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The effect of regulations on financial markets performance in Lesotho





Master of Management in Finance and Investment

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DECLARATION

I, Thabang Mohloki (Student No. 1925410), declare the study entitled "The effect of regulations on financial markets performance in Lesotho" is originally prepared by me. Any material used from other sources has been duly referenced throughout this paper. This research work has not been provided to any institution for any other qualification. Moreover, I obtained an approval by the responsible committee of Wits Business School to undertake this study.

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Supervisor Date

ABSTRACT

This paper unpacks the impact regulatory interventions on performance of the financial markets in Lesotho from 2009 to 2018 with the use of segmented regression analysis. The paper focuses on the impact of the 30% regulatory intervention imposed on insurance companies on performance of Lesotho financial systems. To ascertain financial markets performance, the study uses four measures of financial development being Broad Money; Liquid Liabilities of the Financial Sector; Outstanding Public Debt and Private Sector Credit as dependent variables. The study uses interrupted time series to evaluate dependant variables' performance over time both prior and post the intervention. The study also assesses whether there are other determinants that may influence performance of financial markets. The findings demonstrate that the enforcement of the 30% local investment restriction had a positive impact on Broad Money; Liquid Liabilities of the Financial Sector and Outstanding Domestic Public Debt in Lesotho. The intervention did not however have an impact on Private Sector Credit. The findings further identifies Net International Reserves; Net Foreign Assets; Gross Domestic Product Growth; and Inflation as other determinants that significantly influence financial markets performance Lesotho.

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1.0 INTRODUCTION

1.1 Background

Financial markets perform an important part of reallocation of resources to the productive capacity or use. Conditional to the developmental stage of a country's economy, these markets include savers, lenders, a payment system, money markets, capital markets and financial intermediaries that include institutional investors (Rousseau & Wachtel, 1998). There are several factors that impact financial market performance including domestic and international macro-economic environment, historical background, technology and regulation amongst many factors. Models used to regulate financial systems differ across Africa as a reflection of specific domestic conditions and different historical circumstances (Schmulow, 2017). Regulation in certain jurisdictions is under the purview of the Central Bank. Whereas for other jurisdictions, this responsibility is delegated to the finance ministry or an independent regulatory body.

There are also countries where the regulatory role is divided between regulatory authorities, for example the Central Bank and several other authorities (Fuchs et al., 2012). The institutional investors that include insurers, pensions and asset management companies are the dominant investors in Africa (Beck & Maimbo, 2012). According to Andrianaivo and Yartey (2010), supported by reforms, institutional investors are viewed as best prospects for increasing the savings pool in Africa's capital markets. The critical role played by institutional investors to improve performance of Africa's financial systems can never be over emphasised. Institutional investors consider Africa's markets as frontier markets constituting exorbitant returns with significant risk and lower liquidity (Adjasi & Yartey, 2007). Using regulatory tools, however, a number of Southern Africa governments have intervened and attempted to limit capital flight from their domestic economies despite the risks presented by these markets.

Lesotho follows an integrated approach to regulation of the domestic financial sector. An integrated financial regulation is an approach to regulation where commercial banking, securities markets, micro lenders and insurance supervision are combined under one single regulatory agency (Fleming & Taylor, 1999). According to its Annual Supervision Report 2016[1], the Central Bank of Lesotho is the single agency regulating the financial industry (Annexure A). In addition to licensing and supervision of the financial systems in Lesotho, one of the core mandates of the Bank as prescribed in the Central Bank of Lesotho Act, 2000 is the development of domestic financial markets. In support of Schumpeter theory, Levine (1999) states that the performance of financial markets is central to development of the economy. According to Giovannini et al. (2013), performance of financial markets depends on a number of indicators associated to depth, size, soundness and access to the financial sector.

When financial systems perform well, economic entities can have alternative sources of financing to commercial banks. Any form of financing acquired through financial sector positively influence the economy since those in shortage (borrowers) can expand their businesses. Bodie et al. (2014) state that the government can also borrow from the financial sector to develop infrastructure, employ people, and provide housing amongst other things. With developed financial systems, institutional investors are able to supply those in shortage (invest) with funds at a lower cost. Developed financial markets also improve liquidity which may encourage investors to invest for longer term and this is central for economic growth (Sarr & Lybek, 2002).

According to the Financial Sector Development Strategy[2] (FSDS), the Regulator in Lesotho has been mandated to provide an enabling environment for those in shortage of funds to issue instruments. As per Annexure B, the process involved issuing benchmark treasury securities and launching the stock market (Tau, 2015). To create demand for these securities, the Central Bank of Lesotho is revising upwards old laws (also incorporating into new laws) on minimum local investment/asset requirement for licensed entities (Annexure C). The Central Bank has however been revising the minimum local requirement for commercial banks downwards because of the low absorption capacity of the Lesotho economy. The spirit of the regulation is still the same, to make sure that commercial banks keep a portion of their assets in the domestic economy for financial deepening objectives.

Despite these initiatives, Lesotho's financial systems are some of the least developed in the region. This implies that firms in Lesotho wholly rely on commercial banks for funding and not using alternative funding opportunities availed to them by the securities market (Khoabane, 2018). With limited investable opportunities in Lesotho, institutional investors including collective investment schemes, insurers, commercial banks and pensions are partially (or wholly) invested in the neighbouring South Africa[3].

According to Hearn and Piesse (2006), many countries have since moved to limit funds that institutional investors can take out of their home jurisdictions. For example, Swaziland and Botswana have both imposed 30% minimum local asset requirements for insurers and pensions. Namibia has a stricter restriction with Regulation 28 of the Pensions Act 1956 prescribing a 35% minimum local asset requirement for retirement funds (Hearn & Piesse, 2006). Due to its developed financial systems, South Africa's situation is the opposite of its regional counterparts. Policy makers are instead relaxing their foreign exposure limits. The offshore exposure limit in South Africa was recently increased from 25 to 30%. Moreover, policy makers in South Africa reduced exposure limits to Africa (outside South Africa) from 5% to 10% taking the overall foreign exposure limits for South Africa pension funds to 40%.

This paper is specifically interested to research the impact of such similar constraints and other determinants on the financial markets performance in Lesotho.

1.2 Context of the Study

Synopsis of Lesotho Financial Systems

Commercial banks constitute 50% of the financial sector followed by insurance and pension funds[4]. The Central Bank of Lesotho Annual Report 2017[5] states that commercial banks in Lesotho remains stable. Domestic banks are highly capitalised, relative to the prescribed minimum regulatory requirements. Liquidity of the banking sector suffices to endure any shocks to balance sheets of the banks and this sector is highly profitable. Banks are highly capitalised and liquid as a result, the sector can withstand external shocks. There are a number of challenges however including excess liquidity. Thamae (2014) posits that the domestic banking industry is highly liquid and banks are forced to keep funds between themselves in order to meet the minimum local asset requirement. Thamae (2014) further states that there is high concentration risk since economic activity is largely undiversified.

The Central Bank Annual Report further state that though it is quite small, the Lesotho insurance industry is growing at a high rate. Penetration rate of the domestic insurance industry is quite significant and relatively higher than the continent's average (if South Africa is excluded). Lesotho is the only country in the region without an operational stock market. Against the backdrop of the growing insurance industry, the Central Bank has been improving the regulatory framework for regulating and supervising the insurance sector. Moreover, the report states that there was only a single asset manager operational. Three other asset managers were not gaining traction.

The local asset management industry has been struggling to make any headway since 2001 when the first asset manager was licensed. This is because most institutional investors are invested outside the country and insurance companies specifically manage pension funds in the absence of a clear pension's regulation (Erasmus & van Huyssteen, 2016). The country's pension sector is relatively small and underdeveloped. The total size of the domestic pensions industry is relatively unknown pending regulation of the sector. Government employees' pension funds are the only funds established under their own Act. Currently, there is no law that establishes and regulates private pensions.

There have been a few studies on the Lesotho financial sector. Mabote (2017) studied the role played by non-bank financial entities (NBFIs) to develop the Lesotho economy. He comprehensively investigated the regulations that affect the development and operations of NBFIs. The study revealed that NBFIs do indeed play a critical role in financial markets performance in Lesotho. This is through mobilising any savings from the general public that is normally ignored by the banking system.

Motelle (2014) postulates that intermediation in the financial system improves growth in the economy through a reduction in transaction cost and allocating funds to efficient activities. Motelle (2014) investigated how external shocks from Lesotho's immediate neighbour (South Africa) affect financial stability. He used the Seemingly Unrelated Regression (SUR) technique to test this hypothesis. The findings of the study showed that variables such as real effective exchange rates, monetary policy in South Africa and interest rate spreads determine financial stability in Lesotho. Using Vector Auto Regression, Thamae (2014) studied the main causes of excess liquidity in the Lesotho financial system. He discovered that excess liquidity is due to the financial sector that is relatively underdeveloped with the government dominating activities in this sector.

Policy to develop domestic financial markets

In line with the National Development Strategy aimed to promote financial inclusion and develop financial markets, Lesotho developed the Financial Sector Development Strategy (Makoa, 2013). Amongst its strategic objectives, the plan is aimed at setting out a road map for developing Lesotho capital markets (Tau, 2015). Treasury securities, mainly government bonds were identified as basis for establishment of the corporate bond market, and this may be followed by equity markets. The Government of Lesotho therefore began to introduce a debt issuance program to establish the domestic bond market.

The program henceforth had scheduled quarterly issuances that are announced prior to each auction with clear detail on the issuance dates, offer amounts, tenors and coupon (Andrews et al., 2013). To improve liquidity of the instruments, a program for reopening of older issues was unveiled. Given the sizable number of institutional investors, the government committed to abide by the schedule even if it does not have immediate funding needs. The intention was also to create a sizable volume of these treasury bonds outstanding in order to facilitate secondary market activity.

In 2013 when the strategy was adopted there was no formal securities market or exchange although there was market activity with some companies offering securities to the public like Moruo Developments Limited. Andrews et al. (2013) therefore proposed the establishment of a securities market. There was no capital markets regulatory framework at the time. Annexure B provides the synopsis of the evolution of the Lesotho capital markets. The primary law for the public offers was the Companies Act, 2011. The policy document proposed the development of capital markets regulations incorporating specific provisions that talk to the issue of public offers. There was also no regulatory framework for pensions in Lesotho and the policy proposed the development of a Pensions law. The law has been finalised and the law will likely be enacted into law in 2019 after getting a nod from the senate[6].

Given underdeveloped financial markets, institutional investors are mostly invested in the neighbouring South Africa and a small proportion if at all in

the domestic economy. To plough back a portion of these assets into the local economy, the Financial Sector Development Strategy proposed imposition of local asset requirements to institutional investors except for commercial banks in order to develop domestic financial systems. The restriction was supposed to be undertaken carefully in order to balance the members risk adjusted return objective and the economic development goals of the Government. The document proposed a range of 10-15% of the total portfolio. The range could be revisited as financial markets develop (Andrews et al., 2013). The Central Bank of Lesotho has however prescribed limits that far exceed the proposed ranges as depicted in Annexure A. Of specific interest to this study is whether these policy initiatives achieved their objectives.

1.3 Problem Statement

There have been several empirical investigations of the Schumpeterian hypothesis that postulates positive linkages between financial markets development and economy development (Bist, 2018). Together with efficient allocation of capital, developed financial markets present the positive environment for both monetary and fiscal policy. Developing countries have thus intervened via financial regulation to develop financial markets. Being a least developed country and also completely landlocked by its more advanced neighbour, South Africa, Lesotho's institutional investors are mostly invested in South Africa (Masha et al., 2007). Lesotho and South Africa's economies are so closely intertwined that most players in the financial sector are South Africa owned (Ikhide & Uanguta, 2010). This implies that these companies rarely use the available avenue domestically to raise cash as they can raise it from South Africa.

Reforms to develop financial systems have been a key priority of least developed countries like Lesotho. These include creating a regulatory framework for public issuances and creation of a securities market. Further to the foregoing, policymakers are imposing minimum local asset requirements to institutional investors. The intention is to create an investor base to enhance demand for domestic instruments. It remains an empirical question as to whether these regulatory interventions that are directed towards financial markets development have been successful in developing domestic financial systems. Further to the foregoing, the impact of other drivers of financial markets performance need to be assessed.

1.4 Research Questions

The study intents to answer questions related to the influence of the regulatory interventions on performance of the domestic financial markets and any policy actions that can be undertaken to improve their performance. This paper specifically intents to answer the following questions:

i. What is the possible influence of imposing a legislative local minimum investment requirement on financial markets performance in Lesotho?

ii. What is the possible impact of other determinants of financial markets performance in Lesotho?

1.5 Objectives of the study

The research aims to ascertain the effect that a minimum local investment restriction on the respective laws of respective financial institutions have on domestic financial markets. The objectives can be detailed as follows:

i. To determine possible effects of imposing a legislative local minimum investment requirement on financial markets performance in Lesotho.

ii. To ascertain possible impact of other financial markets performance determinants in Lesotho.

1.6 Significance of the study

The study adds to body of knowledge by unpacking the impact of regulatory restrictions in Lesotho. Domestic institutional investors remain the key focus for local financial markets development in Africa. Policy makers aim to repatriate foreign funds invested by this segment of the financial markets so that long-term savings can boost domestic markets. With South Africa being the only neighbour, Lesotho's geographical positioning presents both challenges and opportunities alike. The study will give empirical evidence regarding the influence of jurisdictional limits on financial markets performance in Lesotho. To assess financial performance, measures of financial development will be used.

The findings of the study will help policy makers in understanding the effect of investment limits on financial markets performance in Lesotho, thereby informing policy direction going forward. Policymakers will be well informed in their quest to develop local financial markets on whether the interventions are achieving the intended purpose. Policy makers in Lesotho can therefore use the results to inform similar interventions going forward or even improve

current laws. Moreover, the research can be used by countries with least developed financial markets to explore means to develop their economies through regulatory interventions. There has been a number of studies advocating for existing relationship exists between regulation and financial markets performance (La Porta et al. (1997); King & Levine (1993); Herring & Santomero (2000); Balsari et al. (2010); Ly (2015); Yang et al. (2019); Onaolopo et al. (2012); Lee & Wong (2009); Makhokha (2016); Wood (2012) and Inderst (2009)). Closer to home, Buluma (2014) investigated the impact of prescribed minimum local requirement on performance of stock market proxies in Swaziland. The findings established that there is a relationship between the regulatory intervention and the performance of Swaziland financial markets.

