ECONOMIC POLICY IMPLICATIONS OF EXTERNAL DEBT AND CAPITAL FLIGHT IN SUB-SAHARAN AFRICA'S HEAVILY INDEBTED POOR COUNTRIES[*]

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The paper analyses the impact of the simultaneous occurrence of external debt and capital flight on economic policy effectiveness in Heavily Indebted Poor Countries (HIPCs) in sub-Saharan Africa, employing the Panel-Corrected Standard Error regression model for the period 1990 to 2015. The empirical results reveal that both monetary and fiscal policies in the region had been undermined in achieving their intended purposes because of increasing capital flight and external debt. Also, the concurrent occurrence of capital flight and external debt has been a hindrance to progress on the continent, particularly by undermining domestic investment. These results call for more practical measures in addressing the issues of foreign debt and capital flight, given the critical importance of domestic private investment for both short- and long-run growth.

Keywords: Heavily Indebted Poor Countries (HIPC), external debt, capital flight, Panel-Corrected Standard Error (PCSE), fiscal and monetary policies

JEL-Codes: F32, F34, O22

1. INTRODUCTION

Researchers in academia, civil society organizations, and citizens around the world have hailed the graduation of African countries from the international debt relief initiatives launched in the late 1990s as a milestone in ending poverty. Most importantly, this is true for countries that went through the Heavily In-debted Poor Countries (HIPC) Initiative in 1996, the enhanced HIPC initiative in 1999, and the Multilateral Debt Relief Initiative in 2006. Interestingly, the various assessments by the World Bank (WB) and the International Monetary Fund (IMF) have endorsed this level of confidence (Cassimon et al. 2013). For instance, the sustainability analysis from the completion point of the HIPC docu-ment from the IMF and the World Bank (2018) showed that the external debt of these countries would remain sustainable during the projection period of 2004–2023 (Lala et al. 2006).

While several countries have improved their growth rate mainly due to ef-fective fiscal and monetary policies adopted during the HIPC implementation period, the impact on poverty reduction and economic development has been lim-ited. For instance, whereas the annual growth rate of the region improved from 1.8% before debt relief (1980–1989) to about 5% after it (2000–2015), statistics from the World Bank Poverty & Equity Data portal (2018) show that the total number of people living under $3.20 a day has increased from 383.2 million in 1990 to 667 million in 2015. Bayraktar and Fofack (2013) and Lala et al. (2006) described economic growth to be significantly below the projected rates. At the same time, statistics of external debt relating to a number of these HIPC countries are currently showing an increasing trend (Bayraktar – Fofack 2013). This trend has raised concerns about the likelihood of another debt crisis across the region for countries that participated in the HIPC initiative. Although several research-ers have reiterated that the sectors that supported the growth of the economies during the HIPC implementation period had weak linkages with other areas of the economy, the current literature has attributed the problem to growing capital flight and corruption in the subregion. A study by Boyce and Ndikumana (2018) shows that between 1970 and 2015, African countries alone lost a total of US$1.4 trillion (with compound interest reaching US$1.8 trillion), representing about 65% of their combined economic size as measured by their GDP. This amount exceeds the total external debt of $496.9 billion owed by these countries, making them a group of 'net creditors' to the rest of the world.

According to Fofack (2009), the unexpected and massive increase in external debt in HIPC countries was understandable to a certain extent. This can be at-tributed to the recurrence of the balance of payments and the financial crisis in the majority of these countries in the post-HIPC period. However, the continu-

ous increase of capital flight is less apparent, in part because the majority of the countries that were confronted with massive outflows are also heavily capital-deprived. The implication is that the outflow of capital and high external debt repayment can result in a shortage of liquidity that could have been used for building infrastructure and capital investment in the domestic economy, and this may lead to upward pressure on the domestic interest rate. Also, the income that is created abroad by the escaping capital cannot be taxed. As a result, the scope of government fiscal policy in the form of taxation is reduced (Ajayi 2003). In the same way, when domestic capital leaks out of the country, the bank credit channel of monetary policy is destabilised, making monetary policy objectives difficult to realise. In addition, the continuous outflow of capital and massive external debt repayment raises uncertainty and risk. This is especially the case when the political elite perpetuates it, as it reflects a lack of resilience or confidence in the domestic economy (Fofack – Ndikumana 2015).

Interestingly, empirical studies examining the implications of the simultaneous occurrence of external debt and capital flight on the effectiveness of economic policies in the Sub-Saharan Africa (SSA) region are almost non-existent. A notable exception is a paper by Fofack and Ndikumana (2015), who worked on the implications of capital flight on monetary policies in the SSA region. Most of the literature has so far focused on discussing potential factors that may determine the occurrence and size of capital flight and external debt (Ndikumana – Boyce, 2011; Ndikumana et al. 2015), the implications of the capital flight on economic growth, or the impact of excessive borrowing on economic growth (Ajayi 2003; Lawanson 2011). In this paper, we extend the research to this relationship with a particular emphasis on both fiscal and monetary policies. The paper contributes to the literature by proposing a quantitative macroeconomic model that captures the consequences of the revolving door of external debt and capital flight on the efficacy of both fiscal and monetary policies in the HIPC recipient countries in SSA. The structural model allows us to better understand the various channels through which the continuous accumulation of external debt and capital flight may hinder fiscal and monetary policies in the recipient country and hence the country's growth. In addition to the contribution to the literature, this paper provides vital information that assist in formulating efficient and effective policies towards minimizing macroeconomic distortions caused by massive capital outflows and external borrowing.

