Economic and Political Risk Aversions to Illicit Financial Flows: A Rethink of the Portfolio Choice Factors

George Ayuune Akeliwira[*]

Abstract

The study examines the long-term causal relationship between public debt, governance quality, and illicit financial flows in sub-Saharan Africa. Annual time series data were gathered from the World Bank Governance Indicators, International Monetary Fund Economic Outlook, and Global Financial Integrity from 2005 to 2014. The approach adopted in the study is in the tradition of the portfolio choice framework of tax evasion, rooted in the investment theory of capital flight. The study finds that there is a negative and statistically significant long-run relationship between governance quality and illicit financial flows. The results also show a negative and statistically insignificant relationship between public debt and illicit financial flows. The findings suggest that weak institutional oversight, poor regulatory quality, corruption, and political crises are important determinants of illicit financial outflows in the region. It concludes that governments need to improve the transparency of financial transactions, including the beneficial ownership of corporate structures and tax information. The results also indicate the need to strengthen institutions such as customs, anti-corruption, and other law enforcement agencies to detect intentional trade misinvoicing as tax evaders exploit loopholes in tax administration peculiar to developing countries. The study is timely as resources are critically needed to rebuild economies in view of the global COVID-19 outbreak and its deleterious effects on low-income countries. The study is also relevant for policymakers as it presents pointers to the factors that proliferate illicit capital outflows from the region.

Keywords: *Illicit Financial Flows, Public Debt, Governance, Sub-Saharan Africa, Misinvoicing*

Introduction

Illicit Financial Flows (IFFs) defy a single universally accepted definition. The World Bank (2017) defines IFFs as a cross-border movement of capital associated with illegal activity or money that is illegally earned, transferred, or used that crosses borders. On the other hand, Global Financial Integrity defines IFFs as funds crossing borders that are illegally earned, transferred, and or utilized. The issue of IFFs as a development impediment in the global south, particularly in African economies, began to emerge in the 1980s following the structural adjustment policies implemented by most African countries. In other words, the sudden or prolonged outflow of domestic capital in these countries was likely to affect a country's

---

[*] University of Erfurt, Germany. Email:george.akeliwira.01@uni-erfurt.de

macroeconomic performance, leading to these surges being labeled "capital flight" rather than "normal" flows (Cumby & Levich, 1987; Ajayi & Khan, 2000). By the mid-2000s, studies from leading civil society organizations popularized the use of the term 'illicit financial flows' by shedding light on the potentially significant magnitude of such hidden flows due to either the illicit origin of the capital or the illicit nature of the transactions (UNCTAD, 2020).

Consequently, the concept, originally associated with capital flight, has since gained attention within the international development community, particularly in the last decade, due to its inauspicious effects on growth and economic development in developing economies. Admittedly, much of the movement of money across the globe is considered legitimate and part of the ordinary workings of the international financial system; some of this cross-border movement of money is either illegal or harmful because of how they were generated, transferred, or used. Thus, these international transfers have come to be known as "illicit financial flows", a term that has come to combine occasionally disparate activities, including illegal capital flight, international money laundering, and tax evasion. Thus, a new conceptual framework for describing these "illicit" financial flows has emerged in recent years, combining issues ranging from cross-border money laundering to tax evasion.

Many factors explain why IFFs have recently become very topical in discussions within the international development community. One of the explanations advanced in this context is that the recent decline in capital inflows from the donor community is a signal that developing countries must begin to absorb the burden of their own development needs. Thus, IFFs are seen as a major constraint on economic growth since the estimated US$88.6 billion annual losses could have been invested in productive sectors, including poverty alleviation programs, social infrastructure, and others. Further, a reversal of these illicit outflows could significantly contribute to the solution of the debt crisis in most developing countries and leverage their debt portfolios for renewed access to the international capital markets.

Thus, the global community has recognized the development-inhibiting role of IFFs, hence their inclusion in the 2015 U.N. Sustainable Development Goals (SDGs). Indeed, target 16.4 of the SDGs aims to "significantly reduce illicit financial flows and arms flows, strengthen the recovery and return of stolen assets and combat all forms of organized crime by 2030".

Back on the definitional ambiguities, IFFs as a multifaceted concept encompasses multiple definitions that often refer to elements involving the movement of money and assets across borders that are illegal in their source, transfer, or use. Accordingly, their sources are generally classified into three categories: criminal activities, commercial activities, and corruption. In giving a componential breakdown of the relative contributions among the three different strands of IFFs, Kar, and Cartwright-Smith (2009) averred that corruption accounts for about five percent of global illicit financial outflows while proceeds from criminal economies and commercial tax evasion represent 30 and 65 percent respectively. Similarly, a study by the United Nations Economic Commission for Africa (UNECA, 2015) reveals that more than 60% of IFFs in Africa originate from commercial activities.[6]. Indeed, in its 2020 Economic Development in Africa report, the United Nations Conference on Trade and Development asserted that the trade misinvoicing category surpasses more than half of capital flight from Africa (UNCTAD, 2020).

This paper focuses on the strand of the literature focused on commercial tax evasion and the manipulation of trade prices. This is because the mechanisms through which IFFs occur in Africa mainly involve abusive transfer pricing, trade mispricing, misinvoicing of services and intangibles, and unequal contracts with the sole purpose of tax evasion, aggressive tax avoidance, and illegal export of foreign exchange (UNECA, 2015).

Furthermore, estimates by Global Financial Integrity indicate that sub-Saharan Africa is one of the leading global emitters of IFFs and the worst affected region when IFFs are scaled in terms of the impacts on gross domestic product. Consequently, the paper argues that curbing IFFs in Africa will mean the availability of resources to tackle pressing development challenges, including financing poverty alleviation/social support programs and investment in productive sectors of African economies. Also, addressing the menace of IFFs will help address land

---

[6] The ECA/AU High-Level Panel report on IFFs from Africa in 2015 reveals that the bulk of IFFs (60%) are from trade misinvoicing by large commercial companies, with criminal activities such as drug trafficking accounting for about 30%, and corruption less than 10%.

degradation problems and sustainable management of natural resources and ultimately wean the continent off donor reliance on development financing (self-sufficiency).

Objectives and Questions

The study's main objective is to investigate the channels that facilitate illicit financial outflows in sub–Saharan Africa. Specifically, it seeks to determine the association between governance quality, gross public debt, and IFFs using the Portfolio Choice framework within a specific geographical context and proffer policy solutions based on the study's findings. Consequently, the paper aims to answer the following main questions: (a) Is the IFFs problem in sub-Saharan Africa a governance issue? (b) What is the effect of public debt on illicit financial flows?

Relevance of the study

Estimates show that about $88.6 billion, equivalent to 3.7% of Africa's GDP, leaves the continent annually as illicit financial flows. Stopping these illicit capital flights could almost cut in half the annual financing gap of $200 billion that Africa faces to achieve the Sustainable Development Goals (UNCTAD, 2020). Consequently, the Africa Union has strenuously tried to reverse the current scourge in the last decade. In 2011, for example, the African Union Commission/United Nations Economic Commission for Africa (AUC/ECA) Conference of African Ministers of Finance mandated ECA to establish a High-Level Panel on Illicit Financial Flows from Africa. Underlying this decision was the determination to ensure Africa's accelerated and sustained development, relying as much as possible on its own resources (UNECA, 2015). Chaired by Thabo Mbeki (The Mbeki Report), the Panel's Terms of Reference encompassed six critical issues. Central among them was determining the nature and patterns of illicit financial flows from Africa (Tax Justice Network, 2015). Accordingly, this study contributes to the debate by analyzing the current governance loopholes and economic factors stimulating illicit capital outflows in the region.

