Determinants of Private Capital Flows into Tanzania

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ABSTRACT

This study investigates a selection of pull determinants of non-FDI private capital flows into Tanzania over the 1995 to 2004 period. The study is informed by the potential of the respective capital to contribute towards the economic development process.

The study uses a time series analysis to test the various determinants. The results reveal that in the long-run, financial development, GDP growth and gross capital formation have a positive impact to the flows of non-FDI private capital into Tanzania. Broad money has a negative impact to similar flows. In the short-run, results reveal an insignificant relationship between all the selected determinants and the capital flows. The results suggest a need for continued reforms and improved capacities to attract more flows.

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LIST OF ACRONYMS

WB	World Bank
IMF	International Monetary Fund
SSA	Sub Saharan Africa
UNCTAD	United Nations Conference on Trade and Development
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
ODA	Overseas Development Assistance
LDC	Lest Developed Country
PIC	Public Investment Corporation
USAID	United States Agency for International Development
UNDP	United Nations Development Programme

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1 INTRODUCTION

1.1 Background and Context of the Study

After fifty years of self-rule, economic underdevelopment still lingers in most of the countries of Sub-Saharan Africa (SSA). The countries need to achieve significant levels of economic development in order to match the ever-increasing challenges that they face.

The failure by these countries to achieve significant levels of economic development necessary for the improvement of the lives of the area's residents has been explained differently by different experts. Further, the countries have undertaken different measures to promote economic activity so as to achieve economic development. Despite the efforts and proposed remedies, the situation on the ground is not impressive in most parts and poverty continues to be an unending feature of the region. Even the sustainability of the little progress that has been made cannot be guaranteed.

The cause of the prevalence of poverty that continues to suppress the region is therefore a reality that requires broader understanding, followed by immediate and sustainable intervention. First, there is definitely a need for continued efforts to understand the reason behind the continued failure of the existing economic policies, which have, for the most part, not succeeded in improving livelihoods on the continent. Even more importantly is the need to identify models that can offer permanent solutions to the big problem of economic underdevelopment still at hand.

The focus of this thesis is Tanzania, a country that is still underdeveloped, despite years of continued efforts to improve the situation. While the different economic policies adopted by the government have resulted in some improvements in the growth of the economy, the benefits have been minimal to the majority, especially those residing in the rural areas (Muganda, 2004).

1.2 Statement of the Research Problem

Tanzania adopted a central economic planning system a few years after independence from Great Britain. The system aimed to help the majority rural dwellers by creating an agrarian economy, with the government at the helm of the value addition and distribution chains

(Rweyemamu, 1973). Agricultural production for the most part continued to be small-scale, labor intensive and weather-reliant, with the government taking control of the marketing and trading of produced crops through crop authorities and marketing boards (Edwards, 2012). The inherited (which became government-owned) manufacturing sector was directly linked to the agricultural sector, with factories that processed agricultural products forming the majority (Rweyemamu, 1973). Import substitution also formed part of the manufacturing strategy (Nyerere, 1974). This experiment failed to produce the intended economic results.

One contributing factor was the inefficiency of the government in conducting economic activity, despite its monopolistic position in most of the productive sectors (Amani et al., 2004). This was visible in the rural areas where, despite the availability of land for people to invest their labor in, their entrepreneurial initiatives were limited and complicated by the inhibiting economic policies of the time, including the prohibition of people-based cooperatives (Edwards, 2012). Such policies were informed by the infamous Arusha Declaration of 1967 that allowed for the nationalization of private property and prohibited civil servants from holding shares in private companies (Edwards, 2012). In urban centers, similar inefficiencies led to loss-making and the eventual collapse of the many business enterprises that were owned and managed by the government at the time (World Bank, 2005). The resulting failure by the government to continue providing employment and social services to the growing population, while restricting entrepreneurship at the same time, cultivated tension in the society (Amani et al., 2004).

Together with other local and global factors contributing to the failure, the country's economic trajectory was disrupted. This is illustrated in Table 1, which shows economic growth rates of the country for five year periods commencing from 1980 to 2017. A reflection of the mentioned failed experiment is the growth during the 1980-1984 period, when the economy grew at an annual average of only 2.04%. Despite the improvement in average growth during the 1985-1989 period because of reforms introduced by the new government, the growth average fell again to 2.5% during the 1990-1994 period.

Table 1: Average 5-Year Real GDP Growth

5-Year Period	1980-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2017
GDP Growth	2.04	5.06	2.50	4.02	6.28	5.84	6.74	6.67

Source: IMF DataMapper, April 2018

Coupled with pressure from international lenders and geopolitical factors, the unease in the country grew, forcing economic liberalization initiatives to be implemented from the late 1980s (Muganda, 2004). The flagship initiative was the enactment of the Public Corporations Act of 1992, which established the Presidential Parastatal Sector Reform Commission (World Bank, 1999). This commission was tasked with managing the public enterprise privatization program, including public utilities and infrastructure (World Bank, 1999). Subsequent reforms came in the form of the Loans and Advances Realization Trust Act of 1991, which created the respective trust to expedite the collection of the non-performing assets of state-owned banks. The 1997 Investment Act and the 2002 Companies Act further ushered in a new era of private sector acceptability, protecting rights of private investors and private companies respectively (UNCTAD, 2011).

The liberalization of the Tanzanian economy from the early-1990s up to the 2000s was meant to create a conducive environment for the private sector to thrive, while leaving the government with the regulatory functions. As a result, economic activity has been growing since the mid-1990s (Muganda, 2004). As evidenced by the growth patterns in Table 1, it was from the 1995-1999 period that the country started to record stable economic growth, which is attributed to more robust and sustained reforms initiated from the late 1980s and gained pace in the late 1990s and early 2000s. However, the growth has not been significant and sustainable to result in meaningful change in the lives of the majority of Tanzanians (Policy Forum and Twaweza Report, 2009). While growth in activity marked the recovery of some of the dead enterprises, creation of new ones and the sprawling of the informal sector, the majority of the population has not been able to participate in and benefit from the new system, either as owners or employees (See Policy Forum and Twaweza Report, 2009).

Many factors have contributed to this situation, with the unavailability of capital considered a major stumbling block (Amani et al., 2004). Capital is a critical element necessary to fuel the private sector, without which, the goal of creating growth through the private sector cannot be

easily achieved (Ndikumana, 2014). Capital is usually created by domestic savings (Ndikumana, 2014). However, due to the low level of savings in most African countries, there is insufficient capital to finance private sector development (Chigbu et al., 2015). Instead, there has been a reliance on foreign capital to finance the importing of capital goods and mitigate the foreign exchange deficiencies (Chigbu et al., 2015).

The emergence of Africa as an investment destination has supported capital inflows through foreign direct and portfolio investment, with the latter increasingly becoming popular as more countries, including Tanzania, further liberalize their capital accounts (Ndikumana, 2014). This research aims to identify the determinants from within (pull factors) of private capital flows into Tanzania. This is due to its importance to the country's economic growth and development. It is this relationship that will inform the recommendations that aim to better the country's economic prospects through increased capital formation from the private sector. Several researchers have examined the determinants of private capital flows in developing countries. On the one side, the likes of DeVita and Kyaw (2008) reveal the dominance of both foreign and domestic factors. In contrast, Asiedu (2001) and Calvo et al. (1996) focused on domestic and foreign determinants, respectively.

This study focuses exclusively on Tanzania because of the limited published research done on this very specific area in the country, particularly those covering the post liberalization period. The closest was conducted by one Odhiambo (2011), which investigated the causal relationship between financial deepening and economic growth, introducing a third causal variable of foreign capital inflows (not specified). Covering the period between 1994 and 2005, the study revealed that financial development follows growth (Odhiambo, 2011). The study also revealed a bi-directional causality between financial development and foreign capital inflows and a uni-directional causality from foreign capital inflows to economic growth (Odhiambo, 2011). Another study by Nyoni focused on capital flight from 1971 to 1993, with growth differences, domestic inflation, external shocks, political shocks, lagged capital flight and parallel market premiums (Nyoni, 2000). Further, the focus is at the country level because of the limited access to information at business level as opposed to more readily available public information for the country.

1.3 Research Question

This research will thus seek to answer the following question:

'What (pull) factors affect the flow of private capital into Tanzania?'

The question above implies that despite being underplayed in the country, private capital plays a very important role in the economic development of Tanzania. The research therefore aims to investigate the determinants (in particular macroeconomic conditions within the country) of private capital flows into the country so as to advise on the creation of a more conducive environment that will improve inflows. Private capital can include private equity, remittances and portfolio flows but only private inflows (excluding direct investments) will be investigated.

1.4 Hypothesis/Objectives

Private sector participation remains a key element in achieving economic growth and development of any country. Capital, a crucial ingredient for the workings of the private sector, needs to be readily available to allow the private sector to realize its full potential. With insufficient capital from within and the need for the same from outside, it is important to identify the major pull factors that contribute to the flow of private capital into Tanzania and measure their significance. For some time, the country has been a recipient of foreign direct investment (World Development Indicators). Other forms of private capital inflows have become more prominent in recent years, particularly after the liberalization of the economy (See World Development Indicators).

This research, therefore aims to:

- investigate non-Foreign Direct Investment (FDI) private capital flows, such as portfolio capital, which are gaining in prominence and may play an important role in capital formation.

