IMPACT OF FINANCIAL MARKET LEGISLATION ON CAPITAL MARKET DEVELOPMENT IN MALAWI

MASTER OF ARTS (ECONOMICS) THESIS

THANDIWE BANDA

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MASTER OF ARTS (ECONOMICS) THESIS

By

THANDIWE BANDA
BSoc.Sc. - University of Malawi

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Chancellor College

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DECLARATION

I, the undersigned, hereby declare that this thesis is my own original work which has not been submitted to any other institution for similar purposes. Where other people's work has been used acknowledgements have been made.

_____

Full Legal Name

_____

Signature

_____

Date

CERTIFICATE OF APPROVAL

The undersigned certify that this thesis represents the student's own work and effort and has been submitted with our approval.

Signature: _____Date:_____

Winford H. Masanjala, PhD (Associate Professor)

Supervisor

DEDICATION

To

My parents Douglas & Christina, brother Clement and sisters Mwayi & Kate, for all the love, support and encouragement. May God shower you with blessings always!

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ABSTRACT

This study investigated the effect of Financial Market Legislation on capital market development in Malawi, with particular attention on the capital market development indices namely Stock Market Capitalization and Stock Market Liquidity. The study estimated two separate empirical models; the first to test the impact of the FML on Stock Market Capitalization and secondly to examine the impact of the FML on Stock Market Liquidity using Autoregressive Distributed Lag Model technique. The impact of the financial market legislation, the Securities Act introduced in 2010 on capital market development was assessed with the aid of a dummy variable. The results revealed that the Act impacted significantly on capital market development in Malawi. However, findings discovered that the variables that represented development of the banking sector interacted negatively with the selected capital market development indicators which implies that the activities of this sector somehow deterred the development of the capital market. The review of available literature indicates that the capital market is a common feature in any modern economy and is reported to promote growth and development of the real sector, and so the findings of this study will provide evidence of the significance of Financial Markets Legislation on the capital market and the economic performance in Malawi.

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LIST OF ABBREVIATIONS AND ACRONYMS

AIC:	Akaike Information Criteria
ARDL:	Autoregressive Distributed Lag approach
BG-LM:	Breusch-Godfrey Lagrange Multiplier
BHL:	Blantyre Hotels Limited
CMDA:	Capital Market Development Act
ECM:	Error Correction Model
FMB:	First Merchant Bank
FML:	Financial Market Legislation
GDP:	Gross Domestic Product
HQC:	Hannan-Quinn Criteria
MASI:	Malawi all share index
MPICO:	Malawi Property Investment Company
MSE:	Malawi Stock Exchange
MWK:	Malawi Kwacha
NBM:	National Bank of Malawi
NBS:	New Building Society
NICO:	National Investment Company
NITL:	National Investment Trust Limited
OML:	Old Mutual
PCL:	Press Corporation Limited

RBM:	Reserve Bank of Malawi
SBC:	Schwarz Bayesian Criteria
TNM:	Telecoms Malawi Limited

CHAPTER ONE

INTRODUCTION

1.1 Background

Every economy seeks to promote an effective financial system and primarily the capital market because a nation's capital is a major engine of economic growth and development. McKinnon (1973) and Shaw (1973), also noted that the financial sector could play an important role in propelling economic growth. The market impacts positively on the economy by providing financial resources through its intermediation process for the financing of long term projects. The projects could be promoted by government or private sector institutions and are common in areas such as infrastructure, agriculture, manufacturing, banking and other financial services and other real sector areas. Hence without an efficient capital market, the economy may be starved of the required long-term funds for sustainable growth. Furthermore, it is believed that when the capital market develops it offers an opportunity to the investors to diversify their financial asset basket and to the firms an opportunity to diversify the sourcing of finance. For this reason, the use of capital markets reduces overreliance on the money market, ensures a healthy stock market culture and assists in promoting a solvent and competitive financial system. The Malawi capital market like any other capital market plays its traditional role of mobilizing medium to long-term funds for development purposes. For instance, the Malawi stock exchange (MSE) facilitates the trading of equity securities that are traded on the local stock

market which has been in existence since 1994. Prior to the listing of the first company, the major activities that were being undertaken were the provision of a facility for secondary market trading in government of Malawi bonds namely, Treasury Bills and Local Registered Stocks (MSE, 2016). Hence, to increase the efficiency of these major activities of Stock markets, governments all over the world have embarked on financial system reorganizations as a way of transforming the financial system.

