DETERMINANTS OF CAPITAL FLIGHT IN THE EAST AFRICAN COMMUNITY (1988-2018)

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A Thesis Submitted to the Graduate School in Partial Fulfillment of the Requirements for the Master of Arts Degree in Economics of Egerton University

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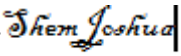
DECLARATION AND RECOMMENDATION

Declaration

This thesis is my original work and has not been presented in this university or any other for the award of a degree.

Signature.....  Date 4th/October/2021

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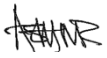
Signature…  Date 5th/October2021

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DEDICATION

This thesis is dedicated to my parents, Mr. Shem Oyugi, Mrs. Mary Amollo, and my wife, Lucy Sonit.

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ABSTRACT

Capital flight has become an increasing source of concern for policy makers in developing countries, especially since the emergence of the debt crisis and the associated drastic decline in capital inflows from industrialized countries. Given their smaller resource base and limited market, the problem of capital flight justifies a serious attention particularly among East African Economies. The region has lost an immense amount of capital that has led to sluggish regional integration in terms of capital formation and productive capabilities. Albeit most of these countries are in the ranking list of huge volume of capital flight, East Africa has never been considered as a sub- region in the capital related studies. Cognizant of this, the study intends to contribute to this body of knowledge by filling a noticeable gap. The study examined the determinant of capital flight from East African Community countries that includes Kenya, Tanzania, Uganda, Rwanda, and Burundi using a panel data for the year 1988 to 2018 using real gross domestic product, interest rate differential, external debt, corruption index, and exchange rate as explanatory variables. The study was guided by portfolio choice theory that helped to analyze the motive of fleeing capital from developing economies to developed countries. Historical design was employed while descriptive methods were used to show relevance of the information. Secondary data obtained from World Bank, EAC member countries National Bureau of Statistics, International Monetary Fund (IMF), and Transparency Interational Report was used. Levin-Lin-Chu panel unit root test was carried out and capital flight found to be stationary at level and its stationarity was statistically significant. Exchange rate and interest rate differential were also found to be stationary at level and their stationarity was statistically significant. Corruption index, external debt, and real GDP were stationary after first differencing and this was also statistically significant. The fixed effect regression results showed that external debt and exchange rate had a positive and statistically significant effect on capital flight while real GDP had a negative and statistically significant effect on capital flight. As a result, Policy makers should therefore take these factors in to consideration when designing policies to prevent and reduce the outflows of capital from EAC. These policies include a combination of good governance and fostering both fiscal and monetary disciplines. More studies should be carried out to include domestic debt to understand the effect of domestic debt on capital flight.

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LIST OF ABBREVIATIONS AND ACRONYMS

CBK	Central Bank of Kenya
CF	Capital Flight
CPI	Corruption Perceptions Index
EAC	East African Community
EAC	East African Community
ERS	Economic Recovery Strategy
GDP	Gross domestic product
GMM	Generalized Method of Moments
ICO	International Corporate Service Organization
IMF	International Monetary Fund
KNBS	Kenya National Bureau of Statistics
LDCs	Less Developed Countries
NBFIs	Nonbank Financial Institutions
ODA	Official Development Assistance
SSA	Sub-Sahara Africa
TBS	Tanzania Bureau of Statistics
TI	Transparency International
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNIDO	United Nations Industrial Development Organization
VAR	Vector Autoregressive
WB	World Bank

CHAPTER ONE
INTRODUCTION

1.1 Background to the Study

After the 1990s, Sub-Sahara African countries prescribed to liberalize their capital accounts and followed a number of standard policy solutions in order to attract foreign capital inflows to finance investment as well as their rising debt stocks (Forson et al., 2017). However, capital flows take place in the opposite direction as the residents of these countries move the already scarce capital to more advanced economies. According to World Bank (2017), capital flight has led to disappearance of capital for domestic investment in Sub-Sahara Africa, thus leading to a fall in the rate of capital formation that is important in promoting economic growth and development. In addition, due to capital flight, Sub-Sahara Africa has continued to lag behind in terms of physical and human capital investment thus leading to a decline in economic growth and development (Ndikumana & Boyce, 2012).

Capital outflow from developed countries to other countries is viewed as foreign investment, while capital outflow from developing countries to developed countries is viewed as capital flight (Ndikumana, 2015) . The reason why capital outflow from developing countries is called a flight is because of the presumption that in these countries, capital is scarce, and as such, capital ought to flow inwards to enhance economic developments. Cuddington (1986) attributed these different views to the belief that investors from developed countries respond to better opportunities abroad brought about by the interest rate differentials, while capital outflow from developing countries is undertaken to escape the risks perceived in their home countries.

Given the investment-growth nexus, capital flight has contributed to the sluggish growth in affected economies through reduction in government tax revenue and its debt servicing capacity since income earned abroad cannot be taxed. According to World Bank Annual Report (2006), consequences of capital flight in Sub-Sahara Africa includes the over reliance on a few exports due to the under development of the manufacturing sectors, high vulnerability to terms of trade shocks and a narrowed taxation. Majority of the countries in the Sub-Saharan region are commodity dependent, particularly on agriculture which forms the major contributor to the annual gross domestic product, which is an indicator of the infancy level of development. The problem of capital flight emanates from its numerous long-term adverse effects on economic growth and development as scarce economic

resources are lost and hence do not contribute to enhance socio-economic and political welfare of residents of Sub-Sahara Africa (Forson et al., 2017). Basically, Africa continent is prone to over-borrowing from developed economies to finance major governmental and private projects.

During post 1980s, several African countries experienced overwhelming currency instability and changes in exchange rate regimes. It was at the same time that significant levels of capital flight from Sub-Saharan Africa began developing. According to Ndikumana and Boyce (2012), exchange rate misalignment highlights the errors in macroeconomic policy, which presents a case for capital flight. Uncertainty arising from expected real currency depreciation and appreciation offers an interesting paradox for asset losses by economic agents. When agents anticipate a real depreciation, they tend to engage in capital flight to avoid the risk of loss of purchasing power. Even a real appreciation may trigger expectations of future depreciation. Shortage of liquidity due to upward pressure on interest rates reduces the capital formation in the country, and can adversely affect the country's current and future economic conditions (Makochekanwa, 2007).

According to World Bank Annual Report (2006), given the magnitude of its external debts, a substantial fraction of the borrowed funds is being captured by African political elites who in turns channel the cash abroad in form of capital flight. Due to this revolving technique, public external debts are being transferred to developed nations as a form of private external assets through corrupt private or public citizens. For instance, Africa is estimated to have lost in excess of US$1 trillion in capital flight between 1998 to 2010 (Kar & Freitas, 2012). This sum is roughly equivalent to all of the Official Development Assistance received by Africa during the same period. These outflows are of serious concern, given inadequate growth, high levels of poverty, resource needs and the changing global landscape of official development assistance.

Poverty remains a serious concern in Africa in absolute and relative terms. Despite progress in reducing extreme poverty, 84.5 percent of the total population in Sub-Sahara Africa still lives on less than US$5.50 a day (World Bank, 2017). Thus, retaining capital that outflows from Sub-Sahara Africa will therefore be a prudential step in financing the economic development such as government expenditures and private investments. With an increased borrowed capital to help in economic developments and growth, capital flight level has remained above US$50 billion per year in Africa (Ndikumana, 2015). The effect of capital

flight from SSA has also been experienced in the East Africa Community Member States with an increased external debt. As a result, EAC has experienced inflationary pressure thus forcing the residents to export capital to developed economies in order to maximize profit on investment returns (UNCTAD, 2011).

External debt affects East African Community economic growth mainly through diminished investment given that debt repayment constitute diversions of domestic resources that would have contributed to domestic investment (World Bank Economic Report, 2017). Given the principle of acceleration, the rate of economic growth of EAC depends on the countries investment profile. Statistically, according to Africa Development Bank (2018), East African Community (EAC) lost US$ 9.8 billion in ten years from 2008-2018 in aggregate. As a result, this trend has weakened not only capital formation, but also causes economic slowdown, leading to a sluggish rate of regional integration and productivity capacity of member countries (World Bank, 2008). It has therefore led to persistent adverse effects on development program in EAC because capital flight weakens the domestic asset formation and retention in the EAC countries (Eshete, 2014).

According to Transparency International Corruption Perceptions Index (2017), corruption remains a major challenge across Eastern African institutions, especially with respect to those responsible for security and justice provision. Most countries in the region ranked poorly in terms of political stability thus tackling crisis of democracy has persistent with little effort made to curb increased capital looting. These problems are expected to aggravate capital flight out of most Eastern African states despite their huge financial resource requirement given the very low state of economic development in the region. The ensuing capital flight causes higher interest rate and exchange rate depreciation as there is a shortage of loanable fund and foreign currency reserve, respectively (Boyce & Ndikumana, 2005). If the problem is not treated wisely, it could bring currency crash, skyrocket interest rates, bad foreign debt and macroeconomic disruption. These consequences could slow investment and capital formation, putting a negative repercussion on the rate of economic growth. To address the problem, it demands for assessment of the possible determinants to the problem and come up with a possible solution or policy prescriptions (Williamson, 1986).

1.1.1 Trends of Capital Flight in EAC

The magnitude of East Africa Community Member States' capital flight is staggering both in absolute monetary values and in relative GDP. According to Ndikumana and Sarr (2016), on

average, EAC lost US $23.28 billion between 1988 to 2015 alone. From table 1.1, the EAC members have lost a considerate amount of capital through capital flight which has led to economic sluggish growth in the region over the last 30 years. The table was adopted from the World Bank's Global Development Indicators Database (2018) with an interval of two years from 1988 to 2018.

Table 1.1: Capital flight from EAC between 1988-2018 as a percentage of the real GDP

	EAC Countries				
	Kenya	Tanzania	Uganda	Rwanda	Burundi
Year	**CF (%)**	**CF (%)**	**CF (%)**	**CF (%)**	**CF (%)**
1988	0.2	6.3	3.1	6.6	8.4
1990	4.9	0.4	7.9	4.8	11.3
1992	28	0.4	3.9	0.4	13.0
1994	2.1	1.2	4.1	10.5	4.3
1996	4.9	2.0	0.2	0.5	6.8
1998	5.3	2.0	0.3	2.3	13.5
2000	1.5	1.9	4.2	2.1	10.4
2002	3.6	1.7	6.8	1.1	17
2004	10.9	4.4	8.2	8.0	8.0
2006	1.3	21.4	18	21.6	27.2
2008	1.4	1.7	10.5	5.2	4.8
2010	0.7	5.3	5.9	3.6	1.8
2012	4.1	13	3.7	20.9	4.6
2014	6.2	7.4	2.8	7.0	10.9
2016	4.8	6.6	3.1	6.2	9.8
2018	4.0	6.2	3.0	5.4	10.8

Note. Adopted from World Bank's Global Development Indicators Database (2018)

Kenya

From table 1.1, in 1988, Kenya experienced a stable economic growth which was due to economic growth spillover on stable macroeconomic variables from 1986. This was as a result of the government emphasis on the economic management for renewed economic growth. Due to openness in debt management, there was a reduction in external debt that led to low capital flight of 0.2 percent as a percentage of GDP compared to preceding years

(KNBS, 2017). Between the year 1990 to 1993, Kenya faced a foreign exchange crisis that resulted from withholding of the donor funds thus leading to low GDP growth and high inflation growth rate running at a double digit of 46 percent. As a result, the rate of capital flight grew and stood at 2.1 percent of the total national GDP by 1994 which was equivalent to US $150.2 million of total GDP (Ng'eno, 2000).

The average percentage growth of the capital flight to real GDP growth increased between 1996 and1998 due to liberalization of the financial sectors. The policy was implemented to help harmonize the interest rate for banks and nonbank financial institutions (NBFIs) which was gaining stability in terms of their monetary operations. However, in comparison to developed economies, the liberalization did not help to reduce the capital flight since most investors preferred to invest in countries with a higher investment return compared to Kenya (Kekic, 2007). As a result, the rate of capital flight increased from 4.9 percent to 5.3 percent of the total GDP in 1996 and 1998 respectively which represented US $590.045 million and US $746.77 million respectively. In the year 2000, the economy experienced a declined percentage in capital flight of 1.5 percent of the real GDP which represented an aggregate value of US $190.65 million, which increased in 2002 to 3.6 percent as shown in Appendix A which represented US $473 million. This was attributed to a stable political environment experienced as a change of government in 2002 from the Kenya African National Union to National Rainbow Coalition (Waris, 2017). Even though the aggregate value of capital flight declined compared to previous years, it still stood at a significant value that was detrimental in terms of capital loss from the Kenyan economy.

The rate of capital flight grew in 2004 to 10.9 percent, which was representing an absolute value of US $1.75 billion due to increased corruption cases experienced in the previous years 2002 and 2003. For instance, the country faced a multi-billion shilling Anglo Leasing scandal leading a loss of approximately 6 percent of the total real GDP between 2002 to 2004 (Brummer, 2015). In the year 2006 to 2010, the rate of capital flight declined from 1.3 percent to 0.7 percent due the government Economic Recovery Strategy (ERS) which was a five year plan to correct the country's macroeconomic structural weaknesses (Gaertner, 2012). In order to service its infrastructural developments, external debt increased subsequently between 2012 and 2018. External debt generally created a condition for a capture, commonly known as loot to the elites thus lowered the saving rate of Kenya (World Bank Report, 2016). As a result, the capital flight rate increased from 4.1 percent to 6.8

percent, representing US $2.07 billion to US $4.18 billion in absolute value for the GDP. It then declined from 4.8 percent to 4.0 percent of the real GDP, which also represented US $3.32 billion to US $3.5 billion of the total GDP respectively from the year 2012 to 2018 (World Bank's Global Development Indicators Database, 2018).