Literature Review

The divergence within the research community is wider than how the term is conceptualized. In other words, the concept similarly defies a single universally accepted standard procedure with respect to its measurement. Thus, the scale of IFFs originating from developing countries cannot

be measured precisely due to the various dimensions the concept encompasses. Accordingly, in analyzing the economic impacts of IFFs, a distinction is drawn between the two broad types of IFFs. First, those emanate from illegal sources such as corruption and embezzlement of public funds. Second, those emanate from legal sources such as trade misinvoicing, which is the focus of this study. Trade misinvoicing entails the fraudulent means whereby importers or exporters manipulate the values in terms of quantity or quality of trading goods in their customs declarations to evade tariffs or tax, avoid trade regulations, or take advantage of trade incentives (World Customs Organization, 2018).

The rationale for trade misinvoicing can be summarized into two main categories. The first emphasizes the role of high customs duties as a fundamental reason for misinvoicing of import and export values. Thus, when firms pay high customs duties or value-added tax rates on imports or are subject to quantitative restrictions, they are incentivized to undervalue/understate the actual value of imports (De Boyrie *et al.*, 2007; Boyce & Ndikumana, 2001). Second, misinvoicing is seen as a method for achieving capital flight, which is motivated by fears of expropriation in the interplay between unsound economic policy and political instability (Patnaik *et al.*, 2012). However, irrespective of the motive for misinvoicing, World Customs Organization has provided four key mechanisms through which misinvoicing occurs and is detected.

First, trade misinvoicing is done by people aiming to evade tariffs through under-invoiced imports. Thus, unit price analysis can detect an importer submitting a forged invoice in the customs declaration. This is done by comparing an importer's customs record with the traded goods' actual value. Alternatively, it can also be detected by mirror data analysis. In this case, the customs record of the importer and that of the exporter are compared in order to identify gaps and mismatches in trade data.

Secondly, under-invoicing often occurs through collusion by the importer and exporter; thus, both importer and exporter, in collusion, submit the same forged invoices to customs. This is detected through unit price analysis and cross-referencing between customs and financial data. Thirdly, misinvoicing occurs in the form of an over-invoiced import used to transfer domestic capital abroad (IFFs). In this case, a financial intermediary, in collusion with the importer, receives the over-valued payment from the importer and transfers only the original amount to the exporter. This type of trade misinvoicing is detected by unit price and mirror data analysis.

Finally, an importer transfers money to the exporter in collusion through over-invoicing of low-value goods. This is detected through customs-tax cooperation, such as the exchange of information with regard to the beneficial ownership of traders. These are some of the mechanisms commonly employed by businesses to evade tariffs or taxes, avoid trade regulations or take advantage of trade incentives. This sophisticated commercial malpractice often adopted by multinational enterprises is more pronounced in developing countries due to weak institutions and human resource capacity gaps to detect these illicit trade activities. The practice impairs growth and long-term economic development prospects for developing countries, especially those endowed with natural resources. Some of the economic effects of trade-based IFFs are examined as follows.

Economic Ramifications

Several studies have identified the factors responsible for illicit financial flows from Africa and other developing countries. Key factors among these include lack of transparency and supervision, poor regulation and weak enforcement of onshore and offshore financial regulations, underdeveloped financial markets, and corruption. Africa forfeits enormous volumes of financial resources each year through illicit outflows that have severe implications for the continent's medium and long-term development prospects. As the Economic Commission for Africa observed, this disturbing phenomenon has damaging effects on African countries, including draining resources and tax revenues, stifling growth and socio-economic development, and weakening governance. Further, IFFs also deepen the unequal distribution of economic and political power since beneficiaries of the scheme become wealthier and more robust to the detriment of the masses.

IFFs further contribute to exacerbating poverty and inequality. Thus, apart from Africa's 33% wealth being held abroad according to estimates by Africa Tax Administration, a study on income inequality trends in sub-Saharan Africa identified IFFs as a specific feature of resource-dependent growth, which presents inequality risks (UNDP, 2017). For instance, the estimated US$88.6 billion, equivalent to 3.7% of the continent's GDP that leaves Africa yearly, could have been invested in productive sectors of the economies that could generate employment and help bridge the widening inequality gaps. Similarly, a Global Financial Integrity report reveals that

between 1980 and 2018, sub-Saharan Africa received a cumulative amount of nearly $2 trillion as a foreign direct investment (FDI) and official development assistance (ODA) but emitted over $1 trillion in IFFs.

Finally, it is worth of note that IFFs do not only impact the economic development of the populations concerned. The IFF's menace further weakens social and institutional development through its impact on the quality of political institutions, tax systems, and social cohesion (Torvik, 2009). Thus, the rapidly increasing opportunities for secretly transferring assets abroad go hand in hand with development trajectories that, in essence, are worsening existing political ills (Moore, 2012). It may therefore be argued that IFFs are closely tied up with weak political institutions. Thus, on the one hand, they are a consequence of weak institutions. On the other hand, they also contribute to weakening them even further (Cerra et al., 2008). The ripple effect is that IFFs are partly responsible for the fact that the commodity wealth of many least developed countries has not translated into developmental progress but into a veritable 'resource curse'.

Portfolio Choice Framework

Arguably, the IFFs field is still nascent and evolving. As such, established theoretical literature on IFFs is rare (UNCTAD, 2020). Even so, scientific studies on the theoretical approaches to IFFs can be derived from two main perspectives. First, most common in the specialized academic literature are papers that subsume IFFs into the concept of capital flight and primarily explore the causes of that phenomenon. On the other hand, without an established theoretical model for IFFs, economists rely on a combination of economic ideology with rigorous analytical methods (Herkenrath, 2014).
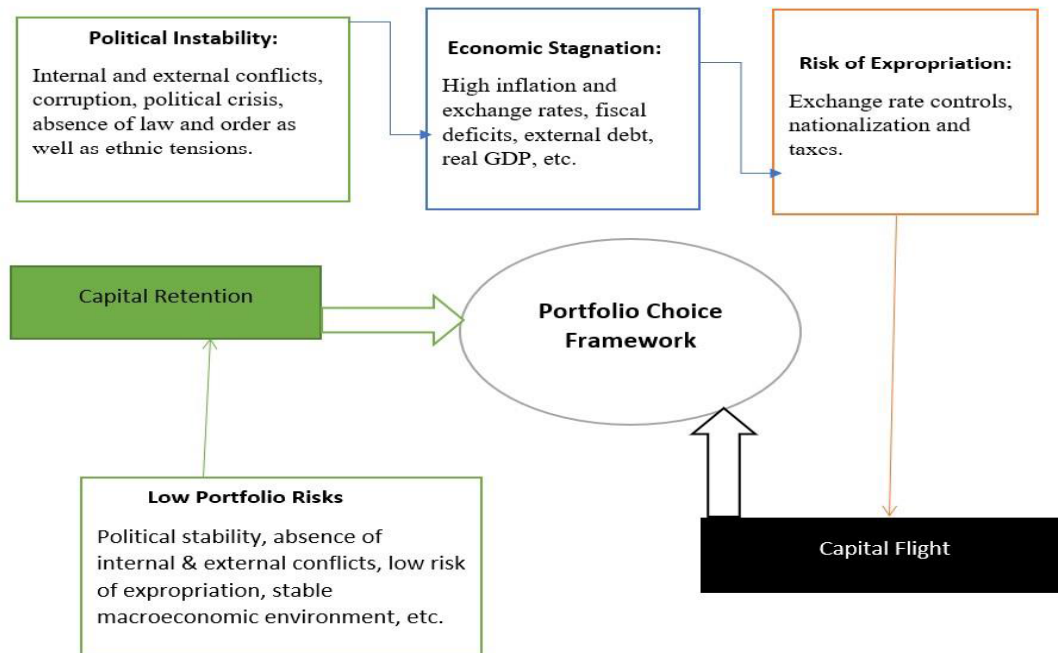
Consequently, the conceptual framework for this paper draws on the empirical studies that subsume IFFs into the concept of capital flight based on the Portfolio Choice (P.C.) model.[7] The P.C. model provides explanations on the determinants of these flows, including the fact that the massive capital outflows from developing countries, by and large, the result of an aversion to risks such as expropriation and currency losses and a reaction to comparatively low (risk-weighted) profit expectations (Collier et al., 2001). In this regard, among the theoretical