Malawi as in many other sub-Saharan African countries embraced the idea of financial reforms in the 1980s, within the context of structural adjustment programs. According to Chirwa & Mlachila (2004), one of the expectations from these financial sector reforms was an increase in the efficiency of the financial system, often reflected in the convergence of intermediation margins towards those observed in developed countries. The financial sector restructurings involved deregulation of interest rates, eliminating credit limits, financial liberalization, development of capital market and the introduction of increased prudential regulation and supervision. Mainly, these reforms were introduced with the belief that the development of the financial sector has productivity and growth enhancing effects, through stimulating economic growth and therefore stirring positive impact on poverty reduction and income distribution which is very essential for low income countries like Malawi.

The effective start of financial system alterations in Malawi with bias towards the capital market was in 1990, when the legal framework for the development of the capital market, the Capital Market Development Act (CMDA) was introduced. The CMDA specified legal guidelines to expand access by companies in Malawi to term

financing for development purposes; to provide for the utilization of savings and excess liquidity in domestic development; to provide for adequate regulation of the capital market and for self-regulatory organizations and to foster development of fair and orderly financial markets (Malawi Government, 1990). The CMDA was later revised in 2010 to the Securities Act in order not only to more effectively supervise the existing capital market institutions, but also to offer licensing and adequately and effectively assess applications for entry by new institutions.

The aim of the Act was to reposition the capital market positively considering that a well-functioning capital market creates liquidity and enables larger savings and investment. This paper therefore aims at exploring whether Financial Market Legislation (FML) facilitates capital market development in Malawi. This will be done by studying the contribution of the FML on capital market development indicators specifically stock market capitalization and stock market liquidity. This is in the view that an adequate regulatory framework is crucial to the development of capital markets. A strong and transparent regulatory and legal framework ensures that agents enter and exit the market without disruption, conduct their business with their clients with due care and conduct fair trade, consequently boosting the development of the market.

1.2 Problem statement

It is widely accepted that the most generally commended measure used to stimulate capital market development and ensure efficiency is financial market reform. Quite a number of studies have been done on financial reforms to examine their impact and to determine the appropriate package of policy measures that can be put together

under a reform structure for the effective development of the capital market and hence the financial system as a whole in Malawi. To mention a few Jere (2015) examined the impact of institutional reforms and subsequent privatization in the development of Malawi Stock Exchange (MSE) and stock performance, and in 2014, Chirwa and Mlachila assessed the impact of financial reforms on the pricing behavior of commercial banks in Malawi. Results from the various studies show that positive developments have taken place but there are still signs of financial repression, the capital market is still less vibrant, illiquid and has limited diversity. The capital market which is supposed to be an avenue for sourcing long term funds to finance long term projects is not as developed as its foreign counterparts. According to the Malawi Financial Sector Development Strategy of 2010, the Malawi Stock Exchange registered a strong growth performance. However it remains small and relatively insignificant in terms of its contribution to the economy with only fourteen companies listed on the market.

It is worth mentioning that an adequate institutional framework is expected to have a significant positive impact on the development of a capital market, and in Malawi research has shown that there have been significant changes to the capital market since the introduction of the Act. A number of new products and players have emerged and for this reason, there is more competition. The market has become fairy innovative and recently introduced unit trusts and further, there is confidence in the market due to the existence of new rules and enforcement mechanisms. Capital market development however, is multidimensional and is usually measured by stock market size, liquidity and integration with the world capital market. From the previous studies as pointed out earlier, there have not been significant developments

in Malawi especially in view of these capital market development indicators even after the implementation of the legislation. This is contrary to the expectation since institutionally developed markets are supposed to be large and liquid.

1.3 Objectives and Hypotheses

1.3.1 Main Objective

The main objective is to explore the impact of Financial Market legislation on Capital market development in Malawi.

1.3.2 Specific Objectives

- To examine the impact of Financial Market legislation on capital market capitalization
- To assess the effect of Financial Market legislation on stock market liquidity

1.3.3 Hypotheses

- Financial Market legislation has no impact on capital market capitalization
- Financial Market legislation has no effect on stock market liquidity.

1.4 Significance of the study

The capital market as a medium for long term fund acquisition is a significant sector in any economy. The market plays an important role in determining the level of economic activity. The upward trends in stock prices provide evidence that the economy is healthy, and downward trends confirm that the economy will begin to deteriorate in movement. Thus, the capital market is one of the most important economic indicators at local and global levels. Therefore capital markets' activities

and performance requires stringent study to enhance improvement, ensure efficiency and encourage economic growth and development.