Tanzania

Tanzania's GDP per capita declined at levels lower than those registered during the first half of the 1980s. This was preceded by positive real net private transfers and short-term capital inflows between 1988 and 1994. In 1988, the current account of Tanzania worsened due to fluctuation in macroeconomic factors that led to 6.3 percent of capital flight, which was equal to US $321.3 million in absolute value of the total GDP (Ngasamiaku, 2003). In 1990 to 1994, the rate of capital flight as a percentage of real GDP was 0.4, 0.4, and 1.2. This was because in the year 1990 and 1994, the Tanzania exchange rate was discretionary adjusted leading to depreciation in the exchange rate market. However, the rate of capital flight adjusted to 2.0 percent from 1996 to 1999 due to financial sector liberation and reversal of fiscal dominance monetary policies (Outlook, 2005).

Inflation was maintained at one digit from the year 2000 thus leading to an increased real GDP growth with capital flight remaining below 5.0 percent (World Bank Develoment Indicator, 2017). However, in 2006, the country experienced the highest rate of capital flight of 21.4 percent which was motivated by foreign debts from developed economies given uncertainties about future repayment for the debts. Residents were therefore motivated to export their earnings for investments to foreign countries, majorly USA, UK and Jersey Island due to excessive borrowing owned by state to foreign nations (Nyoni, 2000). As a result, the IMF and the Word Bank provided the economy of Tanzania a debt relief in the year 2006 , 2012).Tanzania is considered to be among the Heavily Indebted Countries (HIPC) by the IMF thus it enjoyed debt relief initiative that promoted the capital formation in the year 2008. As a result, the capital flight maintained a low rate in the year 2008 and 2010 at 1.7 and 5.3 percent.

On average, between the year 2006 to 2016, Tanzania lost approximate of 30 percent of the total Real GDP through capital flight in accumulation which was US $119 billion in absolute value of accumulated GDP (World Bank Develoment Indicator, 2017). The national capital flight for the year 2012 stood at 13.0 percent which was enough to service approximately 50

percent of the national external debt (TBS, 2017). The rate of capital flight declined from 7.4 percent to 6.6 percent, and then to 6.2 percent the following years up to 2018. Given the debt burden that the country has been facing, Tanzania citizens always try to avoid heavy taxes to finance heavy debts in future by transferring part of their earnings abroad to increase gains and capital interests (WB, 2017).

Uganda

During the year 1988, Uganda economy experienced traumatic developments as a result of political instability and economic mismanagement. Former regime corrupt engagements and dictatorship facilitated movement of capital flight equivalent to 3.1 percent of total real GDP (US $201.5 million) to more advanced economies (Bigsten & Kayizzi-Mugerwa 2001). In 1990, the rate of capital flight increased to 7.9 percent of the total GDP (US $339.70 million) as shown in table 1.1 due to structural imbalances that impeded the economy which included misappropriation of revenue collection and massive trade deficits that was associated with prolonged drought. In 1992, the rate of capital flight reduced to 3.9 percent of the total real GDP (US $111.4 million) due to government anti-inflation policies that included limiting of the government spending and external borrowing. To minimize external debt, the government reduced its expenditure spending by 50 percent thus reducing inflation to below 10 percent which led to increased GDP growth above the 7 percent target (Ellyne & Mbewe, 2015). However, due to increased corruption level and market distortion, exchange rate became unstable in 1994 leading to increased capital flight to 4.1 percent of the total GDP which was US $163.60 million in absolute value. As a result, Uganda currency kept depreciating at a higher value which discouraged domestic investments and led to economic disequilibrium (World Bank Report, 2010).

Uganda maintained stable economic growth from 1994 to early 2000 where it successfully removed various disincentives that helped it recover from economic crisis experienced in early 1988. From table 1.1, the rate of capital flight declined to 0.2 percent of the total GDP in 1996 (US $12.1 million), and then kept increasing in 1998 where it was 0.3 percent of the total GDP (US $19.8 million), then to 4.2 percent in the year 2000 which was US $259.4 million of GDP in absolute value. Increase in capital flight rate in 2000 was due to weak performance of the financial sectors and increased political instability. The persistent increase in capital flight was experienced through the year 2006 through 20008 when the country experienced corruption and unstable political events. It led to weak interest rate earning from

the domestic and corporate earnings thus lowered rate of investment (Word Bank, 2017). Introduction of the monetary and fiscal policies helped to curb the increased rate of capital flight between 2010 to 2018. As a result, the rate of capital flight declined from 5.9 percent in the year 2010 to 3.7 percent in 2012, then, to 2.8 percent in 2014 (sees Appendix A). It then increased to 3.1 percent of the total GDP in 2016 before it declined again to 3.0 percent of the total real GDP which is US $ 987.6 million in absolute value.

Rwanda

From table 1.1, in 1988, the amount of capital flight from Rwanda amounted to 6.6 percent of the total GDP which represented US $158.07 million. This was accompanied by high value of external debt that kept increasing as a result of low capital formation in 1988. In addition, there was a collapse in the financial market which was the second largest foreign exchange earning to the economy (Ndikumana & Sarr, 2016). In 1990, the capital flight reduced to 4.8 percent of the real GDP (US $122.4 million) due to enhanced fiscal and monetary policies that provided a friendly domestic environment for trading. As a result, the residents continued to invest in the economy thus reducing the capital flight to 0.4 percent of the total real GDP in 1992 which represented US $8.12 million of the total GDP. This led to a strong economic growth that stabilized the economy where foreign earning increased with a reduction in the level of foreign aid.

In the year 1994, Rwanda was faced with the longest and severe famine that led to a drastic decline in coffee price thus weakening the government financial position in terms of revenue collection. As a result, the national budget of Rwanda increased to 7 percent, more than the total GDP earning which led to increased capital flight to 10.5 percent of the total real GDP, representing US $79.13 million of the total GDP which was also influenced by the country genocide (Ndikumana & Sarr, 2016). The level of domestic investment declined with a weak exchange rate market for the Rwanda franc thus increasing its volatility. In 1995, a number of macroeconomic reforms including trade reform and monetary liberalization was implemented (WB, 2017). As a result, the capital flight declined to 0.5 percent of the total real GDP which was equal to US $6.5 million of the total national GDP. Increased strict governance and macroeconomic policy implementation including low corruption rate has led to low capital flight from 1998 to 2004 where the average capital flight remains below 5 percent total real GDP (Transparency International Index, 2017).

Due to increased external debt in 2006, the country experienced an increased capital flight of 21.6 percent of the total national GDP (US $717 million) which forced it to source for its infrastructural developments. However, the economy stabilized in 2008 to 2010 when it decided to reduce its debt burden through reduction in its expenditure and tightening the revenue collection systems (World Bank Report, 2017). As a result, there was low capital flight ranging from 5.2 to 3.6 percent of the total real GDP which represented US $166.3 million on average. In 2012, external debt of Rwanda increased at a rate of 35% of the total GDP which led to a double digit capital flight percentage of 20.9 percent of the real GDP (US $1.6 billion). Even though there has been decreasing trend in the rate of capital flight from 2014 as shown in figure 1.1, its magnitude has resulted in low investment and saving domestically thus leading to a decline economic growth and development in Rwanda (World Bank Report, 2017).

Burundi

Regarded as one of the world poorest nations, Burundi is struggling to rebuild after a decade's long civil war that ended in 2006. From its post-colonial period in 1962, the country has been regarded as a highly risky country in terms of political instability thus discouraging foreign development aid Kekic, 2007). As a result, in 1988, the rate of capital flight as a percentage of total real GDP was 8.4 percent (US $90.9 million) that resulted from reduction in external aid cut and decline in foreign direct investments (Lensink et al., 2000). Capital flight increased in the year 1990 to 1992 from 11.3 percent (US $12.8 million) to 13.0 percent of the total GDP (US $140.7 million) as a result of a negative economic growth that was caused by civil war. However, the IMF and the World Bank intervened in 1994 to provide non-interest paid loan to the government to service economic developments thus reduced the capital flight to 4.3 percent of the total national real GDP before it increased to 6.8 percent, which was equal to US $59.1 million of the total GDP in 1996 (World Bank Report, 2008).

In 1998, the country experienced increased inflation rate caused by depreciation in the currency which led to increased capital flight to 13.5 percent of the national total GDP (US $ 120.67 million) before it declined to 10.4 percent of the total national GDP in the year 2000. In the year 2002, the economy worsened further with increased civil war thus destabilized domestic investment (Asiedu et al., 2012). As a result, capital flight increased to 17.0 percent of the total real GDP, which represented US $140.32 million of the total national GDP as the

external debt and inflation rate increases at a rate greater than real GDP growth rate (Mbaku, 2017). By the year 2006 which was post-civil war, approximately 50% of the national private investment had moved oversea to the developed countries (Ndoricimpa, 2018). As a result of declined domestic investment which would have increased economic growth, capital flight increased to 27.2 percent of the total real GDP (Leininger, 2017).

After the civil war that ended in 2006, the national government implemented stabilized macroeconomic policies that helped to reduce the capital flight which reduced to 4.8 percent in 2008 (Asiedu et al., 2012).). Government through the central bank liberalized its currency implemented some governance system tools that prevented increased corruption by 2010. As a result, the capital flight rate reduced to 1.8 percent of the total real GDP which kept a figure below 5.0 percent up to 2014 (World Bank, 2017). However, according to Ndoricimpa (2018), political instability and corruption that rocked the country in 2014 led to increased capital flight which was averagely above 10 percent of the total real GDP from the year 2014 to 2018.

1.2 Statement of the Problem

Capital flight from EAC economies constitutes a serious development challenge which includes tax diversion and unstable macroeconomic policies. Due to reduction in the capital formation from EAC, there is persistent decline in tax-base thus forcing the governments to impose higher taxes on citizens in order to support the deficits in the budget allocations. Higher taxes on citizens and private investors without proper avenues to curb capital flights has increasingly led to crowding out effect since private investors are not able to stand low profits vis-à-vis higher taxes. Cumulatively, from the year 1988 to 2018, EAC member States' capital flight stood at USD $32.28 billion representing 16.67 percent of the total GDP. Poor level of capital inflows minimizes both economic growth and development, thus, increased capital outflow indebts citizens through increased taxes to finance for government expenditures.

For the past four decades, most EAC Member States' economic performance has been characterized by economic stagnation. For instance, in the recent decades, capital flight has been both sizable and costly relative to scare capital formation in EAC. The loss of scarce capital and foreign exchange potentially leads to a loss of investment in countries that are in great need of more infrastructure, plant and equipment, and human capital. The regressive impact of capital flight is therefore compounded when financial imbalances result in

devaluation: the wealthy that hold external assets are insulated from the effects, while the poor enjoy no such cushion. From the interaction, we can conclude that stable economic growth through domestic saving and investment promotes a favorable environment for the retention of capital flight. It is therefore on the ground of these findings that this study determined factors that affect capital flight from EAC Member states.

1.3 Objectives of the Study

The study was guided by the general objectives and specific objectives which are divided in to subsections.

1.3.1 General Objective

The general objective of this study was to assess the determinants of capital flight in East African Community member countries between the periods of 1988-2018.

1.3.2 Specific Objectives

i. To examine the effect of corruption on Capital Flight in EAC
ii. To investigate the influence of External Debt on Capital Flight in EAC
iii. To determine the influence of Real Exchange Rate on Capital Flight in EAC
iv. To determine the influence of Real GDP growth on Capital Flight in EAC
v. To evaluate the effect of Interest rate differential on Capital Flight in EAC

1.4 Research Hypotheses

i. Corruption has no effect on Capital Flight in EAC
ii. External Debt does not influence Capital Flight in EAC
iii. Real Exchange rate does not affect Capital Flight in EAC
iv. Real GDP growth has no effect on Capital Flight in EAC
v. Interest rate differential does not affect Capital Flight in EAC

1.5 Justification of the study

East African community (EAC) countries over the past decades have experienced massive outflows of capital that reduces domestic investment growth. The capital flight surpass the countries' foreign liabilities, ironically making EAC a net creditor to the rest of the world (Oyieke, 2012). Not to the best of my knowledge has there been a study that dealt with the determinants of capital flight in East African countries despite the wide economic implication for these countries. Most studies have been done in relation to Sub-Saharan African with less studies majoring on individual countries within the East Africa.

Capital flight act as a leeway to burden the citizens with higher taxes to cater for the government expenditures while the elites grab the limited public resources aimed at improving economic growth in the EAC (Marianna, 2006). As a result, this study is of great importance to future policy makers in formulating macroeconomic policies that will help to mitigate the capital flight from these economies. It also provides policy implications for the member state government of EAC to repatriate capital flight from the economy. Since the study is conducted for the first time for EAC region in this area, it inspires other researchers on the area of capital flight for further investigation. Finally, this study will advance existing body of knowledge and will serve as a reference document for institutions, students, policy makers and other professionals, as well as contribute to the empirical and theoretical debate.

1.6 Scope and Limitation of the Study

The study was carried out using panel data analysis since it is for different countries that forms EAC. It focused on the East Africa region with founding members of five including; Kenya, Tanzania, Uganda, Burundi, and Rwanda. South Sudan economy which is also a member of the EAC was excluded from the study due to lack of the data dating back to the year 1988. The study was restricted to the period of 1988 to 2018 based on the availability of data for capital flight from EAC member States. The period was chosen because it is within this period that EAC experienced financial liberalization that was also accompanied by global financial crisis. In addition, since EAC was revived in the year 2000, the availability of data was therefore depended on the historical data from these nations' Bureau of Statistics, National Central Banks, IMF, World Bank, and Transparency Interational Report dating back to 1988.

1.7 Definition of Terms

Capital Flight: Capital flight refers to the movement of funds from developing countries to developed economies in order to secure better returns of investment, often in response to an unfavorable business climate in the country of origin. Generally, the risks associated by a large capital loss on the domestic assets from developing economies to developed economies makes capital flight a major economic concern in developing countries.

Corruption: It is dishonest behavior by those in positions of power, both in public and private sectors. It can include giving or accepting bribes or inappropriate gifts, double dealing in the service to citizens, under-the-table transactions, manipulating elections, diverting funds, laundering money, and defrauding investors.

