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One bad turn deserves another: how terrorism sustains the addiction to capital flight in Africa¹

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One bad turn deserves another: how terrorism sustains the addiction to capital flight in Africa**Simplice A. Asongu, Rexon T. Nting & Evans S. Osabuohien**

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Abstract

This inquiry assesses if terrorism sustains the capital flight trap and whether the relationship is affected by varying the levels of governance and globalisation. The empirical evidence is based on interactive Generalised Method of Moments with data from 37 African countries for the period 1996-2010. The followings are established. (1) Evidence of a capital flight trap is apparent because past values of capital flight have a positive effect on future values of capital flight. (2) Terrorism sustains the positive effect of the capital flight trap on capital flight. (3) For the most part (especially with regard to political governance), terrorism sustains the addiction to capital flight in above-median governance sub-samples. Policy implications are discussed.

JEL Classification: C50; D74; F23; N40; O55

Keywords: Capital flight, terrorism, Africa

1. Introduction

Two main concerns are addressed by this inquiry. It investigates if the capital flight trap is sustained by terrorism, on one hand, and examines how the underlying relationship is affected by varying levels of governance and globalisation, on the other. In essence, in order to provide more options for policy, the study further assesses established linkages in the light of changes in six governance (political stability, voice & accountability, regulation quality, government effectiveness, corruption-control, and the rule of law) and two globalisation (trade openness and financial globalisation) variables.

The policy relevance of addressing the two underlying issues motivating the inquiry is twofold, notably: (i) growing levels of capital flight and its corresponding negative consequences, and (ii) burgeoning terrorism levels in Africa. The first perspective has two main dimensions. On the one hand, Africa has been documented to be a net creditor to the rest of the world because over the past decades, capital flowing into the continent has been substantially lower than capital moving out of the continent (Boyce & Ndikumana, 2012a). Consistent with the narrative, 33 countries in Sub-Saharan Africa (SSA) between 1970 and 2010 lost approximately 814 billion US Dollars (in 2010 constant terms) to capital flight. Conversely, the main sources of external flows to SSA during the same period were substantially lower: with foreign direct investment and foreign aid respectively standing at 306 and 659 billion US Dollars (Boyce & Ndikumana, 2012a).

On the other hand, there is a paradox between the need for finance in Africa and growing levels in capital flight from the continent. Accordingly, inadequate financial resource has been documented to be one of the fundamental deterrents to Africa's development (Darley, 2012; Boyce & Ndikumana, 2012a; Tuomi, 2011; Bartels et al., 2009). In essence, shortage of finance has dwarfed socio-economic investment that is important for poverty alleviation. The narrative has been indirectly confirmed by a recent World Bank report on attainment of Millennium Development Goals (MDGs) that has shown that with the exception of SSA, extreme poverty has been declining in all regions of the world (World Bank, 2015).

The second perspective builds on growing levels of terrorism in Africa (Asongu & Amankwah-Amoah, 2018). While the phenomenon of terrorism is not entirely novel in the Africa, the rate at which it is growing in the continent is becoming an increasing policy issue (see Alfa-Wali et al., 2015). In line with the Global Terrorism Index (GTI, 2014) report, the Boko Haram and the Islamic State of Iraq and Levant (ISIL) were respectively responsible for 6,644 and 6,073 deaths. Other notorious terrorist organisations on the continent that are perpetrating violence include: Al-Qaeda in the Islamic Maghreb; Ansar Al-Shariya in Tunisia; the Al-Qaeda-affiliated Mulathameen Brigade that is led by Mokhtar Belmokhtar; the Shabaab of Somalia and Ansar Dine that is headed by a former ally of Gaddafi, Iyad Ag Ghaly. Some recent examples of atrocities from terrorists have included, the: (i) November 2015 Radison Blu Hotel and Sinai Russian plane crash attacks in Mali and Egypt, respectively; (ii) 2015 Garissa University and Westgate shopping mall attacks in Kenya by the Somali Al-Shabaab; (iii) Boko Haram of Nigeria stretching its sphere of terrorism to Niger,

Cameroon and Chad and (iv) 2015 Sousse and Bardo National Museum attacks in Tunisia (Efobi & Asongu, 2016).

Contemporary African capital flight literature has focused on country-specific consequences and causes of capital flight, notably, on the: relationship between capital flight and fiscal policy (Muchai & Muchai, 2016); nexus between public social expenditure and capital flight in Congo-Brazzaville (Moulemvo, 2016); drivers of capital flight in Ethiopia (Geda & Yimer, 2016) and Madagascar (Ramiandrisoa & Rakotomanana, 2016); connections between trade misinvoicing and capital flight in Zimbabwe (Kwaramba et al., 2016); relationship between capital flight and tax income in Burkina Faso (Ndiaye & Siri, 2016) and nexus between capital flight and natural resources in Cameroon (Mpenya et al., 2016). In the light of the above, the extant contemporary studies have largely focused on *inter alia*: determinants of capital flight within the framework of real exchange rate, domestic private credit to gross domestic product (GDP), real interest rates, fiscal deficit and tax income. The positioning of this research departs from the underlying studies by assessing if terrorism sustains the capital flight trap and whether varying levels of governance and globalisation affect the relationship.

In essence, despite the evolving streams of literature on capital flight (Mpenya et al., 2016; Ndiaye & Siri, 2016) and terrorism (Bandyopadhyay et al., 2014; Efobi et al., 2015), only two studies have investigated the relationship between capital flight and terrorism, namely: Efobi and Asongu (2016) and Asongu and Amankwah-Amoah (2018). Whereas the former study has investigated the connection between capital flight and terrorism in a limited set of African countries, the latter has assessed the role of military expenditure in dampening the potentially negative effect of terrorism on capital flight. This inquiry complements the stream of studies by addressing the two concerns highlighted in the first paragraph of the introduction. By so doing, the study simultaneously articulates both the concept of capital flight and the notion of the capital flight trap. Distinguishing capital flight from the capital flight trap is relevant because the latter is a more worrying policy syndrome.

It is worthwhile to clarify the concept of capital flight in relation to capital flows as well as distinguish capital flight from the capital flight trap. Consistent with Pradhan and Hiremath (2017), there is no consensus on the definition of capital flight because scholars are divided on the method by which it is estimated. According to Kindleberger (1987), capital flight represents “abnormal capital flows” given that these underlying outflows are traceable to suspicion and fears about future economic outlook. Within this framework, capital flight

can also be understood as export savings that citizens in the country make out of fear that their capital may not be safe in the future. Another stream of authors links capital flight to illegality or illegal income sources (Reuter & Truman, 2004; Perez et al., 2012). Capital flight can also be acknowledged as some of portfolio diversification in a strategy of hedging against macroeconomic risks and shocks (Eggerstedt et al., 1995; Collier et al., 2001; Hermes & Lensink, 2001; Buiters & Szegvari, 2002; Pradhan & Hiremath, 2017). As documented by Pradhan and Hiremath (2017), because capital flows are anticipated to move from developed to developing countries owing to higher marginal productivity of capital in the latter countries, it is reasonable to qualify the flow of capital from developing countries as “capital flight”.

In the light of the above, although capital flight is linked to capital outflows, capital flight entails the exclusive outflow of assets that cannot be controlled by domestic governments or revenue corresponding to the stock of residents’ and/or non-residents’ claims that are accounted for by local authorities (Dooley, 1988; Hermes & Lensink, 1992; Beja, 2007; Pradhan & Hiremath, 2017). In accordance with Pradhan and Hiremath (2017), capital outflows that are tailored to leverage on higher returns are legal and normal. According to the narrative, in response to political uncertainties and risks, the motive of capital flight substantially rests on the need to place assets in safe havens, beyond the oversight of domestic regulators.

Having clarified the concept of capital flight, a capital flight trap is a scenario where past capital flight increases future capital flight (Efobi & Asongu, 2016). In this study, evidence of a capital flight trap is apparent when past values of capital flight have a positive effect on future values of capital flight. The rest of the study is organised as follows. Section 2 covers linkages between capital flight, terrorism, globalisation and governance. Section 3 discusses the data and methodology, while Section 4 presents the empirical results. Section 5 concludes with implications and future research directions.