Most recent studies have shown that institutional factors represent the first supporting block of stock market development (El-Wassal, 2005). Institutionally developed markets with strong information disclosure laws and unrestricted capital flows, among other things, are larger, more liquid and efficient. An efficient financial system is essential to an economy mainly because markets are often faced with considerable information and transaction costs which impose inefficiencies. By specializing in collecting information, evaluating projects, sharing risks and providing liquidity, an efficient financial system increases financial savings and improves the allocation across investments.

An important contribution of this study is that it investigates the effect of Financial Market Legislation specifically the CMDA and the Securities Act in Malawi, being one of the institutional factors that affect capital market development. The study aims at providing evidence on the significance of the rules and regulations. The study adds on previous research by widening the scope of studies on financial system developments primarily filling the knowledge gap in literature on the effect of the FML on capital market development indictors specifically market capitalization (stock market size) and stock market liquidity.

1.5 Scope of the study

The study was carried out using quarterly data on Malawi for the period 1996 to 2014. The data was collected from the Reserve Bank of Malawi, Malawi Stock Exchange, International Financial Statistics, as well as World Bank country data.

1.6 Organization of the study

The rest of the paper proceeds as follows: the second chapter gives a brief background of the Malawian capital market as a way of putting the study into context. Then third chapter explains the theoretical basis for the study and then reviews available empirical literature on the subject. The fourth chapter discusses the data and methodology employed in this study. The empirical results are presented in the fifth chapter, and conclusion and policy recommendations are given in the sixth chapter.

CHAPTER TWO

OVERVIEW OF THE MALAWIAN CAPITAL MARKET

The capital market in Malawi is made up of stock market, bonds market, investment institutions, and pension funds. While the stock market has been in existence since 1994, it failed to pick the growth momentum until 1996 when it registered the first listing and currently, the market has just 14 listed firms which are less than the country's potential. The bonds market is in its infancy. Evidence shows that there is need to develop capital market in order to facilitate mobilization of long term capital. The government indicated its commitment in facilitating growth of the capital market through the introduction of laws designed to govern and develop the capital market which facilitated vital institutional changes.

2.1 Capital Market Legislation

Rules and regulations are essential in the financial system because they foster smooth operations and increase efficiency. With well-developed institutional framework, capital markets serves as a mechanism for transforming savings into financing for the real sector. Yartey & Adjasi (2007) Shows that institutional quality is strongly associated with growth in stock market capitalization. That is the establishment of quality institutions can be an important factor in the development of capital markets. Furthermore institutionally developed markets can accelerate economic growth by mobilizing and boosting domestic savings and improving the quantity and quality of investment. Better savings mobilization increases the rate of saving and if the

markets allocate the funds to investment projects yielding higher returns, saving becomes more attractive to savers. Consequently, more savings will be channeled into the corporate sector thereby enhancing growth.

In this regard the government of Malawi put in place the first legal framework that is the Capital Market Development Act in 1990, as an interim arrangement to provide for the development of the Markets. The Act provided guidelines intended to provide for the utilization of savings and excess liquidity in domestic development and to provide administrative procedures for the efficient management of the capital market. The main purpose of the Act was to stimulate the development of the capital market through:

- Encouraging enterprises to raise funds through the issue of securities,
- Encouraging investment of savings in securities,
- Fostering the development of fair and orderly financial markets,
- Providing rules and regulations appropriate for the development, operation and supervision of the capital market.

The CMDA however, did not adequately provide for the regulation and supervision of securities markets. Due to technological and global developments, which changed the landscape of the securities market operations both locally and globally, it became necessary to have in place a more comprehensive piece of legislation and to modernize the operations, and so the Securities Act was introduced in 2010.

The securities Act provides for licensing of stock exchange, listing of capital market players such as underwriters, transfer secretaries, credit rating agencies, brokers, dealers and many other players which was not the case under the CMDA of 1990. The

Securities Act provides more powers to the Registrar to issue directives which was not the case prior to 2010. This Act provides for

- registration of Securities where all publicly traded securities are to registered,
- the conduct of securities business,
- measure to deal with improper trading practices,
- Licensing of collective Investment Schemes.