East African Community: It is a regional intergovernmental organization of six Partner States, comprising Burundi, Kenya, Rwanda, South Sudan, Tanzania and Uganda, with its headquarter in Arusha, Tanzania.

External Debt: This is the portion of a country's debt that was borrowed from foreign lenders including commercial banks, governments or international financial institutions. These loans, including interest, must usually be paid in the currency in which the loan was made.

Inflation: It is a situation of a sustained increase in the general price level in an economy thus increases the cost of living as the price of goods and services rise.

Interest Rate Differential: It is the differences between real domestic interest rate and real foreign interest rate. It is measured as the difference between average real deposit rate in the country and US Treasury bill rate (domestic real interest rates minus US 91 day Treasury bill rate), with 91 days US Treasury bill rate used as a proxy for foreign real interest rate because it's risk-free.

Panel data: Data composed of time series information for each cross sectional unit. The particularity of panel data, with respect to pooled cross-sectional data is the fact that the same units are followed over a given period of time.

Real GDP: It is an inflation-adjusted measure that reflects the value of all goods and services produced by an economy in a given year (expressed in base-year prices) and are often referred to as constant-price.

Real GDP per capita: It is the measure of the total economic output of a country divided by the number of people and adjusted for inflation and mostly used to compare the standard of living between countries over time.

Real Exchange Rate: The real exchange rate is the purchasing power of a currency relative to another at current exchange rates and prices. It is the ratio of the number of units of a given country's currency necessary to buy a market basket of goods in the other country, after acquiring the other country's currency in the foreign exchange market, to the number of units of the given country's currency that would be necessary to buy that market basket directly in the given country. The real exchange rate is the nominal rate adjusted for differences in price levels.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter reviewed some of the related work and summarized the results of the actual research that has been done on capital flight and its determinants.

2.2 Theoretical Literature Review

This section established theories that already exist and relates to the study topic that underpins determinants of capital flight in the EAC during the study period.

2.2.1 Portfolio Adjustment Theory

Portfolio Adjustment theory, also known as portfolio choice theory was first developed by Markowitz in 1952. It states that investors seek to maximize profits by allocating their funds between domestic and foreign investment based on the relative risk- adjusted rates of return at home and abroad. The principal idea for the theory is that interest rate differentials is the main cause of capital flight from less developed countries to advanced economies. Following the logic of diminishing return, the rate of returns to capital should be higher in capital scarce developing countries than in capital- abundant developed countries, and capital should flow from the latter towards the former. If investment is riskier in developing countries, the net risk-adjusted returns may be lower and this could explain why capital continues to flow in opposite direction. Asset holders in the ordinary course of events engage in constant redeployment in search for an efficient portfolio, one that maximizes total returns under a given risk constraint (Liew et al., 2016). Capital flight can be viewed as a three-way trade off among secrecy, expected returns and risk.

While perfectly hidden transaction may be possible, the costs in foregone return and increased risk can be quite large. However, Markowitz' theoretical contributions to Portfolio Adjustment theory are built upon the assumption that investors are only willing to accept higher amounts of risk. This is only acceptable if investors are compensated by higher expected returns which are frequently contradicted by investor's contrary actions of capital flight from developing countries. Often, investment strategies demand that investors take on a perceived risky investment in order to reduce overall risk without any discernible increase in expected returns (Blood, 2016).

If investments in developing countries become risky, the risk adjusted returns become lower therefore, creating an incentive for these investors to look for an area with higher rate of return with a lesser risk (Ndikumana & Boyce, 2002). Additionally, investors have certain utility functions that may outweigh distribution of returns concerns. This theory is well expounded in determining how interest rate differentials, Real GDP, and both non economic risks influence the magnitude of Capital flight in an economy. To capture the other macroeconomic variables, the study looked on to the investment diversion theory which implicitly explained how real exchange rate affects the capital flight.

2.2.2 Investment Diversion Theory

The theory was first developed by Dunning et al in 1998. It states that political and macroeconomic risk in developing countries results to high capital flight from developing countries to advanced countries. This is because the simultaneous existence of stable macroeconomic and political condition in advanced countries gives better investment opportunities such as high interest rate, favorable tax climate and secrecy of account condition. This leads to some unscrupulous corrupt leaders and private investors stealing their scarce capital resources from their countries to advanced countries (Makochekanwa, 2007). Simultaneous capital inflow and outflow may be due to asymmetric information about expected returns on domestic assets between domestic and foreign investors.

Residents face a higher risk or a reduction in the value of their domestically held assets as compared to foreign investors. This may lead to a situation where domestic investors buy foreign assets while foreign investors buy domestic assets at the same time. When residents hold large amounts of foreign assets, the tax base is reduced considerably. Under these circumstances, the tax burden due to increased public expenditures and foreign borrowing has to be shared by a smaller tax base, hence increasing the burden per unit or domestically held asset. Erosion of future wealth is based on the expectation that domestic political instability causes rising macroeconomic instability, leading to rising budget deficits, current account deficits, exchange rate uncertainty and high inflation. As a result of rate of return differentials, capital flight may occur simply because the returns of assets are higher abroad as compared to assets held domestically. Increased capital inflows resulting from growing government guaranteed foreign debt may increase expectations about exchanged rate depreciation, which provides a stimulus to hold foreign assets. However, this theory does not incorporate the external debt variable in the study. As a result, the debt –overhang theory was

included in the study so as to implicitly explain the correlation between the debt and the capital flight.

2.2.3 Debt-Overhang Theory

The debt-overhang theory which is also known as debt-driven theory was first postulated by Krugman in 1988. It states that capital flight reduces the incentive to save and invest in the domestic economy. It assumes that, if the country has large foreign debt, there are higher chances of domestic currency depreciation, fiscal crisis, propensity of the crowding out of domestic capital, and expropriation of assets to pay for the debt (Liew et al., 2016). Capital flight leads to poor economic growth, which calls for the necessity to borrow in order to promote economic stability. Further borrowing or indebtedness promotes capital flight, which in turns leads to poor economic growth, and the cycle continues. Overvalued exchange rates lead to increasing expectations of depreciation in the near future (Kolapo et al., 2000). This in turn would lead to rising prices of foreign goods relative to those of domestic goods, and thus loss of real income. To avoid welfare losses, residents hold at least part of their assets abroad. High inflation directly erodes the real value of domestic assets, stimulating residents to hold assets outside the country. High current account deficits may have a similar impact on exchange rate expectations, and may thus be a stimulus for capital flight. However, theory is limited to exchange rate, inflation and debt as the major determinants of the capital flight.

2.3 Empirical Literature Review

Cuddington (1986) estimated the economic determinants of resident capital outflow for four major flight countries, namely Argentina, Mexico, Uruguay, and Venezuela from 1974 to 1982. Using portfolio –adjustment model, the factors that explain resident capital outflow are the expected inflation rate, foreign interest rate, domestic interest rate and disbursement of public loans. The empirical findings differed from country to country. For Mexico, capital flight was highly correlated with overvaluation of the exchange rate, disbursements of public debt and lagged capital flight. In Argentina and Uruguay, only lagged real effective exchange rate and lagged error of the model were correlated with capital flight. In the case of Venezuela, the only statistically significant determinants were overvaluation and foreign interest rates.

Schneider (2003) used the changes in inflation rate, financial incentive for capital flight, the degree of foreign exchange rate overvaluation, the capital availability, the difference between the domestic and US growth rates, the tax revenue as a percentage of GDP and the lagged

value of labor share of income as explanatory variables in the model when analyzing determinants of capital flight in SSA. The model was estimated using Ordinary Least Square (OLS) method on pooled data over the period 1973 to 1986. All the estimated coefficients were found to have expected signs except the difference between the domestic and US growth rates. Moreover, all coefficients were significant except that on tax revenue as a percentage of GDP.

Al-fayoumi et al. (2012) used a panel of seventeen Eastern European countries for the period 1993 to 1999. The explanatory variables in the model included the domestic inflation rate, the domestic nominal interest rates, the difference between domestic and international nominal interest rates, the size of external sector, the government balance, the changes in real exchange rate, the foreign direct investment and the number of capital controls. Also included in the model are dummies for the exchange rate regime namely; pegged exchange rate regime, managed float, limited flexibility and free floating exchange rate regime. Domestic inflation rate, interest rate differential, and exchange rate were found to be significantly affecting capital in the Easter Europe countries.

Uddin et al. (2017) applied time series data to analyze determinants of capital flight from Bangladesh for the time period of 1973 to 2013. Capital flight was modeled as a function of the real capital flight in previous period, interest rate differential, the total debt, the total debt in previous period, the level of income proxy by the gross domestic product in previous period and a dummy variable for Asian financial crisis and the empirical findings based on Ordinary Least Square (OLS) method indicated that the coefficient on total debt variable, the level of income variable proxy by previous years GDP and a dummy variable for Asian financial crisis were positive and statistically significant. Moreover, the coefficient for past debts variable was found to be negative and statistically significant.

In a study on Nigeria, Ajayi (1997) used time series data to analyze determinants of capital flight over the period 1971-1989. The explanatory variables in the model include; growth rate in gross national product, the foreign interest rate, the international real interest rates differential, the changes in inflation rate, the degree of appreciation and depreciation of exchange rates proxy by percentage change in the market rate index, the level of country's foreign exchange reserves, the financial repression and the ratio of fiscal surplus/deficit as a percentage of GNP. The empirical results based on Ordinary Least Square (OLS) estimation method indicated that the coefficient of real interest rate differential, growth of domestic

economy, degree of appreciation/ depreciation of exchange rate, foreign interest rate and the fiscal deficit of government variable were found to be statistically significant.

Ndikumana and Boyce (2003) investigated the determinants of capital flight from thirty Sub Saharan countries including Kenya over the period 1970-1996. Using panel data analysis, potential determinants investigated in the model were classified as capital flows and capital stock. Total debt stock annual change was used as a measure of capital inflows and the stock of debt as a measure of debt overhang. As indicators of the macroeconomic environment, the study used annual growth rate of real per capita GDP, the growth differential between the African country and the USA, the growth differential between the country and its OECD trading partners, the annual inflation rate, the inflation rate differential between the country and USA, and export as a percentage of GDP. The finding of the study was that external borrowing was an important determinant of capital flight.

Le and Rishi (2006) studied the role of corruption in determining capital flight proposition for a panel of 69 countries including Sub-Sahara countries over a seven-year period from 1995–2001. The study established that corruption is one of the dimensions of poor governance and has significant positive effect on capital flight. The result indeed concluded that advocating good governance by combating corruption makes a great deal of sense for countries aiming to staunch capital flight. Their finding established a positive and significant effect of corruption on capital flight using the system GMM at the 5 % level of significance. The above empirical evidence certainly showcases that there exist a positive relationship between corruption and capital flight.

Osei-Assibey et al. (2018) studied the role of corruption and institutional governance on capital flight from 32 countries in Sub-Saharan Africa over the period 2000-2012. The study applied two different estimation techniques as Generalized Method of Moment and Fixed Effect Regression on panel data using the portfolio choice theory. It established that corruption was positively significant at 5% level on capital flight and the relationship remained very strong even when other important institutional variables such as regime durability, rule of law and independence of the executive are taken into account. It therefore concluded that higher perception of corruption among public authorities as in bribery, kickbacks in public procurement, embezzlement of public funds, among others facilitates an increase in capital outflow from SSA.

Bigsten and Kayizzi-Mugerwa (2001), used time series data to analyze capital flight from Uganda over the period 1971 to 1994. Capital flight model was specified as a function of domestic rate of inflation, the growth rate of domestic GDP and the parallel exchange rate premium as a proxy for currency overvaluation. The estimation results based on Ordinary Least Square (OLS) method indicated that only the coefficient of domestic inflation rate variable was statistically significant.

Ndikumana and Boyce (2012) used panel data analysis for the period of 1970 to 2010 to study the determinants of capital flight in North African countries including Algeria, Egypt, Libya, Morocco and Tunisia. The variables in the study included exchange rate misalignment, corruption, external debt, and foreign direct investment, and net export. The study established that exchange rate misalignment, corruption, external debt, and foreign direct investment were positive and significantly influencing capital flight in these economies. All the estimated coefficients were found to have expected signs except net export. On the other hand, Ndiaye (2011) used Ordinary Least Square (OLS) method for the period of 1970 to 2005 to study the Franc Zone regions and found that external debt, aid and natural resources, revenues are used in part to finance capital flight. The results also revealed that capital flight arises in the presence of macroeconomic instability that occurs in the forms of an increase in inflation, an exchange rate overvaluation, a decline in terms of trade, uncertainties in government consumption, real interest rates and budget deficits.

Nyoni (2000) used time series data to analyze determinants of capital flight from Tanzania over the period 1971 to 1993. The explanatory variables in the model include; the growth differential between the UK and Tanzania real GDP growth rates, the parallel market premium on exchange rate, the domestic inflation rate, the financial incentive for capital flight measured as the difference between UK and Tanzania deposit interest rate, the dummy for external shocks, the dummy for political shock and the lagged capital flight. The model was estimated using Ordinary Least Square (OLS) technique. The coefficients on the variables were found to be jointly significant. However, at the level of individual variables, the empirical results indicated that only the coefficient of UK-Tanzania real GDP growth differential and lagged capital flight variable were found to be statistically significant.

Ngeno (2000), in the study on Kenya used quarterly data over the sample period 1981 to 1995 to model capital flight. The explanatory variables in the model included interest rate differential (foreign interest rates-domestic interest rates), the real GDP and the real exchange

rate where he estimated Error Correction Model (ECM). He found that the coefficients on real GDP, real exchange rate and interest rate differential variable were statistically significantly. In addition, the coefficients on real GDP and relative return variable were negative while real exchange rate variable was positive.

Kipyegon (2004) investigated the factors that account for capital flight from Kenya using a time series data between the period 1971 and 2001. Employing the Ordinary Least Squares (OLS) technique, the study found external borrowing as the most significant factor in determining capital flight from Kenya. The outcome of the study revealed that inflation rate, real exchange rate, real economic growth, and financial development are determinants of capital flight from Kenya. As a result, the study suggests that the Kenya's government should ensure accountability and transparency in the borrowing and management of external borrowings.