2. Terrorism, capital flight, governance and globalisation

2.1 Linkages between terrorism and capital flight

By terrorism the study refers to “*the premeditated, systematic threat or use of violence by subnational groups to attain a political, religious, or ideological objective through intimidation of a large audience*” (Czinkota et al., 2010, p. 828). It is very probable that terrorism is connected to capital flight because it is associated with economic uncertainty,

which could prompt investors to disinvest in the economy affected by terrorism. This intuition is in accordance with the substantially documented evidence that less ambiguous economic environments are preferred by investors (Kelsey & le Roux, 2017, 2018; Asongu & Amankwah-Amoah, 2018). In essence, incidences of terrorism are very likely to lead to consequential economic damages that negatively influence the valuation of assets by investors as well as loss of confidence by investors due to the corresponding poor economic outlook. Hence, money and assets could be hastily flown-out of a country when it is experiencing incidences of terrorism. In essence, there is a strong association between the decline in international investment and terrorism (Blomberg & Hess, 2006).

Theories of political access have postulated that terrorism is linked with more violence and political instability compared to situations of less violence and instability (Eyerman, 1998). Within this stream of research, the connection between terrorism and capital flight can be elucidated from the perspective of how violence influences cross-country movements of capital flows. Hence, the stock of capital flowing from one country to another could be decreased in events of political instability and violence because conflicts are substantially correlated with uncertainty in the return of investments in the future. Eventually, investors in an economy may be prompted to divert their investments and/or capital to other countries in order to secure return in investments (Davies, 2010).

The theoretical emphasis on political instability and violence is connected to the definition of terrorism we are employing in the study, notably: the threatened use of force by sub-national actors with the aim of employing intimidation to secure political goals (Enders & Sandler, 2006; Czinkota et al., 2010). The nexus between terrorism and investments is further evident in the view that terrorism represents a somewhat distinct form of violence because for the most part, it targets individuals that are non-combatants (Bandyopadhyay et al., 2014), in order to consolidate pressure on governments that are targeted. The theoretical construct is also in accordance with the conception and definition of capital flight employed within this framework, notably: the outflow of economic resources from countries in order to maintain the economic value of such resources (Asongu, 2014; Ndikumana et al., 2015).

The following features have been documented in the empirical literature on capital flight determinants: investments' risks and returns (e.g. currency depreciation, financial instability and domestic tax rate); political and governance characteristics and economic structural features (e.g. reliance on natural resources). In a nutshell, the political environment has been established as a crucial determinant of capital flight given that it is linked to loss or

damage of assets as well as improvements in investment-connected premiums of insurance (Ndikumana et al., 2015; Davies, 2008; Collier et al., 2004). When the highlighted features are combined with terrorism, investors are very likely to divert their resources to countries that are characterised with lower investment risks.

2.2 Linkages between capital flight, governance and globalisation

Capital flight, which is the result of an offshore financial economy, has been documented to be a product of poor governance (Christensen, 2011; Gankou et al., 2011; Ndikumana, 2016). The theoretical linkages between capital flight and governance can be discussed in three main strands in the following chronological order: political governance; economic governance and institutional governance.

In the first strand on political governance, it is very likely that investors respond to violence and political instability by transferring capital to economic environments that are linked to lower investment risks. Hence, a direct impact could be anticipated from features of political governance such as accountability, democracy and political instability. Furthermore, in scenarios where government executives dwarf ‘voice & accountability’, the domestic economy is likely to be compensated with more capital outflows and less capital inflows. In essence, a political environment is crucial in driving the flight of capital because it is associated with losses/damages of assets and/or variations in insurance premiums that are linked to investments (Ndikumana et al., 2015; Davies, 2008; Collier et al., 2004). Furthermore, if investors in portfolio do not have confidence in executive accountability and competitive elections, it is very probable that they would divert their investments to economies with more stable/credible political institutions. In a nutshell, characteristics of a political environment affect security claims that are associated with the performance of foreign market and foreign ownership (Lensink et al., 2000; Le & Zak, 2006). It is also more likely that government officials embezzle public funds and deposit the siphoned funds in tax havens when there is lack of accountability and political stability.

As concerns the second strand, investors can lose the motivation of investing in an economy if they perceive the economic outlook as uncertain. Such uncertain economic outlook is partly a fruit of poor economic governance. Put in more perspective, investors prefer less ambiguous investment climates (Kelsey & le Roux, 2017, 2018). Unhealthy economic governance can drive considerable setbacks in an economy. These setbacks that affect the perceptions of investors on the value of assets can influence them to divert their

investments from one economy to another. It is also important to note that public officials within a poor economic framework can skilfully formulate and implement policies that are more likely to serve some corrupt vested interest. Ultimately, siphoned funds are deposited in tax havens.

In the third strand on the nexus between institutional governance and capital flight, we argue that both corruption-control and the rule of law influence the perception that investors have on the health of an economy as well as the capacity of government officials to embezzle and divert siphoned funds to tax havens. Accordingly, it is less likely for investors to put their money within an economy if there is systematic disrespect of the rule of law. These investors are less likely to invest if they are convinced that economic governance can be slackened through State predation. Respect of the rule of law ensures investors that they do not run the risk of being expropriated of their investments. It also guarantees enhanced property rights protection to investors. The highlighted expropriation decreases foreign investment and increases capital flight. Moreover, nations with corrupt government executives for the most part lack the will of respecting the private rights to property and ownership.

Financial and trade globalisation are fundamentally associated with capital flight because they are by conception and definition linked to capital flows. Consistent with Donnelly (2015), multinational corporations operating with the fuel of increasing globalisation account for about 65% of illicit capital flows. Moreover, the author has articulated that deliberate under- and over-invoicing of trade activities constituted about 67.4% of illicit capital outflows in Africa between 2003 and 2012. The amount lost to illicit capital flight annually is about 60 billion USD. Donnelly has shown that the stock of capital would be 60% higher if illicit financial flows were avoided in Africa. Moreover, the continent's GDP would be 15% higher in the absence of illicit capital flows. The positive association between globalisation and illicit capital flight is consistent with a substantial bulk of literature on the subject (Borkowski, 1997; Tanzi, 2000; Sikka & Willmott, 2010; Asongu, 2016). This includes, trade misinvoicing, tax avoidance and manipulation of international taxation privileges. The microstates and tax havens that have been growing as a result of increasing globalisation are also providing a safe haven for corrupt government officials in Africa to hide embezzled money.

3. Data and Methodology

3.1 Data

The inquiry assesses a panel of 37 African countries with data for the period 1996-2010 from three main sources, notably: (i) governance indicators from World Governance Indicators of the World Bank; (ii) macroeconomic control variables from the African Development Indicators of the World Bank and (iii) capital flight from Boyce and Ndikumana (2012a). The period of study is chosen because of constraints in data availability. While 2010 is the last year for capital flight; governance indicators from the World Bank are only available from 1996. The data consists of three-year non-overlapping intervals. The interest of employing data averages is to restrict instrument proliferation or limit over-identification in the Generalised Method of Moments (GMM) estimation technique. Therefore, for the sampled period, there are five three-year data non-overlapping intervals: 1996-1998; 1999-2001; 2002-2004; 2005-2007, and 2008-2010.

The capital flight indicator, which is the outcome variable reveals, unrecorded capital flows between one country and the rest of the world. The appreciation of these capital flows start with inflows in foreign exchange that are incorporated into a country's Balance of Payments, so that missing money (the difference between recorded inflows and corresponding outflows) is disclosed in terms of 'net errors and omissions'. The adopted capital flight measurement is in accordance with recent literature (e.g. Weeks, 2015; Efobi & Asongu, 2016).

The main concern encountered with usage of the measurement of capital flight is that, it cannot be directly compared with other variables because it is presented in constant 2010 US Dollars. In line with Asongu (2014), this issue is tackled by: first, transforming current GDP into constant 2010 terms; then, dividing the corresponding value by 1 000 000 to obtain a 'GDP constant of 2010 USD (in millions) and finally dividing the capital flight data by the 'GDP constant of 2010 USD (in millions). The outcome of the transformation leads to a capital flight measurement that is comparable with other selected variables from the perspective of means and standard deviations (see Appendix 2).