The remainder of the paper is organised as follows. The second part presents a review of the relevant literature. The third chapter presents the methodological framework and techniques employed in conducting the study, followed by an examination and discussion of the results, as well as other major findings. The final part presents the conclusion and policy implications of the paper.

2. LITERATURE REVIEW

2.1. Overview of external debt and capital flight in SSA

The revolving door of external debt and capital flight in developing countries in Africa, Asia, and Latin America has been at the forefront of the international discourse for the past three decades, both at the theoretical and the empirical level. At the theoretical level, several hypotheses have been formulated for elucidating the relationship between external debt and capital flight. Using the concept of expropriation risk, Khan and Haque (1985) argued that the perceived risk of investment in developing countries, especially in regard to taxes and political instability, tends to force domestic investors to shift their privately-owned capital from the domestic economy into foreign countries where their investments are less risky. So governments in these countries are forced to go abroad to obtain additional external debt to cover the imbalance associated with the capital outflow. The Morgan Guaranty Trust Company (1986) added that the revolving door of external borrowing and capital flight in developing countries were manifestations of their unfavourable domestic economic policies. According to their argument, domestic policies such as overvalued exchange rates, a high tax burden, and a low GDP growth rate, which are the main characteristics of developing countries, are responsible not only for capital flight but also for generating more demand for foreign credit. Cuddington (1987) and Henry (1996) also indicated that external borrowing in developing countries indirectly provides the resources needed for transfers of funds as capital flight.

Boyce (1992) segregated the relationship between external debt and capital flight into four main causal relationships. First is debt-driven capital flight, where domestic investors or residents in the domestic economy move their assets abroad in avoidance of distortionary measures such as heavy taxes, seigniorage, or a cut in productive public investment that is usually associated with massive borrowing. The second is debt-fuelled capital flight, where the inflow of capital in the form of loans provides both the motive and the means for syphoning it off as private assets, especially by corrupt leaders. The third is flight-driven external borrowing, where the domestic government borrows more foreign reserves to fill the resource gap created in the domestic economy as a result of the depletion of foreign exchange associated with capital flight. Finally, flight-fuelled external borrowing is where domestic resources syphoned out in the form of capital flight directly return to the same country as loans to the same residents who exported the capital as loans. This phenomenon is recognised in the literature as round-tripping or back-to-back loans by Boyce (1992).

Empirically, the relationship between external debt and capital flight has been well tested in the literature. In the SSA region, Ndikumana, Boyce and Ndiaye (2015), using Generalized Method of Moments (GMM), fixed effects, and random effects estimators for 39 countries in the region, found that for every dollar of loans acquired over the period 1970–2010, about 63–73 cents are syphoned off as capital flight. Their results were also supported by Ampah, Gábor and Kotosz (2018), whose study confirmed that a dollar increase in debt adds an additional 3.9 cents to capital flight. *Table 1* provides a review of some of the recent studies examining the relationship between external debt and capital flight in the region.

2.2. Implications of external debt and capital flight on economic policies in SSA

In the last two or three decades, more and more African leaders have come to understand the wisdom of diversifying their economies and implementing policies that stimulate investment and encourage private participation in economic activities. Part of the reason is that many leaders believed that stimulating capital accumulation in the durable sector would significantly influence the level of economic development in the subregion. In light of this proposition, the role of economic policy in stimulating capital accumulation has received significant attention in the policy literature. The interest of the recent literature has been devoted to unravelling the transmission mechanism of fiscal and monetary policy as a critical ingredient in the pursuit of developmental agendas and in perpetuating capital outflow within the subregion. However, the empirical literature offers little about the potential effects of external debt and capital flight on the smooth functioning of economic policy, yet the concurrent incidence of external debt and capital flight in the region can actually impede the smooth conduct of economic policy in several ways.

According to Ajayi and Khan (2000), Ajayi (2003), and Lawanson (2011), the incidence of external debt and capital flight can result in capital outflow, which can obstruct fiscal policy from achieving its targets. This is because when capital flees, it reduces potential revenue available for the economy, as wealth held overseas is outside the regulation of the domestic tax authorities and cannot, therefore, be taxed. Thus, government fiscal policy in the form of taxation is reduced. In addition, the shortage of capital in the domestic economy also reduces the government's ability to build capital and invest in critical areas such as agriculture, education, industry, security, health care, infrastructure, and other poverty-reducing and job-creation programs, which inevitably undermines government expansionary fiscal policy in the form of increasing spending. Furthermore, Ajayi

Table 1. Sample review of the incidence of external debt and capital flight in SSA