---

The Portfolio Choice theory postulates that capital flight occurs in developing countries mainly due to agents' desire to optimize yields on capital for a given level of political and or economic risk.

assumptions underpinning the P.C. model is that private capital flight coincides with private foreign borrowing. This often leads to a situation where domestic and foreign investors face an asymmetric risk of expropriation, such that they invest abroad, and domestic investment is consequently financed with foreign funds.

Thus, the model focuses on the notion that domestic and foreign investors face the asymmetric risk of economic factors, including implicit taxes, rapid inflation, or exchange rate depreciation. A fiscal shock, for instance, may lead to increased government reliance on inflation tax, which erodes the value of domestic financial assets and leads residents to acquire foreign assets (Khan & Haque, 1985; Dooley, 1988). Therefore, the standard approach to tax evasion is largely based on the economics of decision-making under risk, which becomes an individual's portfolio selection issue (Collier *et al.*, 2001). Figure 1 summarizes the political and economic risk factors to capital flight under the P.C. framework.

Fig. 1: **Illustration of the Portfolio Choice Factors on Capital Flight**

Political Instability:
Internal and external conflicts, corruption, political crisis, absence of law and order as well as ethnic tensions.

Economic Stagnation:
High inflation and exchange rates, fiscal deficits, external debt, real GDP, etc.

Risk of Expropriation:
Exchange rate controls, nationalization and taxes.

Capital Retention

Portfolio Choice Framework

Low Portfolio Risks
Political stability, absence of internal & external conflicts, low risk of expropriation, stable macroeconomic environment, etc.
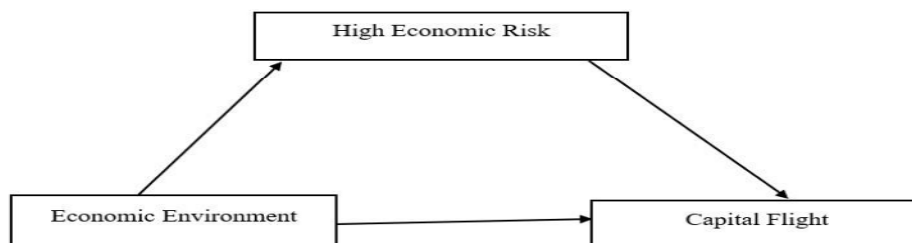
Capital Flight

Source: Author's Construct

In their seminal paper on the economics of criminal activity and tax evasion, Allingham and Sandmo (1972) observed that taxpayers are assumed to pay the penalty on their 'concealed income' if the act of evasion is caught. Based on this assumption, the resultant effect is that a change in tax rate will have an ambitious impact on evasion, for there exist two opposing effects, an income effect, and a substitution effect. However, most tax evasion models now assume that the penalty is levied on the 'evaded tax' and the modification yields no substitution effect and therefore leads to an unambiguous result that an increase in tax rates reduces tax evasion (Yitzhaki, 1974).

The study investigates the economic and governance conditions facilitating illicit financial outflows through aggressive tax evasion and trade mispricing. Irrespective of their cost components within the IFFs spectrum, they are transactions motivated partly by the unfavorable economic environment in the country of origin or aggressive tax avoidance behavior by multinational companies and individuals due to weak governance institutions prevalent in most developing countries. Collier *et al*. (2001) elucidated that capital flight arises from portfolio diversification, return differential, and relative risk incentives. In this regard, the P.C. framework fits the purpose of the study since the objective is to investigate the association between macroeconomic imbalances (public debt), governance quality, and illicit financial flows in a specific geographical context. To this end, the theoretical assumptions underpinning the P.C. model on the capital flight are discussed below with the corresponding hypotheses.

Hypotheses

H1 (Fig.2)**:** Low or negative actual interest rates, overvalued exchange rates, inflationary pressure, and rising external indebtedness pose high investment risk and lead to capital flight.

Source: Author's Construct

One of the determinants of capital flight is economic volatility in the origin country, as depicted in the hypothesis above. In particular, the prevailing macroeconomic environment determines to a large extent, whether capital leaves or stays in a country. Thus, in analyzing the link between IFFs and macroeconomics, variables such as inflation and actual exchange rates, fiscal deficits, national debt, and real GDP are among the critical determinants, according to the literature. For instance, domestic investors react quickly in terms of sending capital abroad during a budget deficit period to escape anticipated future higher taxation to close the deficit (Boyce, 1992; Loungani & Mauro, 2001; Fofack & Ndikumana, 2009). Likewise, higher inflation erodes the real value of assets, pushing domestic asset holders to move their assets abroad (Fischer, 1993). Therefore, macroeconomic fluctuations such as inflation, fiscal deficit, and real exchange rate weaken confidence in a country's macroeconomic environment and push individuals and investors to move their capital abroad.

Reasons for a positive association between macroeconomic indices such as the external debt stock of a country and capital flight is the probability of a fiscal crisis at hand, and this could induce capital flight. Eaton (1987) asserted that the normal expectation of increased tax obligations created by the potential nationalization of private debt generates capital flight. In most African countries, for example, governments borrow from external sources to finance development and address fiscal deficits. However, the private sector shifts funds abroad to secure good returns for their assets (Khan & Haque, 1985). However, adherence to good policies like low inflation and fiscal deficit increases the economic stability of a country. It also boosts the confidence of investors to hold assets within the country, thereby reducing the extent of capital flight (Herkenrath, 2014). Further, a country with a persistent current account deficit could indicate economic instability and induce people to transfer capital abroad to escape anticipated devaluation by the government as a response measure to improve the current account balance.

In their study supporting the differential risk hypothesis, Khan and Haque (1985) opined that the perceived risk associated with an investment in advanced economies was lesser than those associated with developing economies because of the "expropriation" risk. The expropriation risk explains a system where institutional and legal arrangements are in place to protect private property and investment, which are mostly absent or ineffective in developing countries. For this,

Khan and Haque further point out that private investment in highly indebted countries is subjected to expropriation risk, implying that residents can have their assets expropriated by the government through many mechanisms, including exchange controls, nationalization, and taxes which are often missing in industrialized countries.

In this regard, Herkenrath (2014) posited two ways countries going through persistent current account deficits could raise revenue to reduce the deficit: through a devaluation to improve the current account balance or by raising resources internally by engineering a transfer from the private sector. In the latter case, Rojas-Suarez (1990: 9) averred that "facing this expropriation risk in developing countries, domestic residents find it optimal to hold their assets abroad where they earn a more secure rate of return and borrow external funds to finance domestic investment." In essence, domestic investors face a higher risk of expropriation and therefore invest abroad, which essentially ensures that domestic agents make their portfolios less accessible to taxation and or expropriation.