The independent variable of interest used to examine the capital flight trap is the lagged value of capital flight. This lagged value of capital flight is interacted with terrorism indicators in order to assess the net effect on capital flight from interactions between terrorism and the capital flight trap.

Four principal terrorism indicators are used, namely: domestic, transnational, unclear, and total terrorism. Terrorism-specific definitions are from Efobi et al. (2015). Domestic terrorism “*includes all incidences of terrorist activities that involves the nationals of the venue country: implying that the perpetrators, the victims, the targets and supporters are all from the venue country*” (Efobi et al., 2015, p.6; Czinkota et al., 2010). Transnational terrorism is “*terrorism including those acts of terrorism that concerns at least two countries. This implies that the perpetrator, supporters and incidence may be from/in one country, but the victim and target is from another*” (Efobi et al., 2015, p.6). Unclear terrorism is that, “*which constitutes incidences of terrorism that can neither be defined as domestic nor transnational terrorism*” (Efobi et al., 2015, p.6). Total terrorism is the sum of domestic, transnational and unclear terrorisms. These terrorism indicators are consistent with contemporary terrorism literature on Africa, notably on fighting terrorism through: (i) inclusive development and military expenditure (Asongu et al., 2017); policy harmonisation (Asongu et al., 2018a) and governance channels (Asongu et al., 2018b, 2019).

The governance indicators used for further robustness checks, which are from Kaufmann et al. (2010) include: political stability/non violence, voice and accountability, regulation quality, government effectiveness, corruption-control and the rule of law. Globalisation indicators also used for the robustness checks are: trade openness and foreign direct investment proxying for trade and financial globalisation, respectively (Osabuohien et al, 2019; Osabuohien, Beecroft & Efobi, 2018).

The study controls for omitted variable bias with GDP growth, inflation, trade openness and foreign direct investment (FDI). The selected control variables have been documented by a substantial bulk of literature on capital flight (Boyce & Ndikumana, 1998, 2001, 2003, 2008, 2011, 2012ab; Weeks, 2012; Asongu, 2013, 2015). (1) It is difficult to establish expected signs from trade openness and financial openness because their incidences on capital flight depend on whether they are restricted to a few sectors of the economy or broad-based. However, it is very probable that financial and trade globalisation are linked with capital flight because of, *inter alia*: greater possibilities for accounting malpractices such as transfer mispricing (Asongu & Amankwah-Amoah, 2018; Ndikumana & Sarr, 2016). (2) Chaotic inflation positively affects capital flight because it is linked to uncertainty in the return on investment as well as to a negative investment/economic outlook. This intuition is in accordance with documented evidence that investors are more sympathetic with less ambiguous investment strategies (Kelsey & le Roux, 2017, 2018). (3) The effect of economic

growth on capital flight could either be negative or positive depending on whether the corresponding economic growth is either restricted to a few sectors of the economy (e.g. heavy resource industries) or broad-based. Accordingly, economic growth that is broad-based can affect capital flight negatively because it translates into a stable economic outlook. Conversely, if economic prosperity is restricted to a few sectors of the economy (like heavy extractive industries), capital flight is more likely to be apparent. This narrative is consistent with the discourse on trade openness and FDI above.

The definition of variables and corresponding sources are provided in Appendix 1, while the summary statistics is provided in Appendix 2. The correlation matrix is presented in Appendix 3.

3.2 Methodology

3.2.1 Specification

The choice of the Generalised Method of Moments as empirical strategy is motivated by five main factors: whereas the first-two represent basic requirements for implementing the estimation technique, the last-three are corresponding advantages (Tchamyou et al., 2018; Efobi et al., 2018a, 2018b, 2019). (1) The technique is designed to model the lag of a dependent variable, especially when persistence in the outcome variable is apparent. From a preliminary assessment, the criterion needed to ascertain persistence in the dependent variable is met because the correlation between capital flight and its first lag is 0.867, which is above the 0.800 rule of thumb required to establish persistence in an outcome variable. (2) The $N > T$ (or $37 > 5$) information criterion that is needed for the GMM strategy is also met because the number of cross sections is higher than the number of time series in each cross section. (3) The estimation approach controls for potential endogeneity in all regressors by accounting for time invariant omitted variables on the one hand and simultaneity with instrumented regressors on the other hand. (4) Cross-country variations are taken into account in the estimation approach. (5) Biases that are linked to the *difference* GMM strategy are addressed by the *system* GMM strategy.

The adopted system GMM empirical strategy in this study is from Roodman (2009ab). The technique is an extension of Arellano and Bover (1995) that uses forward orthogonal deviations instead of first differences. The extension has the advantage of restricting instrument proliferation and/or limiting over-identification (Asongu & Nwachukwu, 2017;

Tchamyou, 2019a, 2019b). The specification is *two-step* instead of *one-step* because the former (latter) accounts for heteroscedasticity (homoscedasticity).

The following equations in level (1) and first difference (2) summarize the standard *system* GMM estimation procedure, where in the case of modelling the persistence of the outcome variables interactively; the independent variables of interest are specified to be one lag non-contemporary.

$$Cap_{i,t} = \sigma_0 + \sigma_1 Cap_{i,t-\tau} + \sigma_2 Ter_{i,t-1} + \sigma_3 CapTer_{i,t-1} + \sum_{h=1}^4 \delta_h W_{h,i,t-\tau} + \eta_i + \xi_t + \varepsilon_{i,t}$$

(1)

$$Cap_{i,t} - Cap_{i,t-\tau} = \sigma_1 (Cap_{i,t-\tau} - Cap_{i,t-2\tau}) + \sigma_2 (Ter_{i,t-\tau} - Ter_{i,t-2\tau}) + \sigma_3 (CapTer_{i,t-\tau} - CapTer_{i,t-2\tau}) + \sum_{h=1}^4 \delta_h (W_{h,i,t-\tau} - W_{h,i,t-2\tau}) + (\xi_t - \xi_{t-\tau}) + (\varepsilon_{i,t} - \varepsilon_{i,t-\tau})$$

(2)

Where: $Cap_{i,t}$ is capital flight of country i at period t ; $Cap_{i,t-1}$ (capital flight trap) is capital flight of country i at period $t-1$; $Ter_{i,t-1}$ is terrorism (domestic, transnational, unclear and total) of country i at period $t-1$; σ_0 is a constant; τ represents the coefficient of auto-regression; W is the vector of control variables (*Trade, Growth, Inflation* and *FDI*), η_i is the country-specific effect, ξ_t is the time-specific constant and $\varepsilon_{i,t}$ the error term.

3.2.2 Identification, simultaneity and exclusion restrictions

The robustness of a GMM specification depends on assumptions and validity of identification, simultaneity and exclusion restrictions. In accordance with recent empirical literature (Asongu & Nwachukwu, 2016b; Dewan & Ramaprasad, 2014; Boateng et al., 2018; Tchamyou et al., 2019), all independent variables are acknowledged as suspected endogenous or predetermined whereas time-invariant omitted variables (or years) are considered to be strictly exogenous. Accordingly, it is not very unfeasible for time-invariant omitted variables to be first-differenced endogenous (Roodman, 2009b). Hence, the strategy for treating *ivstyle* (time invariant omitted variables) is ‘iv(years, eq(diff))’ while the *gmmstyle* is used for suspected endogenous variables.

The concern about simultaneity is addressed with lagged regressors that are employed as instruments for forward differenced variables. Helmert transformations are employed to purge fixed effects that could potentially bias estimated nexuses because they are correlated

with the error terms (Arellano & Bover, 1995; Love & Zicchino, 2006; Tchamyu & Asongu, 2017). The transformations entail the use of forward mean-differences of variables that is contrary to the approach of subtracting previous observations from contemporary ones (Roodman, 2009b). Accordingly, the average of future observations is deducted from previous observations. This transformation enables orthogonal or parallel conditions between lagged values and forward-differenced variables. Irrespective of the number of lagged values, data loss is minimised by computing the suggested transformations for all observations, except for the last observation of each country: “*And because lagged observations do not enter the formula, they are valid as instruments*” (Roodman, 2009b, p. 104).