- considers the important role played by domestic factors in the flow of capital. The investigation of domestic factors also make sense due to the closed nature of the economy in question, which can be regarded as still undergoing reforms.

- targets flows during the 1995 – 2014 period, amidst the implementation of economic reforms.

- use the results to further explore measures that the country can adopt to improve capital inflows into the country, with specific focus on the policies around the different determinants to be investigated.

1.5 Significance of the Research Findings to the Stakeholders of the Research

Economic liberalization in most African countries was meant to provide a new and better environment that would allow the citizens of these countries to smoothly participate in economic activities. As part of the liberalization of the economy, capital account liberalization has created an environment for the movement of capital across jurisdictions to spur economic activity (Ndikumana, 2003). This allowance of capital movement, while important, has failed to create desirable results in terms of poverty reduction to the general population in the poor nations of Africa (World Bank Poverty and Equity, 2017). The failure has been due to, among other things, insufficient flows of the capital as a result of unfavorable environment and bad policies.

This investigation is informed by the need for funding for the growing private sector economy, as precipitated by the country's recent economic history noted above. By showing the link between private capital inflows and other independent factors, the study will be able to show areas that can boost the country's ability to attract private capital. It is therefore expected that the knowledge derived from the identification of the determinants of private capital flows into the country will contribute to the important dialogue on capital as a central element in the development process. Further, the findings can contribute towards informing policies that will allow for improvements in the various areas that inhibit the maximization of capital inflows.

In addition, this research is intended to benefit scholarship in this area. While the results might help interested researchers, existing gaps might provide starting points for future research on the subject. All in all, utilization of the findings or its improvements can help the country to design strategies that can maximize flows of capital from abroad to fund economic growth.

Using Tanzania's example, the study also aims to reiterate the strategic importance of economic liberalization and the existence of a conducive investment environment in poor countries. This is very important for a country like Tanzania where almost 50% of the population still lives on less than $1.90 a day, thirty years after adopting free market economic principles (World Bank Poverty and Equity, 2017).

1.6 Structure of the Study

The remainder of the study is structured as follows: Chapter 2 provides a review of the literature on private capital flows and economic growth globally. A discussion of the data and regression model to be used in this investigation is included in Chapter 3. Chapter 4 contains a presentation and discussion of the empirical results, while the conclusion, policy recommendations and suggestions for future research are detailed in Chapter 5.

2 LITERATURE REVIEW

2.1 Introduction

A wide body of literature on the subject of private capital flows exists. While most of this research relates to the more advanced economies of the world, the various findings and discussions do have relevance to the study of private capital flows in Tanzania. Some of this research has specifically analyzed the determinants of private capital into countries and thus has specific relevance to this study which focuses on investigating similar factors in relation to Tanzania. Understanding the differences in the environments of these countries compared to Tanzania will assist in the structuring of appropriate policy recommendations based on the findings of this particular study.

The next section presents a brief link between private capital and economic development, as witnessed through growth. An examination of the theoretical foundation on the subject of private capital flows, covering both push and pull factors is presented thereafter, followed by a general background on capital flows in Africa. The chapter concludes with a review of empirical studies on private capital flows, particularly to developing countries.

2.2 Private Capital Flows and Economic Growth

The question of capital flows stems from the need for new economic activity in countries, which can eventually lead to economic growth (Chigbu et al., 2015). Various theories explain capital's role in economic growth, including those by Schumpeter and Solow.

The Schumpeter theory of economic growth stipulates that financial markets allocate savings and finance innovation (Agbloyor et al., 2014). Some of the capital to fund the innovations may have to come from foreign sources, particularly if local sources do not suffice. Foreign capital flows therefore increase investment in host countries. The new flows may also improve savings in respective countries, further boosting investment (Chigbu et al., 2015).

The Solow growth model also identifies savings as a contributor to output and economic growth (Agbloyor et al., 2014). The theory links constant technological progress with long-term economic growth (Agbloyor et al., 2014). As was assumed in Schumpeter's model, foreign capital should contribute towards the savings rate thus affecting economic growth (Agbloyor et al., 2014).

In most studies, the general conclusion has been that private capital flows stimulate economic activity and therefore growth. Fedderke and Liu (2002) assert that during their developmental progress, developing economies need as much funding as possible, including external funding, in order to supplement domestic saving with external resources. They further state that capital inflows work to complement existing economic growth. However, they conclude that the flow actually works best in an environment with favorable growth performance (Fedderke and Liu, 2002). A similar view is echoed by Agbolyor et al. (2014), whose study shows that for a country to experience positive effects of private capital flows, there must exist well-developed financial markets.

2.3 The Flow of Private Capital – Theoretical Foundation

Private capital flows are dependent on the existence of free market international economics, whereby capital is 'permitted' to flow between economies. This has not been a definite condition during most of the twentieth century, particularly in relation to developing countries. It is for this reason that most of the research that relates to poor economies is recent.

Together with the existence of liberalized markets, standard neoclassical theory further stipulates that capital will move from areas where it is in surplus (developed economies) to the areas that have insufficient capital, mostly poor economies (Alfaro et al., 2008). This is consistent with the law of diminishing returns, which states that as a result of capital scarcity, investment returns in poor economies will be higher than those in developed economies (Reinhardt et al., 2013). Effectively this theory focuses on the need to maximize returns on the part of the investor, especially when new (and better) opportunities arise.

This school of thought can be linked to push factors of private capital flows between advanced and developing economies. According to DeVita and Kyaw (2008), push factors are exogenous and relate to economic developments in industrialized economies. These developments influence the supply of capital to developing economies (DeVita and Kyaw, 2008). Examples of the main push factors are low United States (US) interest rates and the decline of international interest rates (DeVita and Kyaw, 2008). These may entice investors in the more advanced economies to reallocate their investments to less-developed economies that can offer better yields.

However, an observation by Lucas (1990) established that at the global level, capital flows uphill, from poor countries to rich countries. Named the Lucas Paradox, this inconsistency with the classic laws of economics is attributed to many factors, most of which have to do with market imperfections, including technological differences (Eichengreen, 2003), government policies and institutional structures (Hall and Jones, 1999), sovereign risk (Reinhart and Rogoff, 2004b), asymmetric information (Alfaro et al., 2008) and missing factors of production. More importantly, the Paradox is best explained by institutional quality in the countries involved in global financial flows, meaning that countries with quality institutions have a better opportunity to attract more capital (Alfaro et al., 2008, Papaioannau, 2009). The quality institutions include property rights, non-corrupt governments and competent human resources. As a result, while capital might be in need in the poorer economies, flows to the same might not be 'automatic' without the existence of a conducive investment environment which, for the most part, serves not only to minimize risk on the part of the investor but also to increase returns. It is said that countries with strong institutions invest more in human and physical capital, use the factors more efficiently and achieve a higher level of income (Alfaro et al., 2008). This theory is consistent with the workings of pull factors, which are country-specific, endogenous and relate to economic developments in recipient countries (DeVita and Kyaw, 2008). Productivity improvement in recipient countries, for example, is a major pull factor (DeVita and Kyaw, 2008). All in all, studies which are reviewed in the later sections of this chapter show that depending on the level of development and type of flow, both pull and push factors determine capital flows from the more advanced economies into developing economies.

2.4 Capital Flows and Africa

Most African countries took the difficult decision to liberalize their economies based on advice from the International Monetary Fund (IMF) and the World Bank, two institutions behind the Washington Consensus (Manuel, 2003). The consensus is informed by the Chicago school of thought, which believes in open, private sector led economies with limited government intervention (Madema, 2015). It is through the open economies that individuals (and economies for that matter) can have choice and opportunity to better their being (Hetzel, 2007).

There is another school of thought which asserts that the liberalization in the continent was not done in a manner beneficial to the economies, particularly the majority of the people in

these countries (Mazrui, 2005). This presupposes the free market economic system has not brought meaningful prosperity to the majority of the citizens of the mostly underdeveloped African economies. However, one can link the deficiencies in the effectiveness of the open economic policies to the lack of supporting infrastructure in most of the countries of implementation. Further, one can argue that among other factors, low capacity of African policy makers resulted in 'half-baked' reforms that not only led the countries into the difficult economic positions but also unaccommodating ones. It is the inefficiencies that for the most part contribute to limiting the flow of capital into countries and even minimize the related benefits (Ndikumana, 2003). Corruption is also a major inhibiting factor that affects investment growth, which may as a result hinder economic growth (Asiedu and Freeman, 2009).

It is therefore right to conclude that private capital flows are determined by the general economic theories of demand, supply (and scarcity in the case of underdeveloped economies) together with a risk management consideration. Basically, capital will flow to areas to where it is mostly needed (pull) or where it can generate the maximum returns (push). However, the risk element is critical in making investment decisions. For that matter institutional quality is crucial, particularly *vis a vis* developing countries, as will be validated by the empirical studies in the next section.

2.5 Empirical Studies: Determinants of Private Capital Flows

Widespread empirical research has been conducted on the subject of determinants of private capital flows. In one of the pioneer studies, Calvo et al. (1992) established that push factors, particularly low interest rates in the US and other more stable industrial economies, were the more notable determinants of private capital flows to developing countries. Their study, which used data from 1973 to 1991 and focused on Latin American economies, also pointed to cyclical factors in the industrial countries (in this case recession) as contributors of such flows (Calvo et al., 1992). This, and other early studies (Fernandez-Arias, 1996; Montiel and Reinhart, 1999; Haque et al., 1999), most of which investigated flows to advanced or emerging economies, pointed to the dominance of push factors (changes in business cycles/economic conditions; supply of global liquidity) as determinants of international capital flows.