Author(s)	Nature of examination	Country	Timeframe	Estimation Technique	Major Finding(s)
Ampah et al. (2018)	external debt and capital flight	26 HIPC Countries in SSA	1990–2012	PMG	A dollar borrowed adds 3.9 cents to capital flight in a subsequent year.
Abdullahi et al. (2016)	external debt and capital formation	Nigeria	1980–2013	ARDL	A dollar borrowed adds 44.7 cents to capital flight
Ndikumana et al. (2015)	external debt and capital flight	39 countries in SSA	1970–2010	GMM, fixed effects and random effects	For every dollar borrowed, up to 63–73 cents are syphoned out as capital flight. Also, each dollar adds 6–9 cents of additional capital in the subsequent 5 years
Ndikumana – Boyce (2011)	external debt and capital flight	33 countries in SSA	1970–2004	GMM, fixed effects, and random effects	Up to 67 cents out of each dollar borrowed between 1970 and 2004 leaves the region as capital flight. Also, an increase in the stock of debt by one dollar leads to 2–4 cents of capital flight.
Ndiaye (2011)	external debt and capital formation	Franc Zone (FZ) of SSA	1970–2005	GMM	For every dollar of external borrowing by an FZ country in a given year, 96 cents are channelled overseas as capital flight. In the short run, the figure is about 87 cents of capital flight to one dollar of borrowing.
Fofack (2009)	external debt and capital flight	40 countries in SSA	1970–2004	error correction, Granger causality test	The error correction indicates a revolving door of external debt and capital flight in several countries in the region.
Boyce – Ndikumana (2008)	external debt and capital flight	40 countries in SSA	1970–2004	OLS, fixed effects, and instrumental-variable fixed-effects	Up to 62 cents out of each dollar borrowed abroad between 1970 and 2004 has left SSA in the form of capital flight. Also, a one-dollar increase in the stock of debt resulted in 3–4 cents of capital flight in subsequent years.
Saxena – Rishi – Cerra (2005)	external debt and capital flight	134 developing countries	1970–2001	OLS and 2SLS	A dollar borrowed adds 44.7 cents to capital flight (2SLS estimation method).
Ajilore (2005)	external debt and capital flight	Nigeria	1970–2001	3SLS and two-way Granger causality tests	A 1 % increase in external debt leads to a 0.02% increase in real capital flight. Likewise, a 1% increase in capital flight leads to a 0.26% increase in debt.
Collier et al. (2004)	external debt and capital flight	48 developing countries in Africa, Latin America, Asia, the Caribbean, and the Pacific Islands	1971–1998	Panel estimation	A one-dollar increase in debt adds an estimated 3.2 cents to annual capital flight in subsequent years.
Ndikumana – Boyce (2003)	external debt and capital flight	30 countries in SSA	1970–1996	Fixed-effects regressions with pooled annual data	For every dollar of borrowing, roughly 80 cents flowed back as capital flight in the same year and an estimated 3.5 cents in subsequent years.

Source: compiled by the authors.

(2003) added that the outflow of capital crowds out the government's ability to service debt, which may lead to a greater external debt burden and more capital flight in the foreseeable future.

Fofack and Ndikumana (2015) also argued that the shortage of domestic resources resulting from capital flight or external debt repayment could also impede the smooth functioning of government monetary and exchange rate policy. With respect to monetary policy, these authors indicated that the continuous outflow of honestly acquired capital through capital flight might send the wrong signals to private investors about the resilience or potency of the domestic economy. This is especially the case when the political elite or a multinational corporation perpetuates this mechanism, as it reflects a lack of confidence in the economy. Also, when the government keeps borrowing, potential investors may perceive the build-up in debt to be financed by distortionary measures such as heavy taxes, seigniorage, or a cut in productive public investment. This perception, according to Fofack and Ndikumana (2015), could raise uncertainties among private investors in the domestic economy, which may stimulate them to withhold their investment or possibly invest less or direct their investment abroad. In such a situation, an attempt by the central bank to influence private investment through interest or policy rate adjustment may not be productive.

With respect to the exchange rate, Fofack and Ndikumana (2015) argued that the outflow of capital could cause the depreciation of the domestic currency if the government is operating a floating exchange rate system, since the outflow may result in a reduction of foreign currency in the domestic economy. In addition, the shortage in foreign reserves can intensify exchange rate instability, which may lead to output volatility, particularly in nations where investment may be contingent upon imports of intermediate inputs. As a result, the central bank may have to devote more resources to stabilising the exchange rate in the presence of capital flight and massive external borrowing, since the outflow can worsen the contraction in the reserves of the domestic economy. Ajayi (2003) also argued that if the domestic economy is experiencing a balance of payment difficulty, the persistent capital erosion can exacerbate the balance of payment problem into a crisis that can limit the import of capital goods essential for the growth and development of the country. If the government continues to import under these conditions, it may affect the exchange rate by draining foreign reserves.

Though the implication of the parallel occurrence of external debt and capital flight in the subregion seems to be precarious with respect to economic policies, empirical studies examining the phenomenon have been neglected, with the only exception being Fofack and Ndikumana (2015). Their study, which focuses on capital flight and monetary policy, also ignored the critical role of external debt

and fiscal policy. It is against this background that the current study aims to investigate the simultaneous occurrence of external debt and capital flight on economic policy, with a specific focus on both fiscal and monetary policies.