There have not been any empirical studies on the impact of minimum local asset requirements imposed by the financial Regulator on Lesotho's financial markets given the country's interconnectedness to a well off neighbour in South Africa with far developed financial markets.

1.7 Methodology of the study

The study will use quantitative and qualitative information to establish the effect of regulations on the performance of financial markets in Lesotho. The primary focus would be on the impact of these interventions on institutional investors. An interrupted time series data will be collected from the Central Bank of Lesotho, International Monetary Fund (IMF) and the World Bank.

1.8 Brief outline of this study

The first chapter is the introduction/proposal of the paper detailing the context of the study. Then the study dwells into the theoretical aspects and empirical evidence related to financial development, economic growth, information asymmetry, financial regulations, institutional investors, asset allocation and interlinkages between these variables in chapter 2. Then chapter 3 involves the methodology followed to undertake the research. The chapter that follows will detail and evaluate the results. Finally, the last chapter will conclude and recommend in line with the findings.

2.0 LITERATURE REVIEW

2.1 Financial Development

Extensive empirical and theoretical work has been done to ascertain the influence of developed financial systems to prospects of a country. Related to this study, this sub section focuses on financial development measures and its determinants. Furthermore, it covers the association between financial development and certain variables namely investment, financial stability and institutional investors.

2.1.1 Measures/proxies of Financial Development

Measurement of financial market performance received most attention when earlier scholars wanted to understand the association between development of financial systems and growth in the economy. One view posits that development of financial markets is a precursor for growth of an economy. The opposing view believes that the causality is to the opposite instead, economic growth leads financial development. There is the other perspective that postulates a bidirectional link between financial development and economic growth. In his book, Financial Development and Economic Growth, Schumpeter (1911) states that there is an existence of a significant link between financial development and economic growth (King & Levine, 1993). The argument here is that financial markets players enable the process of intermediation through reallocation of capital or resources to their optimal productive use at low cost and possibility of adverse losses (Shan and Morris (2002), Hermes and Lensink (2003) and Ghirmay (2004)).

Financial markets are central to gross capital formation (Investment) which is a component of gross domestic product (Blanchard, 2013). The resultant growth in the economy leads to an improvement in the standards of living of the nation. This view received further support from McKinnon-Shaw hypothesis (Balassa, 1990). This hypothesis states that inefficiency in financial markets was one of the drivers behind financial hardships experienced by Least Developed economies between 1960 and 1970. Levine (1999) was one of the main supporters of the presence of a positive association between development of financial systems and economic development.

Opposing theories exist against a positive causality between financial development and economic growth. Supporters of this perspective postulate that economic development precedes developed financial systems. The earliest critic of Schumpeter theory was Robinson (1952). He instead postulates that for any financial system to develop it must be preceded by growth in the real economy. This view has also received some support from Patrick (1966) who asserts that financial markets activities stems from the real growth sector. Several studies exist that support the reverse causality between financial development and economic growth. Using data from 74 countries for the period between 1974 and 2005, Hartmann et al. (2012) found the existence

of a reverse causality between the variables of financial development and growth.

With the help of the data from Barbados between 1946 and 2011 to test the Patrick hypothesis, Carby et al. (2012), failed to find an existence of reverse causality. Results of their vector auto regression (VAR) did not support the hypothesis. Given more theory and empirical findings supporting a positive influence that financial development has on economic growth, policy makers are therefore motivated to try and develop their financial systems. The preceding literature and other extensive literature not included above use a number of different proxies to measure financial development. These proxies, according to Levine (1999), Lenka (2015), Lynch (1996) and others include amongst many, the following for measuring financial depth:

Outstanding domestic public debt securities to Gross Domestic Product (GDP): This is calculated as the total outstanding treasury bills and bonds issued divided by Gross Domestic Product.

Liquid liabilities of the financial sector to GDP: Another measure of financial depth that aims to measure the degree of monetization in relation to the real economy. It is measured as currency plus demand and interest bearing deposits of banks and non-bank financial intermediaries as a percentage of GDP. This is viewed as the widest measure of financial intermediation since it encapsulates both bank and non-bank financial institutions.

Private Sector credit to GDP: This is one of the best measures of financial markets development. It is calculated as the total credit extended by banks and non-bank financial institutions divided by Gross Domestic Product. Since private sector credit isolates credit to the private sector from that issued for example to governments and parastatals, it gives the level of intermediation in an economy.

Broad Money as percentage of GDP: Another proxy that can be used to measure financial depth for developing economies. It is calculated as money supply as a percentage of GDP.

*Stock market capitalization to GDP***:** this is the total value of listed equity securities as percentage of GDP.

Stock market total value traded to GDP: the total value of listed equity securities traded over the period as a percentage of GDP. It is one of the widely used measure of financial depth since it is aimed to measure whether the stock market size is matched by trading.

2.1.2 Determinants of Financial Development

Notwithstanding proxy or measure, a number of factors that include macro-economic variables, regulation and supervision, natural resources and liberalization of the financial systems determine the stage of financial development. To understand the influence of economic growth on financial development, Okeke and Acha (2017) used the Nigeria data to determine the influence of economic growth on three measures of financial development namely broad money (as % of GDP), private credit extension (as % of GDP) and stock market capitalization ratio. The results indicated that economic growth has a positive influence on all three measures of financial development.

Inflation has been found to be one of the macro variables that impact financial Development. Almalki and Batayneh (2015) used data for a period between 1982 and 2013 to ascertain the effect of inflation on Financial Development. The findings revealed that there was negative significant association between inflation and development of financial systems. Demirgüç-Kunt et al. (2008) posit that governments through fiscal policy also performs a critical role in determining performance of financial systems. Argument here is that governments with high debt burden may view financial markets as cheaper option thereby avoid overburdening the financial system and crowding out investment. Moreover, the banking system that heavily composes of government loan book may weaken the inefficiency of the banking system thus constraining financial development. Financial system therefore is less efficient in those countries with high budget deficits (Hauner, 2009)

Another determinant of financial development is quality of the institutions. Fagbemi and Ajibike (2018) used Autoregressive Distributed Lag (ARDL) test bound method to ascertain the influence of quality of institutions on financial development. The findings indicated strong institutions improved financial development in Nigeria. In addition to the aforementioned determinants, trade openness has been found to be another factor that affects financial development. Bayar et al. (2017) utilised data from nine Central and Eastern European countries to establish the association between trade openness and financial development. The results revealed that trade openness had a significant positive effect on development of financial systems.

Liberalization of financial systems is also considered to have an effect on financial development. Elkhuizen et al. (2018) utilised data from 82 economies to determine the influence of financial liberization on economic development. The findings of their study revealed that financial liberalization has a positive significant effect on financial development. There are other variables that impact financial development including the regulatory structure, population, disposable income, saving rates amongst other many determinants of financial development (Badeeb & Lean, 2017).

2.1.3 Financial Development and domestic investments

Being the primary focus of this paper, the influence of domestic investment on financial development will be given special attention. According to Nzotta and Okereke (2009), financial development involves efforts to improve financial intermediation. Financial development thus promotes saving which tend to have a positive influence on aggregate investment (Blanchard, 2013). The positive linkage between financial development and investment has demonstrable implications to financial development. These results are in line with McKinnon (2010), who posits that financial liberalization and financial development impact economic growth through its influence on investment.

Significant empirical work has been carried out to study the association between financial development and domestic investment. Huang (2011) established that as financial markets develop more funds are channelled and utilised for investments activities. This is in line with the finding by Shaw (1973) who established that financial development promotes economic development through improving capital forming capacity of the economy by means of data from 43 developing countries between 1970 and 1998. Huang (2011) documented a bidirectional relationship between investment and financial development.

Benhabib and Spiegel (2000) also studied the linkage between financial development, economic growth and investment, using data from four economies from 1965 to 1985. The study reported an interesting outcome by revealing that measures of financial development affecting economic growth in general differ from those that affect investment. However, Alem and Townsend (2010) through assessing the influence of institutions on investment and consumption, discovered that bank-based financial development negatively influence gross capital formation.

Contrary to this however, Muyambiri (2017) also studied the influence of bank and market based financial development on gross capital formation in Botswana, using data from 1976 to 2014 with the use of ARDL bounds testing approach. The findings revealed that only bank based financial development has a positive influence on investment compared to market based financial development. Therefore, Muyambiri (2017) proposed that financial development strategies should target bank-based financial development to boost investment.

Other studies include Rousseau (1999) who used data from Japan between 1890 and 1913. His results demonstrated that intense financial development in Japan in the 18th century was followed by a huge era of investment. Using data from 41 countries between 1960 and 1993, Xu (2000) discovered that investment from these countries is largely driven by financial development. Rousseau and Vuthipadadorn (2005) investigated the impact of financial development between 1950-2000 using data from 10 countries. Investment

seems to have been preceded by financial development. These empirical findings are very important to the Lesotho case given the view of policy makers that domestic investment will translate to financial markets development.

2.1.4 Financial Development and financial stability

Financial markets are viewed as crucial for the promotion of financial stability (Borio et al., 2001). This view is supported by Schinasi (2004) who asserts that well-functioning financial markets help to minimise shocks on the economy through efficient channelling of excess funds from savers to those with a shortage and also risk reduction through enhanced information symmetry.

According to Bernanke et al. (1999) development of financial markets reduces financial instability through minimising information asymmetry. Financial markets development thus minimises constraints and ability of the economy to absorb both internal and external shocks. There are those who oppose this notion of a positive linkage between financial markets development and financial stability (Bezemer, 2011). Minsky (1992) dedicated his work to understand the linkage between financial development and financial stability between 1960 and 1970. In his 'Financial Instability Hypothesis', Minsky stressed the negative effect financial development has on financial stability. The financial instability hypothesis however received much support from Charles (2008); Tropeano (2010); Kindleberger and Aliber (2011) and Golo et al. (2016).

Allegret et al. (2003) also state that financial markets liberisation to develop financial markets reduces financial stability increasing a probability of a crisis. This happens more in financial systems that are not optimally regulated (Ionescu, 2013). Blejer (2006) also supported this view by stating that any financial instability is due to intense efforts to develop the financial markets. Blejer (2006) further attributes instability to complex instruments prevalent in developed financial systems.

Khattab et al. (2015) studied the linkage between financial stability, economic growth and financial development. They used the data from Maghreb economies between 1995 and 2013. The evidence from the study gave interesting results wherein financial development minimises financial instability whereas in other countries any attempt to develop the economy aggravates instability.

Batuo et al. (2018) assessed the relationship financial liberalization, financial stability and financial development using data from selected African economies between 1985 and 2010. The results demonstrated that financial development and financial liberalisation impact negatively to financial stability. Moreover, their study revealed that economic growth instead minimises the crisis. The impact of economic growth is however positive only

before liberalisation of financial markets. Following the liberalisation, economic growth negatively influence financial stability.

Wang and Wen (2013) also assessed the linkages between financial development and stability utilising investment volatility as the measure of instability. To assess this relationship, they looked at alternative indicators of financial development and included investment volatility instead of economic growth to measure the relationship. The results showed that investment volatility decreases as financial markets develop.

The above empirical evidence demonstrates that the efforts to develop financial systems may lead to or even exacerbate a financial crisis.

2.1.5 Financial Development and Institutional investors

Institutional investors play a crucial part of supplying deficit agents of financial markets with the much needed capital for productivity (Genberg, 2017). This investment segment provides opportunities for longer term financing to capital markets (Della Croce, 2014). Institutional investors help financial markets to be efficient in various ways. For example, they limit information asymmetry between the issuer and investors, due to their size improving on liquidity and lastly improvement of the firm's corporate governance.

Demirgüç-Kunt and Maksimovic (1999) state that presence of institutional investors significantly influence a country's financial markets positively. Such institutions are larger as a percentage of GDP in more developed economies as opposed to less developed countries. This is further supported by Davis (2003) who implies that the presence of institutional investors helps to develop a strong financial sector.

Merton and Bodie (1995) and Vittas (1999) further support this view by stating that historically institutional investors have contributed immensely in enabling efficiency of financial systems various countries. This is because such investors have sizable funds that can be used to create liquidity. Given this higher economies of scale institutional investors are able to channel investments across a number of jurisdictions at lower transaction costs as well (Harichandra & Thangavelu, 2004). Due to their liabilities being mostly over the long term, most institutional investors have availed the long term funds for financial markets (Kim et al., 2003).

Field and Lowry (2009) further highlight that the notion of a positive effect of financial development on economic growth can also be observed during initial public offerings. They stated that initial public offering that have a larger proportion of institutional investors tend to do better than those dominated by retail investors. They further stated that due larger size, institutional investors can deal with corporate governance issues than individual investors. Using the Vector Autoregressive models (VAR), Harichandra and Thangavelu

(2004) assessed the influence of institutional investors on financial development and economic development in Organisation for Economic Co-operation and Development (OECD) economies by employing a dynamic panel VAR. Results showed that institutional investors granger-cause growth in the economy.

Zouhaier (2012) further investigated the effect of institutional investors on economic development using data from 11 countries of the Middle East and North Africa (MENA) region (between 2000 and 2009). Utilising a model of dynamic panel, the findings revealed a significant positive linkage amongst institutional investors and growth in the economy.

2.2 Financial intermediation through Institutional Investors

Davis and Steil (2004) define institutional investors as surplus entities in the intermediation process that can enable liquidity in the shorter end of the spectrum and supply long term projects with much needed funds through their participation in the primary and secondary markets. Institutional investors include asset managers, pension funds, banks and insurers in whichever form (Boehmer & Kelley, 2009). This sub section focuses on the theoretical and empirical aspects related to relationship that institutional investors have with financial stability. Furthermore, there is a focus on the literature on how these investors make their asset allocation and how any constraint may affect their performance.

2.2.1 Institutional investors and financial instability

According to O'Neill and Swisher (2003), with symmetric information and lower transaction costs, institutional investors will most likely take asset price to their fundamentals at faster rate thus minimising volatility. Baik et al. (2010) also add to this view and state that diversified number, form and size of institutional investors is stabilising to financial markets. According to Davis and Steil (2004) institutional investors are highly liquid and this reduces volatility in financial markets.

Bohl et al. (2009) assessed influence of retirement funds on Poland stock exchange following Pensions reform of 1999. Using a Markov-Switching-GARCH Analysis, the study revealed retirement funds have a stabilising influence on the securities market. Tseng and Lai (2014) used the Auto Regressive Model of Realized volatility to assess the effect of institutional investors on Taiwan Stock Exchange. The findings demonstrate that institutional investors play a stabilising role under normal conditions. With regard to cross-border investments, Froot and Ramadorai (2008) state that institutional investors tends to normalise returns between markets.

