources through capital flight. This paper analyses the linkages between capital flight and domestic saving in the case of African countries. The analysis suggests that strategies aimed at stemming capital flight should be an important part of any plan to increase domestic saving. The paper discusses policies for raising saving and preventing capital flight which are derived from the analysis of the drivers of capital flight and domestic savings. In particular, it emphasizes two sets of strategies: incentives-based and institutions-based strategies. It concludes that emphasis should primarily be on the latter.

Keywords

Africa; saving; capital flight; investment; growth

JEL classifications

E21; E22; O11; O16; O55

* Forthcoming in Monga, Celestin and Justin Y. Lin (Eds.) *Handbook of Africa and Economics*, Oxford University Press.

1. Introduction

At the turn of the century the story of Africa has changed, from that of hopelessness to exuberance in the face of yet another African renaissance. Growth surged in the continent, even weathering the storm of the Great Recession of 2008-09, with Africa emerging as the second fastest growing region in the world after Asia. Despite this growth resurgence, however concerns remain. The most fundamental concern is that growth has not been accompanied by commensurate reduction in poverty. Moreover, it has been characterized by high inequality, and generally it has not been broad based. From a long-term perspective the question is whether this recent growth resurgence is sustainable. In particular, the issue is whether the saving rates are sufficient to support high and sustained growth and development.

Historically, countries that have achieved and sustained high growth rates are those that were able to maintain high domestic saving rates, enabling strong and sustained domestic investment and employment creation. In the case of African countries, domestic saving has remained low, leading to high investment-saving gaps and increased dependence on external capital. A key reason is the inadequate performance in domestic saving mobilization whether in the public sector or in the private sector. But a factor that has been often overlooked is the leakage of resources through capital flight. The financial haemorrhage of the continent is a both a chronic problem and a looming crisis. The levels of capital flight have exploded over the past decade. Thus, efforts to build a solid base for long-term growth and development in Africa must involve strategies to improve efficiency in public and private domestic resource mobilization as well as policies to curb and prevent further capital flight from the continent. This paper aims to explore these issues with both a look in the rear-view mirror and a forward-looking examination of the saving-capital flight-development nexus.

The paper discusses the record of domestic saving in Africa from a historical and comparative perspective, and it identifies the causes of low performance in saving mobilization. This is followed by an analysis of the linkages between capital flight and domestic saving. Here the nature, magnitude and trends of capital flight are presented with illustrative statistics. Next the paper reviews the drivers of capital flight so as to inform the discussion of strategies to stem capital flight as a means to increase domestic saving. The paper offers some policy

recommendations for raising saving and preventing capital flight which revolve around two sets of strategies – incentives-based and institutions-based strategies. It concludes that emphasis should primarily be on the latter.

2. Saving and development in Africa

Why care about saving?

Saving as a condition for growth

There is a long tradition in the economics literature that views saving as an indispensable condition and driver of economic prosperity. Sir Arthur Lewis believed that the main challenge to the analysis of economic development was to understand how an initially low-saving economy can transform into an economy with high voluntary saving rates (Lewis, 1954). In the same tradition, economic growth models have been developed on the premise that saving is a source of capital accumulation, which in turn is the main driver of long run growth. This is the basis of the standard growth model developed by Robert Solow and subsequently expanded by his successors.

Modern literature on African economic development has embraced this view that saving is necessary for long-run economic growth. A study on savings in South Africa opens with the statement that “low domestic saving rates in South Africa may perpetuate a low-growth trap” (Aron & Muellbauer, 2000, abstract). Reform policies aimed at stimulating growth such as the structural adjustment programs (SAPs) of the 1980s and 1990s were also founded on the premise that raising domestic saving would ignite growth. Thus financial market liberalization, and especially the removal of interest rate repression, was expected to raise real interest rates which in turn would raise domestic saving and therefore growth.

The empirical evidence on the link between growth and saving is mixed at best. The evidence clearly supports a positive relationship running from saving to growth in the short run. In both cross-country settings as well as country-level analyses, higher levels of saving appear to lead to higher rates of economic growth (Elbadawi & Mwega, 2000). In addition, the evidence shows that, in the spirit of Sir Arthur Lewis, episodes of transition to higher saving precede short-run

spurs in GDP growth (Rodrik, 2000). Studies that confirm this relationship in the case of African countries include Elbadawi and Mwega (2000). Further evidence on Africa and other regions can be found in Loayza, Schmidt-Hebbel, and Servén (2000). The relationship between saving and growth is, however, less robust in the long run. While studies find a positive relationship between the level of saving and long-run GDP growth, there appears to be no evidence that transitions to higher saving rates lead to permanently higher growth rates. A spur in saving leads to an initial increase in growth, but the growth rates return to pre-transition levels after a short period (Rodrik, 2000). This finding is consistent with the classical Solow growth model, where increases in savings rates raise growth only during a transitory period but have no effects on the growth rate in the steady state in the absence of an increase in productivity or growth of the labour force.