2.2 The Malawi Stock Market

The stock market is a mechanism that enables the trading of company stocks. It is also used to describe the totality of all stocks within a country. The stock market is different from the stock exchange which is an entity in the business of bringing buyers and sellers of stocks together. Participants in the stock market range from small individual stock investors to large hedge fund traders who can be based anywhere. The Malawi Stock Exchange which is regulated by the Stock Exchange Commission was set up in 1994 with the purpose of facilitating the exchange of securities between buyers and sellers. The MSE first listed the National Insurance Company Limited (NICO) two years after its establishment in 1996, due to some external factors like limited financial resources to set up the market and companies' delayed decision to list on the stock exchange. Stockbrokers Malawi Limited (SML) is the major registered stockbroker in Malawi that runs a secondary market in government securities, and both local and foreign investors have equal access to the purchase of these securities. Other brokerage firms are Continental Discount House, First Discount House and Trust Securities Limited (MSE, 2016).

Overtime the MSE has become more institutionalized with buyers and sellers largely institutions that include pension funds, insurance companies, mutual funds, investor groups and banks, as shown in Table 2.1 below. The rise of institutional investors has brought with it some improvements in the stock market operations but not necessarily in the interest of the small investor which are many.

Table 2.1: Daily Stock News as at 31st May 2016

Name of Listed Company	Date of Listing	No of Shares in issue
BHL	25th March, 1997	129,192,416
FMB	19th June, 2006	2,336,250,000
ILLOVO	10th November, 1997	713,444,391
MPICO	10th November, 2007	1,149,023,730
NBM	21st August, 2000	466,931,738
NBS	27th June, 206	727,643,339
NICO	11th November, 1996	1,043,041,096
NITL	21st March,2005	135,000,000
PCL	9th September, 1998	120,255,820
STD Bank	19th June,1998	234,668,162
SURNBIRD	8th December, 2002	261,582,580
TNM	3rd November, 2008	10,040,450,000
OLM	29th September, 2009	4,926,156,092

Source: Malawi Stock Exchange

The MSE is still in a budding stage, and hostile takeovers have not yet occurred. Apart from the restrictions under the privatization program, there are no specific measures taken by private firms to restrict foreign investment or participation. Foreign investors tend to be the dominant shareholders in large MSE-listed companies requiring significant technical and financial resources. The Competition and Fair

Trading Act does not cover the day-to-day trading on the MSE, but it regulates mergers, acquisitions, and takeovers that are of national interest (MSE, 2016).

It is worthwhile to mention that the MSE plays a number of roles in the country. Among other things, the MSE acts as a barometer of the economy through the movement of share prices that plays as an indicator of the general trend in the economy. Stock exchange share prices rise and fall depending on the market. The share prices tend to rise or remain stable when the companies of the economy in general show signs of stability. Secondly, it creates investment opportunities for small investors. As opposed to other businesses that require huge capital, investing in shares is open to both large and small stock investors because a person buys the number of shares they can afford. Therefore the stock exchange provides an extra source of income for small savers in the country.

2.3 The Bond Market in Malawi

The bond market is not relatively developed compared to the stock market. There is however, a government bond market where the RBM issues paper (Treasury Bill) on behalf of the government and that paper is subsequently traded over the counter, by a few individuals and corporates. Many investors of the paper hold it to maturity. According to the RBM officials, in recent times some of the bonds have been listed on the stock exchange and have rarely traded largely because the investors have preferred to hold on up to maturity and some argue that if they sold the bonds they would have nowhere else to place the money in view of lack of available long term instruments on the market.

Based on the enquiry from the Reserve Bank of Malawi officials, there are a number of reasons why the bond market is not as active as the stock market. Firstly the government bonds are priced against a benchmark yield curve constructed by the RBM. The yield curve takes input from the major financial institutions in the country that provide their expectations of what the rates should be. The yield curve is an average of these estimates and by virtue of being an average, acceptance of the curve by the players is likely to vary. In addition to this is the issue of awareness. Unlike with the stock market, most investors are not aware of the bond market. Stockbrokers who are market makers on the stock market do not have the same information on bonds as they do on equity, the brokers know who is holding what and can easily approach the parties while there is limited information for bond holders. Finally equity market is vibrant largely due to the size of the individual transactions. The amounts involved are relatively small to accommodate various investors with differing financial needs, while amounts involved in bonds are usually too large for most investors.