It is very possible that at the time these studies were being conducted, most underdeveloped economies had not opened up their financial sectors or conditions in the respective countries were not conducive for international capital flows.

Later empirical studies shed more light on the role of both push and pull factors in facilitating the flow of private capital, particularly into developing countries. However, most continued to focus on developing (emerging) markets which had closer linkages with the industrial economies earlier on. DeVita and Kyaw (2008) conducted a study on the significance of both push and pull determinants of international capital flows to developing countries. Their study focused on disaggregated capital flows (FDI and portfolio flows) to five developing countries – Brazil, Mexico, South Korea, South Africa and the Philippines. In the study, a structural vector autoregression (VAR) was used to investigate the extent to which variations in FDI and portfolio flows occur due to various push and pull factors across different time horizons, using quarterly data between 1976 and 2001. The study revealed that the variations in capital flows to developing countries are influenced by both foreign and domestic variables of economic activity. These are foreign output and interest rates, together with domestic productivity and money supply (which were investigated). They also concluded that the determinants vary across different types of capital flows, in this particular case FDI and portfolio flows (DeVita and Kyaw, 2008). Specifically, the research revealed that in general, a foreign output shock has a negative effect on capital flows while a foreign interest rate shock has a positive effect. A domestic productivity shock led to an increase in FDI flows, while causing a decrease in portfolio flows (even though the portfolio flows increase initially). Further, the research concluded that the effect of foreign output and domestic productivity shocks on the flows of FDI and portfolio investments are significant. However, the impact of a foreign interest rate shock and a domestic money shock are not as significant across different time horizons. These results show that both types of determinants play a role in the movement of capital to developing countries, with their importance different depending on the type of flow.

Fratzcher (2011) compared push and pull factors of capital flows spanning a period of five years between the end of 2005 and the end of 2010 that included the Global Financial Crisis of 2007-2008. His research covered 50 countries worldwide (including both advanced and emerging economies). The research focused on portfolio capital flows and their performance at fund level. The overall finding was that push factors (common global shocks, such as US macroeconomic shocks) were the main drivers of capital flows during the crisis while pull

factors (such as the quality of domestic institutions, country risk and the strength of domestic macroeconomic fundamentals) played a significant role in global capital flows in 2009 and 2010 i.e. in the post crisis recovery period, particularly for emerging markets. This further shows the role played by both push and pull factors in affecting capital flows to emerging economies. More importantly, and similar to the findings of DeVita and Kyaw (2008), it shows the behavior of capital flows during important global economic events (cycles) whereby different factors differed across different time periods.

In a study to examine the determinants of net private capital flows to emerging market economies between 2002 and 2013, Ahmed and Zlate (2014) conclude that among other factors, interest rate differentials between emerging and advanced economies, together with global risk appetite are statistically and economically important determinants of net private capital flows. Their research covered Argentina, Brazil, Chile, Indonesia, South Korea, Mexico, the Philippines and Thailand, all of which have relatively advanced financial systems that can easily facilitate the flows (Ahmed and Zlate, 2014). The results of the study further reaffirms the importance of interest rate differentials between nations as a determinant of private capital flows, particularly between economies with more advanced financial systems.

Research by Cerutti et al. (2015) covered 34 emerging markets in Latin America, Asia, Emerging Europe, together with Turkey, South Africa and Israel, between 2001 and 2013. They used the latent factor model to extract the common dynamics in gross inflows to all the 34 emerging economies while also examining how the different countries react to deviations in the asset-specific common determinants. Their study focused on total and disaggregated inflows, whereby in the second part they distinguished FDI inflows, portfolio equity inflows, portfolio bonds and other inflows (Cerutti et al. (2015). They discovered that there is a considerable co-movement of aggregate inflows to emerging markets with the aggregate co-movement concealing the heterogeneity of the different asset types. Global push factors explain the movements, with their significance varying by type of flow while the sensitivity to the factors varying across different borrower economies (Cerutti et al., 2015). The research helps to bring to light the importance of a cautious approach to the generalization of determinants of capital flows to countries considered to be of the same level of development.

These studies reveal the significance of push factors in facilitating private capital flows. However, when considering the countries investigated, it is evident that most have more

advanced financial systems that are connected to the industrial/developed economies. It is fair to assume that the same countries possess basic structures that facilitate the smooth flow of capital, including the more complex types investments. In contrast, other more recent studies (some of which are reviewed below), particularly those conducted on less developed economies, most of which are still restructuring their financial systems, reveal the importance of pull factors in facilitating flows into the said economies, despite the continued importance of push factors.

Asiedu (2002) investigated, among other things, whether the determinants of FDI to developing countries apply in the context of SSA. The empirical analysis covered 71 developing countries, of which 32 were in SSA and spanned a 10-year period from 1988 to 1997. The investigation focused on three important determinants: return on investment (ROI), infrastructure development and openness to trade. The general conclusion was that a higher ROI and better infrastructure positively affected FDI to non-SSA countries but not FDI to SSA. The research also revealed that openness to trade contributed to FDI flows to both SSA and non-SSA countries, even though the marginal benefit from increased openness is less for SSA.

More recently, Brafu-Insaidoo and Biekpe (2013) also assessed the major determinants of international capital flows into 37 selected countries of SSA. Essentially, their study looked at the impact of different aspects of external financial liberalization, domestic financial regulation and regionalization on international capital flows. The research used a dynamic panel data analysis and covered a period of 30 years from 1980 to 2009. The conclusion was that domestic financial liberalization has a strong and positive effect on the total international capital flows, as well as on non-FDI inflows. As for FDI, the effect is only significant within the chosen 13 emerging and frontier market economies within the sample (Brafu-Insaidoo and Biekpe, 2013). The results of this analysis show that domestic financial liberalization creates incentives to attract international capital flows. The findings further reveal that the relaxation of restrictions on foreigners' participation in domestic equity markets serves to attract greater inflows of international capital, impacting both FDI and non-FDI flows.

In another test on an African economy, Gossel and Biekpe (2015) examined the effects of foreign (push) and domestic (pull) factors on South Africa's capital inflows. Their study used the vector error correction model and covered the period 1986 to 2013. The push factors

investigated were the US interest rate and real GDP, while pull factors included South Africa's GDP, interest rate, trade openness, exchange rate volatility, government budget deficit and the share price index. The research revealed that in the short-run, FDI is affected by push factors while in the long-run, it is affected by pull factors. Further, the results showed that portfolio investment is affected by push factors both in the short- and long-run. Conversely, other types of inflows are affected by pull factors both in the short-run and in the long-run. The general conclusion of their study is that in the short-run capital flows to South Africa are affected by foreign business cycle shocks while in the long-run, domestic output and investment shocks impact the flows.

In a similar study to that of Gossel and Biekpe (2015), Ajide and Raheem (2015) studied the determinants of foreign capital flows into Nigeria. They employed a structural VAR model for this purpose and covered the period from 1970 to 2010 (Ajide and Raheem, 2015). The types of capital flows investigated included overseas development assistance (ODA) together with FDI and remittances, while the determinants included foreign output and interest rates, domestic productivity, the interest rate and money supply. The findings reveal the importance of both push factors (foreign interest rates) and pull factors (domestic productivity) in encouraging all three types of flows - ODA, FDI and remittances into Nigeria.

The general observation from the various studies discussed in this section, therefore, is that depending on the conditions on the ground and the type of flow (investment), both push and pull factors can determine the flow of private capital to developing countries. The various studies have revealed that private capital, particularly non-FDI, will flow more easily to countries with among other features, advanced financial systems. For example, economies referred to as 'developing' (which sometimes can be wrongly associated with the least developed countries (LDCs) in SSA tend to be destinations of such flows. That is why it has been possible for push factor-determined capital flows to easily flow to these countries.

Further, for the private capital to flow in, host countries need to have in place appropriate conditions that will ensure both returns and safety of the investments. This is especially true for the least developed economies which are yet to put in place mechanisms that allow for the flow of non-FDI investments. Investors are not only keen to maximize profits but also to minimize risk. Even such matters as political stability are crucial in minimizing risk, thus facilitating inflows (Fedderke and Liu, 2001). As a result, policies that work in other parts of

the developing world may not work in SSA, most of which is economically underdeveloped and faces challenges in the political space.

Another important observation is that of heterogeneity of the determinants of private capital flows across different types of economies and even those considered to be in the same groups of economic development. The studies above have demonstrated that one cannot easily generalize economies, as there can exist many differences in conditions on the ground, which are sometimes ignored. Further, the determinants of capital flows differ *vis a vis* the type of flow. Despite similarities in some cases, different factors determine different types of flows.

2.6 Conclusion

It is the uniqueness of the different economies of Africa that make a study on an individual economy appropriate for a new scholar of the subject. The literature available, particularly on the African countries (most of which are similar to Tanzania), provides guidance on the possible outcomes and in formulating the conclusion of the experiment. Having explored the various studies on private capital flows to developing and least developed economies, the next chapter covers a quantitative investigation on the determinants of capital flows into Tanzania. This is the main focus of this paper and will discuss the data together with the regression model to be used. Furthermore, results of the regression will be analyzed to establish the answers to the research question(s).