3. METHODOLOGY

3.1. Empirical model specification

In line with the objective of this paper and following the studies of Fofack and Ndikumana (2015) and Ndikumana (2014), two baseline equations are specified. The first examines the impact of the revolving door of external debt and capital flight on economic policies, and this is achieved by estimating economic policies as a function of external debt, capital flight, and other control variables. This is specified in equation 1 as

$$P_{it} = \alpha_0 + \beta_1 F_{it} + \partial_2 Z_{it} + \varepsilon_{it} \tag{1}$$

where P is the vector of economic policies, F represents capital flight and external debt as well as their interaction, Z is a vector of control variables and ε_{it} is the error term. The parameters β and ∂ are the coefficients of F and Z respectively. This study considered fiscal and monetary policies as a proxy for economic policies and used the discount rate or central bank policy rate as the monetary policy indicator and government expenditure as a percentage of GDP as the fiscal policy indicator. The choice of these proxies is due to their frequent use in the empirical literature. Both Fofack and Ndikumana (2015) and Ndikumana (2014) used the discount rate or central bank policy rate as the measure of monetary policy, while Muchai and Muchai (2016), when examining the relationship between fiscal policy and capital flight, also used government expenditure as a percentage of GDP as a measure of fiscal policy. The control variables here are also drawn from both theoretical and empirical evidence in the literature, and they are basically variables capturing the political and governance environment, the open macroeconomy, and the structure of the economy in general. Specifically, the control variables considered for this study are political stability, private sector credit as a measure of financial deepening, inflation, foreign direct investment, foreign exchange reserves, and trade openness. Therefore, Z can be written as

$$Z = f(POLITY, PSC, INF, FDI, FER, TRADE) \tag{2}$$

where *POLITY* is a dummy variable for political stability, *PSC* is private sector credit used to measure financial deepening, *INF* is inflation, *FDI* represents for-

eign direct investment, *FER* is foreign exchange reserves, and *TRADE* represents trade openness. While several used the *POLITY* variable as a measure of political stability, it is, however, not devoid of challenges. Coding bias and the fact that it captures only the procedural aspects of democracy have been the major criticisms, however, in cross-country regression as it is an often-used proxy as it focuses more on national-level politics. Substituting equation (2) into equation (1) and specifying an extended form, the empirical model of the first equation can be rewritten as

$$P_{it} = \alpha_1 + \beta_1 EXT_{it} + \beta_2 KF_{it} + \beta_3 EXT * KF_{it} + \beta_4 POLITY_{it} + \beta_5 PSC_{it}$$
$$+ \beta_6 INF_{it} + \beta_7 FDI_{it} + \beta_8 FER_{it} + \beta_9 TRADE_{it} + u_i + \varepsilon_{it} \tag{3}$$

where *P* is the vector of economic policies, *EXT* is external debt, and *KF* represents capital flight. All other variables are already defined. *Table 2* describes the variables and their measurement, as well as their data sources.

The second objective considered in this paper also demonstrates how efficient these policies are, and this is done by investigating the impact of the fiscal and monetary policies examined in Equation 3 on their policy objectives. In the literature, the main policy objectives for implementing fiscal or monetary policy are to stimulate private investment or improve GDP growth. This paper subsequently adopts both private investments, measured as gross fixed capital formation, and annual GDP growth and estimates another equation as

$$Y_{it} = \alpha_0 + \beta_1 F_{it} + \partial_1 Z_{it} + \lambda_{it} \tag{4}$$

where *Y* are the fiscal and monetary policy targets (in this case, private investment and annual GDP growth rate), *F* signifies the vector containing fiscal and monetary policies, Z is the vector of control variables and λ_{it} is the error term. Parameters *β* and *∂* are the coefficients of *F* and *Z*, respectively. Equation 4 can be extended as

$$Y_{it} = \alpha_1 + \beta_1 DR_{it} + \beta_2 GS_{it} + \beta_3 EXT_{it} + \beta_4 KF_{it} + \beta_5 EXT * KF_{it} + \beta_6 POLITY_{it}$$
$$+ \beta_7 PSC_{it} + \beta_8 INF_{it} + \beta_9 FDI_{it} + \beta_{10} FER_{it} + \beta_{11} TRADE_{it} + u_i + \varepsilon_{it} \tag{5}$$

where *GS* denotes government expenditure as a percentage of GDP and *DR* represents the discount rate or the central bank policy rate. All other variables are already defined.

3.2. Data specification and sources

This paper uses secondary data drawn from the World Bank online database, the International Financial Statistics (IFS) online database, the database of the Political Economy Research Institute (PERI) at the University of Massachusetts, Amherst, and the Polity IV (2016) database. The paper covers 26 years, from 1990 to 2015. The time frame of the data set is relevant for the study, as it captures the long-term impacts of the 1982 global debt crisis, the impact of the HIPC initiative, and the effect of the 2008 financial crisis on external borrowing and capital flight. In addition, the study focuses on HIPC countries in SSA. There are 30 such countries; however, due to data problems, annual data for 18 countries are used for the empirical analysis. Also, to verify the reliability of the results, this study split the HIPC countries into oil-rich and non-oil-rich countries to check whether this will have any significant effect on the results. The oil-rich HIPC countries considered for the study are Cameroon, the Democratic Republic of Congo, Congo, Cote d'Ivoire, Ghana, Mauritania, and Sudan, while the non-oil rich countries are Burkina Faso, Burundi, Ethiopia, Madagascar, Malawi, Mozambique, Rwanda, Sierra Leone, Tanzania, Uganda, and Zambia.