The trading behaviour of institutional investors is such that they usually undertake short positions during a crisis thus increasing the prospects of more volatility. A similar study was done in India by Salar and Shamim (2017). Using the Autoregressive conditional heteroscedasticity (ARCH) model the results demonstrated that institutional investors contributed to volatility of the Indian Stock Market. Fong et al. (2018) studied whether institutional investors leads to instability in the Hong Kong market and internationally. The data used was for insurance companies and pension funds. The results demonstrate that institutional investors increase instability of the stock markets especially during bear markets.

There are other studies that argue that institutional investors pose instability threat to the financial system. According to Angela-Maria et al. (2015),

institutional investors contribute to volatility as they at times sell or buy financial securities at the same time. Davis (2002) also posits that institutional investors such as insurance companies, pose significant risk to the financial industry mainly due to nature of their liabilities. Davis states that as population ages there is a significant stability risk that emanates from institutional investors, specifically retirement funds and insurance companies. Schieber and Shoven (1996) state that if a significant portion of the population ages at the same time like baby boomers asset prices may fall due to dissaving caused by this shock leading to instability. Furthermore, securitisation by financial institutions institutional investors have driven much of the financial instability seen in 2008 (Flannery, 2009).

2.2.2 Institutional investors and Optimal Asset Allocation

Institutional investors hold large sums of funds on behalf of households. The manner in which these funds are managed is essential to achieve the specified investment objectives. As per Bodie et al. (2013), asset allocation precedes security analysis and selection in the investment process.

Asset allocation involves combining different assets at varying proportions in a portfolio (Sharpe, 1992). Previously, asset allocation was not based on any scientific framework. Institutional investors were advised to allocate their funds to a maximum of 60% in stocks/equities, maximum of 40% in bonds. In other jurisdictions a maximum of 100% in cash was proposed should there be a downturn in the economy for more risk averse portfolios (Woolley & Bird, 2003). Asset allocation has evolved into a sophisticated exercise that involves sophisticated techniques in arriving at the optimal weighting of the assets.

A critical element of fund management in modern times is ascertaining the optimal asset allocation for the institutional fund's investments. In his modern portfolio theory, Markowitz (1952) provides a framework to achieve this optimal asset mix. The theory postulates that to achieve risk-adjusted returns, a portfolio of investments should be diversified by combining uncorrelated assets in order to minimise the overall risk. The assumption here is that investors aim to maximise returns at lowest risk as possible. The portfolio mix that provides the lowest risk for an expected return is termed the mean variance portfolio. The modern portfolio theory has received support from Sharpe (1992), Lintner (1969), Mossin (1966) and Ross (2013).

The modern portfolio theory focuses on getting an optimal mix between jurisdictions in what can be termed as global optimal market portfolio. That is, a portfolio should have a geographic spread between local and domestic instruments (Nikolaos et al., 2011). Using data from stock markets from 11 countries between 1959 and 1966, Grubel (1968) studied the advantages to international diversification for investors in the United States. The study revealed that a portfolio that included foreign assets managed to get either

the higher returns or lowest risk. This view was further supported by Levy and Sarnat (1970). Using US data, they established that local assets have low correlation to foreign assets. Institutional investors in the US can meet their investment objectives if they include a foreign asset in their portfolio.

Using a time series analysis of 20 stock exchanges, Abidin et al. (2004) investigated the benefits of including a foreign asset in a portfolio. They further investigated this global diversification if domestic allocation is fixed at minimum levels that are predetermined. The results show that investors benefit through spreading assets across various jurisdictions. In line with the foregoing, Ziobrowski and Ziobrowski (1995) examined the influence of exchange rate on foreign asset performance. They state, "foreign diversification has long been accepted as a means of improving portfolio efficiency through risk reduction. Yet surprising little is known about proper international portfolio construction in terms of how much should be invested in foreign countries, which countries should be targeted and in what types of assets".

Van Nieuwerburgh and Veldkamp (2009) state that biasness to foreign assets is one of the major drivers of information asymmetry. Institutional investors tend to have more knowledge about their own country's assets. Van Nieuwerburgh and Veldkamp (2009) further state that "The bigger the home information advantage, the more desirable are home assets; but the more home assets investors expect to own, the higher the value of additional home information. Even with a tiny home information advantage, and even when foreign information is no harder to learn, many investors will specialize in home assets, remain uninformed about foreign assets, and amplify their initial information asymmetry".

Merton (1973) proposed the concept of ICAPM (Intertemporal Capital Asset Pricing Model) wherein institutional are expected to hold an international portfolio. This implies that allocation to domestic assets should be the same as the share of the economy in the international market capitalisation. Using data from 42 countries between 2001 and 2015. The panel data analysis demonstrates that developed economies foreign bias tend to decrease due to regulatory intervention.

Given the inefficiency of financial markets in least developed institutional investors tends to overweigh foreign investments in order to get optimal risk adjusted returns. Placing a regulatory restriction may alter and affect performance of these entities.

2.3 Regulation

This section focuses on the literature on regulation, its theories, models and relationship with a number of variables such as institutional investors, stability and information asymmetry.

2.3.1 Theories of Regulation

The regulatory theories have their foundations on the work of Stigler (1971). In his book termed the Theory of economic regulation, Stigler posits that the respective industry players can initiate regulation or alternatively it can be imposed on the industry itself by the policymakers. A regulation can be prescribed and adopted by the regulated industry mainly for its advantage. Regulation can therefore be viewed as creating some form of legal framework and continuous supervision of an industry (Train, 1991). In business dealings, companies are viewed to have a greater economic power than their customers. Consumers therefore need some protection (Llewellyn, 1999). However regulation is also viewed to have negative impact on the functioning of entities due to regulatory bureaucracy (Russo, 1992).

Theories of regulation can be split into two, positive and normative theories, public and private interest theories an also categorised from teleological to administrative theories (Posner, 1974).

Normative and Positive theories
According to Hertog D (1999), positive regulation deals with the economic rationale for regulation and its consequences. Normative regulation instead focuses on the manner on which regulation should be conducted thus what form of regulation is most desirable Positive regulation instead focuses on economic aspects of the regulation and deriving the consequences of regulation (Baldwin et al., 2012).

Public and Private Interest theories
In addition to normative and positive theories, regulation could be differentiated between public and private interest (Hertog D & Aleidus, 2003). Meier (1985) states that the rationale of public interest theory is that, governments should regulate markets since entities are unable to self-regulate. According to Stigler (1971), "The public interest theory explains regulation in terms of imperfect competition, unbalanced market operations and missing markets as well as the need to prevent or correct undesirable market outcomes". One of the major criticisms of this theory is that it assumes that regulation is efficient and also has low costs. This is a flawed assumption since regulation involves a number of costs like transaction and information costs (Christensen, 2010). The private interest theory instead postulates that regulation is not only limited to acting in the interest of the public but also serving private entities in order to boost profitability (Mizutani & Nakamura, 2019). Regulators therefore need to intervene to act in the best interest of entities they regulate. A major drawback of private interest theory is that it is

hard to differentiate it from public interest theory since it is motivated by the drive to act in the public interest (Haddock & Macey, 1987)

Administrative, cultural, and teleological theories
Public and private interest theories are further broken down into administrative, cultural, instrumental and teleological theories (Moran, 1986). According to Breyer and Breyer (2009), administrative theories focus on the issue of regulatory failure borne from failing to match solution with problems. Wilensky (2015) also introduces the concept of intelligence when regulating institutions. The regulator needs to continuously collect intelligence data and react appropriately in line with the gathered information. Any failure in regulation may be viewed as due to failure to gather and act on intelligence. Moosa and Ramiah (2014) state that cultural theories focus more on the unique nature of different countries. Countries have unique history and regulation should be aligned to those specific features. An example is the US regulatory system that is borne from the history of hostilities between the government and business in the past. Moran (1986) states that in order to protect the consumers from selfish acts by capitalists, there need to be a regulatory regime.

2.3.2 Financial Markets Regulation

Effective functioning of financial markets requires some form of regulatory and supervisory framework implemented by regulators and supervisors for all financial markets players (Gowland, 1990). Financial markets activities expose the consumers and the economy to some risks like liquidity, country, market, foreign exchange, default and operational risk among others (Grote & Marauhn, 2006). Without a proper regulatory oversight, this can be problematic to financial stability. The relationship between financial development and the real economy stated above implies that other segments of the economy will be affected should there be any problems in the financial sector.

Given strong relation between financial development and economic growth, governments worldwide are intervening in order to regulate and control operations of institutional investors (Brunnermeier et al., 2009). Regulation has an additional and crucial role by intervening in the financial markets to advance developmental policy objective of the government (De Serres et al., 2006). For example, the government can intervene in the banking sector to guarantee lending for the industry. Again, as it will be seen throughout this thesis, regulation may be used to try to develop financial markets by prescribing minimum local asset requirements for institutional investors. In addition to capital requirements, regulators may also prescribe financial reporting requirements (Grote & Marauhn, 2006).

Regulators develop investment regulations for institutional investors. Such regulations prescribes types of assets an institutional investor may invest in

including limits thereto (Inderst, 2009). The primary objective of these regulations is to ensure prudent management of the assets of the beneficiaries in order to meet their obligations. This is aimed to reduce asset and counterparty exposure thereto. They also include the minimum content of the investment policy and how the policy will be implemented (Black et al., 1993).

Finally and most importantly for the purpose of this thesis, investment regulations also incorporate the jurisdictions that institutional investors may invest in including limits thereto (Wood & Clement, 2015). The aim of geographical restrictions is to limit foreign currency risk and limit exposure to riskier countries. Policy makers in developing economies are also exploring opportunities availed by these institutional in economic development especially for developing economies (Jalilian et al., 2007). Therefore regulating jurisdictional exposure is being given more attention by regulators. Moreover policy makers can use regulation as a tool to advance fair competition between market players (Wood, 2012).

2.3.3 Financial Regulatory Principles

A regulatory policy is formulated in line with some principles when developing policy, requirements or even directives (Barr & Diamond, 2009; Cihák & Tieman, 2008; Demirgüç-Kunt & Detragiache, 2011; Kahn, 1988; Sommer Jr & Bus., 1996). Local regulatory bodies or international bodies such as BASEL ACCORDS, IOPS[7], IOSCO[8] and IASB[9] develop these principles. They are aimed at meeting a set of objectives of financial regulation such as efficiency by service providers. According to Brunnermeier et al. (2009), regulatory principles can be used to enhance efficiency through increasing some level of competition between providers of financial services since competition remove some impediments in financial markets activities.

Principles of regulation also ensure safe, sound and stable financial markets (Armour et al., 2016). This is through principles that prescribe the usage of acceptable risk management tools and finally ensuring use of regulations to prescribe minimum capital requirements to financial markets players (Kahn, 1988). With regard to stability of the financial systems, regulators should continuously monitor and take any corrective actions to any threats to the financial system (Garicano & Lastra, 2010).

There are principles focused on harmonising any principles that are in contradiction to each other (Armour et al., 2016). Given the potential conflict that may arise between principles, such conciliatory principles are needed. These principles may prescribe minimum requirements such as capital, disclosure requirements and rules for compliance. There are also principles that are unrelated to regulatory structure. Here the principles sets out the guidelines if financial regulation is to be conducted by a number of regulatory bodies or a single entity (Botha & Makina, 2011).

In addition to principles aforementioned, there are a number of general principles applied unique to the particular segment of the financial markets. Merton (1995) states that regulation needs to evolve in line with the financial markets which are quiet dynamic. Regulation should adapt to any changes so that regulation achieves its objectives (Brunnermeier et al., 2009).

2.3.4 Financial Regulatory regimes

Countries use different approaches to oversee and regulate the conduct of financial markets. The regulatory approach in any country is a reflection of many attributes like the stage of economic development, size of the economy and unique history among other things. Approaches to regulation can be divided into four categories (Schmulow, 2017): institutional, integrated, horizontal and functional models.

The Institutional (Silos) Approach
There are a number of separate regulators, which supervise licensees in line with their business activities. This implies for an example an entity can be licensed as a commercial bank despite the fact that it may be engaging in other activities like insurance (Schmulow, 2017). Regulation of such bank is done by the banking regulator even though the bank may be lawfully conducting unconventional banking activities like securities functions (Masciandaro & Quintyn, 2009). This model is one of the most inflexible approaches of regulation and also difficult to implement due to blurred lines amongst various types of financial institutions (Trebing, 1987).

According to Schmulow (2017), the silos approach presents some regulatory arbitrage especially when regulating conglomerates. A conglomerate that operates in a number of financial sector industries (e.g. insurance, banking, securities) would be regulated by two distinct entities. This presents opportunity for arbitrage wherein stringent regulation can be offset by moving operations to relatively lax sector in terms of regulation. Furthermore Schmulow (2017) states that each sector entity can be treated as a separate company from its holding entity. This leads to the total risk taken by the conglomerate as a whole being either smaller or bigger than summation of its parts (Wymeersch, 2007).

The Functional (hybrid) Approach
The regulatory oversight of the institution is based on the kind of business activity involved despite the legal status. Each licensed activity have its own regulator (Schwarcz, 2015). For an example a single firm may be involved in insurance, pensions and fund management, each of these activities will be supervised by a specific regulator (Hogan & Sharpe, 1997). Regulation and supervision of an entity is informed by the kind of business the firm is involved in regardless of the firm's legal status. Each conducted activity has its specific

regulator. This method functions well in a case where coordination between regulatory entities exists (Schwarcz, 2015)

The Integrated (unified) Approach
The integrated model involves one universal regulator that oversees the conduct for all sectors of the financial sector (Briault, 1999). This means that a single regulator oversees market conduct of all licensed entities and conduct prudential supervision as well (M. Taylor & Fleming, 2000). Llewellyn (2006) states that this model is instituted as an initiative from the market in order to have an effective regulation.

The Twin Peaks (horizontal) Approach
Twin Peaks separate prudential supervision and market conduct (Wymeersch, 2007). It involves two regulatory bodies where one focuses on financial soundness of the regulated entities and the other market conduct. These may appear as distinct regulators like under the functional approach above but they are highly coordinated (Kremers & Schoenmaker, 2010). The twin peaks approach is premised on varying objectives of financial regulation and apportion specific regulatory authorities to each objective (Taylor, 2009).