In the specific case of the public debt ratio and IFFs, it may be considered that the connection works in both ways. In an empirical study of thirty-nine African countries from 1970 to 2010, Ndikumana (2014) demonstrates that IFFs (weighted according to the size of the economy concerned) have a robust and statistically significant investment-inhibiting effect. Thus, IFFs can force governments concerned to resort to flight-driven external borrowing. On the other hand, foreign loans can also trigger debt-fuelled capital flight, such that loans contracted and guaranteed by the government flow immediately and directly into foreign private accounts. In both scenarios, IFFs compound government indebtedness, dependence on foreign aid, and its implicit and explicit policy conditionalities (Ndikumana & Boyce, 2003; Beja, 2006).

In sum, countries with higher external indebtedness face a greater risk of capital flight, and among the reasons advanced for the apparent positive association between the two is that debt disbursements can signal an increase in the probability of a fiscal crisis and induce capital flight. High external indebtedness is also likely to put upward pressure on the domestic currency, motivating residents to acquire foreign assets before an expected devaluation occurs.

Hypotheses

H2 (Fig.3)**:** Political upheavals, social instability, bad governance, and corruption pose significant investment risks and lead to capital flight.
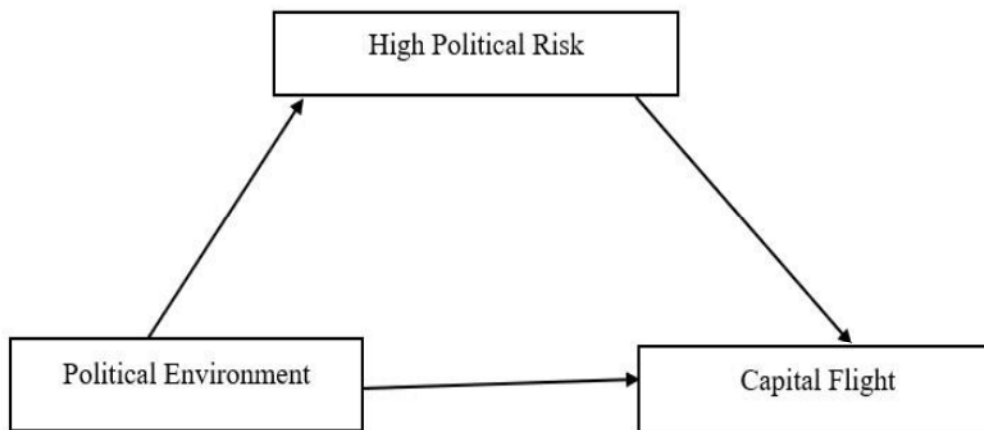
Source: Author's Construct

The prevailing political climate in a country is a key predictor of capital outflows. This is because political instability pushes agents to minimize the risk of expropriation and future portfolio losses arising from the political crisis. The World Bank governance index database and the Political Risk Services database variously classify the components of political stability to encompass areas including internal and external conflicts, government stability, law and order, as well as ethnic tensions. The political stability index ranges from 0 to 100; a low score signifies greater risk, while a higher score indicates a stable political environment.

Further, corruption, an important governance indicator, is another significant determinant of illicit capital outflows. Whether petty or grand, corruption distorts the economic and financial environment through bribes, thereby contributing to the problem of IFFs in many developing countries. In other words, perceived ill institutions in an economy are a recipe for capital flight as citizens lose trust and confidence in the domestic economy, thereby holding their funds abroad (Lensink *et al.*, 2000).

The lack of effective institutions and good governance practices in a country further gives rise to IFFs since they make politically exposed people vulnerable to corruption in the capital market, especially in countries endowed with natural resources (Ndikumana & Boyce, 2003; Le Billion,

2011). Thus, low competition in extractive sectors coupled with poor institutional oversight make the sector susceptible to corruption. This facilitates the creation of oligopolies that collaborate with governments and competitors in terms of contract negotiations, joint ventures, and other arrangements (Mpenya *et al.*, 2016; Boyce & Ndikumana, 2012). In the extractive sectors/political institutions dichotomy, Acemoglu and Robinson (2012) explain that extractive political institutions lead to extractive economic institutions, such that only a few enrich themselves at the expense of many. They surmise that extractive economic institutions provide the platform for extractive political institutions to persist. However, inclusive political institutions tend to support inclusive economic institutions. This leads to a more equal income distribution and empowerment for a broad segment of society.

Finally, on the importance of political institutions in the fight against illicit capital outflows, Nicolaou-Manias (2018) intimated that one of the governance channels in which IFFs can be curbed is through transparency measures on beneficial ownership of corporate structures. This is because tax evaders and multinational corporations exploit loopholes in beneficial ownership tax laws in developing countries to evade taxes. Effective institutions and governance structures are, therefore, very critical in curbing criminal economies since the phenomenon is mainly a result of poor governance and inadequate management capabilities.

Research Methodology

How are Illicit Financial Flows Measured?

As in the case of its definitional ambiguity, the empirical literature on IFFs estimation has revealed a vast array of methods. This can be linked to different definitions and econometric models used. Thus, so far, there is not a universally agreed methodology within the research community with regard to estimating IFFs accurately. Indeed, "with the exception of work on tax evasion and crime, mainstream development economic research has largely failed to coherently engage with attempts to estimate IFFs, despite the growing attention from policymakers" (Collin, 2020:45). This problem, according to Collin, partly arises from poor institutional quality prevalent in most developing countries.

These institutions need the requisite capacity to either detect IFFs or the practices that give rise to them. Based on this, they are also less likely to successfully negotiate bilateral tax-information exchange agreements needed by authorities to exchange valuable information for tracking down

international tax evasion cases. Consequently, the semantic and conceptual difficulties involved in interpreting IFFs, allied with the broadness of the definition itself echoed in its operationalization and the design of the methods used to estimate it creates a lacuna in the literature with respect to accurate scales and patterns of IFFs (Aziani, 2018).

Notwithstanding the methodological difficulties, the partner-country trade gap analysis is the predominant approach used in the economic literature for quantifying the extent of trade mispricing. Pioneered by Bhagwati (1964) and Bhagwati *et al*. (1974), the method relies on partner-country trade gaps and argues the incentives involved for trading firms, especially focusing on tax and customs duty evasion. The methodology is based on the principle of double counting in international trade statistics. That is, the mirror trade statistics compare the source country's export statistics to the importing partner's corresponding import statistics, adjusting for transportation costs. With the underlying assumption that trade statistics from advanced economies are reliable and represent the arm's length value, any unexplained asymmetries in reported trade statistics between advanced and developing countries' trading partners are evidence of trade misinvoicing in the developing countries (Boyce & Ndikumana, 2012).

In essence, the "mirror data" approach computes trade misinvoicing by comparing what country A reports as an export to B and what country B reports as an import from A (or vice versa), mostly using bilateral data from the direction of trade statistics (DOTS) IMF database. The equation used for measuring trade misinvoicing between a developing country and its industrialized trading partners is below.

$$XmiSit = Mjt - (Xit * cif) \qquad (1)$$

$$MmiSit = Mjt - (Xit * cif) \qquad (2)$$

Where:

Equation 1 measures export misinvoicing by country i in year t, where Mjt refers to imports of industrialized country j from country i in year t as reported by country j. Xit refers to exports of country i to industrialized country j in year t as reported by country i. cif (cost of insurance) refers to the ratio of cif to fob (freight on board). A positive value of $XmiSit$ would indicate export under-invoicing by country i in year t.

Similarly, in equation 2, a positive value of *MmiSit* would reflect import over-invoicing by country i in year t. The misinvoicing figures for country i are arrived at by applying equations 1 and 2 to all the industrialized trading partners of country i.