3 RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology and describes the data that will be used in this study. The ultimate goal is to find a quantitative solution to the problem by answering the research questions outlined in chapter one. An outline of the research approach is provided in the next section followed by a review of the data including a description of the variables, as well as the sources and the time period covered. A description of the empirical model that is to be estimated along with the statistical tests to be performed follows. Thereafter a discussion on the validity of the research is presented, together with its limitations, and finally the conclusion of the chapter.

3.2 Research Approach

This study uses a quantitative empirical approach. It relies on secondary data from reliable sources to establish the relationship between private capital flows and five independent domestic macroeconomic factors, namely money in circulation, financial development, GDP growth, gross capital formation and trade openness. By establishing the relationship between the variables, the research results will provide guidance on policy areas that can increase the inflows of private capital into the country.

Liyanage (2014) conducted a time series analysis to test the various determinants of capital flows into Sri Lanka. Jabbar and Awan (2014) performed a similar study to identify determinants of capital flows into Pakistan. Similar research has been undertaken on individual African countries, such as that of Gossel and Biekpe (2015) on South Africa and Ajide and Raheem (2015) on Nigeria. Drawing from this research, this study follows a similar approach to identify various determinants of capital flows into Tanzania but with specific attention on private capital flows. Despite the possibility of push factors playing a role in determining capital flows into Tanzania, this investigation focuses on pull factors so as to identify areas that the government can focus on to encourage private capital flows in the future to support development.

3.3 Data

3.3.1 Description of the Dependent Variable

Private capital flows include portfolio liabilities, financial derivatives and other investment liabilities, less other official investment liabilities. It is referred to as private inflows excluding direct investments (IMF Datamapper, 2018). This type of capital flow is comparatively new relative to other forms as it relies on capital account liberalization, whose implementation in Tanzania began in the 1990s (as discussed in the previous chapters). Despite its small value, which stood at 1.22% of the country's GDP in 2014 (IMF Datamapper, 2018), its potential to supplement capital needs to the country cannot be underestimated. Recent examples have shown how foreign investors have been able to assist Tanzanian companies in raising capital. For example, Vodacom Tanzania PLC, one of the leading private sector players in the country, had to rely on South Africa's Public Investment Corporation (PIC) for capitalization after the undersubscription of its shares during an Initial Public Offering (Masare, 2017).

3.3.2 Description of the Explanatory Variables

The explanatory variables used in this study have featured in other studies on the determinants of capital flows into developing and least developed economies. These variables are listed in Table 2 and discussed in detailed thereafter.

Table 2: Data Definitions

Variables	Description
Dependent Variable	
Private Capital Flows (PCI)	Private inflows excluding direct investment as a % of GDP
Independent Variables	
Money in Circulation (M)	Broad money - M3 as a % of GDP
Financial Development (FD)	Domestic credit provided by the financial sector as a % of GDP
Gross Domestic Product Growth (GG)	Annual GDP growth (%)
Gross Capital Formation (GCF)	Gross capital formation as a % of GDP
Trade Openness (TO)	Imports plus exports as % of GDP

a. Money in circulation

Money in circulation, also referred to as broad money or M3, is the sum of currency outside the banking system (IMF Datamapper, 2018). It includes demand deposits other than those of the central government; time, savings and foreign currency deposits of resident sectors other than the central government; bank and travelers' cheques; and other securities such as

certificates of deposit and commercial paper (IMF Datamapper, 2018). Money in circulation affects exchange rates, interest rates and asset prices (Kim and Yang, 2008). All these are important elements that influence investment decisions. In some research, M3 has been associated with financial development (Kinda, 2010). A study by Ngongan (2014) reiterates the importance of M3 on the inflows of portfolio investments in SSA countries.

b. Financial Development

In this research, financial development is proxied by domestic credit provided by the financial sector. This covers all credit to various sectors on a gross basis, with the exception of credit to the central government (World Development Indicators, 2018). The financial sector includes monetary authorities, deposit money banks and other financial corporations such as finance and leasing companies, money lenders, insurance corporations, pension funds and foreign exchange companies (World Development Indicators, 2018). Despite the importance of the banking sector, the growth of the financial system (other than the banking sector) and its role in enhancing growth (and development) cannot be underestimated. This is particularly true in Africa, where new forms of financial systems provide much needed financial intermediation. This study, therefore, tries to investigate the relationship with the credit environment at a broader level, as opposed to limiting it to credit by the banking sector.

Agbloyor et al. (2014) suggest that financial markets interact with foreign capital flows to boost economic growth. They further suggest that a developed financial system provides the necessary absorptive capacity for private financial flows, as examined in the African context. Basically, the foreign capital combines with domestic savings to facilitate investment (Agbloyor et al., 2014). The capacity of the local system to provide credit to the financial sector, therefore, is a good indicator of how effective capital flows can be and thus can be an important motivator for foreign investors. Ahmed et al. (2005) further insist on a positive relationship between financial development and capital flows, especially portfolio flows.

c. GDP Growth

According to the World Bank, economic growth is the annual growth rate of GDP at market prices in constant local currency (World Development Indicators, 2018). This is probably the most common indicator of the health of an economy, with Gossel and Biekpe (2015) confirming that GDP movements depict the investment climate of a country. Positive growth in GDP indicates a good investment environment, thus attracting capital flows. while the

opposite is true when negative growth in GDP is experienced (Gossel and Biekpe, 2015). In their study on the composition of capital flows to South Africa, Ahmed et al. (2005) also point to the importance of GDP growth to the flow of capital to the country.

d. Gross Capital Formation

Gross capital formation comprises payments for additions to fixed assets of the economy, net changes to the level of inventories and net acquisition of valuables (World Development Indicators, 2018).. Foreign capital flows contribute towards capital formation (Agbloyor et al., 2014). Research shows that in underdeveloped economies, capital flows stimulate investments in other sectors of the economy (Mileva, 2008). More recently there has been an increasing reliance on foreign sources of capital to finance investment and stimulate economic growth in low-income economies (UN, 2011). In fact there is a huge reliance on foreign capital relative to domestic capital in the financing of new ventures, particularly in Africa (UN, 2011). Foreign Direct Investment is an important contributor of Gross Capital Formation (UN, 2011). In the case of gross capital formation in Africa, for example, the contribution of FDI grew from about 6% in 1995 to 24% in 2008 (UN, 2011). This shows the importance of foreign sources to capital formation, particularly in poor economies. The degree of capital formation in an economy, therefore, can be an indication of new opportunities and confidence in an economy, hence investment in the same.

e. Trade Openness

Trade openness is the sum of exports and imports of goods and services in a given year, divided by a measure of output, in this case GDP (Bekaert and Hodrick, 2012). Trade openness is a good indicator of the movement of goods and services in and out of an economy. It shows the openness of the particular economy, which is a very important factor for any foreign investor, as opposed to protectionism in foreign trade (Bekaert and Hodrick, 2012). According to Aizenman and Noy (2004), trade openness boosts financial openness and therefore capital flows. In South Africa, trade openness has been shown to attract an important type of inflow (FDI), albeit in the short-run (Gossel and Biekpe, 2015).

3.3.3 Time Period and Data Sources

In this study, annual data is used covering the period from 1995 to 2014. The time period was based on availability of data with gaps in the various data series limiting the ability to cover a longer time period. In particular, Tanzania's economic development history meant that data

from the pre-liberalization period could not be included due to the unavailability of data for most of the important variables. Limited data from local sources also meant relying on data from reliable multilateral organizations. Data for money in circulation, financial development, GDP growth, gross capital formation and trade openness was obtained from the World Development Indicators database of the World Bank. Data for private capital flows was gathered from the Capital Flows to Developing Economies section of the IMF's Datamapper.

3.4 Methodology

3.4.1 Theoretical Model

The long-run relationship between private capital inflows and the selected macroeconomic variables described above can be expressed as follows:

$$PCI_t = \alpha_0 + \alpha_1 M_t + \alpha_2 FD_t + \alpha_3 GG_t + \alpha_4\ GCF_t + \alpha_5 TO_t + e_t \qquad (1)$$

where PCI denotes private capital flows, M is the amount of money in circulation, FD is financial development, GG refers to GDP growth, GCF refers to gross capital formation and TO refers to trade openness. t denotes time, α is the time specific intercept and e_t is the error term.

Prior to the implementation of any statistical tests, an initial analysis of the data will be undertaken by examining the descriptive statistics. This includes the mean, minimum and maximum of each series and the standard deviation. The descriptive statistics will provide a basic understanding of the trends in the data under investigation. In conjunction with this, the correlation coefficients between the variables will be computed so as to assess whether multicollinearity is present in the sample. Multicollinearity exists if the independent variables are highly correlated (typically exceeding 0.7) (Kennedy, 2008) and undermines the statistical significance of any analysis (Allen, 1997). If high correlation between any of the explanatory variables is identified, one of the highly correlated variables will be dropped from the model.