2.3.5 Financial Markets Regulation and Information Asymmetry

The efficient market hypothesis postulates that any value or price attached to a financial security should reflect all the available information related to the security (Healy & Palepu, 2001). Symmetry in information, which is more easily observed in developed economies provides for efficient allocation of resources without any party to the transaction being disadvantaged (Dixit, 2003). In underdeveloped financial markets however, there is some asymmetry of information (Koford & Tschoegl, 1999). Information asymmetry involves a situation wherein one side to a transaction has more information than the other does. Furthermore, under the condition of information asymmetry, the dominant party also has some recourse for any breaches to an agreement and the other party cannot (Asongu et al., 2016). This inequality when transacting may lead to failures including moral hazard and adverse selection (Berndt & Gupta, 2009). In adverse selection, one party lacks the needed information in a transaction of a financial contract. One party thereby has more information (for example the borrower) than the other party anticipates (for example the lender). Moral hazard instead is where the other party (borrower) intentional assumes more risk or exaggerates losses since the other party (the lender) is going to bear such risks (Abbring et al., 2003).

Given the asymmetry in information therefore, there is a need for introduction of financial intermediaries and policy intervention. These intermediaries that include institutional investors will help to reduce such asymmetry through collating the necessary information, analysing and reviewing prospective investments, and also evaluation of performance of such investments (Leland & Pyle, 1977). The intermediaries perform a critical role of minimising adverse selection and moral hazard challenges in the financial markets. According to

Straser (2002), to complement the vital role played by financial intermediaries, there is a strong need for financial regulations. Financial system regulation that motivates disclosures can reduce information asymmetry and improve efficiency of the financial systems (Healy & Palepu, 2001). Financial markets regulations can conform to certain core principles and accounting standards in order to disclose their activities.

Information asymmetry can be minimised through monitoring of soundness and safety of financial entities by policy makers (Eleswarapu et al., 2004). Moreover, prevalence of asymmetry in information provides the basis for policy makers to intervene to foster financial safety and soundness of the financial systems. An approach for policy makers to improve financial institutions safety and soundness would be through prescribing disclosures of plethora of information that can help the market to evaluate portfolios of respective portfolios and their exposure to risk (Krishnaswami et al., 1999).

According to Eleswarapu et al. (2004), mandatory disclosures of information increase the amount of public information for stakeholders on the other side of the contract to monitor these institutions and to take them to task if they engage in any acts that expose their investment to risk that may lead to collapse of such institutions. Policy makers also attempt to reduce information asymmetry by imposing such restrictions such as capital requirement and exposure limits (which is the focus of this study). The aim of such constraints is to limit financial institutions from taking unreasonable risk. The registration and licensing criterion as prescribed by the financial regulation is another way of reducing moral hazard problem (Healy & Palepu, 2001). Financial regulations prescribe a criterion that involves screening of key individuals on the fitness and probity to run financial institutions. Individuals who intent to set up a financial institution are tested for their financial integrity and criminal record thus minimising the problem of information asymmetry (Hellmann et al., 2000).

The reduction of information asymmetry through intervention by policy makers is not only limited to the creation of regulations but also through continuous supervision of licenced entities (Baron & Besanko, 1984). Regular on site and off site monitoring by regulatory authorities help in examining whether the licensed entities are complying with the prescribed laws including the set exposure limits and the key individuals remain fit and proper. Frequent examinations of financial institutions also reduce the moral hazard problem (Grossman, 1992). Regular bank examinations, which by monitoring whether there are adequate controls in place, help to minimise fraud or unwarranted risk taking beyond allowable limits.

2.3.5 Financial Regulation and Financial Performance

Regulation theories state that a strong relationship exists between regulation and performance of financial markets (Herring & Santomero, 2000). Financial regulation is an important attribute in financial development since it can magnify or inhibit the level of financial development (King & Levine, 1993). Financial regulation can therefore be used to promote financial markets performance. There are many studies that postulate a positive relationship between financial regulation and financial performance. Regulatory requirements such as deposit insurance have a positive influence on the performance of banks. Balsari et al. (2010) researched the influence of regulation on the performance of Turkish banks. Results demonstrated that deposit insurance and corporate governance related laws of 2004 and 2005 respectively influenced positively on profitability of banks in Turkey. Ly (2015) examined the influence of regulation on banks in the European region. Ly used a panel data from around 4000 commercial banks during 2001 to 2011. The results demonstrate that regulation has an impact on performance though mixed. Ly further established that regulators should consider risk return trade off when developing laws.

Yang et al. (2019) used double bootstrapping methodology to assess the relationship between bank regulation and performance of banks in the Asia-Pacific region for the period, 2005 to 2014. The outcome of the study revealed that bank regulation and supervision are positively related to bank performance. The findings revealed that tighter regulation and supervision are significantly related to higher performance for small and large-sized banks. Using efficiency as a proxy for performance, Onaolopo et al. (2012) performed a qualitative study on the impact of regulation on performance of insurance companies in Nigeria. The results of the study revealed that regulation is important in providing support to insurance companies leading to positive performance.

Lee & Wong, (2009) also used panel data from the Shanghai Stock market to assess the effect of financial regulation on the Shanghai stock market. The results demonstrated a positive impact between financial regulation and stock market performance. Makhokha (2016) further assessed the impact of financial regulation on the performance of banks listed on the Nairobi stock exchange. The study concluded that financial regulation has a positive relationship on these listed banks. Using bank deposit to GDP and domestic credit to the private sector to GDP, Abubaker et al. (2012) studied the impact of financial regulation on financial development. The study explored the impacts of governance on financial development in West African countries. The study also incorporated GDP, inflation, trade openness and interest rate as control variables. The outcome of the study revealed financial regulation

had significant statistical impact on the two selected proxies of financial development.

Financial crisis of 2008 however demonstrated that left alone, financial markets can result in the collapse of a country's economy. This presented a strong case for financial markets regulation (Goodhart, 2009; Llewellyn, 1999; Vives, 2001). Hanson et al. (2011) thereby posit that whilst regulation of the financial sector is needed, it can affect financial markets performance negatively. Casu et al. (2017) used data from eight Asian countries to study the impact of post-crisis regulatory reforms on the performance of financial markets. Their results indicate that financial liberalization post the crisis had a positive impact on financial markets performance. In contrast prudential regulation policies during period had a negative impact on performance.

Kremmling (2011) also assessed the effect of regulation on banks' performance in 143 countries prior and throughout the financial crisis of 2008. The results show that stricter regulatory requirements increased incentives for moral hazard and a riskier portfolio holding by banks thereby affecting performance negatively. Using Statistical Package for Social Sciences (SPSS) program, Wanjiru (2016) also studied the impact of financial regulation on the performance of micro finance institutions in Kenya. Though mixed, the results of the study revealed that financial regulation does indeed have a significant relationship with financial markets performance. Arestis et al. (2002) further tested the impact of financial regulation on financial development using data from six development countries. The results indicate that the impact of financial regulation on financial markets performance vary.

The above literature demonstrates that the effects of financial regulation on financial markets is a bit complex and ambiguous. Whilst a statistical relationship exists, regulation has varying impact on different proxies of financial development. This is also supported by a study done by Buluma (2014) in Swaziland. Buluma used segmented regression model to assess the impact of the 30% minimum local requirement imposed on institutional investors on stock market proxies. The findings revealed that the intervention influenced market capitalization of Swaziland Stock Exchange positively. However, the findings further revealed that the intervention did not have a major impact on the turnover value of the exchange.

2.3.7 Regulating Asset Allocation

In addition to capital requirements, and financial reporting requirements, regulators develop investment regulations for institutional investors (Srinivas & Yermo, 1999). Such regulations prescribe types of assets an institutional investor may invest in including limits thereto. The primary objective of these regulations is to ensure prudent management of the assets of the beneficiaries in order to meet their obligations (Srinivas & Yermo, 1999). Their purpose is to reduce asset and counterparty exposure thereto. They also include '*the minimum contents'* of the investment policy and how the policy will be implemented.

Finally and most importantly for the purpose of this thesis they incorporate the jurisdictions that institutional investors may invest in including limits thereto. The aim of geographical restrictions is to limit foreign currency risk and limit exposure to riskier countries. Furthermore, this plough back funds in an economy for development thus limit capital flight (Antolin et al., 2009).

Policy makers in developing economies are exploring opportunities availed by these institutional investors in economic development especially for developing economies. Therefore regulating jurisdictional exposure is being given more attention by regulators. In the national structural programs of the IMF, the IMF encourages restructuring of financial markets by developing economies in order to encourage economic development (Ahluwalia, 1990). In Africa for example these initiatives involves establishment of capital markets so that all those entities that were previously held by governments can be privatised. To promote the demand of such instruments the governments are imposing minimum local asset requirements in their laws (Srinivas & Yermo, 1999).

Institutional investors across the world are restricted on how they allocate their investment. According to Vittas (1996), policy makers prescribe limits by asset class, issuer, security, risk and by jurisdiction. There has been a number of arguments in favour for imposing foreign exposure limits. The first argument is that they stabilise capital flows and helps maintain stability of the nation's economy (Fontaine, 1996). The other view is policy makers can use such regulations to limit capital flight and help to develop domestic financial markets (Reisen, 1997).

There are arguments against foreign investments restrictions however especially in least developing countries. Andrianaivo and Yartey (2010) argue that these countries are characterised by under developed domestic capital markets with poor liquidity and lacking transparency. Furthermore ,domestic asset managers may be lacking the necessary expertise to manage sizable portfolios (Wright, 2015).

Stulz and Wasserfallen (1995) argue that such constraints limit the prospects of local capital markets development. Moreover, such restrictions are believed

to limit portfolio diversification. Exposure limits constrain the capacity of the portfolio to earn maximum risk adjusted returns (Gérard et al., 2003). The only way to earn returns similar to unconstrained portfolios is by taking higher risk or institutional investors will not be able to achieve their objectives (Merton, 1973). This is more relevant to developing economies where investment avenues are limited. Imposing further restrictions will have bad implications on the performance of institutional investors.

2.4 Synthesis of the Literature Review

The literature above begins by detailing measures and determinants of financial development. Then it provides the interconnectedness between financial development, investment, financial stability, information asymmetry institutional investors, asset allocation and regulation. The empirical studies highlighted the rationale for including an optimal asset allocation between domestic and foreign assets in other economies around the world. The drive towards local finance development has been the agenda of many developing countries. The rationale is in support of Schumpeterian model that with developed financial systems financial markets may influence economic growth.

These countries have undergone some reforms in order to achieve development of their local markets. Similar to approach in Lesotho the reforms were preceded by policies to develop the financial sector. Development of local financial markets is encouraged by standard setters including IOSCO, IMF and the World Bank (Laeven, 2014).

The perspective here is that well performing financial systems promotes growth in the economy. Furthermore, governments can raise cash through domestic borrowing to finance their budget deficit without having to borrow from abroad and expose themselves to foreign currency risk and stabilise their trade balance (Alfaro et al., 2004). Financial markets performance in these economies provides conflicting results. There are countries that have managed to develop their financial markets through these interventions by policy makers whilst others stagnate (Stiglitz, 1989).

Therefore the literature has revealed that in unlimited investable universe investors can choose any assets lying on the efficient frontier (Arouri et al., 2012). Investment limits on assets and geographical exposures may constrain investors from developing an optimal asset allocation. F. Black and Litterman (1992) further state that investors that are constrained by regulatory limits will get lower rates of return. Jorion (1985) goes further in support of this view by stating that reduced or minimal foreign investment exposure, limit investors in getting the full benefits of international diversification since different countries assets are uncorrelated.

This literature review provides a basis for ascertaining the impact of a minimum local asset requirement in those developing countries with low absorption capacity like Lesotho. Whilst studies exist on regulation of financial markets in more developed countries and some developing countries, there have not been any published papers on the influence of regulatory interventions on the performance of Lesotho's financial markets. Therefore, the study is borne from this lack of any studies on the impact of regulation and their impact on financial markets performance in Lesotho.

3.0 METHODOLOGY

3.1 Introduction

The chapter details the approach that was followed when carrying out the study. It includes amongst other things, data issues, research design, and threats of internal validity.

3.2 Data and Data Sources

The paper aims to use data derived from the Central Bank of Lesotho, World Bank and IMF. More specifically, the data will be sourced from Central Bank of Lesotho's annual supervisory reports and any other relevant reports from the Central Bank of Lesotho. Supplemental data will be sourced from both the IMF and World Bank databases,

3.2.1 Intervention

The data shall focus on one group of Lesotho institutional investors, insurance companies, since the minimum local asset restriction was imposed in 2016 thus providing sufficient interval to assess the impact of the restriction prior and after the 30% restriction. In line with recommendation of the FSDS, the Central Bank of Lesotho imposed a local minimum restriction of 30% on insurance companies through the Insurance (Solvency Requirements) Regulations, 2016. The study will also assess the impact of other determinants that may affect financial markets performance. The sample will be from the first quarter of 2009 to the last quarter of 2018, giving 40 observations. The study period covers the era prior to the 30% requirement (before 2016) and the time thereafter.

3.2.2 Financial Market Performance

To measure financial markets performance, the research will use the data for four financial development proxies focusing on financial depth. The data is going to be primarily obtained from the Central Bank economic quarterly reviews supplemented by data from the IMF and the World Bank databases. To derive the Financial Development proxies, a number of variables are used as function of GDP. Unfortunately, GDP figures are only released annually in Lesotho. Interpolation will be used to estimate quarterly GDP figures.

3.3 Research design

Historically, all institutional investors that include insurance companies were holding the bulk of their funds in the neighbouring South Africa due to low absorption capacity of the Lesotho economy. The Central Bank as the Registrar of financial markets regulates and supervises financial entities in Lesotho. In line with the FSDS, the Registrar prescribed a local minimum investment requirement for insurance entities to 30% with the purpose of deepening the Lesotho financial markets and the domestic economy. The intention was to prescribe such a requirement to other institutional investors such as asset managers and retirement funds.

An interrupted time series design will be used to examine the influence of the intervention on financial markets performance. According to Hyman (1982), an interrupted time series is a quasi-experimental arrangement that involves assessment of the influence of an intervention on the given population of study. According to Buluma (2014), the interrupted time series design studies the effect of variables under consideration through time prior and post operationalisation of the intervention. Buluma (2014) used the same design to investigate the impact of 30% minimum local requirement for pensions and insurers on stock market proxies. The findings revealed that the intervention influenced market capitalization of Swaziland Stock Exchange positively. However, the findings revealed that the intervention did not have a major impact on the turnover value of the stock market.