The variables and their data sources are listed in *Table 2*.

3.3. Estimation technique

Due to the presence of cross-sectional dependence among the variables, this study estimated the two empirical models using panel-corrected standard error regression. According to Pesaran (2006), occurrences such as recessions, economic or financial crises, and oil price shocks potentially affect all countries, even though they might start from one or two countries. These occurrences inevitably introduce some cross-sectional interdependencies across the cross-sectional unit, their regressors, and the error terms. Unfortunately, the traditional panel data estimation methods such as the fixed effects, random effects, mean group estimations, pooled mean group, and GMM estimators erroneously ignore these possible interdependences among the cross-sectional units and their regressors. According to Pesaran (2007), erroneously neglecting the cross-sectional dependence among regressors and across countries when it is present in the data can lead to misleading inferences.

To avoid this trap of biased estimates and ensure the validity of the results, this study adopts the two-stage modified ordinary least squares (OLS) estimator commonly known as the panel-corrected standard error (PCSE) estimator. This estimation technique, according to Hoechle (2007), is more robust in correcting the cross-sectional dependence, serial correlation, and heteroskedasticity in the

Table 2. Variables in the model: Measurements and data sources

Variable	Definition	Data Sources
External debt (EXT)	Total external debt is measured as the total stock of external debt as a percentage of GDP	WDI database
Capital flight (CF)	Capital flight is expressed as real capital flight as a percentage of GDP	Database of the Political Economy Research Institute
Government expenditure (GS)	Government expenditure used as a proxy for fiscal policy, measured as government final consumption expenditure as a percentage of GDP	WDI database
Discount rate (DR)	The discount rate or central bank policy rate or repo rate	International Financial Statistics (IFS)
Private-sector credit (PSC)	Private-sector credit is used as a proxy for financial deepening, measured as bank credit to the private sector as a ratio of GDP	WDI database
Inflation (INF)	The inflation rate is measured as the growth rate of the CPI index	WDI database
Political stability (POLITY)	Political stability is measured as the competitiveness and openness of the country's elections, the nature of political involvement in general, and the degree of checks on administrative authority. The estimate gives the country's score on the aggregate indicator, in units of the standard normal distribution, ranging from -10 to +10	Polity 2 data series from the Polity IV database
Foreign exchange reserves (FER)	FER refers to the total reserves excluding gold, and it is measured as a percentage of total debt or GDP	WDI database
Foreign direct investment (FDI)	FDI is measured as the net inflows of investment as a percentage of GDP	WDI database
Trade openness (TO)	TO is measured as the sum of exports and imports of goods and services as a share of GDP	WDI database
Gross domestic product (GDP)	Measured as the annual GDP growth rate	WDI database
Gross fixed capital formation (GFCF)	GFCF used is as a proxy for private investment, measured as the former gross domestic fixed investment as a percentage of GDP	WDI database

Source: compiled by the authors

data sets when the number of the cross-sectional units is smaller than the time series. In the estimation, the PCSE estimator implicitly assumes that the error terms are autocorrelated within the panel and heteroskedastic across the panel

with the autocorrelation parameter assumed to be fixed across panels or varied for each panel. The first stage involves testing the time-series properties of the data with respect to cross-sectional dependence among the cross-sectional units. This is done using the Pesaran (2004) CD test. This test statistic is based on the pairwise correlations of the estimated variable series or residuals, and the statistic is approximately normally distributed. Once cross-sectional dependence was detected, the cross-sectional augmented test by Pesaran (2007) was used to address the stationarity properties of the data. The choice of the CIPS test is based on the fact that the first generational panel unit test like the Levin et al. (LLC) (1992), the Pesaranet al. (IPS) (1997), Im et al. (2003) and Maddala and Wu (1999) and the Fisher-Type Chi-square panel unit root tests erroneously overlooked the issue of cross-sectional dependence. The second stage focuses on the estimation of the models specified under the model specification using the PCSE.

4. EMPIRICAL RESULTS AND DISCUSSION

4.1. Cross-section dependence and unit-roots test

The estimated results from the cross-section dependence using the Pesaran (2004) CD test and the second-generation panel unit root test (CIPS) are presented in *Table 3*. The CIPS test is performed for the data series with intercepts. The test results indicate that all the variables in the study rejected the null hypothesis of no cross-sectional dependence at the 1% level of significance. With respect to the unit root test results using CIPS with intercepts, the estimates confirm that all the variables are stationary at levels I (0), implying the absence of unit roots in the data set. We thus applied the PCSE estimation, which allows the model coefficients to be robust in the presence of cross-sectional dependence, heteroskedasticity, and serial correlation. The choice of the PCSE is also based on the small nature of the cross-sectional unit and cross-sectional dependence in the sample study.