This trade-based analysis (mirror data approach) is the methodology most researchers employ in the IFFs discourse, including the one regularly conducted by Global Financial Integrity. Significantly, UNECA also adopted this methodology to estimate IFFs in Africa in its 2015 High-Level Panel on Illicit Financial Flows in Africa. However, despite the popularity of the mirror data approach, it is embedded with certain limitations. The Union argues that before any mirror trade analysis findings conclude fraud, they must be verified through field investigations or in-depth document reviews. Consequently, World Customs Organizations (2018) surmised that mirror trade analysis might only be applied as a risk assessment tool to spotlight potential cases of misinvoicing.

For example, by looking at individual commodities, it is possible to see that price volatility, transit, varying freight and insurance costs, and the use of bonded warehouses in merchant trade can result in significant trade data discrepancies arising from legitimate trade. Thus, the mirror trade approach is limited because it fails to identify gaps in trade statistics, which can occur for innocent reasons such as errors in recording prices, price volatility, and varying shipping and insurance costs (Johannesen & Pirttila, 2016). However, notwithstanding the underlying limitations in using aggregate trade statistics for empirical analysis of IFFs, the methodology has produced pointers on the scale of the IFFs problem and has triggered significant efforts by national governments and intergovernmental organizations to assess and evaluate the magnitudes and channels of trade-related tax erosion.

On the other hand, due to the statistical limitations in accurately measuring IFFs, many researchers instead try to construct indicators that show a country's exposure to IFFs or empirically identify the correlates of IFFs. Thus, instead of attempting to measure illicit flows directly, some researchers instead construct indices that reflect the exposure a jurisdiction might have to IFFs. In this case, they assume an empirical relationship exists between unobserved illicit flows and a set of observable characteristics of a given country. As actual data on IFFs are unavailable, this relationship is usually an assumed one.

Frequently, such a constructed index is a linear combination of the observable characteristics and typically takes the form of a composite index (Collin, 2020). As opined by Forstater (2018), the truth about illicit financial flows will always be that people try to hide them, and they will not be found easily in macroeconomic statistics. Accordingly, the methodology employed in this study conforms with the foregoing approach since the goal is to adduce IFFs channels by testing their relationship with public debt and governance variables within a specific geographical context.

As one of the leading global emitters of IFFs, the study seeks to estimate the association between public debt (DBT), governance (GOV), and illicit financial flows (IFF). Accordingly, the methodology is a variant of the balance of payments methods adopted by Boyce and Ndikumana (2012). The study concerns 43 countries in sub-Saharan Africa and is from the period 2005 – 2014. This timeframe is relevant for the study as it marks the period preceding concrete global actions, including the SDGs, which aim to significantly reduce illicit financial flows by 2030. This time frame also preceded regional initiatives to address the problem of IFFs, including the 2015 UNECA and African Union High-Level Panel on Illicit Financial Flows in Africa.

Table 1: **Data Description and Sources**

Variable	Definition	Data Source
Governance	Measures governance based on perceptions regarding: ● Political stability ● Control of corruption ● Government effectiveness ● Regulatory quality ● Voice and accountability ● The Rule of Law *Estimates are in units of standard normal distribution, i.e., ranging from approximately -2.5 to 2.5.	World Bank
Gross Public Debt (% of GDP)	Payments of interest and/or principal on the debt, including: ● Currency and deposits ● Debt securities loans ● Insurance ● Pensions and standardized guarantee schemes ● Other accounts payable	World Economic Outlook (IMF)

• • •

Illicit Financial Flows	Measures IFFs through value gaps in trade data between developing countries and advanced economies with data from the following sources: • IMF direction of trade statistics • United Nations COMTRADE	Global Financial Integrity

Source: Author's Compilation

Results and Discussion

The study employs mixed research methods as it is most appropriate for addressing confirmatory questions (Anders *et al.*, 2020; Pérez-Chiqués *et al.*, 2021; Tashakkori, 2009). In other words, after quantitatively testing the association between governance, public debt, and illicit financial flows, qualitative techniques were used to thematically contextualize the findings relative to the theoretical assumptions underpinning the model adopted for the study. The analysis was done using Pearson correlation with SPSS version 27 on panel datasets involving 43 countries in sub-Saharan Africa. Countries omitted were those without consistent data covering the entire period under review. Since illicit financial flows, governance, and public debt are continuing scale variables, Pearson r correlation analysis was most appropriate for this type of study (Ahlgren *et al.*, 2003).

Table 2: Correlation coefficients of the variables

		IF	GOV	DBT
IF	Pearson Correlation	1	-.910[**]	-.112[*]
	Sig. (2-tailed)		<.001	.020
	N	430	429	430
GOV	Pearson Correlation	-.910[**]	1	.100[*]
	Sig. (2-tailed)	<.001		.039
	N	429	429	429
DBT	Pearson Correlation	-.112[*]	.100[*]	1
	Sig. (2-tailed)	.020	.039	
	N	430	429	430

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Statistically, the results show a significant relationship between governance (GOV) and illicit financial flows (IFF). Conversely, the correlation output indicates an insignificant or weak relationship between public debt (DBT) and illicit financial flows (IFF). That is, whereas the

association between governance quality and illicit financial flows reveals a significant *p-value* of .001(.01), the correlation between public debt and illicit financial flows shows an insignificant *p-value* of .020. Nevertheless, statistical significance alone can be misleading since the sample size influences it. That is why it is necessary to report effect sizes in research papers since researchers are more interested in how much of an effect their manipulations had and how strong the relationships they observed were than in statistical significance (Nakagawa & Cuthill, 2007). In this regard, Cohen (1988) explains that the effect size is low if the value of *r* varies around (0.1), medium if *r* varies around (0.3), and large if *r* varies more than (0.5). In this case, the results show that the effect size for GOV and IFF is (-.910), thus implying a strong negative association between governance and illicit financial flows.

On the other hand, the effect size for DBT and IFF is (-.112); this indicates an insignificant negative relationship between public debt and illicit financial flows. Thus, the findings suggest that poor governance, denoted by weak regulatory quality, corruption, weak institutions, *etc.*, facilitate illicit financial outflows from the region. For example, an analysis of the Corruption Perception Index (CPI) from 2012 to 2021 indicates that only three countries from sub-Saharan Africa (Seychelles, Cabo Verde, and Botswana) made it to the first top fifty least corrupt countries globally. Conversely, of the worst fifty most corrupt countries, 24 are from sub-Saharan Africa (Transparency International, 2021). It is not surprising that there is such a strong correlation between governance quality and illicit financial flows in the region.

Since governance exerts a significant negative correlation with IFFs, it can be argued that the massive capital outflows from the region are, by and large, a result of institutional weakness, rampant corruption in public service, and regulatory inefficiencies. This has many implications for the fight against IFFs. For example, multinational firms can easily transfer capital abroad using both licit and illicit means due to ineffective political institutions in most African countries. This is done by undervaluing or invoicing exports to reduce tax liabilities or escape exchange controls, particularly in countries endowed with natural resources. The findings, therefore, corroborate previous studies that show that poor governance is a significant catalyst for illicit capital outflows in developing countries. For example, Ndikumana (2016), in his work on the important role governance and political institutions play in alleviating the risk of capital

• • •

flight, emphasized that poor institutions facilitate the illicit acquisition of national resources and embezzlement of natural resource exports.