In summary, from the above studies reviewed, determinants of capital flight included real GDP, External debt, inflation rate, real exchange rate, growth differentials, and corruption. However, the studies were carried out long time ago with no study majoring on the EAC member states using panel data. At the same time, these studies did not cover post and pre capital liberalization from 1980s to millennium years. As a result, this study used real GDP, External debt, real exchange rate, real interest rate differentials, and corruption as the major macroeconomic variables using a panel data for the period of 1988 to 2018.

2.4 Theoretical Framework

The study adopted portfolio choice theory developed by Markowitz (1952) because it assumed that economic agents send their capital abroad to invest in a portfolio that maximizes the expected utility of their final wealth. In addition the portfolio choice theory was also complimented by the investment diversion and debt overhang theories thus making it elastic to incorporate variables in the study.

$$In\{NKF_t\} = -In[E(r^d_t - r^f)] + In(Y_t) + In\{Var(r^d_t)\} \quad (2.1)$$

Where $NKFt, rdt, rf$, $and\ Yt$ represent net capital flight at time 't', domestic interest rate at time 't', risk-free foreign interest rate, and gross domestic product at time 't' respectively. $Var(rdt)$ represent variance of risk associated with domestic interest rate which originates from both economic and non-economic factors. Decomposing $Var(rdt)$ is further discomposed in to two parts $\sigma^2_{e,t}$ and $\sigma^2_{o,t}$ which represent economic factors i.e interest rate

differential and non-economic factors i.e. corruption respectively. However, ɖ$^2_{e,t}$ and ɖ$^2_{o,t}$ are treated as independent risks associated with capital flight.

Thus, equation 2.1 can then be written as;

$$In\{NKF_t\} = -In[E(r^d_t - r^f)] + In(Y_t) + In(ɖ^2 e,t) + In(ɖ^2 o,t) \quad \text{.....(2.2)}$$

Letting $\frac{NKFt}{Yt} = CF_t$, $E(r^d t - rf) = ID_t$ and $Y_t = GDP_t$

$$In\,CFit = -In\,IDt + In(GDPit) + In(\partial^2 e,t) + In(\partial^2 o,t) \quad \text{.....(2.3)}$$

Where;

$CFit$ represents the ratio of capital flight to gross domestic product,

IDt represents interest rate differential,

$GDPit$ represents real gross domestic product,

$\partial^2 e,t$ represents the economic risks, and $\partial^2 o,t$ represents non-economic risks.

From the above equations, it can be concluded that there have been changes in patterns in the key macroeconomics variables that determine capital flight in EAC member states. This is because according to Markowitz (1952), capital flight will rise with increasing domestic economic and non economic risks.

2.5 Conceptual Framework

The independent variables include corruption, external debt, real GDP, interest rate differential, external debts, corruption, and real exchange rate. The dependent variable is the capital flight whose magnitude in terms of its effects on economic growth in EAC will be ascertained from its interaction with the independent variables

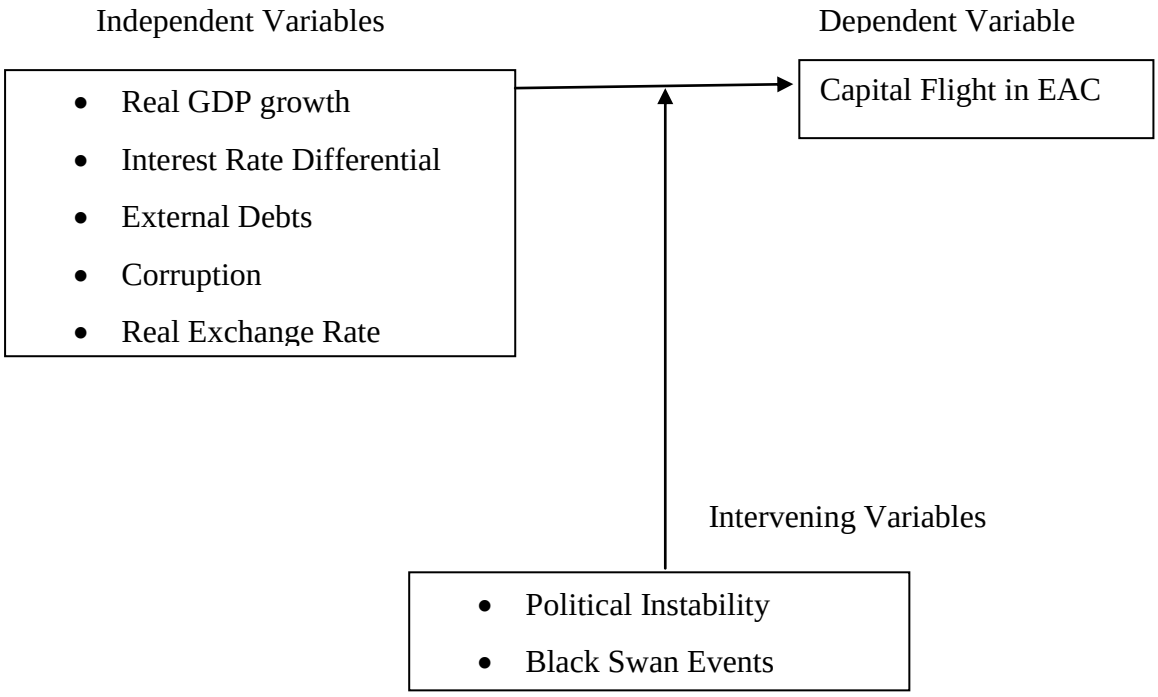

Figure 2.1: Conceptual Framework showing Relationship between Variables

Investors will want to maximize the profit abroad; thus, increase in the interest rate differential will increase the rate of capital flight. This is because increased capital flight results to reduction in the incentive to save and invest in the domestic economy. With large foreign debt, the domestic currency of the EAC will be prone to depreciation thus leading to monetary crisis. In the long run, it will result to diminished domestic capital which will force the expropriation of assets to pay for the debt. Corruption leads to increased investment-debt gap thus leading to limited capital to service the government expenditure. Lastly, reduction in real exchange rate will prompt the domestic investment to be unfavorable in terms of prices leading to increased capital flight. In addition, both political instability and black swan events i.e. unexpected events which can destabilize the economy such as terrorist attack, thus, affect the capital flight in terms of geographical locality relative to countries economic performance.

CHAPTER THREE
METHODOLOGY

3.1 Introduction

This chapter described the research design, the model upon which the study was based upon, the variables in the model, sources of data and methods of analyzing data and the presentation of findings.

3.2 Research Design

The study used historical design as it seeks to evaluate the determinants of Capital Flight in East Africa Community over the period 1988-2018. According to Buckley (2016), the main purpose of historical design is to collect, verify, and synthesize evidence from the past to establish the facts that tries to refute hypothesis. This research design was chosen because enabled the researcher to capture the trend of capital flight of the member countries of EAC.

3.3 Study Area

The study covered East African Community (EAC) comprising of five member states: Kenya, Uganda, Tanzania, Burundi and Rwanda and the time period was chosen based on the availability of data. The block was chosen since the countries have had a long history of budget deficit given that lots of capital flew from the region while their external debt almost equal to capital flight from the region. Most of the illegitimately acquired wealth is directed to safer havens abroad mostly in Switzerland, the Caribbean, Jersey and Guernsey (World Bank, 2010). East African Community lag behind in its budgeting in terms of per country's ability to finance its own budget, which is at an alarming rage while capital flight increasing at a significant rate. The EAC is found in Africa and is located between (5^0N, 29.2^0E); (5^0N, 41^0E) and (11^0S, 29.2^0E); (11^0S, 41^0E) respectively as shown in the map of the study area.

Figure 3.1: Map of EAC Member States

Note: Modified from Tyner (2018)

3.4 Analytical and Empirical Framework

Analytical and empirical framework was used to ascertain the methodological and research findings in terms of variables used in the study. As a result, it helped to provide for the descriptive statistics and the regression analysis as shown in the study.

3.4.1 Descriptive Statistics

Descriptive methods were used to show relevance of the information since it gave information on the mean, variance and standard deviation of the variables. Kothari (2004) explained descriptive statistics to mean a design that describes the state of affairs of phenomenon. Descriptive statistics allows a researcher to observe a phenomenon in terms of

population mean, variance, and standard deviation. Stanley (2013) postulated that a descriptive research systematically describes the facts and characteristics of a given population or area of interest, factually and accurately.

3.4.2 Empirical Model: Panel Data Estimation

The study was guided by Portfolio Choice theory developed by Markowitz (1952) that explore reasons to why economic agents send their capital abroad to invest in a portfolio that maximizes the expected utility of their final wealth. The theory argues that capital flight will rise with increasing domestic economic and non economic risks. The study used panel data regression analysis where by a linear regression analysis was used to estimate the relationship between capital flight and corruption index, external debt, real exchange rate, real GDP, and interest rate differential in EAC member States. This can be explained using the functional form;

$$CF = CF(\beta 1, \beta 2, \beta 3, \beta 4, \beta 5, RGDP, IRD, \mathrm{IRD}, \mathrm{CI}, \mathrm{RER}) + \varepsilon \quad \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots (3.1)$$

The estimated model is given as;

$$\mathrm{In\,CF_{it}} = \beta 0 + \beta 1 \mathrm{InCI_{it}} + \beta 2 \mathrm{InED_{it}} + \beta 3 \mathrm{InRER_{it}} + \beta 4 \mathrm{InRGDP_{it}} + \beta 5 \mathrm{InIRD_{it}} + \varepsilon_{it}$$

..... (3.2)

Where:

CF = Capital Flight,

CI= Corruption Index,

ED = External Debt,

RER = Real Exchange Rate,

RGDP = Real Gross Domestic Product,

IRD = Interest Rate Differential,

ε_{it} = Error term, β_0 =Intercept term, and $\beta_{1,}\ \beta_{2,}\ \beta_{3,\ \mathrm{and}}\ \beta_4$ are slope coefficients.

Political instability and Forex fluctuations were used as control variables since they also influence rate of capital flight.

3.5. Justification of the Variables and their Measurement

This section described the rationale for choosing capital flight as the dependent variable with real gross domestic product, interest rate differential, external debt, corruption index, and real exchange rate will be used as the independent variables. At the same time, it provides the in-depth structures for measuring these variables.

3.5.1 Capital Flight

Capital flight is used as the dependent variable in the study and the data was retrieved from the World Bank Data Catalog for all countries' capital flight from 1988 to 2018. The variable's changes depended on the signicant of the independent variables used in the study.

3.5.2 Real Gross Domestic Product

Real gross domestic product is an inflation-adjusted measure for all value of goods and services produced by an economy in a given year. It is measured as annual percentage growth rate of GDP at market prices based on constant local currency (World Bank, 2011). Data for the Real Gross Domestic Product was retrieved from the countries' National Bureau of Statistics. A negative relationship is expected between capital flight and domestic real GDP growth rate since a stable economy minimizes capital flight given public confident on domestic market to invest.

3.5.3 Interest Rate Differential

Interest Rate Differentials (INR) was estimated as the US risk free interest rate minus the domestic real interest rate. Data for the Interest Rate Differential Rate from EAC member States is obtained from the the International Monetary Fund (IMF) database. A positive relationship is expected between capital flight and interest rate differential because a higher domestic return rate compared to the foreign return rate would result in capital reversal (Liew et al., 2016).

3.5.4 External Debt

According to Ndikumana and Boyce (2003), external debt is used with intention to measure the risk of private asset expropriation. To measure the external debt, the study uses gross external debt, which measures the total debt that a country owes to foreign creditors, i.e. it considers only the liabilities of that country. Data for the External Debt is gotten from the EAC countries' National Bureau of Statistics. A positive relationship between the external debt and capital flight is expected.

3.5.5 Corruption Index

Due to the difficulty in measuring corruption qualitatively, the study employed the Corruption Perceptions Index (CPI) developed by Transparency International. The CPI ranks countries by the degree to which corruption is perceived to exist among public officials and politicians. The scores range between 10 (highly clean) and 0 (highly corrupt) is used to estimate the Corruption Index per country. Data for the Corruption Index was retrieved from the the Transparency Interational Reports for the duration of the study. A positive relationship is expected between capital flight and Corruption.

3.5.6 Real Exchange Rate

Since local currency devaluation erodes the value of domestic assets vis-à-vis foreign assets, local residents respond to the possibility of impending currency devaluation by switching into foreign assets. Hence, lower than expected real exchange rates alert capital owners to the possibility of imminent currency devaluation and prompt them to send their capital abroad. Data for the Real Exchange Rate was retrieved from the the study area countries' Central Bank Statistics. Employing the finding of Cuddington (1986), a positive relationship between real exchange rate and Capital Flight is expected.

3.6 Justification of Panel Approach

In the recent past, panel data econometric techniques have gained popularity in analyzing relationship between variables. Panel data also helps in controlling the impact of omitted variables since it is argued that the real reason one finds (or does not find) certain effects is due to ignoring the effects of certain variables in one's model specification which are correlated with the included explanatory variables. Panel data contain information on both the inter-temporal dynamics and the individuality of the entities and may allow one to control the effects of missing or unobserved variables (Hsiao, 2007).

3.7. Diagnostic Tests

Diagnostic tests were carried out to assess the validity of the regression analysis and the models used in the study. As a result, it involved econometric tests for the adequacy of the statistical findings of the analysis.