The reverse causal relationship seems to be more robust: a spurt in growth permanently raises saving to higher rates. This may be due to consumption and saving habit formation which tend to be persistent over time. The evidence on a positive long-run impact of growth on saving and a short-term positive relationship running from saving to growth has important policy implications. On the one hand, the evidence suggests the possibility of a virtuous cycle of high growth-high saving as well as a low saving-low growth trap. On the other hand, the evidence suggests that policies that directly target to raise the growth rate are also good for raising the saving rate. Thus, countries that invest in infrastructure to raise productive capacity and alleviate production constraints, allocate resources to technology and innovation, invest in human capital development, and make deliberate interventions to raise agricultural productivity, will achieve higher growth rates accompanied by higher saving rates. Higher growth rates and higher saving rates are mutually perpetuating over time; thus saving appears as a key to economic prosperity, but in fact it is the latter that enables the saving-growth relationship to materialize in the first place and to be sustained over time.

Saving as a condition for investment

Investment is a critical condition for economic growth. In fact empirical evidence has established that investment is the most robust driver of long-run growth (Levine & Renelt, 1992). It is for this reason that investment is at the centre stage of all growth policies and development strategies

in general. It is also for this reason that it is important to understand the relationship between saving and investment.

Conventional wisdom regards saving as the main means of financing investment. From a purely national accounting perspective, the relationship between saving and investment is obvious. Saving is determined as income not consumed, which therefore is allocated to investment. But from a theoretical perspective, the key justification of the relationship between saving and investment is based on market imperfections. At the microeconomic level, imperfections in the credit markets – such as those arising from information asymmetries – force firms to rely on their internal funds (saving) to finance investment. At the aggregate level, the link between saving and investment arises from imperfections in capital mobility (Feldstein & Horioka, 1980). If capital is freely mobile across countries, then there would be no relationship between domestic investment and domestic saving. Any good investment at home would be funded by either domestic saving or foreign capital. A tight relationship between saving and investment is an indication of restrictions in international capital flows. In light of these theoretical predictions, the link between domestic saving and investment should be strong in the case of African countries, especially in Sub-Saharan Africa given underdeveloped financial markets and high perceived country risk, which makes it difficult for African firms to access international capital markets.

It is difficult to find systematic empirical evidence on a strong positive relationship between saving and investment in the case of African countries especially at aggregate level. Elbadawi and Mweya (2000) examined whether saving leads investment in sub-Saharan Africa. They find no supporting evidence either in the short run or in the long run. However, the evidence from this and similar aggregate data-based studies is not sufficient to dismiss a link between saving and investment in Africa. Studies based on firm level data find that firms finance their investment primarily with internal funds, suggesting the existence of binding constraints to access to credit markets. In addition, empirical studies find that there is a strong positive effect of financial development on domestic investment (Ndikumana, 2000).¹ This constitutes indirect evidence of

¹ A substantial number of studies on other regions document robust evidence of a positive link between saving and domestic investment. See Ndikumana (2005) and Ndikumana (2000) for a survey and useful references on this subject.

the importance of domestic saving for investment. Indeed, the role of financial intermediaries is to collect savings from surplus agents (savers) and channel it to deficit agents (investors). Hence, the relationship between saving and investment relies critically on sufficient amount of savings on the one hand, and on the efficacy of financial intermediation.

There may be other reasons why studies looking at the direct relationship between saving and investment fail to find supportive evidence in the case of African countries. The first is that, as indicated above, financial intermediation may not be effectively and efficiently channelling saving into investment.² This is consistent with Keynes' view that investment is not constrained by saving but by credit supply: "The investment market can be congested through shortage of cash. It can never be congested through shortage of saving" (Keynes, 1973, p. 222). This would be consistent with the positive links between investment and financial development.³

The second is that there are non-financial factors that constitute binding constraints to domestic investment in African countries. These include physical constraints such as low supply and poor quality of infrastructure especially power and transportation, long distance to input and output markets especially for landlocked countries, soft infrastructure (regulation), governance, and political instability. From an analytical perspective, this implies that empirical tests that focus on the direct link between domestic saving and domestic investment may be inconclusive without overruling the existence of a positive relationship between the two variables. From a policy perspective, it implies that strategies for promoting domestic investment should not be limited to stimulating domestic savings; the other non-financial factors of investment must be addressed simultaneously through appropriate interventions and reforms.

Saving as hedge against shocks

Saving plays an important role as a hedge against shocks both at the microeconomic and aggregate level. At the household level, savings enable the households to smooth consumption over time and shield expenditures against shocks to income. This is especially important for rural and agriculture dependent households whose income is subject to the vagaries of the weather and

² For an illustration with the case study on the financial sector in Burundi, see Nkurunziza, Ndikumana, and Nyamoya (2012).

³ Also see Pollin (1997) and Berthélémy and Varoudakis (1994).

other natural disasters. Uncertainty over income is also due to the unpredictability of market prices for agricultural products. This affects both the consumption and borrowing capacity of farming households (see Karlan, Kutsoati, McMillan, and Udry (2011)).

At the aggregate level, domestic saving serves as a buffer against shocks to international capital inflows. It is important for preventing financial crises or minimizing their impact on the domestic economy. However, high domestic saving does not constitute full proof protection against financial crises. This was demonstrated in the case of East Asian countries which suffered severe financial crisis in 1997-98 despite high levels of domestic savings. The high saving rates did not protect them from the consequences of high exposure to excessive foreign currency denominated borrowing by banks.