Furthermore, governance failure in the global financial system also contributes significantly to the IFFs problem. Governance entails regulatory capacity, institutional oversight, and transparency systems that may be lacking in the financial systems of many countries in the region. In other words, legal loopholes in the global financial system also facilitate illicit transfers and concealment of private wealth (licit and illicit) in secrecy jurisdictions or tax havens. Consequently, governance challenges in Africa are the most critical regarding illicit financial outflows.

In other words, the results imply that illicit financial outflows in sub-Saharan Africa are chiefly traceable to poor governance and weak political institutions in the region. The results lend credence to several empirical studies that conclude that IFFs, which are a consequence of the offshore financial economy, are traceable to poor governance and political uncertainties prevalent in many developing countries (Murinde *et al.*, 2000; Christensen, 2011; Bendoma *et al.*, 2016; Nwachukwu & Asongu, 2017). Indeed, a single African country case study by Gankou *et al.* (2016) found that political and institutional variables significantly determine the relationship between capital flight and foreign direct investment.

The findings support the argument advanced by proponents of the P.C. model that political crises and poor governance are important determinants of illicit capital flight. For example, control of corruption, one of the central components and a key determinant of good governance, is a major problem in the region. Sub-Saharan African countries perform below the global average in most governance indicators. As already stated, a recent release by Transparency International on the global CPI covering the period 2012 to 2021 reveals that no country in the region made it to the first fifty least corrupt countries, save for Seychelles, Cabo Verde, and Botswana. Meanwhile, a majority of 24 sub-Saharan African countries are among the fifty most corrupt countries globally. The results further confirm findings by Global Financial Integrity (GFI) that sub-Saharan Africa is a lead emitter of IFFs globally, as evidenced in figure 4 below.

Fig 4: Illicit financial outflows from developing countries (% of trade in 2014)
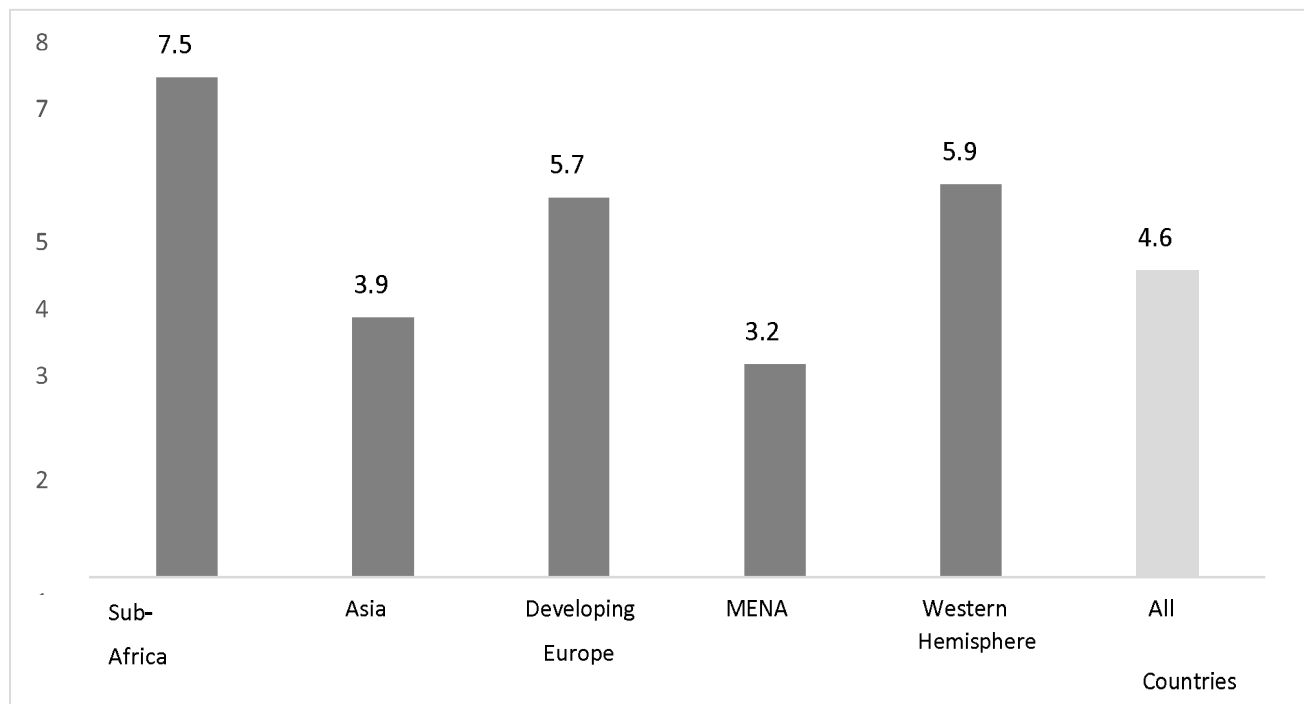
Source: Global Financial Integrity

As highlighted, economic stagnation is the other fundamental theoretical assumption underpinning the P.C. approach to capital flight from developing countries. Accordingly, the objective was to examine the association between economic variables and IFFs in the context of a region with huge growth potentials, regardless of the structural vulnerabilities. However, for the purpose of this study, only general public debt, one dimension of a macroeconomic imbalance was used in the analysis. The rationale for using public debt as the main macroeconomic variable for the analysis stems from the fact that the debt portfolio of a country generally determines the overall health of the economy.

In other words, the debt portfolio of a country in a particular period generally determines the state and growth of the economy (Kutan *et al*., 2021). Notwithstanding, macroeconomic variables are so intertwined that distortion in one indicator has a reactive effect on the others. For example, a local currency's value loss will likely push domestic wealth owners to move the capital from domestic to foreign assets holdings since the interest rates parity condition shows that depreciation in local currency makes foreign assets more attractive than domestic assets.

Similarly, instances of high inflation resulting from fiscal deficit financing through seigniorage will lead to capital flight as domestic agents seek to avoid an erosion of the value of their monetary assets by the rising inflation (Turpin *et al.*, 2018).

Back on the public debt-capital flight nexus, the correlation analysis shows that the former is not a key determinant of illicit financial outflows, as indicated in the p-values. In other words, there is no statistically significant relationship between public debt and illicit financial flows as shown in the correlation output in table 2. However, the debt-driven capital flight thesis postulates that given the heavy external debt of a country, residents of these countries are motivated to move their resources outside the country. Borrowed hard currencies are sold to domestic economic agents through wage payments and transfers. These agents then illegally remit the hard currencies partly to completely abroad. Accordingly, high external debt is considered one of the propellants of capital flight. There is, therefore, an obvious contradiction between the correlation analysis and this neoclassical economic assumption regarding the relationship between capital flight and public debt.

In other words, the theory postulates that rising domestic debt reduces the incentive to save and invest in the home country's economy. The assumption is that with large foreign debt, there are expectations of exchange rate devaluation, fiscal crisis, and the possibility of crowding out domestic capital and potential threats for expropriation of assets to settle the debts (Dooley & Kretzer, 1994; Ajayi, 1995). Loss-averse residents, as a result, transfer their funds broad where the risk of losses and expropriation of private capital is low. The likely eventual outcomes are a widening savings gap and economic stagnation or decay (Turpin *et al.*, 2018).

One of the underlying objectives of the study was to assess the relationship between public debt and IFFs in a region with a long history of structural economic vulnerabilities. The findings imply that macroeconomic indicators, including balance of payment deficits, public indebtedness, exchange rate differentials, and high inflation rates, although they deteriorate the economic environment, are not significant determinants of illicit financial outflows. Consequently, the results support the assumptions underpinning the new institutional economic literature on the link between economic factors and capital flight.

The theory suggests that illicit capital flows are a consequence of corruption, poor governance, and rent-seeking behaviors, mostly in extractive political institutions in developing countries.