3.7.1 Panel Unit Root Test

Panel Unit Root Test was conducted to ensure that the variables are stationary and that none of them is of an order greater than I (I). There are various tests used to test for panel unit root

which includes Levin Lin, and Chu (2002); Harris and Tzavalis (1999); Im-Pesaran and Shin (2003); Breitung (2000); and Hadri (2000). Levin Lin and Chu (2002) unit test is superior test power for the long-run relationships in panel data analysis than Im-Pesaran and Shin (2003) which begin by specifying a separate ADF regression for each cross-section with individual effects and no time trend.

$$\Delta y_{it} = \alpha_i + \rho_i y_{i,t-1} + \sum_{j=1}^{p_i} \beta_{ij} \Delta y_{i,t-j} + \varepsilon_{it} \quad \ldots\ldots\ldots\ldots (3.3)$$

Where $i = 1, \ldots, N$ and $t = 1, \ldots, T$

3.7.2 Co-integration Test

The study tested for the existence of a long-run cointegration among capital flight and the independent variables using panel cointegration tests suggested by Pedroni (1995). Differencing leads to lose of long run relationship between variables and so co integration test was conducted using Pedroni (1995) to check whether the variables have got long run relationship or not. The procedures proposed by Pedroni make use of estimated residual from the hypothesized long-run regression of the following form:

$$y_{i,t} = \alpha_i + \delta_i t + \beta_{1i} x_{1i,t} + \beta_{2i} x_{2i,t} + K + \beta_{Mi} x_{Mi,t} + e_{i,t} \quad \ldots\ldots\ldots\ldots (3.5)$$

for t = 1,…..,T; i = 1,….,N; m = 1, …., M,

Where;

T is the number of observations over time,

N number of cross-sectional units in the panel,

M number of regressed variables

In this set up, α_i is the member specific intercept or fixed effects parameter which varies across individual cross-sectional units. The same is true of the slope coefficients and member specific time effects $\delta_i t$.

3.7.3 Hausman Test

Panel data can be estimated by two techniques, fixed effect or random effect model. Therefore to establish whether to employ fixed effects model or random effects model, this

study conducted Hausman test (1978) which tries to establish whether the error terms are correlated with the regressors, where null hypothesis states the absence of such correlation. Therefore, the test's null hypothesis posits that the preferred model is the random effects model against the alternative hypothesis denoting preference of fixed effects model. One advantage of fixed effects model is that it allows the unobserved individual effects to be correlated with the included variables.

3.8. Post Estimation Diagnostic Tests

Lagging the dependent variable in a dynamic model may cause it to become correlated with the error term. This may lead to the problem of endogeneity of some explanatory variables. According to Khan and Hossain (2010), such model suffers from the problem of serial correlation and heteroscedasticity. Therefore, tests for the mentioned problems were conducted before estimation which includes cross-sectional dependence, autocorrelation, and heteroscedasticity.

3.8.1 Test for Cross-Sectional Dependence

According to Chakraborty et.al. (2016), cross-sectional dependence may lead to loss of efficiency in a least square estimation thus rendering t-tests and F-tests invalid. To test for cross-sectional dependency, this study applied the Pesaran's (2015) test for dependence where null hypothesis was posted to have no correlation of residuals across entities. The researcher clustered countries at the unit year level to deal with the problem.

3.8.2 Test for Autocorrelation

Serial correlation arises when there is a correlation between error terms of different time period. It was essential to analyze the autocorrelation because it minimizes the number of independent variables leading to biased standard error in the panel data model. Since there was biased standard error, the problem of misleading confidence interval and hypothesis tests was bound to rise. To test this problem of dynamic panel data, Woodridge (2006) test for autocorrelation is used where the null hypothesis states that there is no autocorrelation against the alternative hypothesis of the presence of autocorrelation in the data.

3.8.3 Test for Heteroscedasticity

It was important to evaluate the heteroscedasticity because even though it does not lead to biased parameter estimation, it causes errors in the regression analysis and other statistical measures to be incorrectly justified in the model. This study applied the Modified Wald Test

for the group wise heteroscedasticity which is appropriate incase the assumption of normality is violated especially in asymptotic terms. The tests null hypothesis states that $\sigma^2 = \sigma$ for all I $=1\ldots\ldots N_s$ where N_s is the number of cross-sectional units. To solve this problem, the research took logs of the variables.

CHAPTER FOUR
RESULTS AND DISCUSSION

4.1 Introduction

This chapter provides results and discussions pertaining to the determinants of Capital flight in the East African Community for the period 1988-2018. First, the descriptive statistics and correlation of the variables employed in the study are presented to provide the general characteristics of the variables including mean, range, standard deviation and the correlation matrix. Secondly, it presents the results for the panel unit test using the Levin-Lin-Chu that examines the stationarity of the variables. In addition, the Hausman test, random effect regression, heteroscedasticity test, cross sectional dependence tests, and autocorrelation tests are presented. Finally, panel data estimation results using fixed effects regression model are presented.

4.2 Descriptive Analysis

4.2.1 Descriptive Statistics

The data was converted to their natural logs to address the problem of large values and eliminate heteroscedasticity. Table 4.1 presents the descriptive statistics of both the dependent and independent variables for the period 1988-2018.

Table 4.1: Results of Descriptive Analysis for the year 1988-2018

Variable	n	Mean	Std.	Min	Max
LnCF	155	6.0299	1.3949	2.4880	8.7285
LnCI	155	0.8845	0.2464	0	1.2527
LnED	155	3.8868	0.6958	2.6008	5.1696
LnER	155	1.9881	0.9236	3.7249	3.9786
LnGDP	155	4.9034	1.1982	3.6146	6.8471
LnIRD	155	2.0050	0.9203	3.5940	3.9086

Where,

LnCF is the natural log of capital flight;

LnCI is the natural log of corruption index;

LnED is the natural log of external debt;

LnER is the natural log of exchange rate;

LnGDP is the natural log of gross domestic product;

LnIRD is the natural log of interest rate differential.

The mean value of the capital flight was found to be 6.0299 showing that for the period 1988-2018 in EAC, on average, capital flight was 6.0299. The standard deviation in EAC of 1.3949 is showing that capital flight did not deviate too much from the mean. According to Ndikumana (2015), in order to establish low capital flight in Sub-Sahara Africa, there is need to eliminate or reduce the volatility in the capital flight through enacting both fiscal and monetary policies. The Maximum value of capital flight was observed at 8.7285 while minimum value was observed at 2.4880. The difference between the maximum and the minimum values, informed the range of data for the capital flight during the duration of the study.

On average, corruption index in EAC was found to be 0.8845 for the period 1988-2018. This shows that EAC countries are highly corrupt given that the score is near zero which represents a higher corrupt economy on average. The standard deviation value was gotten to be 0.2464 showing slight deviation from the mean which reaffirms that corruption is still a key concern in the region. According to Transparency International Corruption Perceptions Index (2017), EAC member States scores are generally below 5 percent which is as a result of bad governance to fuels increased capital flight in the EAC region. The maximum corruption index in EAC was 1.2527 for the period of 1988 to 2018 showing low index compared to more stabilized economies who achieves higher indices.

The average external debt is 3.8868 showing that during 1988-2018, reaffirming the finding by World Bank (2017) which found that East African Community member countries have together amassed more than $100 billion external debt, stretching their repayment budgets to the limit by the year 2017. Even though International Monetary Fund considers a debt to GDP ratio of 50 per cent to be within the tolerable limit for EAC members, external debt in EAC has already surpassed 60 percent of the total GDP. The standard deviation was 0.6958 which is slight deviation from the mean for the period of study of 1988 to 2018 which shows how serious the problem of external debt has been in the EAC. The divergence in maximum and the minimum values between 2.600801 to 5.1696 informed the range of data for the external debt during the duration of the study.

On average, exchange rate was 1.9881 during the period of study of 1988-2018. According to Nyoni (2000), low interest rate offers lenders in an economy a lower return relative to other countries. Thus, 1.9881 on average shows that exchange rate was low in EAC and hardly attracts foreign capital for investment. The standard deviation for exchange rate was 0.9236 which demonstrated that the exchange rate did not deviate from the mean. This shows that EAC member States are relatively converging for a desirable a common currency once the union is accomplished. The maximum value of the exchange rate in EAC was 3.9786 while the minimum value was 3.7249 for the period of study of 1988 to 2018. The difference between the maximum and the minimum values, informed the range of data for the exchange rate in EAC

On average, the gross domestic product was 4.9034 in EAC in 1988-2018.This can be used to determine how the region performed with its set target of 7 percent real GDP growth, thus, showing that EAC Member State's real GDP is still below the set target as a result of unstable macroeconomic variables. The standard deviation for real GDP was at 1.1982 showing that real GDP was stable and did not deviate too much from the mean. According to Forson et al (2017) stable real GDP is generally driven by increased household consumption and enhanced investment on the demand side and services on the supply side. However, the value of the minimum real GDP was 3.6146 while the maximum value was 6.8471 for the year 1988-2018 in the EAC showing the range of economic growth in the EAC.

Lastly, on the average, in the year 1988-2018, EAC had 2.0050 of interest rate differential. This reaffirms one major goal of the EAC economic growth blueprint which champions for a single digit interest rate differential relative to the US dollars. The standard deviation is at 0.9203 which was a slight deviation from the mean EAC is able to compete with other emerging economies for increased investments relative to the international interest rate, which have high returns as well as positive prospects. The minimum value was 3.5940 and the maximum was 3.9086 showing that the range for interest rate differential was 0.314599.

4.2.2 Correlation Results

The correlation matrix presents the correlation coefficients between the capital flight and the explanatory variables in the study. The correlation analysis explains the strength of the relationship between the capital flight and the explanatory variables. Correlation coefficient ranges from -1 to +1 with closeness to absolute 1 showing a strong correlation between variables.

Table 4.2: Results of Correlation Coefficients

	LnCF	LnCI	LnED	LnER	LnGDP	LnIRD
LnCF	1.0000					
LnCI	0.1795*	1.0000				
LnED	0.3769**	0.2334**	1.0000			
LnER	0.1546**	0.0232**	-0.065**	1.0000		
LnGDP	-0.6062**	0.182***	-0.332***	0.2135***	1.0000	
LnIRD	0.142***	0.0277***	-0.0591***	0.3561***	0.2033***	1.0000

*** is significance at 1%; ** is significance at 5% and * is significance at 10%

Table 4.2 presents correlation results with diagonal matrix indicating values being unity (1.0000) which implies that a variable is perfectly correlated with itself? The correlation coefficient between capital flight and corruption index was 0.1795. This means that there was a weak positive correlation between capital flight and corruption index. As capital flight increases, corruption index also increases and when capital flight decreases, corruption index also decreases. The positive correlation of 0.1795 between corruption index and capital flight is statistically significant at 10% level. The positive relationship between corruption index and capital flight is because an increase in corruption results in increased investment-debt gap thus limiting domestic capital creation which thereafter leads to increased cost of doing business and reduces profits of private investors thus results in a surge in capital flight.

In the case of external debt and capital flight, the correlation coefficient is 0.3769. This means that there is a weak positive correlation between external debt and capital flight. As external debt increases, capital flight increases and as external debt decreases, capital flight decreases. The positive correlation of 0.3769 between external debt and capital flight is statistically significant at 5% level. The positive relationship is due to the fact that as external debt increases, there is increased conversion of the debt in to private assets through corrupt proxies thus increases capital flight in the EAC. Also, investors foresee a situation in which the government may increase taxes to finance the external debt. This is possible particularly if investors are forward looking economic agents.

The correlation coefficient between exchange rate and capital flight is 0.1546. This means that there is a weak positive correlation between exchange rate and capital flight. When there is increase in exchange rate, capital flight also increases and when the exchange rate decreases, capital flight also decreases. The positive correlation of 0.1546 between exchange

rate and capital flight is statistically significant at 5% level. This is because an increase in real exchange rate depicts a rise in the foreign price compared to domestic prices thus necessitates the movement of capital flights with investors fleeing to countries where there is a favourable prices for the asset prices.

For the real gross domestic product and capital flight, there is a highly correlation coefficient of -0.6062. This means that there is a strong negative correlation between the interaction of gross domestic product and capital flight. When there is an increase in the gross domestic product, capital flight decreases and when real GDP decreases, capital flight also increases. The negative correlation of -0.6062 between gross domestic product and capital flight is highly correlated and statistically significant at 5% level. The rationale for the negative result is that stabilized economic performance provides the citizenry confidence and incentive to invest resources in the domestic market since there is assurance of adequate return on the assets.

Interest rate differential and capital flight has a correlation coefficient of 0.1420. This means that there is a weak positive correlation between interest rate differential and capital flight, as interest rate differential increases, capital flight also increases and when interest rate differential decreases, capital flight also decreases. The positive correlation of 0.1420 between interest rate differential and capital flight is statistically significant at 1% level. The positive relationship is as a result of a higher real interest rate differential that reflects higher return on investment abroad thus inducing investors to send their capital abroad.

4.3 Diagnostic Tests

4.3.1 Panel Unit Root Test

Panel unit root test was conducted to find out whether the variables were stationary at level or whether they were non stationary at level. When a regression is done with variables being none stationary, it leads to spurious regression results i.e. where time-series variables are non-stationary and independent. Levin Lin and Chu (2002) panel unit root test is used to conduct stationarity test because it relies critically on the assumption of the cross-sectional independence in the context of non-stationary series and it is based on the following hypotheses:

Ho: Each time series contains a unit root

H_A: Each time series is stationary

Table 4.3: Results of Levin-Lin-Chu Panel Unit Root Test

Variable	LLC (level)	LLC(first difference)	LLC(p-value)	Order of integration
LnCF	-2.2547		0.0121	I(0)
LnCI	-0.6670		0.2524	
		-3.5681	0.0002	I(1)
LnED	-0.0624		0.4751	
		-3.9082	0.0000	I(1)
LnER	-4.3974		0.0000	I(0)
LnGDP	1.7188		0.9572	
		-3.0643	0.0011	I(1)
LnIRD	-4.6390		0.0000	I(0)

5% significance level

From table 4.3, capital flight, exchange rate and interest rate differential were found to be stationary at level while the remaining variables, that is corruption index, external debt and gross domestic product were found to be stationary after first differencing that is integrated of order one (see Appendix B)

4.3.2 Cointegration Test

Usually after differencing, variables tend to lose long run relationship and so cointegration test is being conducted to establish whether variables have got long run relationship after differencing. The test's null hypothesis is that there is no cointegration while the alternative one is that all panels are cointegrated. Since some variables were found to be stationary at level and others stationary after first differencing, conducting cointegration test was impossible since the variables were now not integrated of the same order.