In the case of African countries, low domestic saving expose them to risks associated with high dependence on foreign resources, especially official development assistance. Following sudden declines in official aid and private capital inflows, African economies may experience difficulties in sustaining their levels of investment, especially public investment.

The Record on domestic saving in Africa

Aggregate trends and patterns

Like in other developing countries, domestic saving rates are generally low in African countries, resulting in chronic investment-saving gaps (Table 1). For SSA, the average gross domestic saving ratio to GDP declined from 22.8% in the 1970s to 20% in the 1980s and plummeted to 15.5% in the 1990s before recovering thereafter. There are important cross country variations in domestic saving. The most pronounced differences are between oil and mineral resource rich and resource-scarce countries. The former generally exhibit higher levels of saving thanks commodity booms.

In the majority of African countries, domestic saving rates steadily declined starting from the mid-1970s. This declining trend was mostly driven by a decline in public sector saving, which

was not compensated by private saving. The case of South Africa is illustrated in Figure 1. In fact, public saving and corporate sector saving moved in opposite direction systematically since the early 1980s. A recent spur in corporate saving in the second half of the 2000s corresponds with a plunge of government saving in the same period. Household savings have systematically declined since the mid-1980s.

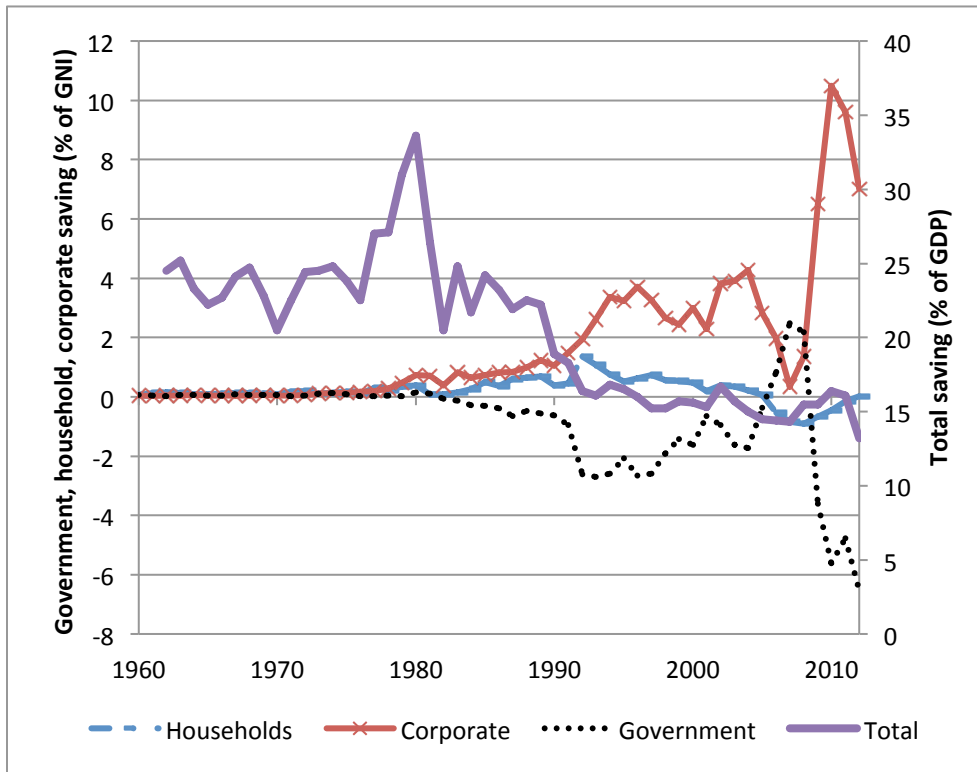
Table 1: Saving and investment: Africa and other developing countries

	Africa			Sub-Saharan Africa (SSA)			Oil-rich Africa			Mineral-rich Africa			Non-African developing countries		
	1980-89	1990-99	2000-12	1980-89	1990-99	2000-12	1980-89	1990-99	2000-12	1980-89	1990-99	2000-12	1980-89	1990-99	2000-12
Gross domestic investment (% GDP)*	24.3	19.7	21.5	20.8	17.6	19.4	22.5	22.1	24.2	18.2	17.9	20.6	25.2	24.2	24.3
Gross Domestic savings (% GDP)	20.1	17.2	21.0	20.0	15.5	16.3	20.5	19.8	33.4	10.2	10.7	11.8	15.6	15.3	15.4
Investment-saving gap (% of GDP)	4.2	2.5	0.5	0.8	2.1	3.1	2.0	2.3	-9.2	8.1	7.2	8.9	9.6	8.9	8.9
GDP Growth (%)	2.9	2.5	4.5	2.1	2.1	4.6	3.3	3.1	5.6	2.7	2.6	4.1	3.0	3.1	4.5
GDP per capita growth (%)	0.1	0.01	2.2	-0.7	-0.6	2.1	0.3	0.4	3.1	-0.2	-0.2	1.7	1.0	1.5	3.2

Note: * gross domestic investment = gross capital formation.