2.4 Analysis of the Malawian Capital Market's Performance

The Malawian capital market has performed fairly well despite the numerous challenges and problems. Some of these include; massive ignorance of a large population of the public on the nature and benefits of the capital market, few investment outlets in the market and lack of capital market friendly economic environment. Evidence shows that the market was marginally bearish in 2015 as it registered a negative return on investment of -2.17% compared to 18.79% registered in 2014. It however, recorded an increase in both traded volume and value and with no trades on the three Government bonds listed. In US Dollar terms, the market

registered a negative return on investment of -29.94% in 2015 compared to 8.14% registered in 2014 (MSE, 2015).

Market capitalization is the most widely used indicator in assessing the size of a capital market within an economy. In a bearish market, market capitalization falls and vice versa for a bullish market. The market registered a negative return on index as reflected in the decrease in the Malawi All Share Index (MASI) from 14,562.53 points registered in January 2016 to 13,419.95 points registered on 31st March 2016, giving a return on index of -7.85% compared to 3.21% registered in quarter one of 2015. The price gains registered by two counters (BHL and SUNBIRD) were not enough to offset share price losses registered by seven counters (FMB, ILLOVO, MPICO, NBS, NICO, NITL and TNM) resulting into a downward movement of the Malawi All Share Index, arising from a decrease in the Domestic Share Index (-7.93%). The Foreign Share Index was steady at 1,762.13 points 2014[1] (MSE, 2016).

The results from the figure 2.1 below indicate that stock market capitalization was unstable before the Act was implemented however it has had a steady upward movement since the inception of the legislation in 2010.

[1] See figures of market capitalisation and index-1st quarter of 2016 in Table 1 in Appendix 1

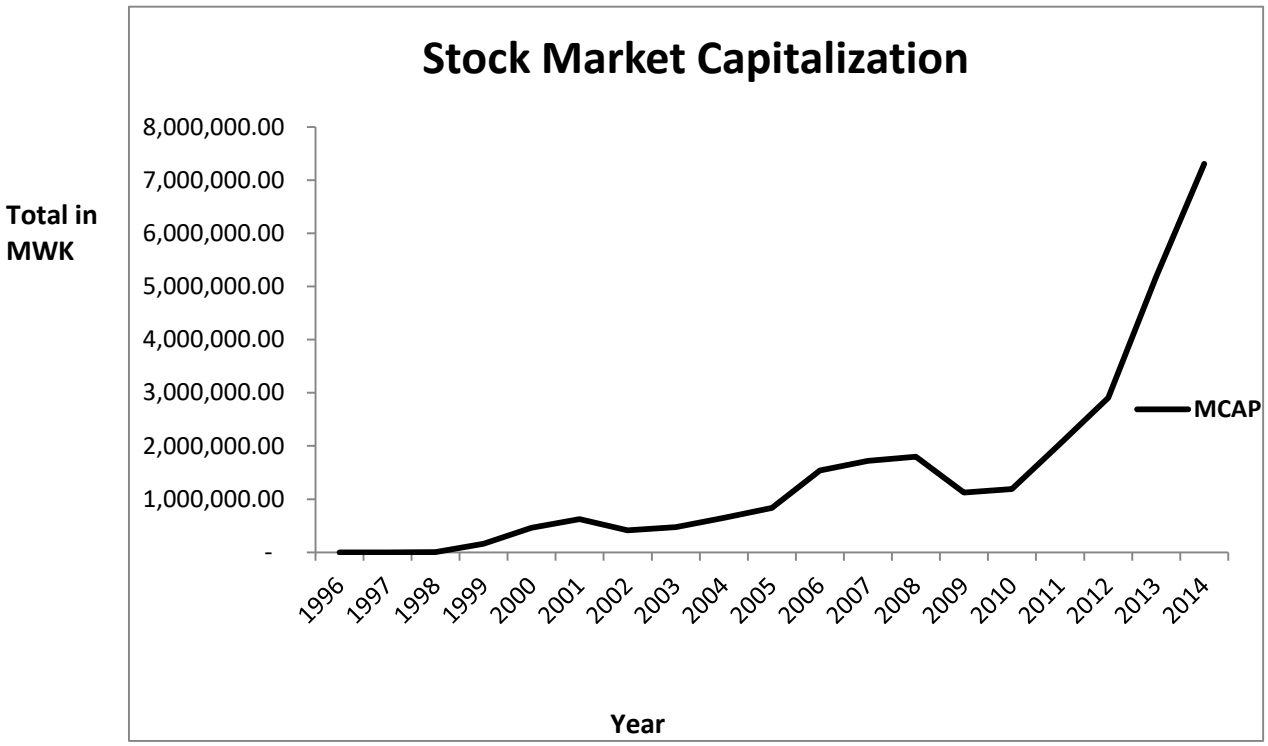

Figure 2.1: Stock market Capitalization

Market depth is another important attribute in assessing stock market development and it refers to liquidity or the ability to buy and sell shares. To clearly understand the liquidity picture in the country, we examine turnover velocity and total value traded as a share of GDP, shown in figure 2.2 and figure 2.3 respectively. From the figures below, stock market liquidity in Malawi has been fluctuating since 1996 and kept this trend even after the implementation of the Act in 2010.