In order to determine the appropriate method to estimate the relationship depicted in equation 1, it is necessary to understand the characteristics of the data, most notably whether the series are stationary in the case of time-series data, as used in this study. Stationarity is important in econometrics because if non-stationary variables are regressed on each other, spurious results are obtained; in particular, the t-statistics and R^2 values are inflated, and the Durbin-Watson

statistic for the test of autocorrelation is low (Brooks, 2014). As such, Ordinary Least Squares (OLS) estimation cannot be used and alternative estimation techniques have to be considered (Elder and Kennedy, 2001).

3.4.2 Unit Root and Stationarity Tests

The existence of a unit root implies the non-stationarity of a data series. The Augmented Dickey-Fuller (ADF) will be used to test for the existence of unit root in the data. The ADF test is more robust than the Dickey-Fuller (DF) test as it adjusts the DF test to take care of possible serial correlation in the error terms by adding the lagged difference terms of the dependent variables (Gujarati, 2004). The optimal number of lags will be restricted to one because of the short-time period under analysis. Ideally, the Akaike Information Criteria (AIC), which has good small sample properties and automatically selects the number of lags, would be used for this purpose. However, AIC's automatic selection in *EViews* led to a significant drop in the number of observations for the individual variables under investigation, causing inconsistency across the results. The tests will incorporate an intercept and a trend, based on an analysis of each of the variables' graphs that reveal evidence thereof (see Appendix 1). This is consistent with the recommendation of Brooks (2014) and Enders (2014).

The null hypothesis of this test is the existence of a unit root in the series and therefore non-stationarity of the data. The alternative hypothesis indicates the absence of a unit root and therefore the stationarity of the data series (Brooks, 2014). In further interpreting the results, if the ADF test statistic is more negative than the critical value, then one can reject the null hypothesis. However, if the test statistic is not more negative, then one fails to reject the null hypothesis (Brooks, 2014). If a variable is found to be non-stationary, that is, if it contains a unit root, a test will be performed to check whether it contains more than one unit root. This involves re-running the tests on the variables in first difference.

The Kwiatkowski-Phillips-Schmidt-Shin (KPSS) test will be used to further test for stationarity to increase robustness and ensure the reliability of the results obtained from the ADF test. The ADF test has low power when the root lies close to the unit circle and by inverting the null and alternative hypotheses, the KPSS test is able to account for this shortcoming (Brooks, 2014). Therefore, the null hypothesis of the KPSS test is the existence of stationarity (absence of a unit root) while its alternative hypothesis is non-stationarity (the

presence of unit root) in the respective series (Brooks, 2014). If the test statistic exceeds the critical value at the chosen significance level, then the null hypothesis can be rejected and it can be concluded that the series is non-stationary while if the test statistic is less than the critical value, then the null hypothesis cannot be rejected and the series is deemed stationary (Brooks, 2014).

3.4.3 Cointegration Tests

If the findings reveal that the variables used in this study contain unit roots, a cointegration testing procedure becomes necessary. Statistically, if two or more series are individually non-stationary, but some linear combination of them is stationary, then the variables are cointegrated (Brooks, 2014). Cointegration testing is regarded as ideal for testing meaningful long term relationships between variables as the cointegrated variables may move together in the long run, while acting in the opposite manner in the short run (Nkoro and Uko, 2016). A similar cointegration test approach was used by Fedderke and Liu (2001) in their study on the determinants of capital flows in South Africa.

Various cointegration methods have been developed with the two-step approach of Engle and Granger (1987), the multivariate model of Johansen (1991) and the Autoregressive Distributed Lag (ARDL) model of Pesaran and Shin (1997) among the most commonly employed. However, for the purposes of this analysis, the ARDL model will be used. The ARDL model can be used to assess both the long- and short-run relationships among the variables (Aliha et al., 2017). Basically, the method investigates the relationship among variables in a multivariate setting, that is among all variables under investigation. The primary motivation for this choice is that the ARDL model has good small sample properties, which is not true for the other approaches (Ozturk and Acaravci, 2010; Ullah et al., 2014). The other major advantage that the ARDL model offers over other cointegration methods is that it yields consistent estimates of the long run coefficients irrespective of whether the underlying regressors are stationary or contain one unit root whereas for the other testing approaches, all variables must be integrated of the same order (Pesaran and Shin, 1997). However, the variables cannot contain more than one unit root and thus it is still necessary to pre-test the series to determine their order of integration before estimating the ARDL model (Altaee, 2016).

The long-run relationship between the variables in equation 1 can be presented in an ARDL specification as follows:

$$\Delta PCI_t = \alpha_0 + \sum_{i=1}^{K} \gamma_{1j} \Delta PCI_{t-j} + \sum_{i=1}^{K} \gamma_{2j} \Delta M_{t-j} + \sum_{i=1}^{K} \gamma_{3j} \Delta FD_{t-j} + \sum_{i=1}^{K} \gamma_{4j} \Delta GG_{t-j} + \sum_{i=1}^{K} \gamma_{5j} \Delta GCF_{t-j} + \sum_{i=1}^{K} \gamma_{6j} \Delta TO_{t-j} + \theta_1 PCI_{t-1} + \theta_2 M_{t-1} + \theta_3 FD_{t-1} + \theta_4 GG_{t-1} + \theta_5 GCF_{t-1} + \theta_6 TO_{t-1} + v_t \quad (2)$$

where Δ is the first difference operator and v_t is the white noise error term (Ozturk and Acaravci, 2010). Due to the short-time period under analysis and the use of annual data, the optimal number of lags of the first differenced variables in this equation was pre-selected, with the number limited to one.

The bounds test is applied to equation 2 to determine if there is a long run relationship among the variables (Pesaran and Shin, 1997; Pesaran et al., 2001). This test is based on an F-test by testing if the coefficients on the long-run variables in equation 2 are jointly equal to zero ($\theta_1 = \theta_2 = \theta_3 = \theta_4 = \theta_5 = \theta_6 = 0$). The null hypothesis is that there is no cointegrating relationship in the long run while the alternative hypothesis is that a long run relationship does exist (Nkoro and Uko, 2016).

The F-statistic is compared with the upper and lower bound critical values. If the F-statistic is greater than the upper bound critical values at the chosen significance level, then the null hypothesis can be rejected and it can be concluded that cointegration exists among the variables, hence the presence of a long-term relationship (Nkoro and Uko, 2006). However, if the F-statistic is less than the lower bound critical, then the null hypothesis cannot be rejected and no cointegration exists among the variables. A third option exists in that if the test statistic falls between the two critical values, the evidence is said to be unclear (Nkoro and Uko, 2006).

If the null hypothesis is rejected, then equation 1 represents the long-run relationship and the coefficients can be analyzed to determine the signs and magnitude of the relationship between each macroeconomic aggregate and private capital inflows in the long-run.

3.4.3 Error Correction Model

In addition to the long-run relationships, the short-run relationships between private capital inflows and the various macroeconomic aggregates can be analyzed. If a long-run relationship exists, then this short-run model can be expressed as an Error Correction Model (ECM) in the ARDL framework, which also allows for deviations in the long-run relationship to be captured. This model is expressed as follows:

$$\Delta PCI_t = \alpha_0 + \sum_{i=1}^{K} \gamma_{1j} \Delta PCI_{t-j} + \sum_{i=1}^{K} \gamma_{2j} \Delta M_{t-j} + \sum_{i=1}^{K} \gamma_{3j} \Delta FD_{t-j} + \sum_{i=1}^{K} \gamma_{4j} \Delta GG_{t-j} + \sum_{i=1}^{K} \gamma_{5j} \Delta GCF_{t-j} + \sum_{i=1}^{K} \gamma_{6j} \Delta TO_{t-j} + \varphi ECT_{t-1} + v_t \quad (3)$$

where ECT_{t-1} is the error correction term obtained from equation 1 (if the variables are cointegrated). φ should be negative to restore equilibrium and the larger the magnitude, the quicker equilibrium is restored, lying between zero and one (Brooks, 2014). The ARDL model and its associated ECM can be estimated using OLS (Nkoro and Uko, 2016).

3.5 Research Reliability and Validity

The validity of this study is evidenced by firstly, that the data has been obtained from reliable sources namely the World Bank and the IMF. Secondly, the methods used to analyze the data have been used in other similar studies on the determinants of capital flows into a single country.

3.6 Limitations

Obtaining the data was a major challenge, limiting the years under observation to 20. Furthermore, the selection of the independent variables was also affected by the unavailability of data on other important variables, which limited the scope of this research. However, notwithstanding these limitations, this study provides an important exploratory analysis into the determinants of private capital flows into Tanzania in the post-liberalization era.

3.7 Conclusion

This chapter has described in detail the various tests undertaken in order to answer the main question that the study seeks to answer. Some of the tests are aimed at determining the characteristics of the data as a step towards the final regression tests that seek to establish the relationship between private capital inflows and the selected determinants. An established long term relationship between the two sets of variables revealed through the tests, for

example, is an indication of a stronger causal relationship between private capital flows and the various selected variables. The next chapter contains the results of the various tests implemented and their interpretation in the context of theory and the findings of previous empirical studies.

4 RESULTS AND DISCUSSION

4.1 Introduction

In this chapter, the results from the econometric analysis are presented and discussed so as to ascertain whether the macroeconomic variables selected are able to explain the private capital inflows to Tanzania over the period 1995 to 2014. Firstly, the descriptive statistics of the series used in the analysis are reviewed, including the correlation coefficients between the explanatory variables. Thereafter, the unit root/stationarity test results are presented and these are followed by the results of the bounds cointegration test. The long-run coefficients are interpreted in the context of the theoretical predications and the findings of other studies along with the short-run model results.