4.2. Heterogeneous baseline estimates

The estimated results are presented and discussed in this section. The first set contains the results of the test related to the impact of the revolving door of external debt and capital flight on fiscal and monetary policy as formulated in Equation 3. These results are presented in *Tables 4* and *5*. *Table 4* presents the results for fiscal policy, and *Table 5* contains the results for monetary policy. The second set contains the regression result for the test of the efficiency of the fiscal and monetary policies presented in *Tables 6* and *7*.

Table 3. Cross-sectional dependence and unit root result

Variables/Test	Pesaran CD test		CIPS (intercepts only)	
	Statistic	Prob.	Statistic	C-value (5%)
EXT	46.028	0.0000	−2.601	0.000
KF	3.3918	0.0007	−4.701	0.000
EXT*KF	6.8839	0.0000	−4.403	0.000
GS	7.9805	0.0000	−2.184	0.029
DR	22.219	0.0000	−2.246	0.020
PSC	18.5089	0.0000	−2.302	0.008
INF	25.065	0.0000	−8.710	0.000
POLITY	39.537	0.0000	−2.907	0.000
FER	47.853	0.0000	−2.213	0.013
FDI	19.768	0.0000	−5.665	0.000
TRADE	22.826	0.0000	−2.221	0.020
GDP	18.302	0.0000	−4.190	0.000
GFCF	21.637	0.0000	−2.072	0.080

Source: authors, using Stata 15.

Table 4. Estimated results of the impact of the revolving door hypothesis on fiscal policy

Variables	HIPC countries		Oil-rich HIPC countries		Non-oil Rich HIPC countries	
	Coefficient	Std. Err	Coefficient	Std. Err	Coefficient	Std. Err
EXT	−0.0103*	0.0060	−0.0160**	0.0076	−0.0632***	0.0142
KF	−0.0282**	0.0128	−0.0626**	0.0253	−0.0408*	0.0241
EXT*KF	0.0005***	0.0001	0.0004***	0.0002	0.0006***	0.0002
POLITY	0.1931***	0.0835	−0.1290	0.0798	−0.0263***	0.0292
PSC	0.4676***	0.0469	0.2517***	0.0497	−0.0944***	0.0199
INF	−0.078***	0.0183	−0.048***	0.0095	0.0754	0.0876
FDI	0.0610	0.0430	0.1762	0.0735	0.3585	0.0890
FER	−0.017***	0.0059	−0.0083	0.0070	−0.1512***	0.0297
TRADE	−0.037***	0.0064	0.0322***	0.0124	0.5920***	0.1007
CONS	14.059***	0.9742	6.3295***	0.8910	24.604***	1.8554

Source: authors, using Stata 15.

The results in *Table 4* systematically support the view that both external debt and capital flight exact important influences on fiscal policy in SSA countries. Taking the total data sample into consideration (HIPC countries), the coefficient of external debt and capital flight are both negative and statistically significant. These negative and highly significant effects of external debt and capital flight are also consistent with the oil-rich countries and non-oil-rich countries in the data sample.

The coefficient for external debt indicates that a percentage increase in external borrowing reduces government expenditure by approximately 6.32 percentage points for non-oil-rich HIPC countries in the region. This figure is slightly above the oil-rich HIPC countries figure of 1.60 percentage points and 1.03 percentage points for total HIPC countries in the data sets. This figure is generally expected, as most private investors in these countries perceive the build-up in debt to be financed by distortionary measures such as heavy taxes. Therefore, to avoid the impact of paying high taxes and the adverse economic distortion of such distortionary measures, most investors are motivated to withhold their investment in the future or possibly invest less or directly invest their resources abroad, which inevitably reduces government tax revenue and hence expenditure. In addition, increases in external debts also increase the exposure to risk and uncertainty in the domestic economy, reducing private confidence in the economy, and hence investment.

Also, the statistically significant negative effect of capital flight on fiscal policy means that capital flight remains one of the main factors that have significantly contributed to the low level of government expenditure in the SSA. Specifically, the results reveal that a percentage increase in illicit capital outflow leads to reductions in government expenditure of about 2.82, 6.26, and 4.08 percent in HIPC countries, oil-rich HIPC countries, and non-oil-rich HIPC countries in SSA, respectively. This is consistent with the empirical results from Muchai and Muchai (2016) for Kenya and Ajayi (1997) for SSA, even though these results were based on the impacts of fiscal policy on capital flight. In addition to the decrease in government expenditure from external debt and capital flight, the coefficient of the interaction term between external debt and capital flight is positive and statistically significant for all estimations. This positive coefficient of the interaction term reinforces the negative impact of both external debt and capital flight on these policies when the derivative is taken.

Regarding the other control variables in the models, private-sector credit measuring financial deepening and trade openness are both positive and statistically significant across the full data set. Foreign exchange reserve is negative as expected and statistically significant in models with all HIPC countries and non-oil-rich HIPC countries. However, it is not significant in the oil-rich HIPC countries. Also, inflation is negative, as expected, and statistically significant in the HIPC and oil-rich HIPC countries; however, it is not statistically significant in the non-oil-rich HIPC countries. Foreign direct investment is positive, as expected, in all the data sets but is not significant in every model.