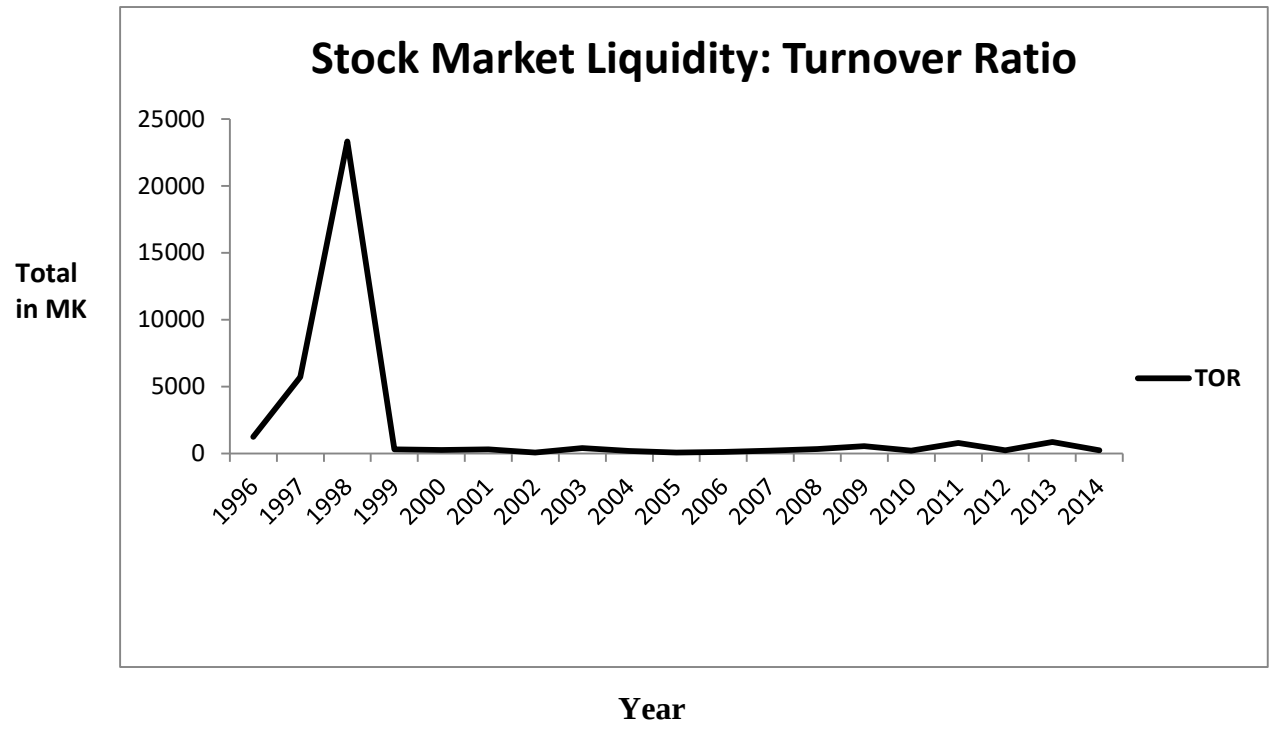

Figure 2.2: Stock Market Liquidity: Turnover ratio

Figure 2.3: Stock Market Liquidity: Value Traded

According to the MSE Quarterly Market Performance Review, January to March, 2016, the turnover velocity measured by the ratio of Total Value of Trades to Market Capitalization, in the first quarter of 2016 was recorded at 0.21%, lower than 0.41% registered in first quarter 2015. The ratio of Total Value of Trades to Gross Domestic Product recorded a liquidity level of 0.04% while during the corresponding period of 2015 liquidity was at 0.09%[2]. Many analysts use the turnover as measure of transaction costs. High turnover ratio implies low transaction and consequently high efficiency, and so the decline in the turnover ratio indicates that there is need for appropriate measures to be taken in order to improve the situation in the country.