4.2 Descriptive Statistics

As the results in Table 3 indicate, broad money and GDP growth averaged 5.94% and 21.96%, respectively from 1995 to 2014. Over the same period, private sector credit relative to GDP, used as a proxy for financial development, averaged 13.05%, with a maximum rate of 22.97% recorded in 1995 and a minimum of 7.3% in 2003. Gross capital formation to GDP averaged 23.46%, with a maximum rate of 33.24% recorded in the year 2011 and a minimum of 14.9% in 1997. Trade openness averaged 45.52%, reaching a maximum of 65.58% recorded in 1995 as opposed to the minimum of 33.49% in the year 2000.

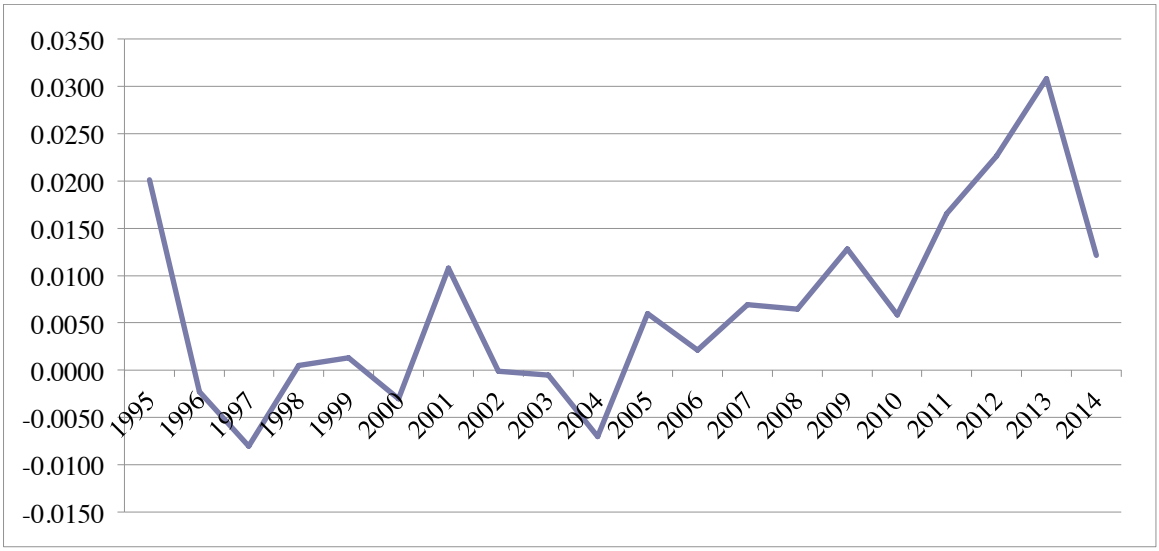
Table 3 – Descriptive Statistics

	Mean	Std.Dev	Min	Max
PCI	0.0067	0.0102	-0.0081	0.0308
M	0.2196	0.0256	0.1653	0.2512
FD	0.1305	0.0449	0.0730	0.2297
GG	0.0594	0.0158	0.0353	0.0846
GCF	0.2346	0.0616	0.1490	0.3324
TO	0.4552	0.0807	0.3349	0.6558

Private capital inflows into Tanzania (excluding direct investments) as a percentage of GDP averaged just under 0.7% over the 20-year period under investigation, with the maximum rate of 3.08% recorded in 2013 and a minimum of –0.81% documented in 1997. After an initial slip between 1995 and 1997, as can be seen in Figure 1, which was probably caused by political uncertainty as a result of political reforms (Tanzania held its first multiparty elections at the end of 1995), the rate has been on a relative upward trend up to the year 2013 due to the significant economic and social reforms undertaken during the period. The reforms were

followed by investment flows into the country as investors built confidence with the country as an investment destination (as outlined in Chapter 1). However, as can be seen, private capital flows as a percentage of GDP fell sharply in 2014.

Figure 1: Private Capital Flows into Tanzania as a Percentage of GDP



A correlation matrix for all the variables used in the data analysis is presented in Table 4. With the exception of a negative correlation between GDP growth and financial development, the results show that most of the variables in this study are positively correlated but not substantially. However, trade openness is highly correlated with both broad money and financial development. This finding is not surprising as funds collected from or used in trade can be directly linked to broad money or domestic credit provided by the financial sector. As a result, trade openness will be dropped as a variable in the model to ensure the reliability of the results obtained.

Table 4: Correlation Matrix

	PCI	M	FD	GG	GCF	TO
PCI	1.0000					
M	0.4975	1.0000				
FD	0.6879	0.4324	1.0000			
GG	0.1656	0.4375	-0.2039	1.0000		
GCF	0.5816	0.5756	0.3722	0.4880	1.0000	
TO	0.5747	0.7426	0.7700	0.0256	0.5142	1.0000

4.3 Unit Root Test Results

The ADF test was used to check for the existence of unit roots in the data. Table 5 contains the results. For private capital inflows, financial development, economic growth and gross capital formation, the test statistics are not more negative than the critical values and therefore the null hypothesis cannot be rejected meaning that the series are non-stationary in level terms. That is, the variables contain at least one unit root and thus require testing in first differences. For broad money, the test statistic is more negative than the critical value at 10% but not at any higher significance level. Thus, there is weak evidence of stationarity because the null hypothesis can be rejected.

Table 5: ADF Results

Order	0	1
Test Statistics		
PCI	-3.2098	-4.2473**
M	-3.4193*	-
FD	-2.1091	-4.0480**
GG	-1.9264	-5.2557***
GCF	-2.9193	-5.1481***
Critical Values		
1%	-4.572	-4.616
5%	-3.691	-3.710
10%	-3.287	-3.298

*, ** and *** indicate significance at the 10%, 5% and 1% levels respectively.

As the results in Table 5 show, the null hypothesis of a unit root in first differences can be rejected for all the variables, with the hypothesis rejected at 1% for economic growth and gross capital formation, and 5% for financial development and private capital inflows.

As described in the preceding chapter, to further test for stationarity, the KPSS test was conducted with the results thereof presented in Table 6. Private capital inflows and economic growth were found to be non-stationary at the 5% significance level as the test statistics were greater than the critical value while the same was also true for financial development but at the even more stringent significance level of 1%. However, for broad money and gross capital formation, the series were found to be stationary at levels based on the KPSS test as the null hypothesis could not be rejected. At first differences, the null hypothesis of stationarity could not be rejected at any of the conventional significance levels for either private capital inflows

or gross capital formation and although there was weak evidence at 10% that the null could be rejected for financial development, this was not true at the more stringent requirement of 5%.

Table 6 – KPSS Test Results

Order	0	1
	Test Statistic	
PCI	0.1586**	0.0896
M	0.0869	-
FD	0.2628***	0.1361
GG	0.1798**	0.0619
GCF	0.1011	-
	Critical Values	
1%	0.2160	
5%	0.1460	
10%	0.1190	

*, ** and *** indicate significance at the 10%, 5% and 1% levels respectively.

Taken together, therefore, the results suggest that private capital inflows, economic growth and financial development are non-stationary and contain a single unit root. Broad money, in contrast, is found to be stationary according to both tests, while financial development was the only variable which had contradictory results with the ADF test suggesting a single unit root while the KPSS test suggested stationarity. Despite this discrepancy, all variables meet the model requirements that the variables must be integrated of less than order two and the fact that broad money and possibly, financial development, are stationary is also allowed in the ARDL framework which would not be the case if another cointegration approach was used.

4.4 Cointegration Results

As mentioned in the previous chapter, a test for cointegration was necessary to establish whether a long-run relationship exists between the variables. Table 7 contains the results of the ARDL bounds test for cointegration used for this purpose. The resulting F-statistic of 4.6656 is greater than the upper bound critical value at 5%. The null hypothesis that there is no cointegration is therefore rejected in favor of the alternative hypothesis, meaning that there is cointegration between private capital inflows and economic growth, broad money, financial development and gross capital formation and a long-term relationship exists. As such, the long-run coefficients can be examined to determine the magnitude and direction of the

relationships between the macroeconomic aggregates and private capital flows into Tanzania from 1995 to 2014.

Table 7 – ARDL Bounds Test

Test Statistic		
4.6656		
Critical Values		
	Lower Bound	**Higher Bound**
10%	2.45	3.52
5%	2.86	4.01
1%	3.74	5.06

4.5 Long-Run Regression Results

As shown in Table 8, the regression results reveal that in the long-run, financial development, gross capital formation and GDP growth have a positive relationship with private capital flows. Financial development is an important facilitator of private capital flows into Tanzania as the results reveal a positive, but not strong relationship between the two variables, with a 1% increase in the level of financial development resulting into a 0.1265% increase in the flow of private capital into the country. This result mirrors the finding of Ahmed at al. (2005) that well-developed financial markets increase a country's attractiveness to private (portfolio) capital flows.