An interrupted research is similar to a pure experiment and random control design except that it does not have random assignment for control (Taljaard et al., 2014). This method will therefore involve making series of observations both prior and after each intervention. For the objectives of this research, the interventions are the regulation requirement as stipulated on the insurance law prescribing minimum assets to be allocated in the Lesotho economy. When creating a quasi-experimental design there is a need to have relevant variables, the quasi-independent x-variable and the dependant y-variable (Taljaard et al., 2014). Taljaard et al. (2014) further posit that the quasi-independent variable is the manipulated variable to have an influence on the dependant variable y. The dependant y-variable is then observed over time to assess any impact emanating from the quasi-independent variable.

3.4 Data Analysis

This chapter details the models used for the purposes of this study and variables to be included. From the literature, it is clear that various studies used different models and utilised varying variables.

3.4.1 Econometric Model

Segmented regression model will be utilised to develop econometric models for the purposes of this study. According to Taljaard et al. (2014), this model is one of the best approaches in assessing the impact of interventions introduced at specific points in time. It is said that "Segmented regression models fit an ordinary least squares line to each section of the independent variable, which is time" (Taljaard et al., 2014). Segmented regression analysis therefore presumes some linearity between the independent variable and the result that is at each section or segment. Given that there may be other variables that may influence performance, other than the intervention, control macro variables will be included. Buluma (2014) used the same design to investigate the impact of 30% minimum local requirement for pensions and insurers on stock market proxies. The findings revealed that the intervention influenced market capitalization of Swaziland Stock Exchange positively. However, the findings revealed that the intervention did not have a major impact on the turnover value of the stock market.

The models used for the purposes of this study also include a number of control variables. There has been a number of studies that used similar regressors to assess the determinants of financial markets development (Huybens and Smith (1999); Demirgüç-Kunt et al. (2008); Odhiambo (2009); Nyalihama (2011); Almalki and Batayneh (2015); (Tsaurai (2017); (Effiong et al., 2017)).

Given that four measures of financial development are used in order to measure performance, the equations hereunder will be used to fit ordinary least squared regression lines for each x-variables;

$$DPDS_t = \beta_0 + \beta_1 * time_t + \beta_2 * intervention_t + \beta_3 * time\ after\ intervention_t + aControl_t + e_t \quad (1)$$

$$LLFS_t = \beta_0 + \beta_1 * time_t + \beta_2 * intervention_t + \beta_3 * time\ after\ intervention_t + aControl_t + e_t \quad (2)$$

$$PSCG_t = \beta_0 + \beta_1 * time_t + \beta_2 * intervention_t + \beta_3 * time\ after\ intervention_t + aControl_t + e_t \quad (3)$$

$$M2_t = \beta_0 + \beta_1 * time_t + \beta_2 * intervention_t + \beta_3 * time\ after\ intervention_t + aControl_t + e_t \quad (4)$$

Control$_t$ = (SAVINGS, INFLATION, GCE, TRADEOP, TBILLS, NFA, RESERVES, GDP Growth) (5)

DPDS, M2, LLFS and *PSCG (from equations 1-4)* are the selected dependant Financial Development proxies. *Time* denotes the continuous variable representing time in quarters at time t from the beginning of review period, *intervention* demonstrates time t before the intervention (*0)* or post the intervention *(1);* and *time after the intervention* denotes a continuous variable for all quarters after the intervention. The series include values beginning from one (1) onwards from the time the intervention was introduced until the end of the interval under review and zero (0) for all quarters prior to the intervention.

The terms β0, β1, β2, and β3 are the intercept and the sensitivity of y in relation to each of the x variable. The term α represents all beta coefficients for all control variables that capture the sensitivity of each in relation to financial markets performance. The error term et denotes variability that is not explained by the model.

Statistical tests at 90%, 95% and 99% intervals are undertaken with the aim of determining the significance of the variables. To determine how changes in the dependant variables will be described by variation of the independent variable, coefficient of determination R2 will be used.

3.4.1 Dependant Variables

The study focuses on aggregate measures of financial deepening to which the respective minimum local asset restriction intends to address. According to Bist (2018), the selection of variables to measure the performance of financial markets depends on the whether financial markets are bank or market based. Given Lesotho's stock market is not yet operational, stock market proxies of financial development are not used. To measure the influence of these interventions on Lesotho's financial markets, four dependant variables related to financial depth as per the literature, will be used for the purposes of this study.

Broad Money as percentage of GDP (M2): The first proxy used to measure financial depth. Broad money reflects the amount of money supply in the domestic economy and it includes cash and checkable deposits. According to Levine (1999), to derive the proxy, broad money is divided by Gross Domestic Product.

Outstanding domestic public debt securities to Gross Domestic Product (DPDS): Outstanding public debt securities entail all treasury bills and treasury bonds issued by the Central Bank of Lesotho on behalf of the Government. To derive this variable total

outstanding treasury bills and bonds issued in Lesotho will be divided by Gross Domestic Product (Lenka, 2015).

Liquid liabilities of the financial sector to GDP (LLFS): Another measure of financial depth that aims to measure the degree of monetization in relation to the real economy. According to Levine (1999), the proxy is measured as currency plus demand and interest bearing deposits of banks and non-bank financial intermediaries as a percentage of GDP.

Private Sector credit to GDP (PSCG): As per Lynch (1996), private sector credit entails all credit provided to the private sector by financial institutions. PSCG would be calculated by taking the total credit extended by banks and non-bank financial institutions and divide it by GDP.

3.4.2 Independent variables

To evaluate the effect of the intervention, the independent variable will be divided into segments as used by Buluma (2014) below:

Time (X_1): a data series of values beginning with 1 onwards, showing the number of quarters from the start of the data series.

Intervention (X_2): These will be dummy variables. The variables will be assigned either 0 or 1. Zero (0) will be assigned to all those quarter prior to the 30% intervention and 1 given to all the quarters post the intervention.

Time after intervention (X_3): Here the numbers begin with one (1) onwards for all the observations from the time the intervention was initially implemented to the last quarter of the series. All quarters prior to the intervention are assigned the value of zero (0)

The respective models also include a set of control variables (*Control*) that may influence financial markets performance apart from intervention and time as per the literature:

SAVINGS: This is savings of Lesotho as a percentage of GDP. This is expected to have a positive relationship as per the findings of Tsaurai (2017).

INFLATION: This represents the growth in price level as indexed to the CPI. Relationship between inflation and financial development is expected to be negative given that a significant rise inflation may hinder

effective allocation of resources by the financial sector (Almalki and Batayneh (2015); Huybens and Smith (1999)).

GCE: denotes government consumption expenditure that are aimed to gauge the impact of government activities on financial development. As per Demirgüç-Kunt et al. (2008) the expected relationship with financial development is negative.

TRADEOP: This is the sum of domestic exports and imports as a function of GDP. A priori expectation is a positive relationship with financial development through the improvement of efficiency of the financial systems (Almalki & Batayneh, 2015).

T-BILLS: The 91-day Treasury bill rates in Lesotho aimed to capture the influence of interest rates on financial development. In line with Odhiambo (2009), the relationship with financial deepening is expected to be positive.

NFA: This is net foreign assets as a percentage of GDP. According to the Nyalihama (2011) and the Central Bank of Lesotho quarterly reports NFA is expected to have a positive relationship as per Central Bank of Lesotho's quarterly reports[10].

RESERVES: These are net international reserves aimed at assessing the impact of monetary policy on financial development. Given the interconnectedness between monetary policy transmission mechanism the study will also assess the impact of reserves on financial development (Effiong et al., 2017).

GDP Growth: The country's gross domestic product that gauge the impact of economic growth on financial development. As per Okeke and Acha (2017) the expectation is for a positive relationship with financial development.

3.5 Threats of internal validity

Autocorrelation: According to Brooks (2008), one assumptions of the linear regression model is uncorrelation in the error terms. Time is the dependant variable in the segmented regression model, implying possibility of correlation between the residuals. There is a need therefore to correct the presence of possible autocorrelation. Failing to do this possibly lead to overestimation of the impact of the intervention.

Seasonality in the data series: Segmented time series data often demonstrate seasonality. According to Taljaard et al. (2014), identifying seasonal fluctuations requires enough time period to identify seasonality trends in the data. If the data shows the presence of seasonality, control measure should be undertaken when ascertaining intervention impacts.

Other variables that may impact on Y: In addition to the incorporated control variables, there may be other variables not included in the model that may also impact on dependant variables. These include among other things other interventions during the period under review.

Commercial Bank minimum local asset restrictions - Whilst imposing a 30% minimum local restriction on insurance companies in 2016, the Central Bank relaxed the local minimum restrictions for commercial banks instead. The local minimum requirement for commercial banks was reduced from 25% to 10% in 2016. The researcher however assumes this will have little or no impact on dependant variables given that fixed assets are included when calculating their local holdings. This means therefore that commercial banks have been holding local assets that far exceed the requirements. Any relaxation or restriction on the minimum they can hold in Lesotho will have limited influence in coercing them to invest on domestic marketable securities for Financial Development.

Collective Investment Schemes minimum local asset restrictions – The Central Bank of Lesotho imposed 15% from June 2018. This was also in line with the FSDS with the objective of developing financial markets. Since asset managers are normally given a transitional period to implement the regulations, the impact of these provision will highly unlikely to have a significant impact on financial markets performance during the period under review.

4.0. PRESENTATION AND EVALUATION OF THE RESULTS

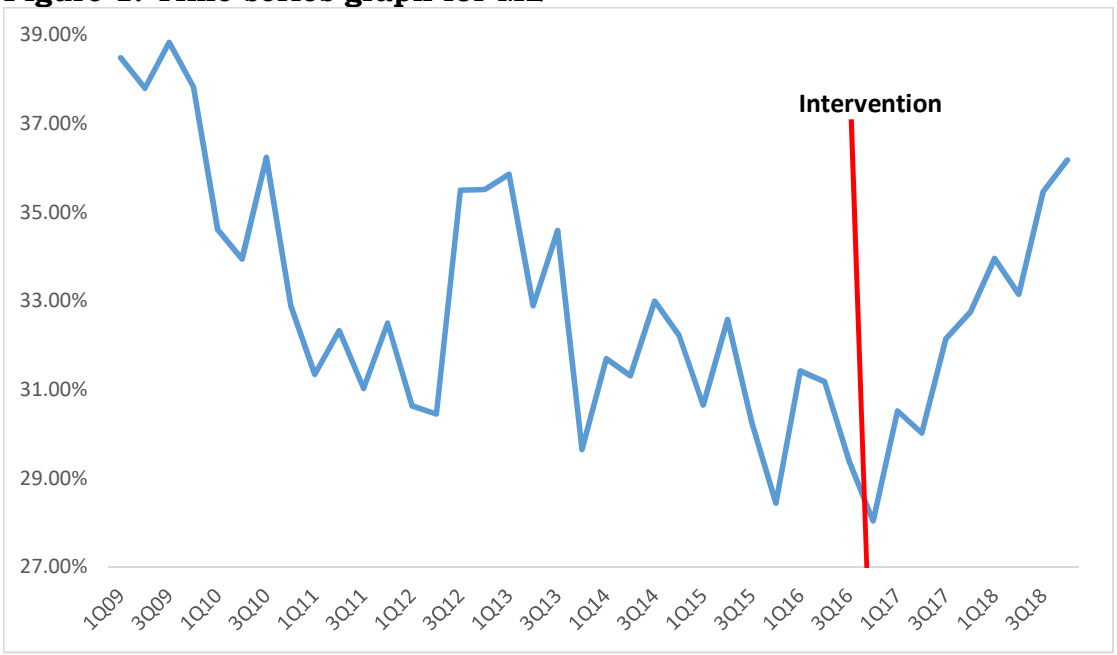
4.1 Introduction

This chapter analyses and discusses the data related to the effect of the 30% domestic minimum investment imposed on insurers in Lesotho. The second section provides the time plots of dependant variables used for the purposes of this study. The third provides the results of the stationarity/non seasonality tests. Then the fourth details the findings of the econometric model and results of autocorrelation tests. Then the last section discusses the results.

4.2 Graphical analysis of Financial Development Proxies (2009 – 2018)

To find patterns in the data to be used, the initial stage is to do time plots of the data. According to Brooks (2008), time plots show how variables behave against time. Figure 1 plots Broad Money as a percentage of GDP (M2) being the first indicator of financial development/financial performance over the review period. At a glance, M2 has been quite volatile over the review period. M2 averaged 33.19% prior to the intervention and 32.17% post the intervention. The figure seems to imply that M2 has been on a downward trajectory from the commencement of the sample period and increased around the initial implementation of intervention of the 30% legislative requirement on insurance companies. There may be other factors however, that could have led to this change.

Figure 1. Time series graph for M2



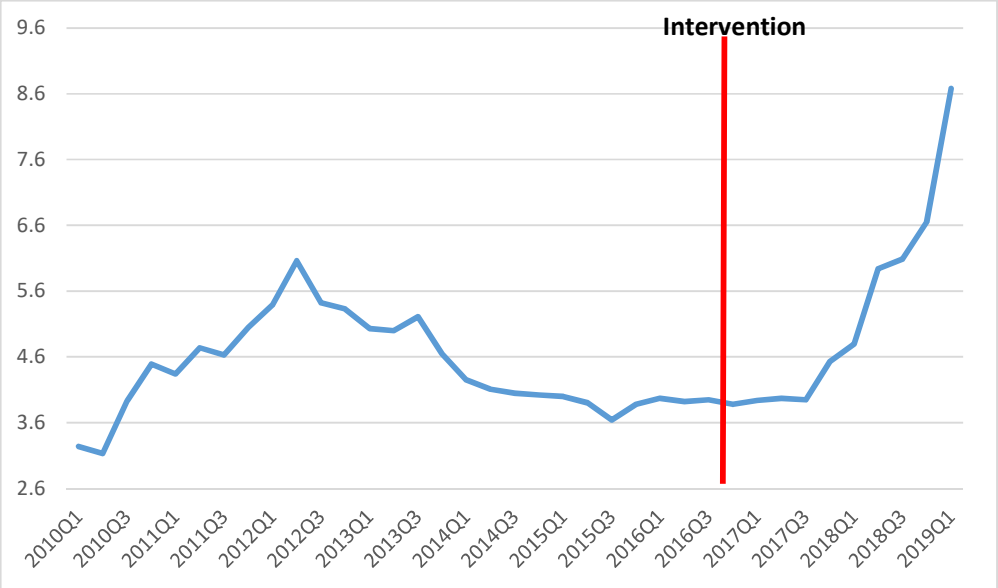
As per the figure, M2 has been quite erratic over the last 10 years. This starts with a steady decline in the period between 2009 and 2012. There was a significant recovery in 2013 in M2 due to the Central Bank of Lesotho's accumulation of foreign assets. According to the Central Bank of Lesotho[11], the recovery stabilised somewhat for the subsequent two years due to implementation of some financial sector reforms over this period[12].