Source: World Bank, World Development Indicators; African Development Indicators (for SSA and Africa averages)

Figure 1: Trend in saving rates in South Africa, 1960-2012



Source: World Bank, World Development Indicators (online); South African Reserve Bank (online data).

The low values of recorded saving rates in Africa do not adequately represent the true levels of saving especially in the informal sector. The majority of households hold their saving in the form of non-financial assets such as land and cattle, which are not recorded in the national accounts. The low banking penetration in the rural areas and the generally low access to formal financial services is also another contributor to both low saving mobilization and high informality of saving. On average, less than 20 percent of the population has access to formal banking services. Moreover, African banking systems offer only a limited range of saving instruments. For example, pension systems and other long-term saving mechanisms are non-existent or underdeveloped. This is one of the reasons why financial resources in African systems are concentrated on the short end, rendering difficult the function of maturity transformation and the financing of long-term investment. Furthermore, banking services are costly and use

cumbersome practices; this discourages potential depositors, especially among the non-financially literate population. So, to a large extent, statements about low levels of saving in African economies are in fact statements of low mobilization of potential saving and inadequate reporting of non-financial forms of saving.

Evaluation of economic policies for promoting domestic saving

African countries have adopted a number of initiatives and policy reforms to stimulate domestic saving with mitigated results. As indicated earlier, one of the key objectives of the market based reforms of the 1980s and 1990s under the SAPs was to stimulate domestic investment. This was meant to be achieved by financial sector reforms aimed at raising real interest rates to encourage domestic saving and attract foreign capital. Fiscal austerity measures under the SAP were also expected to raise public sector saving or at least to reduce the deficits. Moreover, to the extent that these policies were to create a stable macroeconomic environment, this was supposed to increase growth, which would raise domestic saving. The results of these market based reforms were less than satisfactory. First reforms failed to raise real interest rates substantially. And even when interest rates rose, the saving response was small.

Many African countries also adopted government-sponsored saving programs to stimulate domestic savings. These included mandatory saving in the civil service as well as the creation of dedicated public saving and loan institutions targeting a wide penetration in both the urban and rural areas. The record of these initiatives has been mixed, but largely disappointing. Many of the public or publicly sponsored institutions were victim of mismanagement and political patronage that undermined their financial viability. Bad experiences with these institutions has left a sour taste about government-owned or sponsored financial institutions. This negative perception has extended to development banks. This is a rather unfortunate outcome arising from the conflation of the concept of development banking with negative experiences in poorly managed national development banks. Yet, development banks can run efficiently and have a major positive impact on domestic investment and growth. An example is the Industrial Development Corporation, a government owned development bank in South Africa, which has been a major player in financing both public and private investment (Ndikumana, 2009). A successful strategy

for financial system development must aim at improving the functioning of both commercial financial institutions and development financing oriented public institutions.

Saving and sustainable growth

The low saving record in African countries raises a critical question about prospects for sustainable growth and development in the continent. As discussed above and documented in the literature, history shows that countries that have achieved high growth rates on a consistent basis have done so by maintaining high levels of savings for extended periods. The question then is whether African countries can achieve and sustain high growth rates without achieving and maintaining high saving rates. A growth model without saving is difficult to conceptualize. To the extent that growth is substantially driven by capital accumulation, expansion of production capacity, increased competitiveness, and access to markets, it is difficult to imagine how that can be achieved without a strong domestic resources base. High growth without a strong saving base is likely to be ephemeral. And more fundamentally, a development agenda that is not founded on a country's own domestic resources is a compromised agenda. Therefore, we conclude that there is no viable option for Africa to achieve sustainable growth and development without strong domestic saving.

3. Saving and capital flight in Africa

What is capital flight and why do we care?

Defining capital flight

The term capital flight has been given many interpretations in the economic literature and in the press, leading to confusion and misinterpretations. In the popular press, capital flight is presented as illegal or illicit financial flows. It is housed in the same domain as money laundering, tax evasion, transfer pricing, underground trafficking. Yet, while these activities are illicit, not all of them amount to capital flight. At the same time, while most capital flight may be deemed illicit,¹

¹ Capital flight may be illicit in one of three ways: when it consists of money acquired illegally and transferred abroad; when funds are transferred abroad illicitly by violating capital account regulations; when capital is hidden abroad and therefore not being subject to taxation and other government regulations.

it is not possible to make this determination a priori from the data that is used to calculate capital flight, which involves a reconciliation of recorded capital inflows (mainly external borrowing and foreign direct investment) and the use of these resources (to cover the current account deficit and accumulation of reserves).

The term capital flight means capital flows from a country that are not recorded in the country's Balance of Payments (BoP). If all the transactions were correctly and systematically recorded, inflows would balance out with outflows, except for small and random statistical errors as recorded in the 'net errors and omissions' line of the BoP. Where large discrepancies are observed, in other words, where there is substantial 'missing money' in the BoP, this is taken as an indication of the presence of capital flight. The methodology for the estimation of capital flight is detailed in Ndikumana and Boyce (2010) and Ndikumana, Boyce, and Ndiaye (2013). This methodology is summarized in the following equation:

$$ADJKF_{it} = \Delta DEBTADJ_{it} + DFI_{it} - (CA_{it} + CRES_{it}) + MISINV_{it} + RID_{it} \quad (1)$$

Where $ADJKF$ is adjusted capital flight,² $\Delta DEBTADJ$ is the change in the stock of external debt outstanding adjusted for exchange rate fluctuations as described further below, DFI is net direct foreign investment, CA is the current account deficit, $CRES$ is net additions to the stock of foreign reserves, $MISINV$ is total trade misinvoicing, and RID is the adjustment for underreported remittances.