Table 5 also reports the impact of the revolving door of external debt and capital flight on monetary policies using the discount rate as the instrument. The empirical results support the view that increasing capital flight and external debts have negative impacts on monetary policies. This is clearly indicated in the coef-

Table 5. Estimated results of external debt and capital flight on monetary policy

Variables	HIPC countries		Oil-rich HIPC countries		Non-oil Rich HIPC countries	
	Coefficient	**Std. Err**	**Coefficient**	**Std. Err**	**Coefficient**	**Std. Err**
EXT	0.0604**	0.0118	0.0187	0.0232	0.0634***	0.0157
KF	−0.0277***	0.0152	−0.0829*	0.0466	−0.0767*	0.0327
EXT*KF	−0.0002***	0.0001	−0.0008***	0.0003	−0.0022*	0.0003
POLITY	0.2966***	0.0849	0.5190**	0.2256	−0.3053***	0.1033
PSC	−0.165***	0.0743	−0.0590	0.1458	−0.4806**	0.0882
INF	0.2790***	0.0191	0.3343***	0.1103	0.1712***	0.0303
FDI	−0.0993	0.0645	−0.1870	0.1217	−0.1643	0.1151
FER	−0.0124	0.0172	−0.0400	0.0253	0.0103	0.0181
TRADE	−0.067***	0.0213	−0.0714*	0.0425	0.201***	0.0395
CONS	14.7287**	2.0181	17.563***	4.9502	4.893***	2.0891

Source: authors, using Stata 15.

ficients on the interaction term between external debt and capital flight, as they all are negative and statistically significant across all the estimates. Whereas the impact of external debt seems to be positive in all the regressions, though it is not significant in the oil-rich HIPC countries, the sign on the coefficients of the capital flight is negative, and the effect is statistically significant across all the data sets. This result confirms the hypothesis that the simultaneous occurrence of external debt and capital flight can thwart the smooth functioning of monetary policies, especially among HIPC countries in the SSA subregion. In addition, the robustness of the control variables differs depending on the data sets estimated. Overall, financial development, foreign direct investment, foreign exchange reserves, and trade openness are all negative, as expected, but foreign direct investment and foreign exchange reserves are not statistically significant. Political stability is negative in the non-oil-rich HIPC countries and statistically significant.

To examine the effectiveness of the fiscal and monetary policies, investment measured as gross fixed capital formation as a percentage of GDP and annual GDP growth were considered as the main targets for fiscal and monetary policies, as indicated in the methodology section. *Tables 6* and *7* report the findings. *Table 6* presents the results for private investment, while *Table 7* presents the results for the annual GDP growth. The results in *Table 6* indicate that government expenditure as a percentage of GDP is negatively related to private domestic investment in all the data sets, as expected. Also, the coefficients of the discount rate are negative for the data sets containing all HIPC and non-oil HIPC countries, even though it is statistically insignificant. The negative effect from both government expenditure and the discount rate means that until the issues of the revolving door hypothesis are addressed, any efforts aimed at stimulating invest-

Table 6. Estimated results of the impact of fiscal and monetary policies on investment

Variables	HIPC countries		Oil-rich HIPC countries		Non-oil Rich HIPC countries	
	Coefficient	Std. Err	Coefficient	Std. Err	Coefficient	Std. Err
DR	–0.0143	0.0349	0.0343	0.0445	–0.0499	0.0317
GS	–0.0702***	0.0230	0.4660***	0.1276	–0.1489***	0.0240
EXT	–0.0461***	0.0088	–0.0257**	0.0129	–0.0736***	0.0089
KF	–0.1281***	0.0224	–0.2769***	0.0520	–0.0744***	0.0252
EXT*KF	0.0010***	0.0003	0.0021***	0.0004	0.0003	0.0002
POLITY	–0.1977***	0.0522	–0.3588**	0.1201	–0.0938	0.1011
PSC	0.3775***	0.0721	0.1833**	0.0736	0.4942***	0.0623
INF	–0.0018	0.0187	0.0716	0.0451	–0.0036	0.0164
FDI	0.4148***	0.0851	0.6016***	0.0925	0.1489**	0.0973
FER	–0.0078	0.0111	0.0310	0.0188	–0.0260	0.0095
TRADE	0.0932***	0.0153	0.0728***	0.0238	0.1164***	0.0297
CONS	14.114***	1.1003	4.9628***	1.9112	16.145***	1.5869

Source: authors, using Stata 15

ment through fiscal and monetary policies can be undermined and hence may not result in increased investment as expected.

The coefficient on the external debt is also negative and statistically significant in all the data sets, suggesting the possibility of a debt overhang effect and a crowding-out effect in these countries. These two hypotheses indicate that external borrowing has a negative impact on investment, and hence on growth. Debt overhang indicates that as external debt accrues, potential investors perceive the build-up in debt to be accompanied by distortionary measures and hence are motivated to withhold their investment to avoid measures in the future. The crowding-out effect theory also argues that high debt servicing associated with borrowing eats up resources available for public investment, which eventually forces the government to compete with the private sector for the few resources in the domestic economy. This move by government cripples the private sector and forces it out. Overall, the negative impact of external debt demonstrates the need to pursue efforts to alleviate the debt burden on these economies, in order to prevent the appearance of a new cycle of external indebtedness. Capital flight also had a strong negative effect on domestic private investment in all the data sets. This suggests that the illicit outflows of capital drain valuable resources away from domestic investment, as predicted by theory. As a result, government fiscal and monetary policy needs to be accompanied by strategies to keep African capital onshore in order to achieve the expected rate of capital accumulation.