These reforms included the introduction of the national identification and the instituting a credit bureau. These developments, which help to minimise information asymmetry of the borrowers, led to financial institutions being aggressive in handing out credit. Following a strong growth in 2014, M2 was down to its 2012 levels in 2015 due to deceleration in commercial banks' holding of foreign assets and a decline in domestic credit.

There was a mild recovery as net foreign assets increased due cautious government spending. Towards the end of 2016 onwards (being the time after the minimum local asset restriction for insurance entities), there was a significant increase in M2. The Central Bank attributes this on improved deposit base, higher returns from investments abroad[13].

Figure 2 below plots Outstanding Domestic Public Debt Securities as a percentage of GDP (DPSD). DPSD averaged 4.36% prior to the intervention and 6.12% after the intervention. The figure demonstrate that there was a significant spike after the intervention in 2016 as the Government possibly issued more in anticipation of excess liquidity from this segment of institutional investors following the intervention.

Figure 2. Time series graph for DPSD (%)

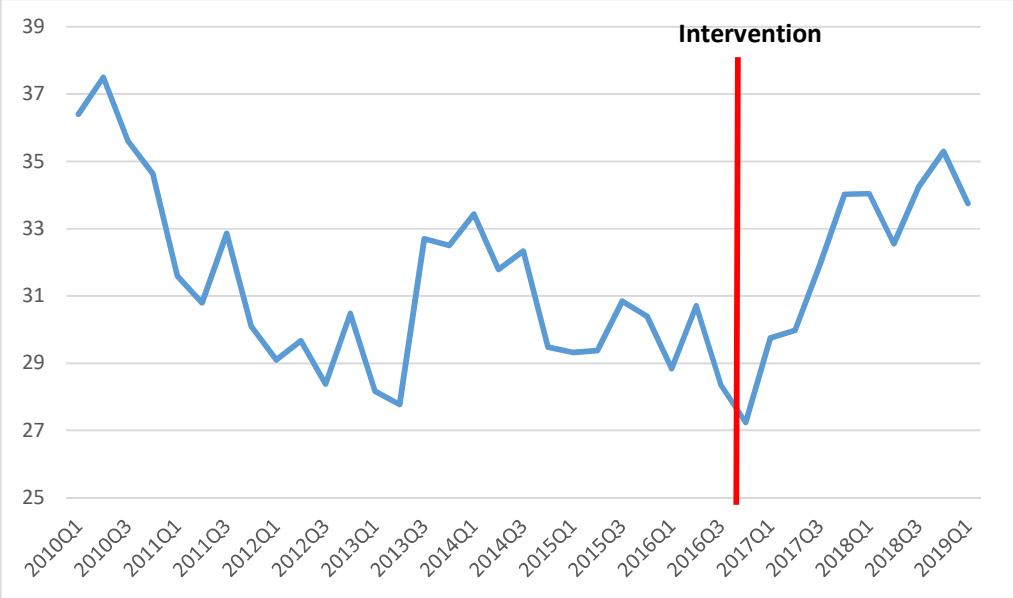


DPSD increased sharply from 2010 after the Central Bank of Lesotho introduced its maiden Treasury Bonds being issued and introduced as a step towards Financial Development[14]. These were initially issued in two sets with maturities of 3 and 5 years. Seven (7) and ten (10) year bonds were later introduced in 2012. Auctions for the 3 year, 5year, 7year and 10 year treasury bonds were held once in two months but at the beginning of 2014, the reopening of a 7 year bond has been undertaken and auctions are conducted once every 3 months per the Financial Sector Development Strategy[15]. Moreover, more stocks of treasury bills were placed for an auction to maintain Net International Reserves above the target floor[16]. From the third quarter of 2012 to the end of 2015 there was a downward spiral in DPSD.

The Central Bank quarterly reports[17] attribute this decline over the period to a number of factors. Firstly, there was fewer auctions of Treasury securities over these interval[18]. Secondly, the initially auctioned 3 and 5 years initially issued were maturing and there was a partial uptake for rollovers and re-openings due to low investor appetite as investors bid outside the set limits. DPSD stabilised somewhat from the fourth quarter of 2015 to the third quarter of 2017 (few quarters after the intervention) to which there was a sharp rise thereafter as the Government begun to increase its domestic debt stock against the backdrop of weaker exchange rates and declining tax and SACU[19] revenue[20]. The Bank was thereby increasing the size of treasury instruments on offer also issuing the 31-day debenture over the period.

Figure 3 hereunder plots Liquid Liabilities of the Financial Sector as a function of GDP (LLFS) over time under review. Similar to DPSD and M2, LLFS was equally volatile over the review period averaging 29% before the intervention and 34% post the intervention. Given its similarities with M2, LLFS tracks movements in M2.

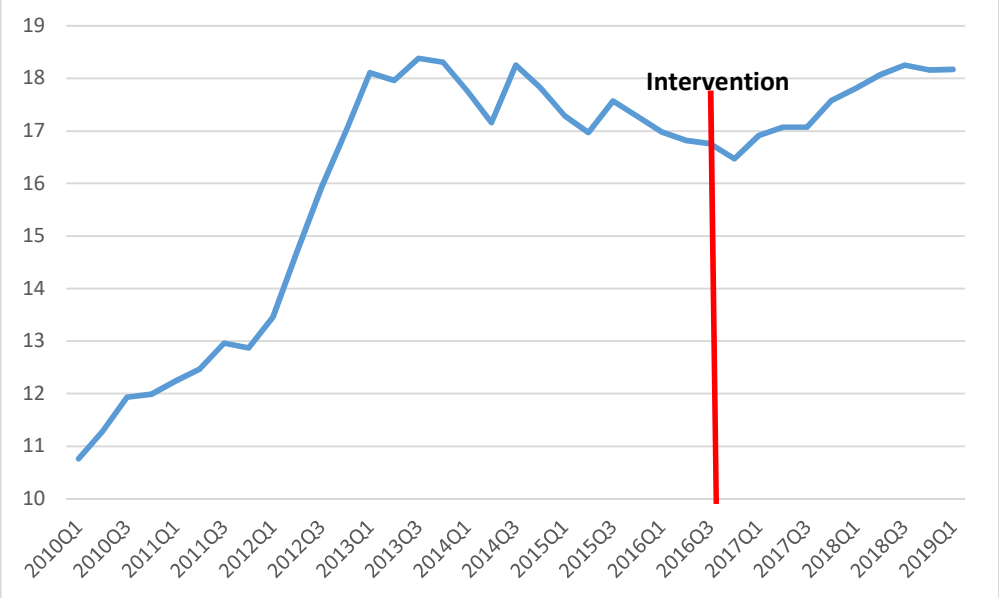
Figure 3. Time series graph for LLFS (%)



There was a significant recovery in 2013 in LLFS driven mainly by a significant increase in bank deposits over that period[21]. Following a strong growth in 2014, LLFS was down to its 2012 levels in 2015, due lower investor confidence due to lower deposit rates in a higher inflationary environment. Higher inflation led to draw down in deposits as depositors were looking for better yielding options to bank deposits[22]. Towards the end of 2016 onwards (being the time after the minimum local asset restriction for insurance entities), there was a significant increase in LLFS. The Central Bank attributes this on improved deposit base, higher returns from investments abroad.

Figure 4. below plots Private Sector Credit as a percentage of GDP (PSCG). PSCG averaged 15.74% prior to the intervention and 18.01% post the intervention. Visualisations of this figure indicate an upward trend in PSCG between 2010 and 2013 due to some reforms in Lesotho over this period[23]. The country's PSCG has been low historically. This was on the back of high-risk aversion by commercial banks in Lesotho and a relatively muted demand for credit by the private sector[24]. PSCG by the commercial banks in Lesotho has historically been subdued. The risk aversion can be attributable to high information asymmetry that was prevalent in the past, as banks could not have access to requisite information to assess the credit worthiness of borrowers[25].

Figure 4. Time series graph for PSCG (%)



According to the Central Bank of Lesotho[26], several factors were responsible for this sharp rise. These included strong economic growth, lower interest and inflation environment, over the period and some reforms in Lesotho already alluded over the period. These reforms included the establishment of the national identification system, which also facilitated the introduction of the country's first credit bureau. The platform facilitated assessment of prospective borrowers by commercial banks. The other important milestone over the period relates to the leasehold system that could now be pledged when requesting credit. There was also a creation of a commercial court meant to deal specifically with finance related issues in Lesotho. Finally, the government of Lesotho set up a partial guarantee scheme availed to small businesses so that commercial banks can recuperate part of their losses in the case of default. Figure 4 demonstrates that PSCG stabilised somewhat after intervention mainly due to struggling economic growth high interest and inflation environment after 2013.

4.3 Test for stationarity

According to Brooks (2008), most time series data are not stationary. Any estimation using non-stationary variables may lead to models that are spurious in nature. If the data is not stationary there will be evidence of a trend(s) implying non constant mean and variance, due to other variables than the intervention or any of the control variables used for this study. Moreover, non-stationarity data may have seasonal attributes that would lead to a spurious model that may affect the real impact of the intervention or any of the control variables. If the data series demonstrates non-stationarity either trend or unit root seasonality, the data can be differenced either once or more to make it stationary (Brooks, 2008). Various unit root tests that can be undertaken to test the order of integration of variables used. For the purposes of this study two tests were carried out namely Augmented Dickey Fuller (ADF) and Phillips-Perron (PP). The decision whether the data is stationary or is not stationary will be reached through comparing test statistics of both tests with the respective critical values at 5%.

Table 1. Unit root test results

	At Level				**After First differencing**				**Order of integration***
	ADF		PP		ADF		PP		
	t-stat	Crit-value	t-stat	Crit-value	t-stat	Crit-value	t-stat	Crit-value	
M2	-3.538	-2.945	-3.487	-2.946	-	-	-	-	I(0)
DPDS	1.175	-2.945	-0.062	-2.946	0.672	-2.948	-3.502	-2.948	I(1)
LLFS	-3.576	-2.945	-3.576	-2.946	-	-	-	-	I(0)
PSCG	-2.157	-2.945	-2.029	-2.946	-4.743	-2.948	-4.758	-2.948	I(1)
Savings	-2.723	-2.946	-2.656	-2.946	-3.209	-2.948	-2.161	-2.948	I(1)
Inflation	-5.609	-2.946	-3.875	-2.946	-	-	-	-	I(0)
GDP	-1.226	-2.946	-1.107	-2.946	-2.335	-2.948	-2.738	-2.948	I(2)**
GCE	0.367	-2.946	-2.488	-2.946	-2.084	-2.948	-3.555	-2.948	I(1)
Tradeop	-2.628	-2.945	-2.627	-2.945	-7.688	-2.948	-9.688	-2.948	I(1)
T-bills	-5.018	-2.946	-4.566	-2.946	-	-	-	-	I(0)
NFA	-3.582	-2.946	-3.658	-2.946	-	-	-	-	I(0)
Reserves	-1.939	-2.945	-1.655	-2.945	-7.688	-2.948	-15.34	-2.948	I(1)

Note: *I(0), I(1) and I(2) represents order of zero, one and two respectively.**check the Annexure D for second differencing results t-stat is the test statistic Crit-Value is the critical value at 5%. ADF and PP symbolize Augmented Dickey Fuller and Phillips-Perron tests respectively.

Table 1 shows that all variables except M2, LLFS, INFLATION, T-BILLS and NFA have a unit root. Based on their order of integration all non-stationary variables were differenced based on their order of integration. The primary objective was to make them stationary so that they can be in regressable form. Those variables that are still non-stationary after first difference, second differencing was performed. According to Grimshaw et al. (2003) interrupted research design gives a method for assessing the effect of an intervention

when randomisation of a control group are impractical. Data points are collected before and post the intervention and the effect of the policy is measured against the preintervention trend.

Stationarity is at the core for interrupted time series. It is easier to identify a discontinuity in the data in a stationary process than in a nonstationary process (Taljaard et al., 2014). Inclusion of control variables in the segmented regression model however presented a challenge. Some of these variables were not stationary thereby differenced either once or more to make the series stationary. The results as per Table 1 have different orders of integration which may lead to the models being unreliable (Pagan & Wickens, 1989). This view is further supported by Grant & Leso, (2018) who postulate that regressing data series with different orders of integration may lead to unbalanced equation.

The notion of unbalanced equation in interrupted data series is refuted by Enns & Wlezein, (2018). They studied consequences of mixing orders of integration by conducting simulations using stationary, integrated, and combined (both stationary and integrated) time series. The outcome of their experiment revealed that with an appropriately specified model, regressing a stationary variable on an integrated one or the reverse does not increase the risk of spurious results and that such regressions can detect true relationships when they exist. Chang & Phillips, (1995) further state that models that include higher orders of integration are essential because some macro-economic variables including price level have generally been characterized as I(2) processes. Phillips (1995) proposed OLS models that contain I(0), I(1), and I(2) variables. There has also been many macro-economic models incorporate variables with different orders of integration (for example King et al (1987); Johansen (1992); Stock & Watson, (1993) and Phillips & Hansen, (1995)).

4.4 Econometric Models Regression Results and Autocorrelation tests

The table hereunder details econometric results. The R^2 for the four models are more than 50% implying that the models fit the data well. R^2 is a coefficient of determination aimed to gauge the degree to which data is near to the fitted regression line. According to Brooks (2008), R^2 lies between zero and one. R^2 that is closer to zero the model is not fitting the data well, and R^2 closer to one implies that a selected model fits the data well. The Breusch–Godfrey Lagrange Multiplier (LM) test was used to assess the incidence of autocorrelation. If the p-value < α, then the null hypothesis of no autocorrelation is rejected (Brooks, 2008). The four models demonstrate that the error terms for the variables in the models are not serially correlated at 5%.