Measuring illicit financial flows is an even more daunting task than estimating capital flight. While capital flight involves outflows that are not recorded and therefore can be estimated by comparing recorded foreign exchange inflows and their uses, some illicit financial flows are actually within the recorded outflows, except that it is not possible to distinguish them from licit flows. Thus money that is acquired illicitly, for example, through trade of illegal goods such as narcotics, can enter into the domestic banking system and from there be transferred abroad for

² The qualifier 'adjusted' comes from the fact that this formula is an extension of the basic definition of capital flight as a Balance of Payments 'residual' proposed by the World Bank (1985), which is calculated as $KF_{it} = \Delta DEBT_{it} + DFI_{it} - (CA_{it} + CRES_{it})$, where $\Delta DEBT$ is the change in debt stock without adjustment for exchange rate fluctuation.

safe keeping. On its way out of the country, such money looks like any other money, and is duly recorded in the BoP. It is therefore not capital flight, but it is nonetheless illicit.

Capital flight and other illicit financial flows from Africa and other developing countries are facilitated by the services offered by the so-called secrecy jurisdictions, safe havens, tax havens, or offshore financial centres. These territories offer a combination of low or no tax on corporate profit and interest income, high banking secrecy, as well as easy and opaque company incorporation laws that are attractive to both honest and illicit wealth owners. For owners of legally acquired wealth, these territories offer opportunities to minimize their tax liabilities and are therefore sought for what can be justified on the ground of portfolio management. But these centres are also sought for illicit purposes. They help owners of illicitly acquired wealth to conceal it and therefore avoid prosecution.

Magnitude and trends of capital flight

The evidence in the literature clearly shows that capital flight is a major development issue facing the majority of African countries. The problem is not new, and it is getting worse over time. The existing estimates suggest that over the past decades since 1970, the continent has lost over one trillion dollars due to capital flight (African Development Bank & Global Financial Integrity, 2013; Boyce & Ndikumana, 2012; Ndikumana & Boyce, 2011a, 2012; Ndikumana et al., 2013). In addition to leakages of resources in the Balance of payments, including embezzlement of public external debt, a major channel of capital flight is trade misinvoicing, both underinvoicing of exports and overinvoicing of imports. Resource-rich countries, especially oil exporters feature prominently on the top of the list in terms of volume of capital flight: Nigeria, Angola, Gabon, Congo, the Democratic Republic of Congo and Sudan. In addition to high resource endowment, these high capital flight countries also happen to have a poor governance record. It therefore appears that capital flight is not driven by resource endowment per se, but by a combination of natural resource wealth and poor governance.

Capital flight from African countries is large both in absolute terms as well as in relation to the size of the economies and compared to other financial flows. For the continent as a whole and for most of the countries, the accumulated stock of capital flight exceeds the stock of debt, ironically

making the continent a ‘net creditor’ to the rest of the world. While the absolute value of capital flight from Africa may be smaller than that from other regions (Henry, 2012), capital flight represents a heavier drain on the economy in the case of African countries. African countries exhibit higher ratios of capital flight in relation to GDP, domestic capital accumulation, foreign direct investment and official development. The annual flows of capital flight also represents a large share of the investment gap faced by African countries, suggesting that these countries could partly bridge this gap if they could retain these funds on the continent.

Causes of capital flight

So what drives capital flight from African countries? Some have argued that capital flight is not different than other financial flows and that it can be explained by the same factors that drive portfolio allocation decisions by economic agents (Collier, Hoeffler, & Pattillo, 2001; Collier, Hoeffler, & Pattillo, 2004). Under this view, capital flight from Africa is motivated by the search for higher risk-adjusted returns to investment.

A simple conceptual framework for that view can be sketched as follows. Consider that private operators maximize returns to savings by choosing between domestic investment and foreign assets. In a simple two-period model, individuals maximize their wellbeing or utility subject to the following constraints (Fofack & Ndikumana, 2009).

$$C_t + I_t + F_t = W_t \quad (2)$$

$$C_{t+1} = I_t(1 + r(1 - \tau)) + F_t(1 + \rho) \quad (3)$$

C is consumption, I domestic investment, F foreign assets (or capital flight), W wealth r the rate of return on domestic capital, ρ the rate of return on foreign capital, and τ the tax rate. The two equations can be consolidated as:

$$c_t + \frac{1}{1+r} c_{t+1} = W_t + \frac{\rho - r}{1+r} F_t - \frac{r\tau}{1+r} I_t \quad (4)$$

Equation (4) suggests that return differentials in favour of foreign assets as well as distortionary taxation of domestic assets induce capital flight. In addition, capital flight induces more capital flight due to the returns it generates through interest earnings.