In the light of the above insights, the time invariant omitted variables affect capital flight exclusively via suspected endogenous or predetermined variables. Moreover, the statistical validity of the exclusion restriction is assessed with the Difference in Hansen Test (DHT) for the validity of instruments. In order for years or time invariant indicators to elicit capital flight exclusively through the predetermined variables, the null hypothesis of the test should not be rejected. It is important to note that while with a standard instrumental variable (IV) estimation approach, the failure to reject the null hypothesis of the Sargan Overidentifying Restrictions (OIR) test implies that the instruments explain the dependent variable exclusively through the predetermined variables (Beck et al., 2013; Asongu & Nwachukwu, 2016c), with GMM approach that employs forward orthogonal deviations, the information criterion used to assess whether time invariant omitted indicators exhibit strict exogeneity is the DHT. Therefore in the findings that are reported below, the hypothesis of exclusion restriction is confirmed if the DHT associated with IV(year, eq(diff)) is not rejected.

4. Empirical results

Table 1 presents baseline regressions (in Section 4.1), Tables 2-7 contain the robustness checks based on varying levels of governance (in Section 4.2) while Tables 8-9 show robustness checks using varying levels of globalisation (in Section 4.3). It is important to note that this inquiry is motivated by two main concerns. On the one hand, it investigates if the capital flight trap is sustained by terrorism. On the other hand, it examines how varying levels of governance and globalisation affect the underlying relationship. Whereas the first concern motivating this study is assessed in Section 4.1, the second concern is examined in Sections 4.2 and 4.3.

Four principal information criteria are employed to examine the validity of the GMM model with forward orthogonal deviations². Based on these criteria, the estimated models are overwhelmingly valid. It is important to note that, the Hansen test is robust while the Sargan test is not robust. Hence, in case of conflict of interest, priority is given to the Hansen test (Tchamyou et al., 2019; Asongu & Odhiambo, 2019). Either concern motivating the study is examined through prisms of the: (i) unconditional effect of the capital flight trap; (ii) conditional impact from the interaction between terrorism and the capital flight trap and (iii) net effect from both the underlying unconditional and conditional effects. This procedure for computing net effects is consistent with contemporary literature on interactive regressions (Asongu & Odhiambo, 2018a, 2018b; Agoba et al., 2019). For example in the first column of Table 1, the unconditional and conditional impacts of the capital flight trap are respectively: 0.442 and -0.085 while the corresponding net effect from the role of domestic terrorism is 0.383 $(0.422 + [-0.085 \times 0.453])^3$.

4.1 Baseline regressions

The following findings can be established from baseline regressions. (1) The evidence of a capital flight trap is consistently apparent because past values of capital flight have a positive effect on future values of capital flight. (2) From the unconditional effects, transnational (domestic) terrorism sustains (does not sustain) capital flight. (3) The net effects from the complementarity between the capital flight trap and either terrorism dynamics are positive. (4) Most of the significant control variables display the expected signs.

‘Insert Table 1’ here.

4.2 Controlling for governance

This sub-section assesses whether the established baseline findings withstand further empirical scrutiny when viewed in the light of varying governance levels. A median cut-off point is used for the governance variables in order to have some symmetry in the two sub-

² “First, the null hypothesis of the second-order Arellano and Bond autocorrelation test (AR(2)) in difference for the absence of autocorrelation in the residuals should not be rejected. Second the Sargan and Hansen overidentification restrictions (OIR) tests should not be significant because their null hypotheses are the positions that instruments are valid or not correlated with the error terms. In essence, while the Sargan OIR test is not robust but not weakened by instruments, the Hansen OIR is robust but weakened by instruments. In order to restrict identification or limit the proliferation of instruments, we have ensured that instruments are lower than the number of cross-sections in most specifications. Third, the Difference in Hansen Test (DHT) for exogeneity of instruments is also employed to assess the validity of results from the Hansen OIR test. Fourth, a Fischer test for the joint validity of estimated coefficients is also provided” (Asongu & De Moor, 2017, p.200)

³ 0.453 is the mean value of domestic terrorism.

samples. Out of the six good governance variables employed, there are two main indicators for the three sets of governance categories, namely: political stability and voice & accountability (for political governance), regulation quality and government effectiveness (for economic governance) and corruption-control and the rule of law (for institutional governance).

The following can be established from Table 2 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of political stability. (1) There is evidence of a capital flight trap because past values of capital flight have a positive effect on future values of capital flight. (2) With the exception of unclear terrorism, the conditional effects from interactions between the capital flight trap and terrorism dynamics are positive on capital flight. (3) The net effects from the complementarity between the capital flight trap and terrorism dynamics are positive. (4) The findings in (1), (2) and (3) are exclusively for the above-median political stability sub-sample.

In Table 3 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of voice and accountability, the findings in Table 2 with regards to political governance are confirmed as concerns the: (i) consistent significance in conditional and unconditional effects in above-median ‘voice & accountability’ sub-sample and (ii) exception of regressions pertaining to unclear terrorism that are not significant.

Whereas the trend on above-median sub-sample is established exclusively in domestic-terrorism related regressions in Table 4 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of regulation quality, not significant effects are apparent in Table 5 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of government effectiveness.

In Table 6 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of the rule of law, the established tendency for above-median sub-sample is confirmed for unclear terrorism whereas in Table 7 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of corruption-control, the above-median sub-sample tendency is: (i) confirmed for domestic and total terrorism; (ii) unconfirmed for unclear terrorism and (iii) insignificant for transnational terrorism.

‘Insert Tables 2-7’ here.

4.3 Controlling for globalisation

This sub-section examines whether the established baseline findings withstand further empirical scrutiny when viewed in the light of varying globalisation levels. A median cut-off is used for the globalisation variables in order to have some symmetry in the two sub-samples. Two main globalisation variables are used, namely: trade openness (Table 8) and financial globalisation (Table 9).

The following can be established from Table 8 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of trade openness. (1) There is evidence of a capital flight trap because past values of capital flight have a positive effect on future values of capital flight. (2) No net effects are apparent because unconditional and conditional effects are insignificant for the most part.

The following can be established from Table 9 on the linkages between capital flight, the capital flight trap, terrorism and dynamics of foreign direct investment. (1) There is evidence of a capital flight trap because past values of capital flight have a positive effect on future values of capital flight (2) While the net effect from transnational terrorism is positive for below-median levels of FDI, the corresponding conditional effect is negative.

‘Insert Tables 8-9’ here.

5. Concluding implications, contribution and future research directions

This paper has assessed if terrorism sustains the capital flight trap and whether varying levels of governance and globalisation affect the relationship. The empirical evidence is based on interactive Generalised Method of Moments and data from 37 African countries for the period 1996-2010. The following findings have been established. (1) Evidence of a capital flight trap is apparent because past values of capital flight have a positive effect on future values of capital flight. (2) Terrorism sustains the positive effect of the capital flight trap on capital flight. (3) For the most part (especially with regards to political governance), terrorism sustains the addiction to capital flight in above-median governance sub-samples. (4) The incidence of varying levels of globalization is not significant for trade openness and scantily significant for foreign direct investment.

The puzzle the study elucidates is why terrorism sustains the addiction of capital flight in above-median governance sub-samples. A possible reason could be that countries with

better governance standards are more sensitive to terrorism compared to their counterparts with poor governance standards. The higher responsiveness of countries with above-median standards of governance can be elucidated from perspectives of investors and government officials. From the perspective of investors, the advent of terrorism is likely to increase their risk perception in countries with above-median governance more proportionately than in countries with below-median governance. As concerns government officials, at the advent of terrorism, their ability to siphon and deposit money abroad is also more likely to increase in countries with above-median governance, compared to their counterparts with below-median governance.

This empirical assessment, which has focused on linkages between the capital flight trap, capital flight and terrorism, has simultaneously contributed to the macroeconomic literature on modeling the addition of negative macroeconomic variables and to the evolving literature on understanding how different negative macroeconomic variables interact under varying institutional and globalization environments.

Future research can improve the existing literature by employing the empirical underpinning on more macroeconomic variables with negative signals. In so doing, researchers should consider more updated measurements of capital flight. Accordingly, while the indicator proposed by Boyce and Ndikumana (2012a) used in this study is based on a residual measure of capital flight; such a measurement does not incorporate foreign institutional inflows. A measurement of capital flight which includes foreign institutional inflows has been documented by Pradhan and Hiremath (2017) and Brada *et al.*, (2013) who have argued that their measure of capital flight is more conservative and potentially more robust than the measure proposed by Boyce and Ndikumana (2012a).