Table 1 Regression and autocorrelation test results

	First Model (M2)	**Second Model (∆DPDS)**	**Third Model (LLFS)**	**Fourth Model 4 (∆PSCG)**
C	(27.55333)	(-0.641092)	(24.74805)	(1.694892)
p-value	0.0000***	0.5558	0.0007***	0.2261
TIME	(-0.006076)	(-0.043249)	(0.093818)	(-0.055021)
p-value	0.9494	0.0545*	0.4579	0.0540*
INTERVENTION	(-0.553864)	(0.278554)	(-6.346975)	(0.318108)
p-value	0.7892	0.5513	0.0273**	0.5917
TIMEAFTERINT	(0.604935)	(0.113787)	(0.924435)	(-0.048455)
p-value	0.0014***	0.0056***	0.0003***	0.3149
∆SAVINGS	(0.282080)	(0.138356)	(-0.940682)	(-0.098788)
p-value	0.6816	0.3743	0.3019	0.6152
∆RESERVES	(-1.318087)	(0.690202)	(-0.321052)	(-0.366219)
p-value	0.3758	0.0470**	0.8682	0.3886
∆TRADEOP	(-0.024777)	(0.006238)	(-0.051520)	(0.028308)
p-value	0.8299	0.8100	0.7337	0.3939
NFA	(0.271782)	(-0.006327)	(0.073478)	(-0.056839)
p-value	0.0066***	0.7593	0.5431	0.0390**
∆GCE	(0.442833)	(0.017978)	(-0.548040)	(-0.082753)
p-value	0.3409	0.8621	0.3684	0.5307
∆DGDP	(-0.094013)	(-0.093381)	(1.086479)	(0.287083)
p-value	0.8656	0.4575	0.1456	0.0806*
T-BILL	(-1.525962)	(0.412123)	(-0.342302)	(0.251609)
p-value	0.1755	0.1069	0.8130	0.4276
INFLATION	(-0.122807)	(-0.153960)	(0.622244)	(0.132312)
p-value	0.6666	0.0235**	0.1058	0.1136
R^2	0.625930	0.582638	0.611179	0.51756
Serial Correlation LM Test Chi Sq (P value)	0.7076	0.1663	0.4612	0.1957

Coefficients are placed in parenthesis; ***, ** and * symbolize the significance levels at 1%, 5% and 10% respectively. ∆**DPDS** and ∆**PSCG** represent first difference of DPDS and PSCG respectively. LM refers to serial correlation LM test ((Breusch–Godfrey); AC represents Autocorrelation in the model; P-value that is less or equals 0.05 is significant

4.5 Discussion of the results

The main focus of this section is to address the question of whether the 30% minimum investment imposed on insurance companies had any impact on the four selected proxies of financial performance or financial development. Moreover, the section will discuss also the influence of control variables on financial performance using the same measures.

The null and alternative hypotheses are detailed below:

H_0: The 30% minimum local requirement has no impact on financial performance in Lesotho.

H_1: The 30% minimum local requirement improved the performance of financial performance in Lesotho.

Time and Intervention – The coefficients of Time represent the change in results associated to a time unit increase signifying the trend prior to the intervention. Intervention's coefficients represent the level of change following the intervention; finally, TIMEAFTERINT' coefficients represent the change in the slope post the intervention indicates the slope change following the intervention through the combination of the intervention and time (Buluma, 2014). Time is only significant at 10% level in explaining variation in DPSD and PSCG. The significant relationship between Time and these variables was negative. Relationship between Time and the other two proxies was positive and insignificant.

The Intervention coefficients, which explain the level change following the intervention was only significant for LLFS. The 'Time after the Intervention', represents the change in slope following the intervention (Taljaard et al., 2014). The p-values for 'Time after the intervention' is less 0.05 for three of the three financial performance proxies. This implies that it is significant in explaining performance of financial systems in Lesotho. This means therefore that the intervention explains the change in slope after the intervention for M2, DPSD and LLFS. The insignificant results for PSCG is in line with Figure 4 wherein no pronounced variations in the slope post the intervention is visible. Repatriation of funds by insurers due to the intervention therefore had a significant impact on the three of the selected financial performance measures in Lesotho. The results corroborate the literature that a relationship exists between regulation and financial markets performance (La Porta et al. (1997); Wood (2012); Inderst (2009)). Limiting capital flight by institutional investors have indeed had a substantial causal relationship with financial markets performance in Lesotho.

The results further support the literature that states that by influencing activities of institutional investors, policy makers can develop financial systems (Davis, 2003; Della Croce, 2014; Genberg, 2017; Vittas, 1999).

Finally, the results support proposals by Ojah and Kodongo (2015), who proposed a local investment requirement for economies in Africa to develop their financial markets. Focusing more on financial market proxies related to stock market performance, Ojah and Kodongo (2015) suggest mandatory minimum local requirement for Africa's institutional investors to invest in their domestic stock markets so that these markets can achieve their full potential.

In addition to regulatory intervention, this study aims to ascertain the existence of any other determinants of financial markets performance in Lesotho. To achieve this the segmented regression model incorporated other factors that may impact on financial markets performance in Lesotho, namely Savings, Trade Openness, Inflation, Government Consumption Expenditure, Treasury Bills, Net Foreign Assets, Net International Reserves and GDP Growth.

The results demonstrate that together with Financial Regulation, Net International Reserves, Net Foreign Assets, inflation and Gross Domestic Product are the key drivers of financial markets performance in Lesotho. On the other hand, these results show that Savings, Trade Openness Government Consumption Expenditure and Treasury Bills all have a mixed insignificant impact on financial markets performance in Lesotho. The literature demonstrably stipulates that developed financial systems are a precursor for economic growth therefore measures that aim to develop the financial sector and remove impediments will go a long way in developing Lesotho economy. The impact of the control variables are as follows;

> *Savings:* According to Blanchard (2013) institutional investors mobilise savings for investment purposes. The expectation therefore is for savings to have a significant positive influence on performance of financial systems. Savings is not significant in explaining variability in financial development at all levels of significance. Though insignificant, the relationship between savings and financial development measures was mixed. The linkage was positive for both M2 and DPDS in line with earlier findings by Tsaurai (2017) and Nejad (2010). Savings has a negative relationship with LLFS and PSCG however. The mixed results can be attributed to lower saving rates in Lesotho resulting in Savings being an insignificant determinant of financial development in Lesotho.
>
> *Inflation:* Inflation also show mixed results. The relationship is negative for both M2 and DPDS. The negative relationship was significant for DPDS. in line with a priori. Higher inflation raises the cost of debt thereby leading to few issuances by the government.This corroborates the findings by Almalki and Batayneh (2015) and Huybens and Smith (1999) that inflation a stable inflation environment leads to financial development. Bzhalava (2014) also posits that inflation distorts the functioning of the financial systems thereby impacting negatively on financial development. Inflation however has a positive relationship

with LLFS corroborating the findings by Boyd et al. (2001). Boyd et al. (2001) argued that higher inflation is a precursor to financial development. The mixed results between inflation and financial development can be attributed to other variables namely interest rates and financial sector reforms. Increasing inflation over the review period led to higher interest rates which increased LLFS. Crowding out of PSCG by inflation may however been offset by financial sector reforms over the period that led to increase in private sector credit.Higher inflation thus higher interest rates were however expected to lead to higher outstanding public debt as well.

GCE: The results for Government Consumption Expenditure was also mixed. Government expenditure is insignificant positive relationship with M2 and DPDS at all levels of significance. The positive relationship is supported by Hussain and Zafar (2018), who discovered that government expenditure positively influence financial development. Moreover, based on a priori, governments tend to issue more debt to finance their consumption expenditure. Government Consumption Expenditure however has a negative relationship with LLFS and PSCG. The mixed results corroborating the findings by Cooray (2011) and Demirgüç-Kunt et al. (2008) who discovered that GCE negatively influence financial efficiency and positively influence size more especially in least developed countries

Trade openness: The results show mixed results for Trade Openness as well. Trade Openness has an insignificant positive relationship with DPDS and PSCG on line with a priori expectation as per Almalki and Batayneh (2015). Trade openness generates appetite for a variety of financial instruments thereby fostering financial depth. Moreover, trade openness influence the structure of financial systems that may result in the need to source external financing leading to increases in demand for financial sector credit. However, Trade Openness has an insignificant positive impact on M2 and LLFS.

T-bills: The results were mixed again for this variable. The T-bill rate has an insignificant positive relationship with DPDS and PSCG at all levels of significance. The positive relationship is supported by Ouma (2014) who ascertained a positive significant correlation between interest rates and financial deepening in Kenya. The positive association also supports findings by Odhiambo (2009) The domestic T-bill rate however has a negative relationship with M2 and LLFS corroborating the findings by Takyi and Obeng (2013) who found out that interest rates negatively impact financial development in Ghana.

NFA: NFA positively impact M2 at 1% level of significance. NFA has an insignificant positive impact on LLFS. The positive relationship is in line with the findings by Nyalihama (2011) who discovered that NFA positively influence M2 as a proxy financial development in Kenya significantly. These results also support findings by Vermeulen (2014)

who discovered a positive linkage between NFA and financial development. NFA however has a significant negative association with PSCG and insignificant negative relationship with DPDS. These results support the the findings by who Molapo and Damane (2017) who discovered that NFA significantly discourages PSCG in Lesotho.

Reserves: Net International Reserves have a significant positive relationship with DPSD. The findings were in line with the findings by Fukuda and Kon (2012) who ascertained a significant positive relationship between NIR and financial development. This is also in line with findings by Thamae (2014) who postulates that net international reserves are expected to increase financial development viewpoint of sterilised intervention in monetary authorities. NIR however has a negative insignificant relationship with the other three proxies.

Gross Domestic Product: GDP growth had a significant positive relationship with PSCG at 10% level of significance and positively insignificant with LLFS. This is in line with the findings by Bzhalava (2014). However, economic growth has an insignificant negative impact on M2 and DPDS. According to Bzhalava (2014) and Okeke and Acha (2017), the positive relationship is more pronounced in more developed nations. Developed economies are more able to afford a sophisticated financial system attributable to more demand for services from the financial sector.

5.0 Conclusions and Policy Recommendations

5.1 Introduction

This chapter details the conclusions based on the findings of this study. The chapter also make policy recommendations that can be undertaken to improve performance of Lesotho's financial systems.

5.2 Conclusion

Existing theory and empirical research advocate that a well-developed financial system is one of the major determinants of growth of the economy over the long run. It is against this backdrop that a myriad of studies has been undertaken to ascertain determinants of financial development, thereby financial performance. Financial development differs significantly around the world and Lesotho boasts one of the most underdeveloped financial systems with stock market performance measures of financial development near-zero. In an attempt to improve the performance of financial systems, the Central Bank of Lesotho intervened, enacting regulations that prescribe minimum local asset requirements for institutional investors. This study investigates the impact of these regulatory interventions on financial markets performance using an interrupted quarterly time series between 2009 and 2018 using four proxies of financial development as dependant variables. Literature suggests that by limiting capital flight, governments can attain their financial and economic development objectives. This study investigated the impact of such similar constraints and other determinants on the financial markets performance in Lesotho.

The econometric results of the study support the existing literature where it was established that regulatory interventions are significant in explaining variations in financial markets performance. The study reveals that the 30% legislative requirement imposed on insurers played a critical part in explaining the change in trend of three of the selected measures of financial development in Lesotho from 2016 onwards. This implies that restricting funds that could be taken outside Lesotho and repatriation of funds from outside the country to meet the requirements have had a significant positive impact in increasing 'Broad Money (as % of GDP)' and 'Liquid Liabilities of the Financial Sector (as % of GDP)'. In order to increase investable options for institutional investors the government has thus increased the frequency and size of issuance, which was met by demand by institutional investors thereby significantly influencing 'Outstanding Domestic Public Debt (as % of GDP)' in Lesotho.

However, the results of the study reveal that there was no significant change in the trend of 'Private Sector Credit (as % of GDP) following the 30% legislative requirement. Variation to this variable over the study period can instead be attributed to a number of reforms that improved credit worthiness of borrowers over the period. The study further supports the extant empirical

literature that there are other drivers of financial development apart from regulatory intervention. The empirical results imply that Net International Reserves, Net Foreign Assets, Gross Domestic Product Growth and Inflation are significant in explaining variation in financial markets performance in Lesotho. The results however reveal insignificant relationship to financial development by other determinants used for the purposes of this study namely, Savings, Trade Openness, Government Consumption Expenditure and interest rates.

5.3 Policy Recommendations

According to this study, financial markets performance is an enabler of long run economic growth. Therefore, concerted efforts by governments that involves legislative interventions, financial sector reforms that remove any impediments to financial development and following sound macro-economic policies that include price stability and improved economic growth should go a long way in improving performance of a country's financial systems.

It is recommended the government of Lesotho through the Central Bank of Lesotho continue improving the regulatory framework to coerce institutional investors to perform intermediatory role to facilitate financial development and growth in the economy. The Central Bank of Lesotho should introduce minimum legislative requirements for other institutional investors including pension funds in line with the Financial Sector Development Strategy. In line with the existing literature however and due to the low absorption capacity in Lesotho, policy makers should not impose unreasonable requirements that may throttle and compromise the investment objective of institutional investors. Empirical literature reveals that imposing regulatory restrictions where investment avenues are limited may have bad implications on institutional investors and limit their potential to reach optimal risk adjusted returns.

The Government should also embark on policy measures that will present a variety of financial instruments for institutional investors to achieve optimal risk adjusted returns. Such initiatives include privatisation of entities that are currently held by government. Such can thereafter be listed on the Maseru Securities Market thereby presenting more investable avenues for institutional investors thereby presenting stock market proxies of financial development. The Government of Lesotho should also consider cross listing as a viable option to bring the Maseru Securities exchange into life (Ojah & Kodongo, 2015)

Furthermore, the government should look at policy measures that encourage the development of alternative investment avenues, specifically private equity. Focusing on the venture capital type of private equity to which according to Ojah (2009) is the right type of private equity that alleviate any barriers that discourage generic financial institutions such as banks to finance entrepreneurship specifically in developing economies like Lesotho. As the venture capital firm reaches maturity, one of the exit mechanisms used can be through public enterprise creation using the Maseru Securities Market (Ojah, 2011). This will go a long way in increasing the pool of investment avenues that institutional investors can use in order to meet the legislative requirements. Additional to helping institutional investment, this would go a long way in developing financial systems in Lesotho.

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ANNEXURES

Annexure A

REGULATION OF LESOTHO FINANCIAL MARKETS

According to the 2016 Supervision Annual Report, the Central Bank of Lesotho is the only body responsible for regulating banks and non-bank financial institution. It licenses, supervises and monitors licensed entities in the interest of consumers and the financial stability of the Lesotho economy. The Central Bank of Lesotho discharges this function through two supervisory

departments namely the Department of Supervision and the Department of Other Financial Institutions Supervision. According to the Central Bank of Lesotho, through these Supervisory departments, the Central Bank of Lesotho is able to achieve the following mandates;

- To foster the liquidity, solvency and proper functioning of a stable market-based financial system;
- To formulate, adopt and execute the foreign exchange policy of Lesotho;
- To license or register and supervise institutions pursuant to the Financial Institutions Act 1999, the Money Lenders Act 1989, the Building Finance Institutions Act 1976, and the Insurance Act 1976; and
- To promote the safe and sound development of the financial system.