[2] See figures of Market Liquidty-1st quarter of 2016 in Table 2 in Appendix 1

CHAPTER THREE

LITERATURE REVIEW

3.1 Theoretical Literature review

3.1.1 Indicators of Stock market development

Stock market development is a multifaceted concept and is usually measured by stock market size, market liquidity, market concentration, market volatility, institutional development, and integration with the world capital markets (Levine & Zervos, 1996). A growing theoretical literature examines the relationship between particular attributes of stock markets and both economic growth and firms' financing decisions. Evidence provides a rich collection of channels through which these stock market development indicators may be linked to economic performance of a country and corporate financing decisions. For example Devereux & Smith (1994) showed that by facilitating risk sharing, internationally integrated stock markets affect saving decisions, the allocation of capital and long run economic growth rate. For the purposes of this study we consider two measures particularly market size (market capitalization) and market liquidity.

3.1.1.1 Stock Market Capitalization

One of the capital market development indices is stock market size that is measured by market capitalization which is expressed as a proportion of GDP (Demirguc-Kunt & Levine, 1996). This measure equals the value of listed shares divided by GDP. In terms of economic significance, the assumption behind market capitalization is that it

is a measure of stock market size which is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis (Yartey, 2008). Second, it is presumed to include companies' past retained profits and future growth prospects so that a higher ratio to GDP can signify growth prospects as well as stock market development (Rajan & Zingales, 2001). Further, it is one of the most important characteristics that help investors determine the returns and the risk in the shares. It also helps the investors choose the stock that can meet their risk and diversification criterion. As outstanding stock is bought and sold in public markets, capitalization could be used as an indicator of public opinion of a company's net worth and is a determining factor in some forms of stock valuation.

3.1.1.2 Stock Market Liquidity

Economists advance many theoretical definitions of liquidity but they generally use the term to refer to the ability to easily buy and sell securities (Demirguc-Kunt & Levine, 1996). Liquidity allows investors to alter their portfolios quickly and cheaply, it makes investment less risky and facilitates longer term more profitable investments. Liquidity is an important attribute of stock market development because theoretically liquid markets improve the allocation of capital and enhance prospects of long term economic growth (Levine & Zervos, 1996). A comprehensive, measure of liquidity would quantify all the costs associated with trading, including the time costs and uncertainty of finding a counterpart and settling the trade.

There two main measures of liquidity namely total value traded and turnover ratio. Total value traded ratio measures the organized trading of equities as a share of national output and should therefore positively reflect liquidity on an economy wide

basis. The total value traded ratio complements the market capitalization ratio. Together market capitalization and total value traded ratio inform us about market size and liquidity. The second measure, turnover ratio, measures the value of total shares divided by market capitalization. High turnover ratio is often used as an indicator of low transaction cost. A small but active market will have small market capitalization but high turnover. Turnover ratio complements total value traded in that although total value traded captures trading compared with the size of the economy turnover measure trading relative to the size of the stock market (Demirguc-Kunt & Levine, 1996). In other words a small liquid, market will have a high turnover ratio but small total value traded.

Increasing theoretical literature suggests that the functioning of equity markets affects the economic performance of a country through their liquidity (Levine & Zervos, 1996). It is worth highlighting that without liquid markets or other financial arrangements that promote liquidity less investment may occur in high return projects. According to Demirguc-Kunt & Levine (1996) liquid stock markets reduce the downside risk and cost of investing in projects that do not pay off for a long time. With liquid equity market, initial investors do not lose access to their savings for the duration of investment project because they can quickly, cheaply and confidently sell their stake in a company. Thus more liquid stock markets ease investment in long run potentially more profitable projects, thereby improving the allocation of capital and enhancing prospects for long term growth.

3.1.2 Financial Development Framework

3.1.2.1 McKinnon and Shaw Framework

In the 1970s the discussion on financial development and growth concentrated on the phenomenon of financial repression, a policy conducted by many governments to generate growth and revenue through artificially low interest rates and inflationary monetary policies. McKinnon (1973) and Shaw (1973) were, independently, the first to seriously challenge the conventional wisdom of financial repression. In their separate works they argue that the pursuance of policies such as low and administered interest rates, selective credit control, and concessional credit practices, among other practices, lead to widespread financial repression in developing countries (McKinnon 1973; Shaw 1973). According to these authors, a repressed financial market discourages savings, retards the efficient allocation of resources, increases the segmentation of financial markets, and creates financial disintermediation of the financial system. That is, distortions of financial prices including interest rates and foreign exchange rates, reduce the real rate of growth and the real size of the financial system relative to the nonfinancial magnitudes and hence largely lagging the development process. Their prescription is the removal of these distortions imposed by the government mostly in developing countries with the view that financial development results in efficient allocation of savings therefore enhancing the productivity of investment.