Table 1: Baseline Regressions

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
Constant	5.404*** (0.000)	4.996*** (0.000)	8.082*** (0.000)	6.215*** (0.000)	6.415*** (0.000)	5.898*** (0.000)	6.000*** (0.000)	5.017*** (0.000)
Capital Flight(CF) (-1)	0.422*** (0.000)	0.519*** (0.000)	0.145** (0.039)	0.347*** (0.000)	0.383*** (0.000)	0.400*** (0.000)	0.359*** (0.000)	0.493*** (0.000)
Domestic T.	-0.085*** (0.000)	-0.072*** (0.002)	---	---	---	---	---	---
Transnational T.	---	---	-0.047 (0.121)	-0.049 (0.161)	---	---	---	---
Unclear T.	---	---	---	---	0.083*** (0.001)	0.136** (0.030)	---	---
Total T.	---	---	---	---	---	---	-0.105*** (0.000)	-0.068** (0.020)
Domestic T.(-1)×CF(-1)	-0.085*** (0.000)	-0.001 (0.472)	---	---	---	---	---	---
Transnational T.(-1)×CF(-1)	---	---	0.001 (0.544)	0.005** (0.039)	---	---	---	---
Unclear T. (-1)×CF(-1)	---	---	---	---	0.00009 (0.944)	-0.0009 (0.740)	---	---
Total T. (-1)×CF(-1)	---	---	---	---	---	---	-0.001 (0.443)	0.001 (0.385)
Trade	0.003** (0.046)	0.00005 (0.973)	0.003*** (0.005)	0.002* (0.086)	-0.0009 (0.530)	-0.0002 (0.883)	0.003** (0.027)	-0.00003 (0.984)
GDP growth	-0.007* (0.055)	-0.005 (0.233)	-0.004 (0.130)	-0.006* (0.058)	-0.005 (0.163)	-0.006 (0.165)	-0.005 (0.169)	-0.005 (0.181)
Inflation	0.002*** (0.000)	0.002*** (0.000)	---	0.003*** (0.000)	0.003*** (0.000)	0.002*** (0.000)	0.002*** (0.000)	0.002*** (0.000)
Foreign Investment	---	-0.001 (0.418)	---	-0.010** (0.020)	---	-0.006** (0.017)	---	-0.004 (0.215)
Net Effects	0.383	n.a	n.a	0.348	n.a	n.a	n.a	n.a
AR(1)	(0.005)	(0.005)	(0.004)	(0.004)	(0.008)	(0.005)	(0.006)	(0.006)
AR(2)	(0.109)	(0.108)	(0.283)	(0.153)	(0.128)	(0.115)	(0.131)	(0.145)
Sargan OIR	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Hansen OIR	(0.519)	(0.502)	(0.733)	(0.774)	(0.537)	(0.781)	(0.620)	(0.498)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(0.544)	(0.626)	(0.401)	(0.383)	(0.403)	(0.452)	(0.576)	(0.650)
Dif(null, H=exogenous)	(0.440)	(0.378)	(0.797)	(0.856)	(0.554)	(0.824)	(0.540)	(0.362)
(b) IV (years, eq(diff))								
H excluding group	(0.277)	(0.363)	(0.690)	(0.374)	(0.515)	(0.596)	(0.286)	(0.023)
Dif(null, H=exogenous)	(0.593)	(0.549)	(0.637)	(0.862)	(0.483)	(0.738)	(0.700)	(0.994)
Fisher	3735.79***	645.36***	1109.49***	2209.91***	1518.71***	599.28***	5012.20***	660.55***
Instruments	36	40	36	40	36	40	36	40
Countries	34	34	34	34	34	34	34	34
Observations	382	382	382	382	382	382	382	382

*, **, ***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 2: Controlling for Political Stability(PS)

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	PS ≤M	PS>M	PS ≤M	PS>M	PS ≤M	PS>M	PS ≤M	PS>M
Constant	-2.159 (0.425)	4.284*** (0.000)	-2.915 (0.626)	6.674*** (0.000)	2.247 (0.217)	(omitted)	7.419 (0.113)	3.509*** (0.000)
Capital Flight(CF) (-1)	0.383 (0.140)	0.598*** (0.000)	0.259 (0.351)	0.337*** (0.001)	0.755** (0.049)	0.966*** (0.000)	0.271 (0.399)	0.683*** (0.000)
Domestic T.	-0.026 (0.698)	0.085** (0.025)	---	---	---	---	---	---
Transnational T.	---	---	-0.202 (0.191)	0.055 (0.357)	---	---	---	---
Unclear T.	---	---	---	---	-1.631 (0.375)	0.238*** (0.000)	---	---
Total T.	---	---	---	---	---	---	-0.011 (0.925)	0.039 (0.198)
Domestic T.(-1) ×CF(-1)	0.003 (0.705)	0.007*** (0.002)	---	---	---	---	---	---
Transnational T.(-1)×CF(-1)	---	---	0.002 (0.815)	0.011** (0.011)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	0.016 (0.514)	-0.018*** (0.000)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	0.005 (0.504)	0.008** (0.020)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	nsa	n.a	0.339	n.a	0.963	n.a	0.687
AR(1)	(0.035)	(0.010)	(0.109)	(0.004)	(0.107)	(0.004)	(0.093)	(0.003)
AR(2)	(0.438)	(0.039)	(0.320)	(0.570)	(0.933)	(0.474)	(0.472)	(0.101)
Sargan OIR	(0.047)	(0.000)	(0.006)	(0.000)	(0.000)	(0.000)	(0.026)	(0.000)
Hansen OIR	(1.000)	(0.934)	(1.000)	(0.766)	(1.000)	(0.000)	(1.000)	(0.918)
DHT for instruments								
(a)Instruments in levels								
H excluding group	(0.998)	(0.666)	(0.652)	(0.543)	(0.852)	(0.805)	(0.889)	(0.624)
Dif(null, H=exogenous)	(1.000)	(0.921)	(1.000)	(0.751)	(1.000)	(0.000)	(1.000)	(0.913)
(b) IV (years, eq(diff))								
H excluding group	(0.865)	(0.202)	(0.963)	(0.511)	(0.781)	(0.758)	(0.775)	(0.175)
Dif(null, H=exogenous)	(1.000)	(1.000)	(1.000)	(0.771)	(1.000)	(0.000)	(1.000)	(1.000)
Fisher	868.97***	994.39***	153.89***	435.34***	378.95***	2.5e+10** *	73.99***	1188.34***
Instruments	39	40	39	40	39	40	39	40
Countries	23	33	23	33	23	33	23	33
Observations	148	234	148	234	148	234	148	234

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Political Stability (-0.4723). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant. nsa: not specifically applicable because the estimated model is not valid.