To meet the previously mentioned objectives, these supervisory departments regulate and supervise the Lesotho financial system as a whole. This include regulation of the banking sector, insurance, investments and other non-banks. In performing its duties, the Central Bank of Lesotho develops and implement a regulatory framework for entities in the financial sector to create a stable environment. The relationship between financial systems and economic development implies that any financial instability threatens sustainability in the real economy (Khoabane, 2018). Following the 2008 financial crisis there has been a growing debate regarding macro-prudential policy. The legal framework in Lesotho is behind in this policy shift. According to Khoabane (2018) Lesotho's financial stability policy is based on micro-prudential regulation. Khoabane (2018) recommends a more robust financial stability policy framework for Lesotho. Stability attributes such as the choice of instruments, its coordination with other policies, and institutional arrangements, inter alia, should be taken into consideration.

Department of Banking Supervision

The department performs on-site and offsite surveillance on banks in Lesotho. To perform off-site analysis, the Central Bank receives and analyse quarterly and annual reports from the banks. Onsite surveillance on the other hand involves amongst other things validating the information submitted for offsite analysis. Onsite surveillance also reviews some of the aspects that cannot be assessed offsite.

Banks are required to operate in a sound and safe manner and to comply with the legal and regulatory requirements, as well as preventing and detecting money laundering in the financial institutions. Thejane (2017) studied the impact of banking regulation on commercial banks' performance in Lesotho. The study revealed that regulation does impact on bank performance with capital adequacy having a positive impact, and the liquidity ratio having a negative impact.

Department of Other Financial Institution Supervision
This department is responsible for regulating and supervising all other financial institutions except commercial banks. To discharge its functions the department performs onsite and offsite inspections similar to the Department of Banking Supervision above.

Annexure B

DEVELOPMENT LOCAL CAPITAL MARKETS
According to Central Bank of Lesotho Aug 2010 Economic Review, the development of Lesotho capital markets has been a priority for policy makers in Lesotho. The transition towards an attempt to develop local capital markets can be divided into phases.

Phase 1 (1988-2010) - Development of money markets
Lesotho first initiated a policy to develop domestic money markets in 1988.The objective was to improve intermediation by providing alternative instruments to commercial bank borrowing, encourage participation in term instruments and also provide the Central Bank of Lesotho with some monetary policy tools However, the decisive steps to implement this decision were only undertaken in the early 1990s. The Bank only issued two sets of securities with maturity of 91 and 182 days, or with maturities as close to 91 days or 182 days as possible to take account of for example, public holidays. Auctions for the 91-day and 182-day bills would be held once a month and once every two months respectively. In 2010 the bank increased tenors of T-Bills from two to four by introducing T-Bills with maturity of 273 and 364 days.

Phase 2 (2010) - Development of the bond market

In 2010 the Central Bank of Lesotho introduced its maiden Government Treasury Bonds being issued and introduced as a step towards development of the country's capital markets. These were initially issued in two sets with maturities of 3 and 5 years. Seven (7) and ten (10) year bonds were later introduced in 2012. Auctions for the 3 year, 5year, 7year and 10 year treasury bonds were held once in two months but at the beginning of 2014, the reopening of a 7 year bond has been undertaken and auctions are conducted once every 3 months per the Financial Sector Development Strategy. However, a downside to this success is lack of secondary market trading of these securities because of undeveloped market.

According to data from the Central Bank of Lesotho, for the 2018/19 fiscal year, the Government of Lesotho managed to raise M966.7 million from issuing Treasury bonds. According to table 1 below, the stock of treasury bonds outstanding was around M1.7 billion as at 30 June 2019. The Government is yet to pronounce its borrowing plan for the financial year 2019/2020 that will result in approval and publication of the bond issuance calendar.

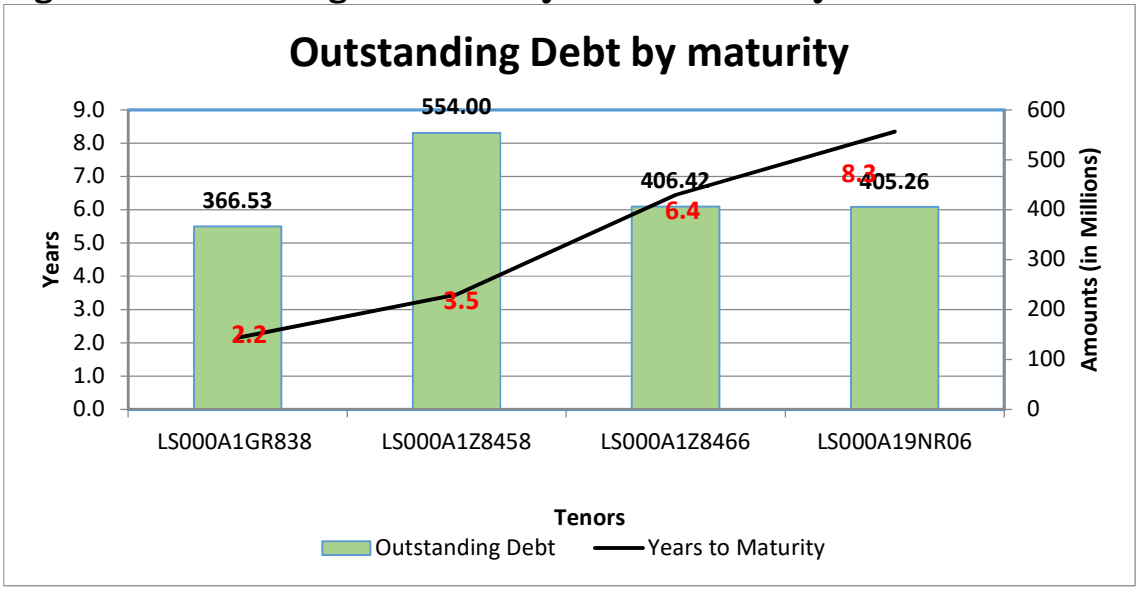
Table 1: Outstanding Nominal Value of Treasury Bonds as at 30 April 2019

Bond ISIN Code	Coupon Rate	Outstanding Debt	Years to Maturity as of 30 April 2019
LS000A1GR838	10%	366,532,600	2.2
LS000A1Z8458	8%	554,003,200	3.5
LS000A1Z8466	9%	406,419,800	6.4
LS000A19NR06	11%	405,259,600	8.3
Total		1,732,215,200	

Source: Central Bank of Lesotho

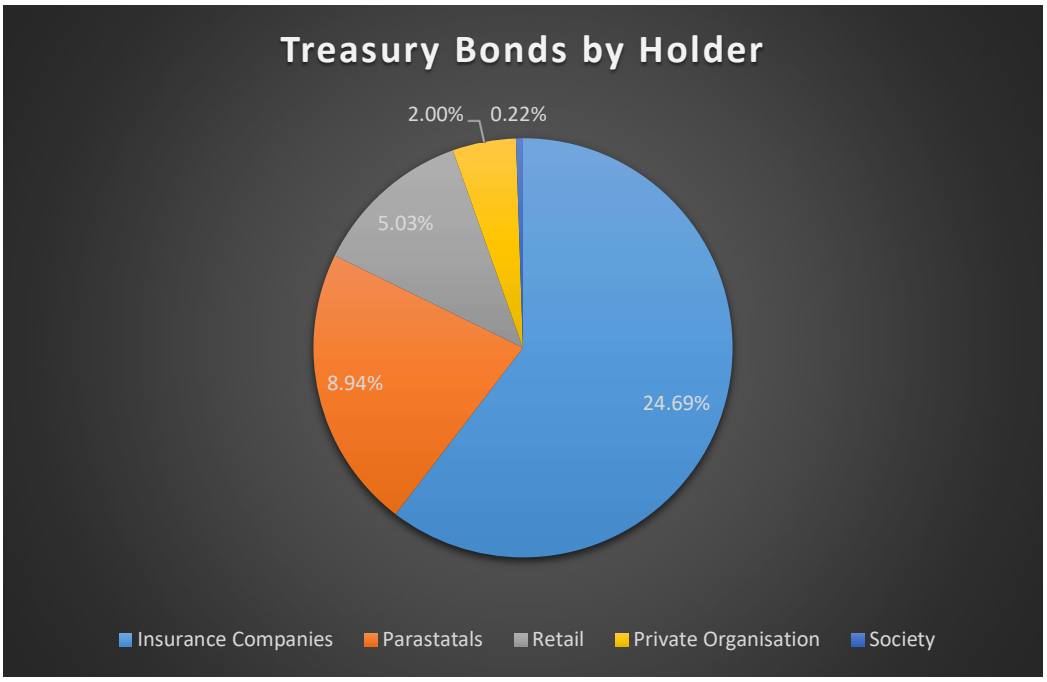
Figure 1 below shows that outstanding debt is evenly spread cross the four maturities with more debt outstanding in the next four years.

Figure 1: Outstanding and Maturity Debt of Treasury Bonds



Source Central Bank of Lesotho

Figure 2shows that banks are the biggest holders of Treasury bonds followed by insurers.



Source: Central Bank of Lesotho

Phase 3 (2016) - Development of the stock market

After successful introduction of Government securities market, the Central Bank of Lesotho launched the Maseru Securities Market which was Lesotho first securities exchange.

In line with the FSDS and in realising an existence a few companies in Lesotho, with shares being traded informally on an over-the-counter (OTC considered a decision to establish an interim stock (securities) trading facility. This facility will provide a regulatory framework for the existing share The Maseru Securities Market has not received any listing to date. Lesotho can also benefit from the instituting a stock market and reforms to strengthen the institutional infrastructure are essential (Tau, 2015). Such reforms include cross privatisation of previously held entities by government and cross listing.

According to (Damane, 2018) this inactivity in the Maseru Securities market shows that domestic capital market development still has a long way to go. . He instead proposes cross listing to stimulate activity in the capital markets. (Damane, 2018) used event study methodology, financial ratio analysis and a regional case study of two entities (Choppies Enterprises Ltd. and Go Life International Ltd.) that cross listed on the JSE in 2015 and 2016, respectively. The results of the study reveal that the two firms experienced increased value and liquidity during their respective periods of cross listing together with elevated levels of market confidence.

Annexure C
RECENT LEGISLATIVE DEVELOPMENTS IN IN LESOTHO

In an effort to intervene and repatriate funds from the neighbouring South Africa, Lesotho is undergoing regulatory reforms. This is by either amending the existing laws or developing new laws altogether incorporating the local asset minimum restrictions in the process.

Financial Institution (Minimum Local Asset requirements), 2016
According to the 2017 Central Bank Annual Supervision Report, the Financial Institution (Minimum Local Asset requirements), 2016 prescribes minimum assets that a commercial need to hold in Lesotho. According to the referred regulations, commercial banks need to maintain a local asset not less than 10% - a decrease from the previous 25%. The primary objective of this threshold is to have commercial banks invest in Lesotho to engage in financial intermediation and to ensure that funds that are raised in Lesotho to develop the domestic economy.

Insurance (Solvency requirements) Regulations, 2016
The Insurance (Solvency Requirements) Regulations, 2016 states the following "A long-term insurer shall at all times keep invested in Lesotho assets fulfilling the requirements of these Regulations in amounts having a total aggregate value of not less than 30 percent. This exceeded the 10 – 15% as proposed in the FSDS. A general business insurer shall at all times keep invested in Lesotho assets fulfilling the requirements of these Regulations in amounts having a total aggregate value not less than 30 percent".

Central Bank of Lesotho (Collective Investment Schemes Regulations), 2018
The new set of regulations namely Central Bank of Lesotho (Collective Investment Schemes) Regulations of 2018 are enacted with the purpose to accommodating new innovations in financial sector products intended to promote economic growth. The Regulations states the following "A collective investment scheme shall invest at least 15% of its market value in Lesotho". This was in line with the proposals of the FSDS. It further prescribes limits outside the common monetary area by stating, "Subject to Exchange Control Regulations, a collective investment scheme shall invest, at a maximum, 25% of its assets outside the common monetary area".

The repealed Central Bank of Lesotho (Collective Investment Schemes) Regulations of 2001 did not facilitate the development of a range of well-regulated institutions providing a spectrum of products and services suitable for different segments of the market – from simple low cost services at one end to fully fledged commercial services for large business at the other. The

enacted Central Bank of Lesotho (Collective Investment Schemes) Regulations of 2018 supports the principles of Government intervention in the economic sphere as set out in FSDS, which defines the Government's role as a facilitator for the productive activity of the private sector. This is done by creating a conducive and enabling environment for the private sector.

Pensions Bill

Lesotho is only developing a regulatory framework for pension funds (Andrews et al., 2013). In line with regulatory gaps identified in the FSDS, the Central Bank of Lesotho drafted the Pensions bill to regulate and supervise all pension funds in Lesotho. According to the 2017 Supervision Annual Report, "the Pensions Bill is now ready for enactment which will see the pensions industry being regulated by the Bank and meaningfully contributing towards domestic economic development". The objective of drafting the Pension Funds Bill is to provide for a legislative, regulatory and supervisory policy framework that is going to monitor the pensions industry in order to ensure its stability by mitigating risks and improve its operational efficiency.

The Pension Funds Bill therefore supports the principles of Government intervention as set out in the FSDS. One of the core objectives of the Government of Lesotho through the Pension Policy is to curb the repatriation of pension funds of Basotho which assist other countries to develop their capital markets (Steward, 2015). Currently, pension fund's asset managers in Lesotho invest Lesotho pension funds in foreign countries since there is no legislation that regulates all pension funds in Lesotho. This prompted the Government of Lesotho to develop a regulatory framework for all pension funds in Lesotho, in particular, to provide for local asset holding that will require at least 30 percent of pension funds' assets in Lesotho to be invested in Lesotho with the aim of developing the capital market in Lesotho - again this exceed the FSDS proposed range. The ultimate objective of the Pension's policy through the legal and regulatory framework and enactment of the Pension Funds Bill is to enable the pension funds to make full contribution to economic growth.

Annexure D

	2nd Difference			
	ADF		PP	
	t-stat	Crit-value	t-stat	Crit-value
FD	-6.889	-2.964	-5.572	-2.954