4.3.3 Hausman Test

To determine whether to use fixed effects or random effects regression model, Hausman (1978) test was conducted and the results were as follows:

Table 4.4: Results of Hausman Test

-Coefficients-	(b) Random	(B) Fixed	(b-B) Difference	Sqrt(diag(v_b-v_B))
lnCI	0.2606	0.6247	0.3641	-
LnED	-0.3719	0.3493	-0.0226	0.1696
lnER	1.7213	0.8475	0.8708	-
lnGDP	0.6042	0.8108	-0.2066	3.0019
lnIRD	-1.6857	-0.7321	-0.9535	
Chi2 (4) = 43.77			Prob>chi2=0.0000	

From the Hausman test in table 4.4, the p-value is 0.0000 which is less than 0.05 which means that the difference is statistically significant and so the null hypothesis of the preferred model being random effects model was rejected. Thus, the fixed effects regression model was used to analyze the relationship between the dependent variable and the independent variables.

4.4 Determinants of Capital Flight in EAC

Table 4.5 presents the fixed effect regression results on the determinants of the capital flight in the EAC from 1988 to 2018 based on the panel data analysis. This is because panel data controls for endogeneity, omitted variables and also explores data across time. From the results in table 4.5, the probability of F-statistics is 0.0000 which is less than 0.05 implying that the model is good fit and all explanatory variables are jointly statistically significant at 5 percent level of significance and adequate enough to explain change in capital flight.

The within R squared is 0.5208. This means that 52.08% of the variations on capital flight (dependent variable) within the individual countries are explained by the explanatory variables in the model. The between R squared is 0.8451 which means that 84.51% of the variations on capital flight between the entities (countries of the EAC) are explained by the explanatory variables in the model. The overall R squared is 0.5434. This means that 54.34% of the changes on the dependent variable (capital flight) in EAC are explained by the explanatory variables that are included in the model. From the results of R squared above, the model of the study was a good fit since all the R squared results attained 50% and above.

Table 4.5: Results of Fixed Effects Regression

LnCF	Coef.	Std.Err.	t	P>|t|	95% conf.	Interval
lnCI	0.6247**	0.40780	1.53	0.018	0.5739	0.6756
lnED	0.3493**	0.1723	2.03	0.044	0.3278	0.3708
lnER	0.8475**	1.2803	0.66	0.029	0.6878	1.0071
lnGDP	-0.8108***	0.2325	-3.49	0.001	-0.8398	-0.7818
lnIRD	0.7321*	2.0919	0.35	0.570	0.5719	0.8924
-cons	-11.9538**	5.7139	-2.09	0.038	-12.6664	-11.2412
R-sq: within	0.5208				F(5, 145) =11.32	
R-sq: Between	0.8451				Prob>chi2 = 0.0000	
R-sq: Overall	0.5434					

*** is significance at 1%; ** is significance at 5% and * is significance at 10%

4.4.1 Capital Flight and Corruption Index

This sub section presents objective (i) which was to examine the effect of corruption index on capital flight in the EAC.

From the regression results, the coefficient of corruption index (CI) is 0.6247.This means that a one percent increases in corruption leads to 0.6247% increase in capital flight. Since the p-value of 0.018 is less than 0.05, it means that the 0.6247% increase in capital flight is statistically significant at 5% significance level. The coefficient is positive and this conforms to economic theory of portfolio adjustment postulated by Markowitz (1952) which emphasized that with riskier investment in developing economies due to non-economic indicators, there will be low return of investment locally thus escalating capital flight that flows to developed countries. This could be because corruption erodes the trust that people have in the public sector to act in their best interest. Corruption also wastes taxes or rates that have been earmarked for important projects and this translates to poor quality services or infrastructure which in turn promotes capital flight (Liew et al., 2016). Corruption also leads to minimal transparency on service to both citizens and investors which are sometimes

discouraging hence contributing towards capital flight from a country. With corruption in existence in a country, honest businesses or investors ends up missing out on government contracts and this accelerates capital flight since the business environment becomes unconducive to investors (Osei-Assibey et al., 2018).

According to Le and Rishi (2006), the higher the corruption in a country, the lower the credibility in the government's policies leading to increased capital leakages. This is because a corrupt controlled rule of law will influence both the investors' confidence in an economy as well as the ability of government officials to siphon and deposit stolen funds abroad. Accordingly, investors would not put their money in an economy in which the respect of the rule of law is not optimal. In essence, they are less likely to invest if, in their opinion predation by the State can weaken overall economic performance, irrespective of whether they are directly affected by such predation. According to Osei-Assibey et al. (2018), respect of the rule of law ensures better protection of property rights and guarantees that foreigners do not need to be afraid of being expropriated of their invested assets. Such expropriation affects capital flight and discourages foreign investment. Moreover, countries with corrupt executives may not fully commit to respecting the ownership rights of investors.

The result of the effect of corruption index on capital flight is consistent with the findings of Le and Rishi (2006) who studied the determinants of capital flight proposition for a panel of 69 countries including Sub-Sahara Africa over a seven-year period from 1995–2001 and concluded that corruption is one of the dimensions of poor governance and has significant positive effect on capital flight. The study indeed supported the notion that advocating for good governance by combating corruption makes a great deal of sense for countries aiming to staunch capital flight. As a result, the finding of this study is in conformity to the prior studies since corruption also distorts market and incentives thus likely to reduce economic efficiency and growth. Thus, with corruption, there is also a likelihood of increased monopoly market which reduces market competition and innovation.

The findings is also in consistent with Osei-Assibey et al. (2018) who studied the effect of corruption and institutional governance indicators on capital flight in 32 Sub-Saharan Africa for the period of 2000 to 2012 and concluded that corruption has a positive sign and statistically significant across the study. Increased corruption is likely to minimize formal tax collection thus making government to rely more on the capital control and financial repression from private investors. As a result, private investors will choose an optimal

allocation between capital flight and domestic investment, taking into account the tax and capital control. The finding of this study found the coefficient of corruption index to be positive and statistically significant to capital flight thus conforms to the finding of Osei-Assibey et al. (2018).

4.4.2 Capital Flight and External Debt

This subsection presents objective (ii) which was to investigate the influence of external debt on capital flight in EAC.

From the fixed effects regression results, the coefficient of external debt (ED) is 0.3493. This means that a one percent increase in external debt leads to an increase in capital flight by 0.3493%. The p-value is 0.044 and being that it is less than 0.05, it means that 0.3493% increase in capital flight is statistically significant at 5% significant level. The coefficient is positive and conforms to debt-overhang theory which stipulates that the presence of inherited debt will be sufficiently large that creditors will not be able to have confidence in repayment. Thus, the finding of the study also conform to the debt-overhang theory since in any case the national debt exceeds the country's repayment ability, then the expected debt service will be likely to increase relative to national output (Kolapo et al., 2000).

The results are in line to Ajayi (1997) findings that postulated that increased external debt will result in increased taxation on national return in order to service the national debts thus discouraging both domestic and foreign investors. It therefore shows that as external debt increases, propensity of the crowd-out effect for the domestic capital will also increase with reduction in confidence to invest locally thus leads to increased capital flight. This is because increased external debts make a country to be vulnerable to external shocks and this encourages capital flight because the environment seems to be uncondusive to investors. According to Ndiaye (2011), higher external debt for a country crowds out development projects since much resources are devoted towards debt servicing at the expense of development projects and other crucial services. This makes a country to lack essential/adequate infrastructure like roads, electrification, airports and railways and as a result the environment becomes unfavorable to investors hence leading to capital flight.

In addition, the study conforms to Ndikumana and Boyce (2003) study which found that external debt can also make a country to be at risk of ceding ownership of its strategic assets thus making investors to fear investing in such a country hence leading to capital flight.

Ndiaye (2011) supported the arguemet by stating that a country that is highly indebted can also be seen by lenders as more risky in terms of loan repayment hence being avoided by lenders or being lent to at high interest rates and this discourages investors hence capital flight. Lastly, external debt interferes with the political independence of a country which reduces confidence of investors in a country hence increase in capital flight. This is because, with a steeped staggering external debt, there will be enhanced vacuum of invisible funds that will ultimately restrain economic growth thus leading to increased capital flight.

The result of the impact of external debt on capital flight is consistent with the findings of Ajayi (1997) who analyzed the relationship between external debt and capital flight in a 10 severely indebted low income countries in Sub-Sahara Africa and concluded that capital flight provides both the motive and the resources for the borrowed funds to be transferred to developed countries. This can be done through government borrowing from external donors and selling to domestic investors who in turn transfer these monies to developed countries in order to gain higher economic return. Ndiaye (2011) who studied the determinants of capital flight in the Franc Zone regions also concluded that a percentage increase in debt service burden yields between 0.21% to 0.31% declines in investment-GDP level due to increased capital flight from Franc Zone regions. This is because the volume of external debt stock and debt service variables are highly significant relative to capital flight volume thus demonstrates clearly that the presence of debt-overhang and crowd-out effect due to increased external debt will result in increased capital flight. The findings conform to the results of this study that found that increase in external debt leads to increase in capital flight.

Lastly, the results of this study are in line with the findings of Ndikumana and Boyce (2003) who investigated determinants of capital flight from 32 SSA over the period 1970 to 1996 and concluded that increase in capital flight from developing countries is as a result of response to increased uncertainties on macroeconomic policies that are directly attributed to external debt burden. This is because these macroeconomic circumstances leading to debt-driven capital flight are due to expectation of exchange rate devaluation, fiscal crisis, possibility of a crowding out of domestic capital, and expropriation risk. As a result of external borrowing, domestic asset holders may expect exceptionally onerous taxes in the wake of a possible debt crisis. External funds may also preempt favorable investment opportunities or drive down the domestic rate of return, crowding-out domestic capital and pushing it overseas thus leading to increased capital flight. The coefficient of external debt

which is positively significant shows that the finding of this study conforms to the results of Ndikumana and Boyce (2003).

4.4.3 Capital Flight and Exchange Rate

This sub section presents objective (iii) of this study which was to determine the influence of exchange rate on capital flight.

The coefficient of exchange rate from the fixed effect regression results is 0.8475. This means that a one percent increase in exchange rate leads to a 0.8475% increase in capital flight and p-value is 0.029. This means that the 0.8475% increase in capital flight is statistically significant as a result of a one percent increase in exchange rate being that the p value is less than 0.05 and the significance is at 5% level. The result is positive and conforms to economic theory of investment diversion theory postulated by Dunning et al (1998) which suggests that currency depreciation will bring about the fear of loss of asset value by the economic agents. This is because in the midst of expected currency depreciation, citizens would anticipate the economic agents to safeguard their assets by demanding higher valued currencies thus engaging in capital flight.

The result relates to the findings of Bigsten and Kayizzi-Mugerwa (2001), which empahasized that exchange rate overvaluation leads to high expectations of depreciation on domestic currency which in turn leads to an increase in the prices of foreign goods compared with prices of domestic goods hence resulting in losses in real incomes. Ngeno (2000) suggested that to avoid loss in real income, domestic residents should hold at least part of their assets overseas. In addition, increase in exchange rate leads to a decline in terms of trade which in turn causes capital flight to increase. However, a reduction in terms of trade leads to a fall in government income and the government will increase tax in order to pay its obligations. As investors expect an increase in tax, they will hold their assets overseas. In addition, a decline in government income due to a decline in terms of trade makes the government to proceed with money creation which is a source of inflation. If inflation persists, individuals may decide to transfer their assets outside the country in order to avoid inflation tax (Ndikumana & Boyce, 2012).

The result of the impact of real exchange rate on capital flight is consistent with the findings of Cuddington (1986) who studied the economic determinants of resident capital flight for Argentina, Mexico, Uruguay, and Venezuela from 1974 to 1982 using portfolio-adjusted

model. The study by Cuddington (1986) found that with an increase in the real exchange rate, it depicts a rise in the foreign price level compared to the domestic price level thus leading to real depreciation of the local currency. As a result, the coefficient of the real exchange rate found in this study, which is positive suggests that when domestic currency depreciates, there will be increase in capital flight in EAC. The finding of this study is also supported by evidence from Bigsten and Kayizzi-Mugerwa (2001) who studied the determinants of capital flight from Uganda over the period of 1971 to 1994 and concluded that real exchange rate positively affect the level of capital flight. Ndikumana and Boyce (2012) studied the determinants of capital flight in North African countries from 1970 to 2010 using panel data and concluded that exchange rate misalignment results in macroeconomic error policies that accelerates rise in expected real currency depreciation resulting in paradox of asset loss by the economic agents. The findings conform to the results of this study that found that real exchange rate depreciation leads to increase in capital flight.

Lastly, the results of the effect of real exchange rate on capital flight confirms the results drawn by Ngeno (2000) who studied the determinants of capital flight in Kenya on a quarterly data over the period 1981 to 1995 using Error Correction Model and concluded that the coefficient of real exchange rate has positive significant on capital flight. Ndiaye (2011) who studied for the determinants of capital flight from the Franc Zone regions using the Ordinary Least Square (OLS) method for the period of 1970 to 2005 concluded that rising domestic inflation can lead to a real currency appreciation which certainly makes exports expensive and thus, serves as a driver for capital flight by domestic economic agents due to the associated risk of loss with an anticipated devaluation of the currency. It therefore conforms to the finding of this study which also stipulated that through increase in real exchange rate, the level of capital flight will significantly increase.

4.4.4 Capital Flight and Gross Domestic Product

This sub section presents objective (iv) of this study which was to determine the influence of gross domestic flight on capital flight in EAC.