Table 8 – Long-Run Coefficients

Variable	Coefficient	Probability
M	-0.0207	0.8558
FD	0.1265	0.0551
GCF	0.0534	0.296
GG	0.1214	0.4557

The relationship between gross capital formation and private capital flows in this study is also fairly weak as a 1% increase in gross capital formation is expected to result into a 0.0534% increase in private capital flows. The regression results further reveal a positive but not quite strong relationship between private capital flows and GDP growth whereby the private capital flows would increase by 0.1214% if GDP grew by 1%. This outcome is consistent with that of DeVita and Kyaw (2008), which showed GDP growth (described as domestic productivity) to be an important determinant of portfolio investments into developing countries. It is also

similar to the results of the study on South Africa by Gossel and Biekpe (2015), which showed GDP as an important determinant of portfolio flows in the long-run. Findings from Ahmed at al. (2005) also suggest that GDP growth rate plays an important role in attracting portfolio flows.

The results do not exhibit a strong relationship between private capital flows and broad money, whereby a 1% increase in broad money will result into a 0.0207% drop in private capital flows. This is consistent with the results of the study on capital flows to various developing countries by DeVita and Kyaw (2008), which revealed the irrelevance of domestic money in affecting capital flows to the respective countries.

P-values are greater than 0.05, an indication of insignificant relationship between private capital flows and the variables under investigation.

4.6 Short-Run Regression

In addition to the long-run regression results, a short-term model, known as the ECM, can be estimated to understand the short-term relationship between private capital flows and the independent variables as well as how private capital inflows adjust in the short-term to disequilibrium in the long-run relationship. Table 9 presents the results thereof.

Table 9 – Short-run Coefficients with Error Correction Term

Variable	Coefficient	Probability
C	0.0021	0.3442
D(M)	-0.0860	0.5674
D(FD)	0.1064	0.5055
D(GCF)	0.0511	0.4208
D(GG)	-0.1439	0.3201
ECG	-0.0962	0.8655

As was the case with the long-run results, short-run results reveal weak, albeit positive relationships between private capital flows and financial development and gross capital formation. In the short-run, a 1% increase in financial development leads to a 0.1064% jump in private capital flows. A percentage increase in gross capital formation leads to a 0.0511 % increase in private capital flows. Broad money continues to exhibit a negative relationship, while in the short-run GDP growth exhibits a negative relationship with private capital flows,

whereby a percentage increase in GDP growth results into a 0.1439% drop in private capital flows.

The p-values are insignificant, suggesting that no short-term relationship exists between the dependent and independent variables. All the p-values for the variables' coefficients are greater than 0.05, an indication that their relationship with PCI in the short-run is not statistically significant.

The results also reveal a negative error correction term of -0.0962, which means that 9.62% of the disequilibrium is corrected for each period (Brooks, 2014). The negative sign is consistent with expectations but the insignificant coefficient suggests that this speed of adjustment is not significant (Brooks, 2014).

4.7 Conclusion

This chapter contained analyses on the collected data in order to establish if a relationship between private capital flows and several macroeconomic aggregates exists. Initially, the results of the unit root tests were evaluated and thereafter, the regression results were examined to establish the degree of relationship between the two sets of variables. As previously mentioned, a lag of 1 was used and not a longer one, which affected the number of observations and therefore quality of the results.

The results showed that private capital flows do have a long-run positive relationship with financial development, economic growth and gross capital formation; however, broad money appears to have little effect on the capital inflows. No short-run relationships were found to exist. In the following chapter, the conclusions from the study are documented along with policy recommendations and ideas for future research based on the findings obtained.

5 RESEARCH FINDINGS AND POLICY RECOMMENDATIONS

5.1 Introduction

This chapter uses the various results discussed in the previous sections and related literature to reflect on the situation in Tanzania and offer policy recommendations that can improve the current environment and allow for the maximization of private capital flows into the country. Suggestions for future research are also provided.

5.2 The Results

The descriptive statistics gave a general outlook on the behavior of individual variables over the 20-year period under investigation. Most variables showed specific trends, caused by various events, especially the liberalization of the Tanzanian economy.

A correlation analysis established the extent of the relationships between the variables. While low correlation was established between most of the pairs, the results suggested that such a close relationship exists between trade openness and two other variables (broad money and financial development). The finding thus merited dropping trade openness from the analysis as otherwise it would have impacted on the reliability of the results obtained from the regression estimated.

The ADF unit root tests established all the variables to be non-stationary in levels but stationary in first differences except for broad money which was found to be stationary in levels. The KPSS test yielded identical conclusions for all the variables except gross capital formation which was found to be stationary whereas it was non-stationary under the ADF test. However, all variables were found to integrated of less than order two; a requirement for the estimation of the ARDL model.

The ARDL bounds test for cointegration that followed established the presence of a long-term cointegrating relationship between private capital inflows and the explanatory variables, broad money, financial development, economic growth and gross capital formation, paving the way for the analysis of the long-run coefficients and the estimation and interpretation of the ECM.

The ARDL regression results revealed relatively weak relationships in the long term but with financial development and economic growth the most important contributors to private capital

inflows in Tanzania, with more growth and financial development resulting in greater inflows. A weaker positive relationship with gross capital formation was observed while no relationship was evident between private capital inflows and broad money. In the short-term no relationships were identified between the dependent variable and the various independent variables.

The results from the main experiment to test the determinants of private capital flows into Tanzania reveal different behaviors of the selected determinants to that effect. During the period under investigation, the results have confirmed the link of financial development to the flow of private capital into the country. The strength of the financial system (indicated by credit issuance) is shown to be a facilitator of private capital flows. The ability of financial institutions to offer credit is an indication of an overall well-functioning financial system, particularly the banking sector. On the ground, the sector has experienced a steady improvement, particularly after the opening up of the economy from the old regime of government controlled and owned banks and extremely tight controls.

In this study, private capital flows also depict a positive relationship with GDP growth, which has improved since the 1990s, mainly due to structural changes and the opening of the economy that have allowed the private sector to thrive. Some of the growth is a result of foreign capital and continued economic growth at a reasonable pace provides confidence to investors.

Gross capital formation in Tanzania can be observed through new investment in the economy. For the period under investigation, liberalization and the opening of the economy, including the creation of a relatively friendly regulatory environment, has given comfort to both local and foreign investors (UNDP, 2011). Further, liberalization policies have allowed for more trade in an out of the country.

Broad money has shown to have no relationship with private capital flows. However, the level of broad money in the economy has remained relatively stable for the duration of the experiment (see graph in Appendix 1). The stability can be a good indication from an investor's perspective, given its relationship with exchange rates, interest rates and asset prices. Despite the depreciation of the Tanzanian shilling over the period of this investigation, inflation has remained manageable with interest rates relatively stable.

5.3 Policy Recommendations

Based on results of the tests, the current business environment and in a bid to attract more flows into the country, the following policy recommendations are put forward.

1. Deliberate efforts are needed so as to maintain and improve the transformational liberal economic policies, which have opened up the once closed economy and facilitated the flow of different types of capital. Such policies have created the macroeconomic environment seen through the determinants of private capital flows discussed in the previous sections. The policies are facilitated by such regulations as the Companies Act of 2002, The Tanzania Investment Act (1996), The Banking and Financial Institutions Act (2006) and the Foreign Exchange Act (1992), all of which can be improved.
2. Recently there has been a major shift in the rules and regulations that govern investment in the country, particularly in relation to taxation and ownership (USAID, 2018). The Mining, gas, telecoms and banking sectors have been key areas of attention (USAID, 2018). Such decisions have impacted not only on FDI but also on other private capital flows that may support FDI. There must, therefore, exist clarity and predictability on the rules and regulations that govern business and investment in the country. Uncertainty is a leading deterrent of all types of investment.
3. Scores in the 2018 Global Competitiveness Report by the World Economic Forum indicate that there are several areas that still need to be improved in order to make Tanzania an ideal investment destination. These include judicial independence (score of 3.7 out of 7), efficiency of legal framework in settling disputes (score of 4.1 out of 7), property rights (ranked 4.2 out of 7), prevalence of non-tariff barriers (ranked 3.9 out of 7), insolvency regulation (score of 9 out of 16) and insolvency recovery rate (21 Cents per 1 USD). All these are important elements that make a statement about the rule of law in the country, an important determinant of investment. Improvements in such areas are fundamental for building investor confidence and allow for freer investment choices.
4. New policies that enhance the workings of capital markets should be designed so as to increase activity at the Dar es Salaam Stock Exchange. These include those related to foreigners' participation. Current activity at the bourse remains low, with only a few listed companies and minimal trading (see www.dse.co.tz). The exchange could be an important channel for private capital flows from abroad to fund investment.

5. Data is crucial in furthering knowledge on important economic matters. It is clear that availability of timely, reliable and accurate data is a problem in many LDCs, including Tanzania. Deliberate policy measures should therefore be made to ensure the availability of such.

As previously suggested, private capital is an important component in investment flows. However, a country's ability to attract such capital is dependent on its business environment. Policies should therefore be aimed at improving the same. While some of the determinants can be quantified, others (some of which are important), are difficult to quantify (for example behavioral/corruption). Future studies on capital flows in Tanzania should aim to investigate the impact of such qualitative factors.

6 RECOMMENDATIONS FOR FUTURE RESEARCH

Using the available data, this study has managed to analyze some of the determinants of capital flows into Tanzania. However, there still exists an opportunity for more studies in the area, particularly in relation to those determinants that have not been investigated in this study.