Table 3: Controlling for Voice and Accountability

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	VA ≤M	VA>M	VA ≤M	VA>M	VA ≤M	VA>M	VA ≤M	VA>M
Constant	33.246** (0.032)	4.487*** (0.000)	8.662 (0.108)	6.072*** (0.000)	2.831 (0.613)	4.721*** (0.000)	0.681 (0.800)	3.408*** (0.000)
Capital Flight(CF) (-1)	-1.356 (0.173)	0.570*** (0.000)	0.024 (0.957)	0.410*** (0.000)	0.402 (0.299)	0.548*** (0.000)	0.628*** (0.001)	0.676*** (0.000)
Domestic T.	-1.192* (0.052)	0.058 (0.164)	---	---	---	---	---	---
Transnational T.	---	---	-0.063 (0.431)	0.039 (0.349)	---	---	---	---
Unclear T.	---	---	---	---	0.488 (0.382)	0.194*** (0.003)	---	---
Total T.	---	---	---	---	---	---	0.328 (0.291)	0.036 (0.831)
Domestic T.(-1) ×CF(-1)	0.080* (0.058)	0.007*** (0.002)	---	---	---	---	---	---
Transnational T.(-1)×CF(-1)	---	---	0.015 (0.188)	0.013*** (0.000)	---	---	---	---
Unclear T. (-1)×CF(-1)	---	---	---	---	0.0005 (0.946)	-0.006 (0.168)	---	---
Total T. (-1)×CF(-1)	---	---	---	---	---	---	-0.026 (0.300)	0.005*** (0.007)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	0.573	n.a	0.413	n.a	n.a	n.a	0.679
AR(1)	(0.220)	(0.010)	(0.140)	(0.004)	(0.180)	(0.000)	(0.100)	(0.010)
AR(2)	(0.200)	(0.125)	(0.972)	(0.466)	(0.604)	(0.005)	(0.506)	(0.104)
Sargan OIR	(0.003)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.001)	(0.000)
Hansen OIR	(1.000)	(0.885)	(0.997)	(0.835)	(1.000)	(0.991)	(1.000)	(0.518)
DHT for instruments								
(a)Instruments in levels								
H excluding group	(0.959)	(0.554)	(0.915)	(0.279)	(0.928)	(0.314)	(0.878)	(0.639)
Dif(null, H=exogenous)	(1.000)	(0.897)	(0.987)	(0.960)	(1.000)	(1.000)	(1.000)	(0.390)
(b) IV (years, eq(diff))								
H excluding group	(0.881)	(0.189)	(0.492)	(0.195)	(0.820)	(0.605)	(0.948)	(0.140)
Dif(null, H=exogenous)	(1.000)	(0.997)	(1.000)	(0.985)	(1.000)	(0.998)	(1.000)	(0.815)
Fisher	130.49***	789.04***	175.06***	411.74***	167.04***	401.94***	126.81***	952.23***
Instruments	39	40	39	40	39	40	39	40
Countries	23	32	23	32	23	32	23	32
Observations	157	225	157	225	157	225	157	225

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Voice and Accountability (-0.78323). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 4: Controlling for Regulation Quality

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	RQ ≤M	RQ >M	RQ ≤M	RQ >M	RQ ≤M	RQ >M	RQ ≤M	RQ >M
Constant	4.010 (0.155)	4.332*** (0.000)	1.572 (0.682)	5.116*** (0.000)	7.605** (0.036)	4.540*** (0.000)	2.113 (0.319)	4.185*** (0.000)
Capital Flight(CF) (-1)	0.154 (0.717)	0.583*** (0.000)	0.312 (0.331)	0.531*** (0.000)	0.304 (0.245)	0.559*** (0.000)	0.249 (0.401)	0.604*** (0.000)
Domestic T.	0.147 (0.413)	0.016 (0.754)	---	---	---	---	---	---
Transnational T.	---	---	0.087 (0.443)	-0.098** (0.034)	---	---	---	---
Unclear T.	---	---	---	---	0.301 (0.712)	0.096 (0.370)	---	---
Total T.	---	---	---	---	---	---	0.128 (0.299)	0.031 (0.439)
Domestic T.(-1) ×CF(-1)	-0.007 (0.318)	0.008*** (0.001)	---	---	---	---	---	---
Transnational T.(-1) ×CF(-1)	---	---	0.007 (0.447)	0.001 (0.747)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	0.011 (0.218)	0.002 (0.721)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	-0.002 (0.796)	0.005 (0.103)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	0.586	n.a	n.a	n.a	n.a	n.a	n.a
AR(1)	(0.159)	(0.160)	(0.040)	(0.021)	(0.007)	(0.027)	(0.038)	(0.030)
AR(2)	(0.707)	(0.256)	(0.505)	(0.142)	(0.301)	(0.136)	(0.335)	(0.211)
Sargan OIR	(0.024)	(0.000)	(0.023)	(0.000)	(0.001)	(0.000)	(0.005)	(0.000)
Hansen OIR	(1.000)	(0.902)	(1.000)	(0.967)	(1.000)	(0.968)	(1.000)	(0.888)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(0.924)	(0.577)	(0.813)	(0.243)	(0.916)	(0.427)	(0.755)	(0.511)
Dif(null, H=exogenous)	(1.000)	(0.909)	(1.000)	(1.000)	(0.999)	(0.996)	(1.000)	(0.917)
(b) IV (years, eq(diff))								
H excluding group	(0.932)	(0.128)	(0.895)	(0.078)	(0.715)	(0.331)	(0.884)	(0.115)
Dif(null, H=exogenous)	(1.000)	(1.000)	(1.000)	(1.000)	(1.000)	(0.999)	(1.000)	(1.000)
Fisher	752.13***	1780.50***	196.79***	344.21***	1286.42***	3342.77**	345.87***	1618.53***
Instruments	39	40	39	40	23	40	23	40
Countries	23	31	23	31	39	31	39	31
Observations	133	249	133	249	133	249	133	249

*, **, ***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Regulation Quality (-0.58724). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 5: Controlling for Government Effectiveness

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	GE≤M	GE>M	GE≤M	GE>M	GE≤M	GE>M	GE≤M	GE>M
Constant	6.283 (0.266)	4.586*** (0.000)	7.035 (0.336)	5.247*** (0.000)	-0.215 (0.962)	4.992*** (0.000)	3.216 (0.641)	3.227*** (0.001)
Capital Flight(CF) (-1)	0.576*** (0.002)	0.538*** (0.000)	0.001 (0.991)	0.494*** (0.000)	0.828** (0.025)	0.507*** (0.000)	0.984 (0.347)	0.708*** (0.000)
Domestic T.	-0.111 (0.194)	-0.037 (0.123)	---	---	---	---	---	---
Transnational T.	---	---	0.046 (0.893)	-0.145 (0.133)	---	---	---	---
Unclear T.	---	---	---	---	-2.159 (0.259)	0.351** (0.029)	---	---
Total T.	---	---	---	---	---	---	0.101 (0.487)	-0.045 (0.112)
Domestic T.(-1) ×CF(-1)	0.002 (0.621)	-0.002 (0.437)	---	---	---	---	---	---
Transnational T.(-1) ×CF(-1)	---	---	0.020 (0.196)	0.008 (0.118)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	-0.007 (0.746)	-0.019 (0.101)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	-0.025 (0.524)	0.004 (0.152)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
AR(1)	(0.272)	(0.008)	(0.707)	(0.002)	(0.042)	(0.003)	(0.366)	(0.004)
AR(2)	(0.997)	(0.226)	(0.667)	(0.334)	(0.404)	(0.153)	(0.446)	(0.229)
Sargan OIR	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Hansen OIR	(1.000)	(0.286)	(1.000)	(0.779)	(1.000)	(0.946)	(1.000)	(0.817)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(0.978)	(0.549)	(0.981)	(0.350)	(0.994)	(0.193)	(0.846)	(0.447)
Dif(null, H=exogenous)	(1.000)	(0.199)	(1.000)	(0.881)	(1.000)	(1.000)	(1.000)	(0.867)
(b) IV (years, eq(diff))								
H excluding group	(0.832)	(0.059)	(0.978)	(0.282)	(0.999)	(0.386)	(0.941)	(0.183)
Dif(null, H=exogenous)	(1.000)	(0.707)	(1.000)	(0.920)	(1.000)	(0.992)	(1.000)	(0.984)
Fisher	99.11***	617.01***	229.50***	729.68***	280.26***	1408.7***	1107.90***	1709.86***
Instruments	40	40	39	40	39	40	39	40
Countries	24	32	22	31	22	31	22	31
Observations	151	231	136	246	136	246	136	246

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Government Effectiveness (-0.66608). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 6: Controlling for the Rule of Law (RL)