For the case of real gross domestic product, the coefficient is -0.8108 which suggests that one percent increase in gross domestic product leads to a 0.8108% decrease in capital flight. The p-value is 0.001 and being that it is less than 0.05, it means that the decrease in capital flight by 0.8108% as a result of a 1% increase in gross domestic product is statistically significant at 1% significance level. The result is negative and conforms to portfolio adjustment theory

which emphasized that investors will only be willing to accept higher expected return which mostly contradicts the scenario in developing economies with low expected return (Liew et al.,, 2016). However, if GDP growth is stabilized, there will be higher chances of increased expected return in terms of capital gain and profit maximization from the investment. This is because a strong economic performance which is measured in terms of higher economic growth and stable institutions are associated with lower capital flight. A strong economic growth signals higher expected returns on domestic investment which induces further domestic investment and thus reduces capital flight. In addition, a high and sustained economic growth also gives confidence to domestic investors about the institutional and governance environment of the country which encourages domestic investment while reducing incentives for capital flight (Schneider, 2003).

The result is consistent with the findings of Ndikumana and Sarr (2016) econometric analysis on the role of natural resource endowment on capital flight based on 32 African countries over the period 1970–2013. The study found that since natural resource endowment promotes GDP thus capital flight reduces by 4.8% as real GDP increases due to friendly domestic environment for trading. Schneider (2003) studied determinants of capital flight in SSA over the period 1973 to 1986 and found that domestic economic growth in terms of GDP will diminishes the level of capital flight from the domestic capital market. The study conforms to the finding of this study which found a negative result between real GDP and capital flight. Since indicators of economic growth including enhance export, increased per capita income per citizen, strong monetary and fiscal policies will encourage economic growth that provides confidence on the local and foreign investors to invest locally without prompting international market ventures.

The study also relates to the findings of Ndikumana and Boyce (2003) who investigated determinants of capital flight from 32 SSA over the period 1970 to 1996 and concluded that as a measure of macroeconomic environment, real GDP has a negative significant on capital flight, both on short and long run economic growth i.e. one percent increase in economic growth reduces capital flight by 0.2 percent. They went further to recommend that in order for the SSA economies to promote minimal capital flight relative to the economic growth, there should be strategies including support to export promotion strategies, reduced but relative taxation on investments, and stabilized political environment. Nyoni (2000) also studied the determinants of capital flight in Tanzania over the period 1971 to 1993 using time

series analysis and concluded that the coefficient of Tanzania real GDP is negatively significant to capital flight. All these findings showed that GDP has a negative effect on the level of capital flight which is similar to the findings of this study.

Finally, results of this study produced a similar finding to Ngeno (2000) who studied the determinants of capital flight in Kenya on a quarterly data over the period 1981 to 1995 using Error Correction Model and concluded that the coefficient of GDP has a negative significant on capital flight. Kipyegon (2004) studied the determinants of capital flight in Kenya between the period 1971 to 2001 using time series data and concluded that real GDP has a negative significant on capital flight. The study went further to recommend that Kenya government should ensure accountability and transparency in its expenditure in order to promote both local development and its relationship with international economies thus helps to stabilize and assure investors of a friendly environment. This conforms to the findings of this study which concluded that GDP has a negative significant on capital flight in EAC.

4.4.5 Capital Flight and Interest Rate Differential

This sub section presents objective (v) of the study which was to evaluate the effect of interest rate differential on capital flight in EAC.

The coefficient for the interest rate differential is 0.7321 which means that an increase in interest rate differential by 1% leads to an increase in capital flight by 0.7321%. The p-value is 0.570 and being that it is greater than 0.05, it means that the 0.7321% increase in capital flight as a result of a 1% increase in interest rate differential is not statistically significant. According to Al-fayoumi et al. (2012), the higher the interest rate differential, the more attractive the foreign investments on assets which in turn induces net capital outflow. It also reduces expected returns on domestic investment thus encouraging domestic capital owners to send their capital abroad.

Higher interest rate differential between the capital haven countries and the domestic countries contributes significantly to increase in capital flight through encouraging of the substitution of the domestic assets to foreign assets. When faced with relatively lower rates of return on domestic investments, investors would be naturally inclined to send their capital abroad to countries that offer higher returns (Al-fayoumi et al., 2012). The coefficient is positive and conforms to portfolio adjustment theory which emphasized on the profit maximization by investors allocating funds on the foreign based rates relative domestic rates.

This is because, interest rate differential matters for non-residents' portfolio investment, while the search for yield influences residents' choice to invest abroad. The positive and significant effect of interest rate differential could have been as a result of need for foreign capital, investment in order to maintain a rate of return compared to domestic investment (Cuddington, 1986). Increased interest rate differential between the US dollar and the local currency will therefore trigger capital flight that will weaken the domestic investment stability with a higher return on foreign investment encouraging a higher capital flight.

Cuddington (1986) studied the determinants of residential capital outflow for the four major flight economies including Argentina, Mexico, Uruguay, and Venezuela from 1974 to 1982 using the portfolio adjustment model and the finding showed that interest rate differential has a positive impact on capital flight. The study attributed the positive impact on the fact that investors will respond to a better opportunity abroad due to favorable interest rate differential with capital flowing from developing economies to developed economies in order to escape capital risk in the domestic countries. The finding was therefore comparable to the findings in this study. However, the result did not conform with the findings of Uddin et al. (2017) who studied the determinants of capital flight in Bangladesh between 1973 and 2013 and showed that interest rate differential is one of the most significant factors in determining capital flight.

The study has also given similar findings to the one of Al-fayoumi et al. (2012) which concluded that interest rate differential positively affects capital flight in the Eastern Europe countries but not statistically significant. Ajayi (1997) studied the determinants of capital flight in Nigeria over the period 1971 to 1989 and found that the coefficient of real interest rate differential was positively related to the level of capital flight which also conforms to the findings of this study. Both Ajayi (1997) and Al-fayoumi et al. (2012) emphasised that interest rate differential influences both residents' decision to invest abroad as well as nonresidents' decision to invest in the recipient economy. It conforms to the findings of this study since domestic interest rate maintains a declining trend in keeping with the flush liquidity on the international market.

4.5. Post Diagnostic Tests

4.5.1 Test for Cross Sectional Dependence

Cross sectional dependence is the inter-dependence between cross sectional units. Cross sectional dependence results into efficiency loss for least square estimators and renders

invalid conventional t-test and F-tests that use variance-covariance estimators. Pesaran's (2015) test was used to test for cross sectional dependence. The test's null hypothesis posits that there exists no correlation of residuals across entities. The results for Pesaran's test for cross sectional dependence were as follows:

Pesaran's test of cross sectional independence =1.022, pr = 0.3067

From the results of Pesaran's test for cross sectional dependence, the P-value is greater than 0.05 hence the null hypothesis of cross sectional independence was accepted. This means that there was cross sectional independence in the regression analysis.

4.5.2 Test for Autocorrelation

Autocorrelation is caused by correlation between error terms of different time periods. Autocorrelation in linear panel models causes biased standard errors and makes the estimators less efficient. Wooldridge (2006) test was used to test for autocorrelation and the test's hypotheses are stated as follows:

H_o: There is absence of first order autocorrelation

H_A: There is presence of first order autocorrelation

The results for Woodridge (2006) test for autocorrelation were as follows:

F (1, 4) =0.691, Prob>F = 0.4524

From the results of autocorrelation, the p-value is greater than 0.05 and so the null hypothesis of no serial correlation was accepted. This means that autocorrelation was not a problem in the regression results.

4.5.3 Heteroscedasticity Test

Heteroscedasticity refers to a situation whereby the error terms do not have constant variance across observations. Heteroscedasticity causes standard errors to be biased and this leads to biasness in test statistics and confidence intervals. Modified Wald test for group wise heteroscedasticity in fixed effect regression model was used to conduct heteroscedasticity test. The tests null hypothesis is stated as follows;

$\sigma^2 = \sigma$ for all I =1……N_s where N_s is the number of cross-sectional units.

The results from Modified Wald test were as follows:

Chi2 (5) = 3.72

Prob>chi2 = 0.5908

From the results above, the p-value is greater than 0.05 and so the null hypothesis of constant variance was accepted hence showing that heteroscedasticity was not a problem in the regression analysis.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings of the preceding chapters. Based on the findings, a number of conclusions are drawn and policy implications discussed. Areas of further research are also suggested.

5.2 Summary of the Study

The general objective of this study was to examine the determinants of Capital Flight in East Africa Community over the period 1988-2018. Historical research design was used with panel data analysis while the sources of data were purely secondary. The study analyzed the relationship between capital flight which was used as dependent variable with corruption index, external debt, real exchange rate, real gross domestic product, and interest rate differential which were used as explanatory variables.

From the analysis, descriptive statistics showed that the volatility of the variables was very low while the correlation analysis showed that there were positive correlations between the dependent variable and the explanatory variables except in the dependent variable, capital flight and real GDP. Levin-Lin-Chu panel unit root test was carried out and capital flight found to be stationary at level and its stationarity was statistically significant at 5% level. Exchange rate and interest rate differential were also found to be stationary at level and their stationarity was statistically significant. Corruption index, external debt, and real GDP were stationary after first differencing and this was also statistically significant. Being that the dependent variable was stationary at level with some independent variables also stationary at level and others stationary after first differencing, cointegration test could not be conducted because the dependent variable and the explanatory variables were therefore not integrated of the same order as per the condition for cointegration test.

Hausman (1978) test was conducted to select the preferred model between the fixed effect and random effect model. The results showed that the fixed effect model was appropriate for the study while Pesaran's (2015) test for cross sectional dependence showed that there was no cross sectional dependence. Wooldridge (2006) test for autocorrelation was used to establish whether the error terms of different time periods are correlated or not and the results of the test showed they are not correlated. Heteroscedasticity test was carried out to establish

whether the error terms exhibit constant variance across observations or not. Modified Wald test for group wise heteroscedasticity was employed and results showed no heteroscedasticity.

The fixed effect regression results showed that external debt and exchange rate had a positive and statistically significant effect on capital flight while real GDP had a negative and statistically significant effect on capital flight. However, interest rate differential was found to have a positive but statistically insignificant effect on capital flight. This therefore showed that EAC regions have to work hard in implementing both monetary and fiscal policies that will reduce capital flight.

5.3 Conclusions

The positive and statistically significant interactive effect of corruption index on capital flight implies that under situations of poor governance and bad institutional quality, corrupt public authorities take advantage to hoard personal wealth overseas thus leading to low tax and capital accumulation to improve the well-being of citizens and even to increase investment in the domestic developing countries. This finding concurred with the findings of Le and Rishi (2006) and Osei-Assibey et al. (2018) who found that corruption leads to capital flight in the various regions and time periods that they conducted their studies.

The negative and statistically significant relationship between real GDP and capital flight could be because deterioration in the performance of the economy increases the proportion of private wealth portfolio held abroad. However, high economic growth may be an indication of enhanced investment opportunities in EAC. This finding coincided with the findings of Ndikumana and Boyce (2003); Ndikumana and Sarr (2016); Kipyegon (2004); Ngeno (2000); Nyoni (2000), and Schneider (2003) who found that real GDP growth leads to capital flight decrease in various regions and periods that the studies were conducted.

The positive and statistically significant effect of external debt on capital flight could be because most of the external borrowings in EAC are transformed instantaneously from capital inflow to capital flight, ultimately ending up abroad, usually in a private foreign account. As a result, with increased failure in repaying back debt or when there is a high potential of default, it will lead to capital outflows from developing countries associated with non-repayment risks. This finding coincided with the findings of Ajayi (1997), Ndiaye (2011),

and Ndikumana and Boyce (2003) who found that increase in external debt leads to increased capital flight in the various regions and time periods that they conducted their studies.

The positive and statistically significant interactive effect of real exchange rate on capital flight implied that capital flight was sensitive to currency depreciation. Since currency devaluation erodes the value of domestic assets vis-à-vis foreign assets, residents respond to the possibility of impending currency devaluation by switching into foreign assets. Hence, lower than expected real exchange rates alert capital owners to the possibility of imminent currency devaluation and prompt them to send their capital abroad. The findings were consistent with findings of Bigsten and Kayizzi-Mugerwa (2001), Cuddington (1986), Ndiaye (2011), Ndikumana and Boyce (2012), and Ngeno (2000) who found that real exchange rate leads to capital flight in the various regions and time periods that they conducted their studies.

5.4 Policy Recommendations

From the study, the following policy implications could be drawn at least for Eastern Africa countries so as to restrain the rapidly rising outflow of capital.

5.4.1 Interactive Effect of Corruption on Capital Flight

There is need to put into place transparency mechanisms by regularly providing information to the populations with respect to the management and use of both borrowed and domestically finance developments within the EAC member States. This is because it is evidently viable that corrupt civil servants take advantage of their favourable position to amass personal fortunes domestically and those held abroad. Therefore, improvement in governance and strengthening of institutions are absolutely necessary in repatriating capital flight in order to help finance starving domestic projects that are vital for the economic growth and development in the EAC states. In addition, EAC member states should implement bribery and anti-corruption legislation that are potentially useful tools in order to enforce personal wealth declaration and individual lifestyle audits. These policies will help to curb both individual and collusive corruption that has led to increased lost of capita from EAC states that could have been used to improve economic growth and developments.

In addition, there is need for reforms to economic, political environment and continuous consolidation of anti-corruption agencies in the EAC member states in order to reduce the occurrence of capital flight to guarantee sustainable growth and development. As a result, the

national governments of the EAC member states should have an international cooperation strategy as well as the regional cooperation among financial institutions to fight against capital flight problem. This will help in seizure of assets from the proceeds of crime based on a criminal conviction, which is a standard instrument of criminal law but depends on the establishment of a clear and proven link between criminal acts and specific proceeds. This will allow the EAC states to file a civil suit for the confiscation of assets based on reasonable suspicion rather than proof of criminal activity. Moreover, criminal prosecution with strict jail term for those convicted of corruption should be implemented in order to serve as a lesson to those with intention to engage in corrupt deals that promote capital flight.