The portfolio choice view of capital flight contends that poor economic conditions, high political instability, and poor governance in African countries raise the risk of investment and therefore reduce the expected returns to investment in Africa relative to investment abroad. In particular, it is argued that domestic assets may face higher risk arising from currency depreciation, devaluation, inflation, and financial instability (Dornbusch, 1985), risk of expropriation (Kant, 2002; Khan & Haque, 1985), expectations of higher taxation, and lower public guarantees on private debts (Eaton, 1987). In that sense, capital flight is just about savvy African wealth holders seeking higher returns to their investments abroad. It is also about African wealth holders voting with their feet to somehow penalize governments for bad governance that threatens their wealth.

The view of capital flight as portfolio choice is questionable on conceptual and empirical grounds. First the argument about the portfolio management motive can only hold for honestly acquired capital. But capital flight includes funds that were illicitly acquired which the owners seek to conceal abroad. In such case asset holders are more interested in the protection of the assets than in the returns to investments. In that perspective, safe havens offer a perfect venue to park these funds. In these jurisdictions, asset holders often receive negative interest rates on their deposits, 'a premium for security' they are happily willing to accept (Australian banker Erhard Fürst quoted in Lessard & Williamson, 1987, p. 83). As Walter (1987, p. 107) pointed out 'If confidentiality has value, 'then asset holders engaging in capital flight should be willing to pay for it.' Confidentiality is the primary motive for holding stolen assets in secrecy jurisdictions.

Empirical evidence also has little to offer in support of the portfolio theory view of capital flight. Actual risk-adjusted returns to investment tend to be higher in African countries than in the rest of the world. This has been more so in the recent years as the developed world plunged in a recession while African countries weathered the storm surprisingly well. Yet, capital flight has continued to increase during the economic expansion over the past two decades. Moreover,

capital flight has not abated during and following financial liberalization. In fact the era of financial liberalization since the mid 1995 has seen an escalation of capital flight.

Furthermore, if risk and returns calculations were the main drivers of capital flight from Africa, how then can we explain movement of capital in both directions? If savvy African investors are unwilling to invest in Africa, why would equally savvy foreign investors find it worthy investing in the continent? There must be something that the African wealth holders know that foreign investors don't. But most likely, the reverse home bias is an indication that African wealth holders have something to hide.

The empirical literature has documented a number of factors that consistently appear to be robust determinants of capital flight. First, capital flight tends to persist and exhibit hysteresis. In other words, countries seem to be caught in a capital flight trap (Ndikumana & Boyce, 2003, 2011b; Ndikumana et al., 2013). The evidence suggests that these countries must undertake robust and systematic measures to 'shock' the system out of its proneness to capital flight. The second key result from empirical analysis is a tight positive relationship between capital flight and external borrowing, suggesting that part of capital flight from Africa is funded by embezzlement of public debt. This implies that some of the external debt is in fact odious in that it did not benefit the African people (Ndikumana & Boyce, 2011a). Third, as mentioned above, the evidence shows that African countries that are both rich in natural resources and have poor governance exhibit higher levels of capital flight. This suggests that capital flight may be fuelled by embezzlement of the proceeds of resource exports and corrupt management of natural resource exploitation as well as illicit behaviour by multinational corporations operating in the sector. Fourth, conventional measures of risk and returns to investment do not correlate systematically with capital flight. This implies that high real interest rates are not a deterrent to capital flight. Thus policies aimed at raising interest rates notably as a means of controlling inflation, which is the prominent policy orientation in most African countries, have little chance of preventing capital flight. In contrast, but keeping interests high, such a policy orientation discourages domestic investment (Fofack & Ndikumana, 2013). Thus addressing capital flight requires a strategy that goes beyond market based policies.

Impact of capital flight

Capital flight is a serious development problem in Africa for several reasons. First, capital flight has negative effects on the economy by reducing government revenue directly through embezzlement of public resources and indirectly through the reduction of the tax base. This can be illustrated by formulating the government budget constraint as follows:

$$G_t + (1 + r)B_{t-1} = \tau(Y_t - F_t) + R_t + \Delta B_t + \Delta M_t \quad (5)$$

where G is government expenditure, B government borrowing, Y is gross income, R government revenue from sources other than taxes on domestic assets, and ΔM seignorage or money creation. Capital flight (F) affects the government's budget by directly reducing the tax base. Each dollar of capital flight implies a revenue loss to the government of τF . As a result the government must borrow more (domestically and from abroad, ΔB) or resort more to money creation (ΔM). These pressures on the government budget erode the government's capacity to finance social services and public investment. By draining domestic resources, capital flight perpetuates dependence on external aid even as it undermines aid effectiveness.

Second, by draining government resources, capital flight retards progress in poverty reduction. Further negative effects on poverty reduction arise through the negative effects of capital flight on growth. In addition, by widening inequality, capital flight further reduces the gains from growth in poverty reduction. Moreover, as a result of these perverse effects on government revenue, domestic investment, and growth, capital flight constrains employment creation and undermines public service delivery including education, health and sanitation, which in turn increases poverty. While the literature on the quantitative impact of capital flight on African economies is still thin, the evidence in the few existing studies is quite powerful. It shows that if African countries had been able to invest flight capital domestically, all of them would have accelerated their progress to reaching the objective of halving poverty by 2015 (MDG goal 1), and the goal would be reached in a good number of countries which otherwise would not have been able to do so (AfDB, OECD, UNECA, & UNDP, 2012; Nkurunziza, 2012, 2013). There are also indirect effects of capital flight arising from the payment of external debt that fuelled it. These effects especially materialize through reduced provision of public services such as health, resulting in increased infant mortality (Ndikumana & Boyce, 2011a) and other negative health effects.