This theoretical proposition is further supported by previous studies that confirm the lack of a predictable effect of macroeconomic factors on capital flight. This implies that the problem of illicit capital flows is not primarily an issue of portfolio choice considerations but largely a problem of governance and political and institutional factors (Boyce & Ndikumana, 2011; Ndikumana, 2016). Accordingly, **H1** is rejected: That is, economic risk factors do not have an influence on illicit capital outflows. However, **H2** is accepted: Political and governance factors are significant determinants of illicit capital outflows.

Conclusion

The approach adopted in this paper is in the tradition of the portfolio choice model of tax evasion, rooted in the investment theory of capital flight. The theory postulates that due to economic and political risk factors in developing countries, domestic agents move their capital to advanced economies to avoid anticipated erosion of the value of their assets and or their expropriation. Thus, in neoclassical economics, these capital outflows are fuelled by domestic macroeconomic policy distortions and political risk factors. This leads to rational reallocation of capital from developing economies to developed economies for favorable risk-return investment. Recent reports by Global Financial Integrity, UNECA, and other non-profit organizations show that sub-Saharan Africa is one of the leading emitters of IFFs. Consequently, the study sought to understand the factors that drive these illicit financial outflows from the region using the P.C. framework.

The paper's contribution to the field uses the P.C. framework to analyze the relationship between governance, public debt, and illicit financial flows in sub-Saharan Africa. The outcome of the analysis indicates that governance correlates significantly with illicit financial outflows. On the other hand, public debt, which generally measures the strength of an economy, exerts no influence on illicit financial flows. Therefore, the paper supports the hypothesis that political and institutional factors are fundamental determinant factors to illicit capital flows. Regarding the economic factors, the paper relied on a single economic variable (public debt) for the analysis and did not control for other variables and endogeneity problems. Future work in this direction should consider these and look especially at the post-2015 agenda to ascertain the level of progress in curbing the IFFs menace in the region.

● ● ●

Finally, even though the relevance of the P.C. approach on capital flows in developing countries cannot be discounted, the model leaves much unexplained. For example, the approach falls short when it comes to explaining illicit capital outflows originating in economically successful industrialized countries and fast-growing emerging countries. It would make seemingly little sense to assume that these capital movements are mainly related to the explanatory factors central to the P.C. model, thus flight from economic stagnation and political risk factors.

Secondly, while tax flight from prosperous countries may well be regarded as economically rational, it goes beyond the theoretical scope of a model in which illegal capital movements, in essence, seem to be a morally justified response to investment risks. Consequently, proponents of the IFFs concept assume a radically different explanation for the phenomenon. They argue that the general growth of IFFs is ultimately a reaction to the advancing global integration of the financial system and the readiness of numerous offshore financial centers to help conceal illegally acquired untaxed assets.

Policy Recommendations

The paper makes policy suggestions that could remedy the menace of illicit financial flows in Africa and developing countries. First, there is the need for effective collaboration among regional and intergovernmental organizations, governments, civil society, and the banking sector. Strengthening tax administration and enforcement through better regionally integrated systems and facilitating tax information exchange between governments should be the focus of the collaborations. There is also the need to move towards a consistent and globalized regulatory system on transfer pricing, including using an advanced transfer pricing system and increasing global asset recovery capacity. The results imply that governments need to improve the transparency of financial transactions, including the beneficial ownership of corporate structures and tax information. Customs and law enforcement agencies need to be strengthened in order to detect intentional trade misinvoicing as tax evaders exploit loopholes in tax administration in developing countries.

Moreover, since up-to-date information exists on average world market prices for a number of commodities, customs could always use this information to determine tax values and whether the values stated on invoices are consistent with international market prices. Access to such

information increases the chances of detecting illicit financial flows as well as cues on how the practice could be curtailed.

Finally, strong sanctions must be against firms and multinational corporations whose activities lead to or promote illicit financial flows. These may include large fines, withdrawal of licenses or suspension of operations, or even imprisonment. Customs officials should use the information on beneficial owner(s) of trading companies and cross-border tax information-sharing agreements to question suspected transactions. Therefore, the exchange of tax information and more transparency in the shadow global financial system is vital in detecting illicit financial flows through trade misinvoicing.

References

Acemoglu, D., & Robinson, J. A. (2012). The origins of power, prosperity, and poverty. *New York (U.S.): Crown Business*.

Ahlgren, P., Jarneving, B., & Rousseau, R. (2003). Requirements for a cocitation similarity measure, with special reference to Pearson's correlation coefficient. *Journal of the American Society for Information Science and Technology*, *54*(6), 550-560.

Ajayi, S.I. (1997). An analysis of external debt and capital flight in the severely indebted low-income countries in sub-Saharan Africa. Working Paper Number 1997/068, International Monetary Fund Research Department: Washington DC.

Allingham, M., G., & Sandmo, A. (1972). Income tax evasion: A theoretical analysis, *Journal of Public Economics*,*1*(3–4): 323-338. https://doi.org/10.1016/0047-2727(72)90010-2

Anders, G., Kanyongolo, F., & Seim, B. (2020). Corruption and the impact of law enforcement: Insight from a mixed-methods study in Malawi. *The Journal of Modern Africa Studies, 58*(3): 315-33.

Anuradha S. & Amr R. (2012). *Macroeconomic vulnerability in developing countries: Approaches and Issues*: Working papers 94, International Policy Centre for Inclusive Growth: Brazil

Asongu, S. A., & Nwachukwu, J. C. (2017). Fighting capital flight in Africa: Evidence from bundling and unbundling governance. *Journal of Industry, Competition and Trade*, *17*(3): 305-323.

Ayamena, H. T., Metseyem, C., & Epo, B. N. (2016). Natural resources and capital flight in Cameroon. *African Development Review, 28*(1): 88-99.

Aziani, A. (2018). *Illicit financial flows: An innovative approach to estimation*. Springer International Publishing. https://doi.org/10.1007/978-3-030-01890-0

• • •

Balassone, F., Francese, M., & Pace, A. (2011). *Public debt and economic growth in Italy*. Bank of Italy Economic History Working Paper, 11. http://dx.doi.org/10.2139/ssrn.2236725

Beja Jr, E. L. (2006). Was capital fleeing Southeast Asia? Estimates from Indonesia, Malaysia, the Philippines, and Thailand. *Asia Pacific Business Review*, *12*(3): 261-283.

Bhagwati, J. (1964). The pure theory of international trade: A survey. *The Economic Journal*, *74*(293): 1-84.

Bhagwati, J. N., Krueger, A., & Wibulswasdi, C. (1974). Capital flight from LDCs: A statistical analysis. *Illegal transactions in international trade*:148-154. North-Holland. https://doi.org/10.1016/B978-0-444-10581-3.50017-3

Boyce, J. K. (1992). The revolving door? External debt and capital flight: A Philippine case study. *World Development*, *20*(3): 335-349.

Boyce, J. K., & Ndikumana, L. (2012). Capital flight from sub-Saharan African countries: Updated estimates, 1970-2010. *Political Economy Research Institute.* http://dx.doi.org/10.2139/ssrn.2202215

Boyce, J.K., & Ndikumana, L. (2001). Is Africa a net creditor? New estimates of capital flight from severely indebted sub-Saharan African countries, 1970-96. *The Journal of Development Studies*, *38*(2): 27-56.

Cerra, V., Rishi, M., & Saxena, S. C. (2008). Robbing the riches: Capital flight, institutions and debt. *The Journal of Development Studies*, *44*(8): 1190-1213.