Institutional reforms need to put more emphasis on the transparency of the public debt management in order to help seal the revolving-door phenomenon of debt-fueled capital flight. However, in order to make such domestic strategies effectual, EAC Member States in Judiciary, Executives, and Legislatives must support the reforms thus increases transparency in global financial system through overhaul banking secrecy tactics. As a result, there is need to refocus on the automation for the financial system information exchange between countries in the EAC and the rest of the world, especially those with offshore financial centers. In addition, comparative to institutional governance, there is a need to build confident with private investors in order to retain capital domestically. This includes a situation where the EAC is required to protect both patent and property rights and upholding the rule of law.

EAC Member States, through the Anti-Corruption Agencies should prepare cost-benefit analyses that assess the capital capability of the investors before and after every financial year in order to minimize both private and public fund misuse. This can be achieved when these countries join global voluntary agencies including Extractive Industries Transparency Initiative which also provide trainings to the Anti-Corruption investigators thus encourages inter-agency coordination between revenue authorities and ministries of finance in EAC. More so, the need to build institutional infrastructure whose main function is to assist in recovery of the stolen public funds is very essential in reducing capital flight in EAC. This can be supported by affecting the United Nations Convention against Corruption known as the Stolen Asset Recovery Initiative that provides for tracing of the stolen assets, wealth and thereafter returning them to home countries. Lastly, EAC Member States should create Financial Intelligence Units that can easily investigate anti-money laundering which includes compelling banks and the financial institutions to file financial reports on any suspicious

transactions. This will also help to minimize the misuse of the public funds which are misused by the public officers.

5.4.2 Effect of External Debt on Capital Flight

The governments of EAC States need to pursue policies that are geared towards reducing the debt stock in order to reduce this effect on capital flight. First, there is need for debt financing i.e. EAC states should borrow from new lenders at a relatively lower interest rate and use the proceeds from new loan to repay the old loans so as to avoid the risks of external loan defaults. As a result of loan repayments, citizens will gain confidence in the domestic economic with a stable economic stability than taking their capital oversea in response to higher risks of debt repayments. At the same time, this strategy will help EAC states to minimize long term external loan for the future generation who would have been obliged to repay loans at a higher rate.

Being that East African Community Countries are heavily indebted, they need to focus on external loan restructuring strategies i.e. renegotiating for lenient external loan terms with external lenders like debt relief strategies, debt rescheduling, and reduction in debt servicing interest rates. By applying for external loan restructuring strategies, it will help towards loan retirements in long run that will minimize capital from EAC. Lastly, governments of EAC should pay more attention to the debt management profile particularly by use of concessional loan to commercial loans since they are being offered at a lower interest rate with a long repayment periods. As a result, the governments of EAC will have accommodative time to consolidate for funds without extra tax burden on citizens to repay for the loans in a short term. As a result, there will be extra capital accumulation, both for private and public investors to invest locally at a higher expected return with low risk associated with national government repayment of loans at their expense. This will help to minimize capital flight growth since the governments of EAC will be able to put borrowed funds into productive projects and programmes which can improve the economy.

The National Treasuries in EAC Member States should strengthen the existing private-public partnerships (PPP) policy and integrate both public and private investors in the implementation and management of infrastructural development and eternal borrowing. The policy should be designed in line with the Resource Mobilization Strategy (RMS) under Africa's Agenda 2063, that emphasizes on legal regulations and institutional framework for

the private developers thus allows for domestic alternative financing of public projects. This will therefore help to reduce the percentage of external debt that is an accelerator for capital flight in EAC relative to EAC Big Four Agenda and Vision 2030 without a ballooning external debt.

The governments of the EAC Member States should design both fiscal and monetary policies that provide that the government will guarantee wholesome investment of external debt to the projects deemed productive for the public projects. It will therefore provides for the need to assure the citizens of higher return on investment enough to service the debt thereof and reduce the chance of falling into a debt crisis. At the same time, there is need for the EAC to engage the African Investment Bank, African Monetary Fund, and the African Central Bank whose interest rates are low with main objective to accelerate economic growth in Africa compared to other international monetary and economies. Increased debt is raising alarm in these countries, but, debt is a major economic booster during the shock to the domestic economy. As a result, using of the fiscal expenditure approach that helped to sustain SSA during 2008 financial crisis should be considered whenever external debt surges. In addition, the need to clear set re-payment of external debt frameworks is very crucial since inability of a country to pay off debt sets of a chain of events that send a country in economic turmoil. As a result, there is need for the EAC Member States to engage in external borrowings that are capital investment friendly in order to encourage both private and public investment with no crowd-out effects.

5.4.3 Effect of Real Exchange Rate on Capital Flight

Through the Central Bank of the EAC member states, monetary policies should be adopted where foreign exchanges are kept at a point that allows for the country's currency to be exchanged at realistic prices. The monetary policies should anchor the exchange rate volatilities and build more foreign reserves to stabilize the exchange rate. This is because since real exchange rate depreciation can cause an increase in capital flight, there is a serious need by the fiscal authorities to pursue policy that creates less exchange rate uncertainties. In addition, fiscal policies should be implemented by the national government authorities of EAC to ensure that real exchange rate movements are stable and this can also be complemented by closely observing the general rise in the price level of goods and services. In order to boosts domestic investors' confidence in the local economy and restrain the outflow of capital, EAC member states should promote higher foreign exchange reserves that

will allow the governments to avert balance-of-payments crises and help dispel symptoms of economic trouble.

There is need for uniformity in the practice of the monetary policies in the region which has been characterized by coexistence of multiple interest rate regimes and currency regimes. The interaction between capital flight and monetary policy should be affected only by the exchange rate array and the interest rate structural models. As a result, there is need to assess whether application of the fixed-exchange rate can be differentiated from floating exchange rate relative to capital flight-monetary policy nexus. In addition, there is need for EAC to maintain low interest rate regime in order to balance their floating exchange rate relative to capital flight. EAC should also consider implementing the IMF recommendation of a three to four month minimum import cover as a prudential target for foreign exchange reserves in order to help in accumulating foreign exchange reserves. This is because with excess foreign reserve, EAC will be able to increase their international investment and also reducing the charges on domestic investments thus leads to increased investments that will be able to minimize capital flight.

Lastly, the governments of the EAC should put more emphasis on revising its infant industries such as coffee, fee, and sugar industries that enables for full capability operation. This will help to reduce over dependence on the imported goods thus helps to preserve countries foreign reserves. There is also need to reduce parallel market for the foreign exchange rate trading with major trading anchored on the Central Banks of the EAC countries only. This will therefore encourage a de facto measure of exchange rate flexibility thus making exchange rate more flexible and dampen real appreciation that can lead to increased capital flight. As a result, there is also need to resist nominal appreciation of the exchange rate through intervention in the foreign exchange market in order to avoid real appreciation locally. By allowing exchange rate some flexibility, EAC Member states would cure appreciation stemming that accelerates capital flight and avoid a significant loss of competitiveness.

5.4.4 Effect of Real GDP on Capital Flight.

To enhance the influence, first, the negative ramification of economic growth rate on capital flight entails that government of member countries should pay attention to work on removing barriers and accelerating the growth rate of the economy in order to curb the intensity of

capital flight. Actions are needed to create a favourable investment climate and to generate growth sufficient to discourage the capital flight. The governments of EAC States may consider increasing real wage rate since when the nominal wages grow above the inflation, citizens will be able to have extra disposable income to help in purchasing of goods and services thus accelerates economic growth while at the same time diminishes capital flight.

The governments of EAC States should also consider ensuring that there is increased public sector investments in areas perceived essential to economic growth. These includes increased building of roads, rail lines, airports, and education since greater public investment would provide valuable support to an economy and job market that are growing far too slowly in the continued wake of the recession. In addition, EAC states should provide tax holidays and subsidies to private firms that are essential in job creation thus encouraging domestic investments in the long run which in turn results in increased real GDP growth. At the same time, EAC states should protect property rights with no uncertainty on public take-over including enhancement of intellectual property rights so as to encourage local investment thus oversea investments.

EAC Member States should establish a capital flight mix policies which will allow for the optimal mix of capital flight proxies to yield a positive economic growth and generate return on private investments. EAC developed a Private Sector Development Strategy (PSDS) in 2006 in order to enhance the private sector participation in all sectors of the economy and private sector enterprises. However, the strategy has not been actively applied thus this study recommends the need to engage in a friendly environment with the private investors in order to increase rate of national investment through Corporate Social Responsibility. This should be done through provision of an attractive and conducive environment for investors to enable them stay back in the EAC States.

Lastly, local investments promotes economic growth and development, thus with increased private investment as a result of conducive working environment, there is higher chances of increased domestic capital accumulation that is helpful to finance both the increased government expenditures and external debts. In addition, in the year 2019, United Nations Commission recommended the need to create international bankruptcy court that would provide for thee need basis of partial debt conciliation. It is therefore recommended that for EAC Member States to grow in terms of capital accumulation there is need to consider

vetoing UN to provide debt cancellation in order to increased per capita income in the economy.

5.5 Areas of Future Research

Based on this study, the scope was limited and more studies should be done on more countries including South Sudan and increase the time period. The third objective (external debt) was considered with no intention to include domestic debt effect on capital flight, so domestic debt effect studies on capital flight are recommended in future studies so as to assess how both domestic and external debt influence capital flight in short and long run. It may also be interesting if an empirical analysis into the determinants capital flight can be done using high frequency panel data, specifically, quarterly time panel data on EAC member states, since it could give more precision and enable one to analyze short term variations in capital flight from these economies. Finally, other macroeconomic variables including foreign direct investment and political stability could be included in future studies to assess their effect on capita flight since these study was limited to just five independent macroeconomic variables.

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APPENDICES

APPENDIX A: TABLE

Table1A: Capital flight from EAC as a percentage of the real GDP and Real GDP (1988-2018)

	EAC Countries									
	Kenya		**Tanzania**		**Uganda**		**Rwanda**		**Burundi**	
Year	**CF (%)**	**GDP (%)**	**CF (%)**	**GDP (%)**	**CF (%)**	**GDP (%)**	**CF (%)**	**GDP (%)**	**CF (%)**	**GDP (%)**
1988	0.2	6.2032	6.3	6.95	3.1	8.27	6.6	4.5	8.4	5.03
1990	4.9	4.1921	0.4	7.05	7.9	6.47	4.8	-2.40	11.3	3.50
1992	28	-0.7995	0.4	0.58	3.9	3.42	0.4	5.87	13.0	1.01
1994	2.1	2.6328	1.2	1.57	4.1	6.04	10.5	-50.25	4.3	-3.83
1996	4.9	4.1468	2	4.54	0.2	9.07	0.5	12.75	6.8	-8.00
1998	5.3	3.2902	2	3.71	0.3	4.91	2.3	8.86	13.5	4.75
2000	1.5	0.5997	1.9	4.52	4.2	3.14	2.1	8.37	10.4	-0.86
2002	3.6	0.5469	1.7	7.09	6.8	8.73	1.1	13.19	17	4.45
2004	10.9	5.1043	4.4	7.5	8.2	6.81	8.0	7.54	8.0	4.83
2006	1.3	6.4725	21.4	6.53	18	10.78	21.6	9.23	27.2	5.41
2008	1.4	0.2323	1.7	5.69	10.5	8.71	5.2	11.16	4.8	4.86
2010	0.7	8.4057	5.3	6.34	5.9	5.64	3.6	7.33	1.8	5.12
2012	4.1	4.5632	13	4.5	3.7	3.84	20.9	8.64	4.6	4.45
2014	6.2	5.3571	7.4	6.73	2.8	5.11	7.0	6.17	10.9	4.24
2016	4.8	5.8789	6.6	6.87	3.1	4.78	6.2	5.97	9.8	-0.60
2018	4.0	6.3185	6.2	5.45	3.0	6.16	5.4	8.58	10.8	1.61

**Capital flight is calculated as a percentage of the total real GDP*

APPENDIX B: Data Outputs

Table 1B: Levin-Lin-Chu Unit Root Test

ADF regressions: 1 lag LR variance: Bartlett kernel, 10.00 lags average (chosen by LLC)		
Variable: Capital Flight	Statistics	p-value
Unadjusted t	-5.3718	
Adjusted t*	-2.2547	0.0121
Variable: Corruption Index		
Unadjusted t	-3.4469	
Adjusted t*	-0.6670	0.2524
Variable: External Debt		
Unadjusted t	-7.2202	
Adjusted t*	-0.0624	0.4751
Variable: Exchange Rate		
Unadjusted t	-8.0956	
Adjusted t*	-4.3974	0.0000
Variable: Gross Domestic Product		
Unadjusted t	0.9356	
Adjusted t*	1.7188	0.9572
Variable: Interest Rate Differential		
Unadjusted t	-8.3233	
Adjusted t*	-4.6390	0.0000

**Stationarity check after first differencing*

APPENDIX C: Published Article and Research Permit

Appendix 1C: A snapshot of the Abstract Page of the Published Paper

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Determinants of Capital Flight in the East African Community

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Abstract
The region has lost an immense amount of capital that has led to sluggish regional integration in terms of capital formation and productive capabilities. Albeit most of these countries are in the ranking list of the huge volumes of capital flight, East Africa has never been considered as a sub-region in the capital-related studies. Cognizant of this, this paper intends to contribute to this body of knowledge by filling a noticeable gap. This paper examined the determinant of capital flight from East African Community countries that include Kenya, Tanzania, Uganda, Rwanda, and Burundi using panel data for the years 1988 to 2018 using the real gross domestic product, interest rate differential, external debt, corruption index, and exchange rate as explanatory variables. Secondary data obtained from EAC member countries National Bureau of Statistics. Levin-Lin-Chu panel unit root test was carried out and capital flight and Exchange rate found to be stationary at level. The fixed effect regression results showed that corruption, external debt, and the exchange rate had a positive and statistically significant effect on capital flight while real GDP had a negative and statistically significant effect on capital flight. Thus, policymakers should endeavor to achieve a broad investor base for its domestic and foreign obligations, with due regard to cost and risk, and should treat investors equally. In addition, there is a need to harmonize the judiciary and the executives in EAC to facilitate the fight against corruption which is a major concern for a capital flight.

Keywords: Capital flight, External debt, Exchange rate, GDP, Corruption, EAC
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Publication date: May 31st 2021

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