In relation to the other variables in the model, private-sector credit used as a proxy for financial deepening is positive and statistically significant in the data

sets. Also, the coefficient for trade openness is positively related to private domestic investment and statistically significant in both models. This result is in conformance with the notion that production in modern African economies is heavily dependent on imported inputs and equipment. Thus, an increase in imports has a direct relationship with domestic investment. On the other hand, an increase in exports reflects rising demand for African products, which stimulates domestic investment, as indicated by Fofack and Ndikumana (2015).

The results for investment, as reported in *Table 7,* are also quite insightful. Government expenditure as a percentage of GDP is negatively related to annual GDP growth, as expected. This coefficient is negative across all the data sets and statistically significant. Concerning monetary policies, the discount rate is rather positive, contrary to expectations; however, it is statistically not significant, as in the case for private investment. In the HIPC, oil-rich HIPC, and non-oil-rich HIPC results, the coefficient on the interaction term of external debt and capital flight is negative and statistically significant. This negative effect is in conformance with the notion that both external debt and capital flight drain valuable resources away that could have been used for building investment and other poverty reduction programs within the domestic economy, as theoretically predicted. As a result, government fiscal and monetary policy needs to be accompanied by strategies to keep African capital onshore and reduce debt accumulation in order to achieve the desired rate of capital accumulation. In this area, Boyce and Ndikumana (2014) suggested that governments in the region should focus on deterring the illegal export of honestly acquired capital, especially in trade-related

Table 7. Estimated results of the impact of fiscal and monetary policies on GDP growth

Variables	HIPC countries		Oil-rich HIPC countries		Non-oil Rich HIPC countries	
	Coefficient	Std. Err	Coefficient	Std. Err	Coefficient	Std. Err
DR	0.0286	0.0106	0.0071	0.0203	0.0728	0.0334
GS	−0.0377**	0.0185	−0.0792***	0.1051	−0.0542**	0.0250
EXT	−0.0219***	0.0067	−0.0110**	0.0095	−0.0332***	0.0099
KF	0.0335	0.0264	0.0171	0.0344	0.0524*	0.0306
EXT*KF	−0.0004**	0.0002	−0.0002***	0.0002	−0.0007**	0.0003
POLITY	0.0983**	0.0486	0.1987	0.0631	0.0984	0.0987
PSC	−0.0077	0.0435	−0.0074	0.0531	0.0428	0.0754
INF	−0.0122	0.0125	−0.0362*	0.0175	0.0015	0.0163
FDI	0.0913*	0.0530	0.0938*	0.0800	0.1184	0.1100
FER	0.0010	0.0067	−0.0009	0.0097	−0.0039	0.0173
TRADE	0.0099	0.0091	0.0116	0.0140	−0.0485	0.0332
CONS	4.3501***	0.7449	2.2905***	1.1436	6.3098***	1.9572

Source: authors, using Stata 15.

capital flight and tax evasion, through efforts to recover and repatriate stolen assets, tackle the revolving door of external debt and capital flight, and enforce transparency in the banking sector and tax compliance in safe havens.

Regarding the other variables, the coefficient for inflation is negatively related to growth, as expected, and statistically significant in the HIPC and oil-rich HIPC countries. Again, foreign direct investment is positively related to growth, as expected, and is significant in both the HIPC and oil-rich HIPC countries, confirming the results obtained by Abu and Karim (2016).

5. CONCLUSION

This study examined the incidence of the revolving door of external debt and capital flight on fiscal and monetary policy effectiveness in heavily indebted poor countries in Sub-Saharan Africa, employing a panel-corrected standard error regression model for the period 1990 to 2015. The empirical results revealed a negative relationship between capital flight and external debt and government expenditure as a percentage of GDP. These results indicate that a continuous upsurge in capital flight and external debt accumulation would reduce a government's ability to generate more tax revenue, since capital escaping the country cannot be taxed, hence reducing the government's ability to spend more. In addition, the loss of resources from the domestic economy as a result of a high debt service ratio may result in a shortage of liquidity available for domestic investment, adversely distressing the continent's current and future growth prospects through government expenditure. On the impact of the revolving door hypothesis on monetary policies, the empirical results from the panel-corrected standard error regression model support the view that increasing capital flight and external debt have negative impacts on monetary policies. This is clearly indicated in the coefficients on external debt and capital flight, as they all are negative and statistically significant in all the data sets, clearly suggesting that the monetary transmission mechanism in the region has been undermined in achieving its intended purposes as a result of greater levels of capital flight and external debt.

Regarding the effectiveness of fiscal and monetary policies on short-term growth and private investment, the study revealed that the revolving door phenomenon between external debt and capital flight in the region has undermined both fiscal and monetary policies; it has also been a drag on the progress of heavily indebted poor countries in Africa, particularly by undermining their domestic investment. This is a matter of concern, especially given the critical importance of domestic private investment for growth and development in the subregion.

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