Third, even as capital flight is partly caused by bad governance, there are also important negative effects in the reverse direction. Capital flight weakens governance as the perpetrators of capital flight manipulate the regulatory and judiciary systems to shield their illicit transactions and facilitate further capital flight. Governance breakdown is perpetuated and exacerbated by contagion and habit formation effects of capital flight; this partly explains the persistence of capital flight over time (Ndikumana and Boyce 2003).

Finally, capital flight has important distributional and equity implications. The holders of capital flight who are also guilty of tax evasion incur a relatively smaller tax burden than the poor who do not have the opportunity to conceal their wealth in safe havens. As a result, the middle class and the poor effectively subsidize consumption of public services by the rich. As the rich accumulate wealth that is tax shielded, the middle class and the poor incur the full burden of taxation and at the same time are deprived of public services due to lower tax collection. This increases income inequality. Inequality is also increased through exchange rate effects. This is because capital flight holders are shielded against losses due currency depreciation while the poor and middle class who hold all their wealth domestically bear the full cost of depreciation.

How does capital flight affect domestic saving?

Capital flight may be one of the causes of low domestic saving in African countries for a number of reasons. The first is a direct effect through allocation of private wealth in foreign assets as opposed to holding domestic assets. This can be illustrated by using equation (2) where saving is substituted for investment and rearranging as follows:

$$S_t = W_t - C_t - F_t \quad (6)$$

where S is saving and all other variables are defined as earlier. As can be seen in this equation, capital flight directly drains private saving. In a similar fashion equation (5) can be rearranged to show that capital flight reduces government saving by reducing tax revenue as a result of the reduction of the tax base (private wealth held domestically).

Capital flight also affects saving indirectly through its effects on domestic investment and growth. By depressing capital accumulation, growth is retarded as capital flight increases. As a result, lower growth leads to lower investment as discussed earlier.

Preventing capital flight as a saving strategy

The foregoing discussion provides some insights on ways to stimulate saving. In particular, this paper posits that fighting capital flight is an essential element of the strategy to stimulate domestic saving in Africa. In this regard, the discussion in this section is organized around two sets of strategies: incentive-based strategies, and institutions-based strategies for both fighting capital flight and stimulating domestic saving.

Incentive-based strategies

Following the discussion on the motivation and drivers of capital flight, strategies to reduce capital flight as a way of raising domestic savings incorporate two important premises. First, to some extent, capital flight may be induced or influenced by risk and returns to investment, broadly defined to include considerations for security of assets with regard to extortion, expropriation, or any other politically motivated risks. In this case wealth holders prefer foreign assets over domestic assets if the risk-adjusted returns on domestic investment are lower than foreign exchange rate adjusted interest rates. Second, capital flight is also motivated by evasion of the law either taxation evasion or tax avoidance, or evading prosecution of financial crime in the case of stolen money, fraud, money laundering, illicit trafficking and other crimes that generate dirty capital.

These two considerations can be summarized in the following simple setup. Consider that wealth holders choose between domestic and foreign assets so as to maximize their expected returns. Leaving aside normal recorded outward investment flows to focus on capital flight, the decision can be formally represented as follow (Fofack & Ndikumana, 2013):

$$\max_F R = i_f F + i_a(W - F) - h(F) \quad (7)$$

where F is capital flight, i_f is foreign interest rate (adjusted for expected exchange rate appreciation/depreciation), i_d the domestic interest rate, W is total wealth, and $h(F)$ represents the cost of transferring capital abroad, which here we assume to depend on the volume of capital flight; that is, $h(F) = \rho(F) \cdot F$ where $\rho(F)$ is the unit cost function.

The first-order condition is:

$$\frac{\delta R}{\delta F} = (i_f - i_d) - (\rho + F \cdot \rho_F) = 0 \quad (8)$$

which is solved to yield the following

$$i_f - i_d = \rho + F \cdot \rho_F \quad (9)$$

This result implies that the ‘optimal’ allocation of wealth between domestic and foreign assets is settled when the interest rate differential is equal to the marginal cost of capital smuggling. The nature of the cost function is such that the unit cost varies with the volume of capital flight. Capital flight operators ‘learn by doing’ in the practice of smuggling capital abroad. Over time, they acquire skills and establish networks which help them circumvent regulations with impunity. In other words, there is ‘habit formation’ in capital flight (Ndikumana & Boyce, 2003). For these reasons, the unit cost of transferring funds abroad declines as capital flight increases; that is $\rho_F < 0$.

In addition to the volume of capital flight, other factors that affect the marginal cost of transferring funds abroad are elements associated with the regulatory environment and the legal system. In particular, financial liberalization, capital account liberalization, and full currency convertibility can make it easier to move money across borders. In contrast an efficient legal system makes capital flight more costly.