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	RL≤M	RL>M	RL≤M	RL>M	RL≤M	RL>M	RL≤M	RL>M
Constant	13.740*** (0.009)	3.790*** (0.001)	-2.191 (0.778)	5.348*** (0.000)	0.211 (0.978)	5.116*** (0.000)	4.218 (0.432)	3.156*** (0.001)
Capital Flight(CF) (-1)	-0.060 (0.878)	0.646*** (0.000)	0.463** (0.011)	0.496*** (0.000)	0.852 (0.127)	0.545*** (0.000)	0.498** (0.011)	0.695*** (0.000)
Domestic T.	-0.274* (0.057)	0.080** (0.028)	---	---	---	---	---	---
Transnational T.	---	---	0.421 (0.226)	-0.020 (0.708)	---	---	---	---
Unclear T.	---	---	---	---	-2.704 (0.465)	0.324** (0.023)	---	---
Total T.	---	---	---	---	---	---	0.046 (0.914)	-0.014 (0.727)
Domestic T.(-1) ×CF(-1)	-0.015 (0.184)	0.005 (0.133)	---	---	---	---	---	---
Transnational T.(-1) ×CF(-1)	---	---	-0.021 (0.265)	0.008 (0.136)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	0.032 (0.250)	-0.019* (0.076)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	-0.008 (0.812)	0.005 (0.147)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	n.a	n.a	n.a	n.a	0.321	n.a	n.a
AR(1)	(0.169)	(0.005)	(0.204)	(0.021)	(0.606)	(0.009)	(0.675)	(0.006)
AR(2)	(0.143)	(0.199)	(0.186)	(0.220)	(0.787)	(0.788)	(0.952)	(0.165)
Sargan OIR	(0.097)	(0.000)	(0.067)	(0.000)	(0.003)	(0.000)	(0.008)	(0.000)
Hansen OIR	(1.000)	(0.967)	(1.000)	(0.786)	(1.000)	(0.965)	(1.000)	(0.854)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(0.955)	(0.439)	(0.999)	(0.254)	(1.000)	(0.107)	(1.000)	(0.417)
Dif(null, H=exogenous)	(1.000)	(0.995)	(1.000)	(0.940)	(0.994)	(1.000)	(0.996)	(0.920)
(b) IV (years, eq(diff))								
H excluding group	(0.947)	(0.201)	(0.998)	(0.100)	(0.810)	(0.456)	(0.824)	(0.119)
Dif(null, H=exogenous)	(1.000)	(1.000)	(1.000)	(0.997)	(1.000)	(0.994)	(1.000)	(0.999)
Fisher	373.11***	303.25***	339.90***	286.44***	715.16***	1234.2***	80.01***	641.71
Instruments	39	40	39	40	39	40	39	40
Countries	24	30	22	30	22	30	22	30
Observations	159	233	140	242	140	242	140	242

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Rule of Law (-0.65344). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 7: Controlling for Corruption-Control (CC)

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	CC ≤M	CC>M	CC ≤M	CC>M	CC ≤M	CC>M	CC ≤M	CC>M
Constant	8.185** (0.040)	4.406*** (0.000)	14.041** (0.018)	5.896*** (0.000)	3.471 (0.349)	4.679*** (0.000)	2.670 (0.667)	3.572*** (0.003)
Capital Flight(CF) (-1)	0.309 (0.354)	0.618*** (0.000)	0.143 (0.467)	0.430*** (0.000)	0.589** (0.010)	0.551*** (0.000)	0.121 (0.572)	0.677*** (0.000)
Domestic T.	-0.044 (0.751)	0.055* (0.097)	---	---	---	---	---	---
Transnational T.	---	---	-0.407* (0.099)	-0.061 (0.373)	---	---	---	---
Unclear T.	---	---	---	---	-2.154* (0.078)	0.171* (0.098)	---	---
Total T.	---	---	---	---	---	---	-0.876* (0.054)	-0.001 (0.975)
Domestic T.(-1) ×CF(-1)	-0.008 (0.476)	0.006** (0.035)	---	---	---	---	---	---
Transnational T.(-1) ×CF(-1)	---	---	0.028** (0.019)	0.007 (0.103)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	0.034* (0.051)	-0.0008 (0.893)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	0.053** (0.043)	0.006* (0.072)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	0.620	n.a	n.a	0.592	n.a	n.a	0.680
AR(1)	(0.249)	(0.014)	(0.393)	(0.013)	(0.340)	(0.010)	(0.224)	(0.009)
AR(2)	(0.254)	(0.222)	(0.954)	(0.382)	(0.357)	(0.133)	(0.437)	(0.285)
Sargan OIR	(0.048)	(0.000)	(0.002)	(0.000)	(0.000)	(0.000)	(0.005)	(0.000)
Hansen OIR	(1.000)	(0.840)	(1.000)	(0.688)	(1.000)	(0.874)	(1.000)	(0.837)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(1.000)	(0.432)	(0.585)	(0.243)	(0.757)	(0.312)	(0.632)	(0.590)
Dif(null, H=exogenous)	(1.000)	(0.900)	(1.000)	(0.868)	(1.000)	(0.971)	(1.000)	(0.817)
(b) IV (years, eq(diff))								
H excluding group	(0.998)	(0.091)	(0.933)	(0.150)	(0.763)	(0.205)	(0.548)	(0.149)
Dif(null, H=exogenous)	(1.000)	(1.000)	(1.000)	(0.943)	(1.000)	(0.993)	(1.000)	(0.995)
Fisher	389.53***	656.94***	360.91***	629.06***	212.72***	4461.6***	63.84***	2700.26***
Instruments	39	40	39	40	39	40	39	40
Countries	22	30	23	31	23	31	23	31
Observations	141	241	148	234	148	234	148	234

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Corruption Control (-0.65021). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 8: Controlling for Trade Openness (TO)

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	TO ≤M	TO >M	TO ≤M	TO >M	TO ≤M	TO >M	TO ≤M	TO >M
Constant	12.454** (0.017)	5.458*** (0.007)	6.431*** (0.000)	7.204*** (0.004)	5.890*** (0.008)	6.137*** (0.003)	4.508*** (0.045)	6.354** (0.014)
Capital Flight(CF) (-1)	-0.267 (0.603)	0.454** (0.010)	0.548*** (0.000)	0.282 (0.326)	0.462** (0.029)	0.411** (0.025)	0.624*** (0.002)	0.373* (0.052)
Domestic T.	0.125 (0.220)	0.040 (0.622)	---	---	---	---	---	---
Transnational T.	---	---	0.013 (0.958)	0.163 (0.163)	---	---	---	---
Unclear T.	---	---	---	---	0.125 (0.345)	0.205 (0.584)	---	---
Total T.	---	---	---	---	---	---	-0.129 (0.170)	0.057 (0.503)
Domestic T.(-1) ×CF(-1)	-0.024* (0.097)	0.011 (0.260)	---	---	---	---	---	---
Transnational T.(-1) ×CF(-1)	---	---	-0.001 (0.954)	0.012 (0.362)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	0.002 (0.871)	-0.112 (0.110)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	0.006 (0.200)	0.011 (0.489)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	n.a	n.a	n.a	n.a	n.a	n.a	n.a
AR(1)	(0.144)	(0.081)	(0.088)	(0.054)	(0.419)	(0.051)	(0.044)	(0.090)
AR(2)	(0.325)	(0.697)	(0.182)	(0.232)	(0.832)	(0.586)	(0.863)	(0.809)
Sargan OIR	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Hansen OIR	(1.000)	(1.000)	(1.000)	(0.999)	(0.997)	(1.000)	(0.994)	(1.000)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(1.000)	(0.839)	(0.476)	(0.303)	(0.838)	(0.632)	(0.618)	(0.532)
Dif(null, H=exogenous)	(0.991)	(1.000)	(1.000)	(1.000)	(0.994)	(1.000)	(0.999)	(1.000)
(b) IV (years, eq(diff))								
H excluding group	(0.332)	(0.627)	(0.626)	(0.840)	(0.840)	(0.761)	(0.674)	(0.630)
Dif(null, H=exogenous)	(1.000)	(1.000)	(1.000)	(0.999)	(0.994)	(1.000)	(0.998)	(1.000)
Fisher	81324***	1515.57***	1777.27***	1425.47***	1080.60***	4236.1***	6192.99***	793.63***
Instruments	40	40	40	40	40	40	40	40
Countries	24	25	24	25	24	25	24	25
Observations	192	190	192	190	192	190	192	190

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Political Trade Openness (67.771). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant.