1. The stock market can be an important avenue for private capital flows into an economy. Since Tanzania's existing stock market (The Dar es Salaam) has only been around for a few years, a study on its effectiveness in attracting foreign private capital flows would help to capture knowledge on this potential channel of capital.
2. More research needs to be conducted on push factors, which may be contributing to private capital flows into the country. It is important to have a broader understanding on how such factors affect the flows as opposed to only focusing on pull factors (which has been the case in most of the research on flows to African economies). Such knowledge can assist in the quest for the badly needed funds for investment into the country.
3. There are many factors that are not quantifiable but play a significant role in determining the flow of private capital. Such factors include human behavior. It is therefore imperative that knowledge on such matters is obtained so as to limit their deterrence on the flows.
4. As a least developed country, Tanzania should make deliberate efforts to learn more about capital creation, particularly from local sources. While foreign capital can be useful, it is sometimes unreliable. Availability of sufficient local sources of capital guarantees a faster and more reliable route to development.

Apart from the possible areas of research, a good deal of effort needs to go towards the collection and storage of important data related to private capital flows. New studies become impossible to undertake due to lack of or insufficient or unreliable data. Only with such information can knowledge on this and other important economic matters be acquired.

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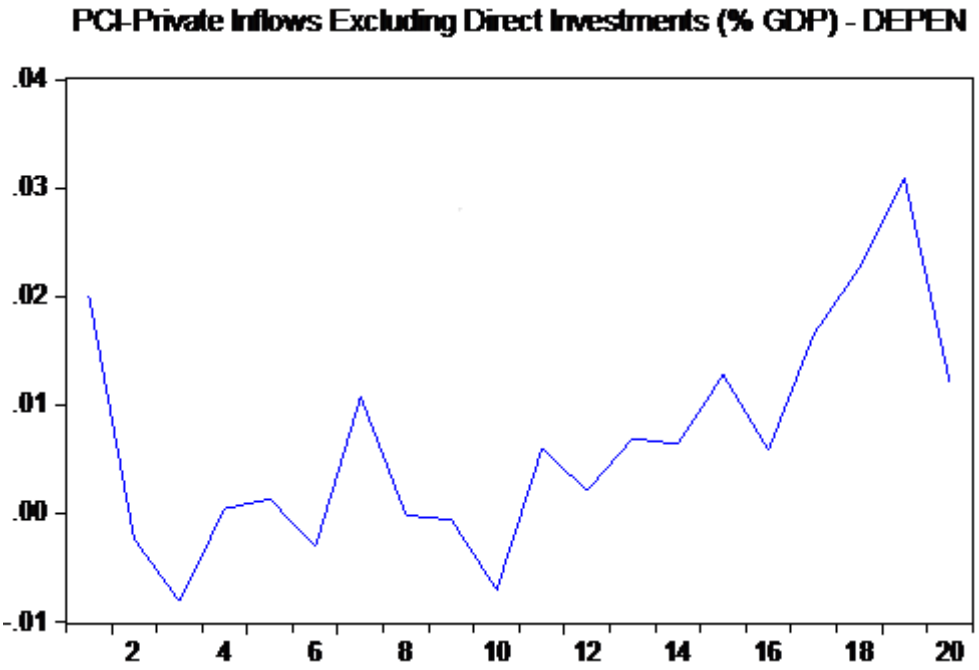
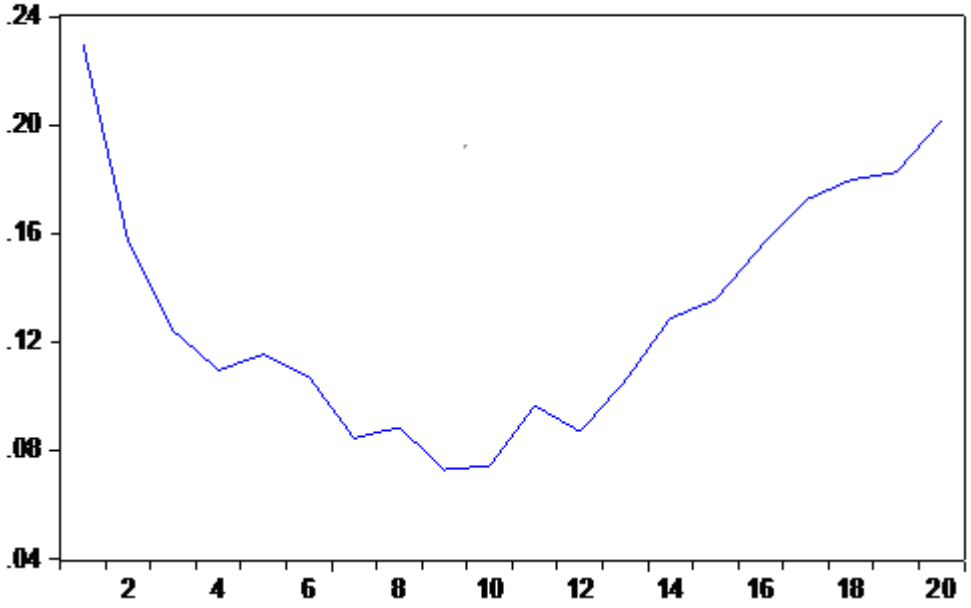
APPENDICES

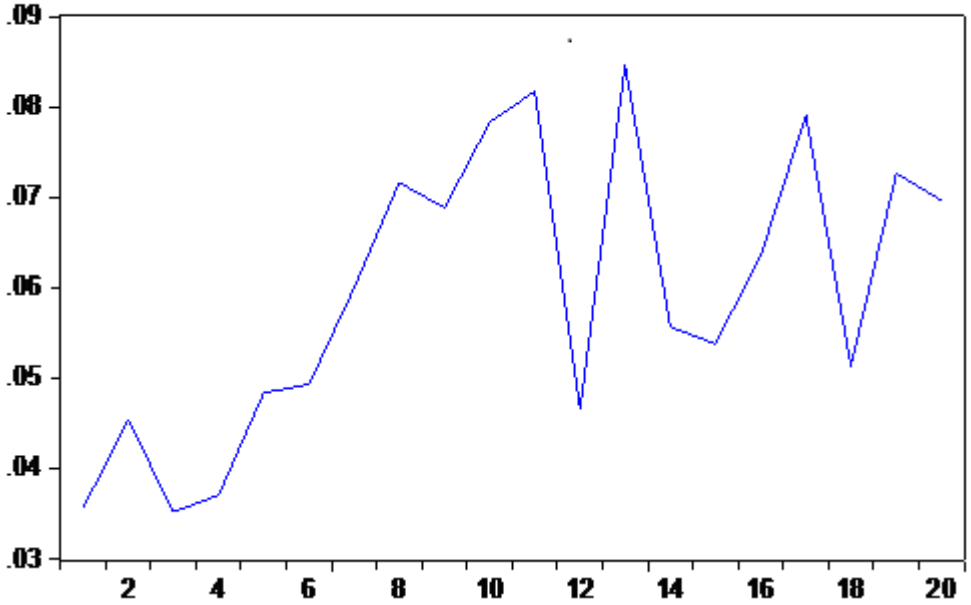
Appendix 1 – Graphs



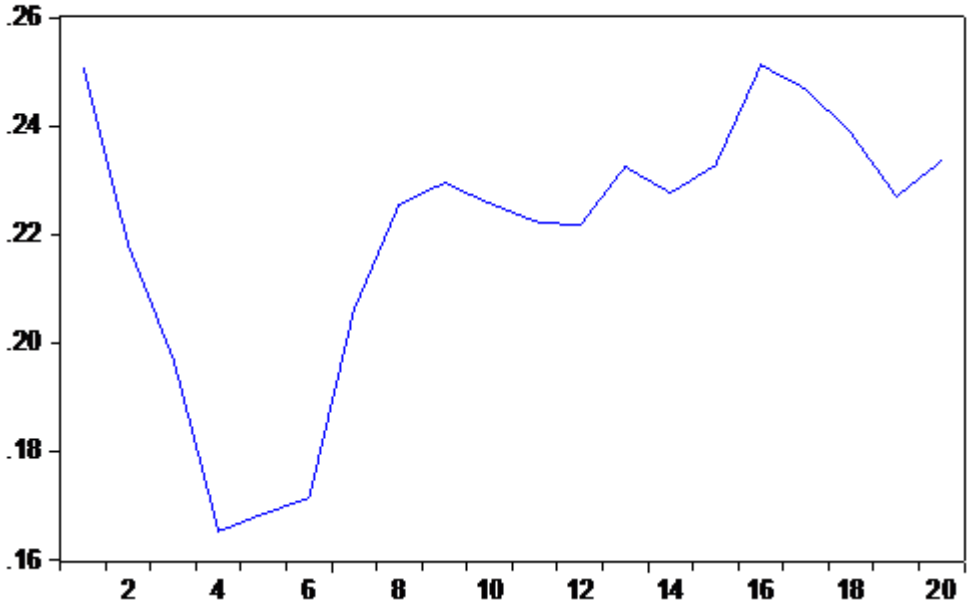
FD-Domestic credit provided by financial sector (% of GDP) - IND



GG-GDP growth (annual %) - INDEPENDENT



M - Broad Money (% of GDP) - INDEPENDENT



GCF-Gross capital formation (% of GDP) - INDEPENDENT