From this analysis, it follows that strategies aimed at discouraging capital flight as a means of stimulating domestic saving should take into consideration agents’ incentives regarding the allocation of wealth between domestic and foreign assets. Traditionally, policies have focused on raising the real interest rates and removing market distortions to reduce the difference between the foreign return and the domestic return to investment in favour of the latter. But these policies have not been successful as saving does not respond strongly to market interest rates. It is

nevertheless important to pay attention to non-interest rate factors that may encourage saving. In this context expanding the range of saving instruments through the deepening of financial markets and especially the creation of long term instruments such as pension funds and other retirement instruments are an important avenue to explore.

Institutions-based strategies

The model in equations (7-9) implies that capital flight may be reduced, and thus saving increased by raising the cost of smuggling capital out of the country. This is where institutions-based strategies come into play. Capital flight is perpetuated when predicate crimes that generate illicit wealth and illicit international transfer of funds are not properly prosecuted and penalized. Therefore, the first area of focus in an institutions-based strategy aimed at preventing capital flight and raising domestic saving is to end impunity of financial crime. Such strategy involves reforms and strengthening of the regulatory framework and the legal system. This requires reforms that are accompanied by adequate investments in human capacity building in regulatory authorities and the legal systems in the areas of financial and economic intelligence, investigation, prosecution, and deterrence of financial crime. In addition to strengthening regulatory and legal systems, it is also important to ensure their political independence to enable them to properly investigate and prosecute financial crime. This is especially important because the perpetrators of capital flight often include government officials as well as politically connected domestic and foreign private actors. Thus there is a high risk of obstruction of financial crime investigation by politically influential actors that have something to hide.

Given that capital flight involves a shared responsibility between agents in African countries and their counterparts in destination territories including safe havens, successfully combating capital flight requires close cooperation between African countries and international community. African countries can also leverage legislations and conventions in developed countries and international institutions that are aimed at combatting financial crime and corporate sector corruption (see Ndikumana (2013)). African countries will also need financial support from their development partners to invest in capital building and acquire the necessary infrastructure to establish strong anti-financial crime institutions. Making progress in preventing capital flight will naturally yield positive benefits in terms of increased domestic saving.

Conclusion

There is no doubt that the landscape of African economies has changed since the turn of the century, especially marked by improved macroeconomic performance in terms of growth and macroeconomic stability. In that sense, Africa is indeed a changed continent from three decades ago. In this regard, African economies offer a fertile ground for economic analysis in the coming years. In the context of the analysis of the linkages between saving, capital flight and development undertaken in this paper three interesting questions emerge. The first is whether the growth resurgence in Africa is evidence of saving-led growth and whether it is sustainable. Evidence shows that the rise in saving rates during the growth acceleration is concentrated among oil rich countries. These countries have also grown faster than resource-poor countries. However, while oil-rich countries recorded rising saving rates, their investment rates did not rise proportionately. This raises concerns about the sustainability of the growth momentum in the medium term.

The second question then is what does it take to translate rising domestic savings into rising domestic investment. The issue is not solely a matter of efficiency of financial intermediation. It also has to do with the nature and source of the rise in domestic saving. In the case of resource-rich countries, the rise in domestic savings accrues primarily in the public sector through tax revenue and resource rents. The question is why rising public savings do not systematically translate into rising domestic investment. One possibility is that governments have not used these savings to increase public investment. Another is that these savings have little spillover effects on domestic financial intermediation, in the sense that they do not stimulate domestic bank credit and the development of long-term lending instruments. The question of composition of domestic saving has not received much attention in the literature, which has focused on aggregate savings.

Yet, understanding the drivers of private and public domestic saving, and the linkages between the two and domestic investment is essential for designing appropriate policies for stimulating sustainable growth. Research aimed at shedding light on these issues would add much value to the policy debate.

The third question arising from the analysis in this paper is more of a paradox, whereby the period of growth and saving acceleration exhibits explosion of capital flight from the continent. Growth acceleration and improvement of macroeconomic stability implies a reduction in sovereign risk, which should raise the appetite for domestic assets compared to foreign assets. This would reduce capital flight. This theoretical prediction does not seem to apply to African countries. The evidence implies that capital flight from Africa is not, at least not to a significant extent, the result of actions by private asset holders seeking higher returns abroad or protection of their savings against policy-induced risk or political risk. Therefore, standard economic analysis of portfolio decisions needs to be coupled with institutional analysis to uncover deep fundamental factors that drive capital flight from Africa. The evidence has clear implications for strategies aimed at both raising domestic saving and addressing the problem of capital flight. We propose two sets of strategies. One is an incentives-based strategy aimed at increasing the attractiveness of domestic investment relative to foreign assets. This would address the part of capital flight that may be motivated by portfolio diversification. The second is an institutions-based approach aimed at strengthening the regulatory and legal systems to enable adequate investigation, prosecution, and prevention of financial crime. We argue that African countries should focus mostly on the latter. This will help deter illicit acquisition of wealth, embezzlement of public assets, and illegal transfer of private funds into safe havens. Given that capital flight involves shared responsibility between African actors and agents in the international financial

system particularly in safe havens, combatting capital flight from Africa requires a global compact between African governments and their counterparts in advanced economies to improve transparency and accountability in the global financial system.

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