Table 9: Controlling for Foreign Direct Investment (FDI)

	Dependent Variable: Capital Flight							
	Domestic Terrorism		Transnational Terrorism		Unclear Terrorism		Total Terrorism	
	FDI ≤M	FDI >M	FDI ≤M	FDI >M	FDI ≤M	FDI >M	FDI ≤M	FDI >M
Constant	2.340*** (0.001)	2.864*** (0.001)	2.937*** (0.002)	5.179*** (0.000)	4.963*** (0.000)	4.834*** (0.002)	2.505* (0.067)	4.464*** (0.000)
Capital Flight(CF) (-1)	0.787*** (0.000)	0.687*** (0.000)	0.725*** (0.000)	0.483*** (0.000)	0.543*** (0.000)	0.556*** (0.000)	0.769*** (0.000)	0.540*** (0.000)
Domestic T.	0.037 (0.546)	-0.064 (0.149)	---	---	---	---	---	---
Transnational T.	---	---	0.025 (0.689)	-0.020 (0.712)	---	---	---	---
Unclear T.	---	---	---	---	0.240** (0.028)	-0.129 (0.670)	---	---
Total T.	---	---	---	---	---	---	0.021 (0.582)	-0.133** (0.026)
Domestic T.(-1) ×CF(-1)	-0.001 (0.553)	0.007*** (0.007)	---	---	---	---	---	---
Transnational T.(-1) ×CF(-1)	---	---	-0.011** (0.040)	0.009 (0.192)	---	---	---	---
Unclear T. (-1) ×CF(-1)	---	---	---	---	-0.002 (0.515)	-0.0007 (0.924)	---	---
Total T. (-1) ×CF(-1)	---	---	---	---	---	---	-0.006 (0.126)	0.007 (0.072)
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Net Effects	n.a	nsa	0.722	n.a	n.a	n.a	n.a	n.a
AR(1)	(0.028)	(0.012)	(0.010)	(0.007)	(0.009)	(0.005)	(0.009)	(0.013)
AR(2)	(0.562)	(0.098)	(0.330)	(0.104)	(0.534)	(0.235)	(0.350)	(0.276)
Sargan OIR	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Hansen OIR	(0.852)	(0.906)	(0.708)	(0.940)	(0.942)	(0.853)	(0.727)	(0.908)
DHT for instruments								
(a) Instruments in levels								
H excluding group	(0.228)	(0.320)	(0.455)	(0.317)	(0.259)	(0.278)	(0.426)	(0.174)
Dif(null, H=exogenous)	(0.983)	(0.985)	(0.734)	(0.996)	(0.999)	(0.970)	(0.776)	(0.999)
(b) IV (years, eq(diff))								
H excluding group	(0.119)	(0.736)	(0.455)	(0.524)	(0.209)	(0.446)	(0.299)	(0.709)
Dif(null, H=exogenous)	(0.999)	(0.848)	(0.734)	(0.967)	(1.000)	(0.907)	(0.864)	(0.864)
Fisher	53264***	551.56***	7471.50***	378.63***	1784.16***	1028.3***	5565.34***	233.83***
Instruments	40	40	40	40	40	40	40	40
Countries	30	29	30	29	30	29	30	29
Observations	181	201	181	201	181	201	181	201

*,**,***: significance levels of 10%, 5% and 1% respectively. FDI: Foreign Direct Investment. M: Median of Foreign Direct Investment (2.3372). DHT: Difference in Hansen Test for Exogeneity of Instruments' Subsets. Dif: Difference. OIR: Over-identifying Restrictions Test. The significance of bold values is twofold. 1) The significance of estimated coefficients, Hausman test and the Fisher statistics. 2) The failure to reject the null hypotheses of: a) no autocorrelation in the AR(1) and AR(2) tests and; b) the validity of the instruments in the Sargan and Hansen OIR tests. na: not applicable because at least one estimated coefficient required for the computation of net effects is not significant. nsa: not specifically applicable because the estimated model is not valid.

Appendices

Appendix 1: Variable Definitions

Variables	Signs	Variable Definitions (Measurements)	Sources
Capital Flight		Ln of Capital Flight (constant of 2010)	Ndikumana & Boyce (2012a)
Political Stability	PolSta	“Political stability/no violence (estimate): measured as the perceptions of the likelihood that the government will be destabilized or overthrown by unconstitutional and violent means, including domestic violence and terrorism”	World Bank (WDI)
Voice & Accountability	V&A	“Voice and accountability (estimate): measures the extent to which a country’s citizens are able to participate in selecting their government and to enjoy freedom of expression, freedom of association and a free media”.	World Bank (WDI)
Government Effectiveness	Gov. E	“Government effectiveness (estimate): measures the quality of public services, the quality and degree of independence from political pressures of the civil service, the quality of policy formulation and implementation, and the credibility of governments’ commitments to such policies”.	World Bank (WDI)
Regulation Quality	RQ	“Regulation quality (estimate): measured as the ability of the government to formulate and implement sound policies and regulations that permit and promote private sector development”.	World Bank (WDI)
Rule of Law	RL	“Rule of law (estimate): captures perceptions of the extent to which agents have confidence in and abide by the rules of society and in particular the quality of contract enforcement, property rights, the police, the courts, as well as the likelihood of crime and violence”.	World Bank (WDI)
Corruption-Control	CC	“Control of corruption (estimate): captures perceptions of the extent to which public power is exercised for private gain, including both petty and grand forms of corruption, as well as ‘capture’ of the state by elites and private interests”.	World Bank (WDI)
Domestic Terrorism		Number of Domestic terrorism incidents (in Ln)	Enders et al. (2011).
Transnational Terrorism		Number of Transnational terrorism incidents (in Ln)	Enders et al. (2011).
Unclear Terrorism		Number of Unclear terrorism incidents (in Ln)	Enders et al. (2011).
Total Terrorism		Number of Total terrorism incidents (in Ln)	Enders et al. (2011).
Trade Openness	Trade	Export plus Imports of Goods and Services (% of GDP)	World Bank (WDI)
GDP growth	GDPg	Gross Domestic Product (GDP) growth (annual %)	World Bank (WDI)
Inflation	Infl.	Consumer Price Index (annual %)	World Bank (WDI)
Foreign investment	FDI	Foreign Direct Investment inflows (% of GDP)	World Bank (WDI)

WDI: World Bank Development Indicators.

Appendix 2: Summary statistics (1996-2010)

	Mean	SD	Minimum	Maximum	Observations
Capital flight (log)	9.993	0.806	6.816	12.333	464
Political Stability	-0.637	0.943	-2.986	1.188	444
Voice & Accountability	-0.668	0.667	-1.885	0.932	444
Government Effectiveness	-0.640	0.578	-1.974	0.876	443
Regulation Quality	-0.631	0.562	-2.412	0.791	444
Rule of Law	-0.694	0.613	-2.207	0.773	444
Control of Corruption	-0.571	0.579	-2.057	1.249	443
Domestic Terrorism	0.453	0.870	0.000	4.488	555
Transnational Terrorism	0.242	0.536	0.000	3.332	555
Unclear Terrorism	0.112	0.425	0.000	4.488	555
Total Terrorism	0.605	1.000	0.000	4.844	555
Trade Openness	75.890	39.816	17.858	255.015	525
GDP growth	4.435	4.661	-17.254	33.629	540
Inflation	74.917	1099.538	-100.00	24411.03	508
Foreign Direct Investment inflows	3.994	5.935	-8.629	40.157	405

S.D: Standard Deviation.

Appendix 2: Correlation matrix (1996-2010)

Domestic	Terrorism			Control variables					Capital Flight	
	Transnational	Unclear	Total	Trade	GDP growth	Inflation	Foreign Investment			
1.000	0.528	0.451	0.914	-0.185	-0.007	0.024	-0.031	0.225	Domestic	
	1.000	0.490	0.751	-0.118	0.007	0.075	-0.021	0.233	Transnational	
		1.000	0.631	-0.129	-0.058	0.123	-0.043	0.221	Unclear	
			1.000	-0.197	-0.030	0.074	-0.047	0.263	Total	
				1.000	0.020	0.115	0.362	-0.146	Trade	
					1.000	0.038	0.113	0.068	GDP growth	
						1.000	0.013	0.203	Inflation	
							1.000	-0.102	Foreign Investment	
								1.000	Capital Flight	

GDP: Gross Domestic Product.

Compliance with Ethical Standards

Conflict of Interest: The authors declare that they have no conflict of interest.

Ethical approval: This article does not contain any studies with human participants or animals performed by the authors.

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