Christensen, J. (2011). The looting continues: Tax havens and corruption. *Critical Perspectives on International Business*, *7*(2): 177-196. https://doi.org/10.1108/17422041111128249

Cohen, J. (1988). *The Effect Size. Statistical power analysis for the behavioral sciences*. Abingdon: Routledge, 77-83.

Collier, P., Hoeffler, A., & Pattillo, C. (2001). Flight capital as a portfolio choice, *The World Bank Economic Review*, *15*(1): 55- 80. https://doi.org/10.1093/wber/15.1.55

Collier, P., Hoeffler, A., & Pattillo, C. (2001). Flight capital as a portfolio choice. *The World Bank Economic Review*, *15*(1), 55-80. https://doi.org/10.1093/wber/15.1.55

Collier, P., Hoeffler, A., & Pattillo, C.A. (2004). Africa's exodus: Capital flight and the brain drain as portfolio decisions. *Journal of African Economies, 13*(2): 15-54.

Collin, M. (2020). Illicit financial flows: concepts, measurement, and evidence. *The World Bank Research Observer*, *35*(1), 44-86. https://doi.org/10.1093/wbro/lkz007

Cumby, R. E., & Levich, R. M. (1987). *On the definition and magnitude of recent capital flight. NBER Working Paper, (2275)*. National Bureau of Economic Research: Cambridge.

De Boyrie, M. E., Nelson, J. A., & Pak, S. J. (2007). Capital movement through trade misinvoicing: The case of Africa. *Journal of Financial Crime*, *14*(4): 474-489.

Dooley, M. & Kletzer, K. (1994). Capital flight, external debt, and domestic policies. In federal reserve bank of San Francisco. *Economic Review, 3*, 30-38.

Dooley, M. (1988). Capital flight: A response to differences in financial risks. *IMF Economic Review*, *34* (3): 422–436. https://doi.org/10.2307/3867180

Eaton, J. (1987). Public debt guarantees and private capital flight, *The World Bank Economic Review*, *1*(3): 377–395. https://doi.org/10.1093/wber/1.3.377

Fischer, S. (1993). The role of macroeconomic factors in growth. *Journal of Monetary Economics, 32*(3): 485-512.

Fofack, H., & Ndikumana, L. (2009*). Potential gains from capital flight repatriation for sub-Saharan African countries*. World Bank Policy Research Working Paper, (5024).

Gankou, J. M., Bendoma, M., & Sow, M. N. (2016). The institutional environment and the link between capital flows and capital flight in Cameroon. *African Development Review*, *28*(1): 65-87. https://doi.org/10.1111/1467-8268.12182

Herkenrath, M. (2014). Illicit financial flows and their developmental impacts: An overview. *International Development Policy, 5*(3). https://doi.org/10.4000/poldev.1863

Johannesen, N., & Pirttilä, J. (2016). Capital flight and development: An overview of concepts, methods, and data sources. *World Institute for Development Economic Research*.

Kar, D., & Cartwright-Smith, D. (2009). Illicit financial flows from developing countries: 2002-2006. *Global Financial Integrity*. http://dx.doi.org/10.2139/ssrn.1341946

Khan, M. M. S., & Ajayi, M. S. I. (Eds.). (2000). *External debt and capital flight in sub-Saharan Africa*. International Monetary Fund. https://doi.org/10.5089/9781557757913.071

Khan, M., Haque, N. (1985). Foreign borrowing and capital flight: A formal analysis. *IMF Economic Review, 32* (3): 606–628. https://doi.org/10.2307/3866741

Law, S. H., Ng, C. H., Kutan, A. M., & Law, Z. K. (2021). Public debt and economic growth in developing countries: Nonlinearity and threshold analysis. *Economic Modelling*, *98*, 26-40.

Le Billon, P. (2011). *Extractive sectors and illicit financial flows: What role for revenue governance initiatives?* Bergen: Chr. Michelsen Institute, *13*(41).

Loungani, M. P., & Mauro, M. P. (2001). Capital flight from Russia. *The World Economy*, *24*(5): 689-706. https://doi.org/10.1111/1467-9701.00376

Meza, O., & Pérez-Chiqués, E. (2021). Corruption consolidation in local governments: A grounded analytical framework. *Public Administration*, *99*(3): 530-546.

Nakagawa, S., & Cuthill, I. C. (2007). Effect size, confidence interval and statistical significance: A practical guide for biologists. *Biological Reviews*, *82*(4): 591-605.

Ndikumana, L. (2014). Capital flight and tax havens: Impact on investment and growth in Africa. *Revue d'économie du développement*, *22*(2): 99-124.

Ndikumana, L. (2016). Causes and effects of capital flight from Africa: Lessons from case studies. *African Development Review*, *28*(1): 2-7. https://doi.org/10.1111/1467-8268.12177

Ndikumana, L., & Boyce, J. K. (2003). Public debts and private assets: Explaining capital flight from sub-Saharan African countries. *World Development*, *31*(1): 107-130.

• • •

Ndikumana, L., & Boyce, J. K. (2011). Capital flight from sub-Saharan Africa: Linkages with external borrowing and policy options. *International Review of Applied Economics*, *25*(2): 149-170.

Nicolaou-Manias, K. (2018). Review of existing indicators for illicit financial flows and possible alternative indicators for African countries. *Available at SSRN 3744703*. http://dx.doi.org/10.2139/ssrn.3744703

Patnaik, I., Sen Gupta, A. & Shah, A. (2012). Determinants of trade misinvoicing. *Open Economies Review, 23*, 891-910. https://doi.org/10.1007/s11079-011-9214-4

Rahman, M., Mustafa, M., & Turpin, L. (2018). Determining illicit financial outflows from sixty developing countries. *Journal of Financial Economic Policy*, *11*(1): 62-81. https://doi.org/10.1108/JFEP-12-2017-0120

Rojas-Suarez, L. (1990). *Risk and capital flight in developing countries*. Working Paper Number 90/064, International Monetary Fund. https://doi.org/10.5089/9781451962895.001

Tashakkori, A. (2009). Are we there yet? The state of the mixed methods community. *Journal of Mixed Methods Research*, *3*(4): 287-291.

Tax Justice Network. (2015). The Mbeki panel on illicit financial flows: Africa leads the way. Accessed from: Tax Justice Network on 10.10.2022.

Torvik, R. (2009). Why do some resource-abundant countries succeed while others do not? *Oxford Review of Economic Policy*, *25*(2): 241-256.

Transparency International. (2021). Annual report 2021. Accessed from: Publications - Transparency.org, on 20.10.2022.

United Nations Conference on Trade and Development. (2020). Africa could gain $89 billion annually by curbing illicit financial flows. Accessed from: Illicit financial flows | UNCTAD, on 12.10.2022.

United Nations Development Programme. (2017). Women and natural resources. Accessed from: United Nations Development Programme (undp.org), on 29.09.2022.

United Nations Economic Commission for Africa. (2015). Illicit financial flows: Report of the High-Level Panel on illicit financial flows from Africa. Addis Ababa. U.N.ECA. Accessed from: https://hdl.handle.net/10855/22695, on 18.10.2022.

World Bank. (2017). What are illicit financial flows. Accessed from: Illicit Financial Flows (IFFs) (worldbank.org), on 13.10.2022.

World Customs Organization. (2018). The WCO issues its 2018 illicit trade report. Accessed from: World Customs Organization (wcoomd.org), on 11.10.2022.

Yitzhaki, S. (1974). Income tax evasion: A theoretical analysis. *Journal of Public Economics*, *3*(2): 201-202. https://doi.org/10.1016/0047-2727(74) 90037-1.