The McKinnon-Shaw Financial Development Framework did not go without criticism. Some criticism comes from Stiglitz (1994) and Weiss (1981). Stiglitz argues that since financial markets are prone to market failures, there should be some form of government intervention to correct these failures. Specifically, government

intervention should keep interest rates below their market clearing levels. The intuition here is that while a moderate increase in lending rates leads to a higher volume of lending, an additional increase in rates beyond a certain level would prompt a lower level of lending activity by adversely changing the quality of borrowers in favor of those in high risk category (Stiglits & Weiss, 1981). Mainly Stiglitz (1994) argues in favor of certain forms of financial repression. He claims that repression can have several positive effects such as improving that average quality of the pool of loan applicants by lowering interest rates, increasing firm's equity by lowering the price of capital and accelerating the rate of growth if credit is targeted towards profitable sectors such as exporters or sectors with high technological spillovers.

3.1.2.2 Financial development in endogenous growth models

Financial development involves the evolution of financial instruments and market as well as financial institutions. The hypothesis of endogenous growth models is that financial development causes higher growth through its influence on the level of investment and its productivity. Endogenous growth models focus on the relationship between financial development and long run economic growth, emphasizing that productivity growth is most likely to be the channel of transmission from financial development to economic growth (Caporale et al, 2003).

The relationship between financial development and economic growth in endogenous growth models is concerned with financial markets, savings, investments and growth. The argument is that financial markets will raise savings, investment and hence the growth rates (Caporale et al, 2003). The stock market is supposed to encourage

savings by providing households with an additional instrument which may better meet their risk preferences and liquidity needs. In a well-developed capital market, share ownership provides individuals with a relatively liquid means of sharing risk in investment projects.

Endogenous growth models show that economic growth performance is related to the financial development and income distribution. Financial markets influence economic growth through the efficient allocation of resources. Proponents of endogenous growth models argued that in the absence of financial markets one might invest in projects that can be promptly liquidated instead of investing in assets that are more productive but financially liquid. However, the endogenous growth models do not identify the unique functions of different financial markets, and their effects on economic growth. There is no attempt to distinguish the roles played by different financial markets, such as banks, bond markets, insurance companies, and stock markets in the relationship between financial markets and economic growth. In addition, Caporale et al in (2003) noted that the role of stock markets in economic growth and the identification of the channels through which stock markets affect growth is ignored.

3.1.2.3 Calderon and Rossell Model of Stock Market Development

Calderon and Rossell in 1991 developed a partial equilibrium model of stock market growth. This model represents the most comprehensive attempt to develop the foundation of financial theory and stock market development (El-Wassal, 2005). The main hypothesis of the model is that the level of economic development, which is captured by output growth and market liquidity, determines stock market

development. The classical Calderon-Rossell Model states that stock market capitalization is a function of the number of firms listed in the Exchanges and the value of those companies. According to the basic model, the prices of listed companies depend on number of listed companies and yearly output (generally measured by gross domestic product), and the number of listed companies are a function of output and liquidity available for the financial transactions. Market capitalization is defined as follows:

$$Y = PV \quad \text{.....(3.1)}$$

Where:

Y-is market capitalization in local currency;

P-is the number of listed companies in the stock market; and

V-is the local currency average price of listed companies.

The model can be presented formally as follows:

$$Y = PV = Y(G,T) \quad \text{.....(3.2)}$$

$$V = V(G,P), P = P(T,V) \quad \text{.....(3.3)}$$

The exogenous variable G represents per capita GNP in local currency and variable T represents the turnover ratio. The endogenous variables are V, P, and T. The structural equations are then expressed in the following reduced behavioral model:

$$\log Y = \beta_1 \log G + \beta_2 \log T \quad \text{.....(3.4)}$$

The component of the reduced form model is expressed as follows:

$$\log V = \alpha_1 \log G + \alpha_2 \log T \quad \text{.....(3.5)}$$

$$\log P = \varpi_1 \log G + \varpi_2 \log T \quad \text{.....(3.6)}$$

Equation 4 can be written as:

$$\log Y = \log(PV) = \varpi_1 \log G + \varpi_2 \log T + \alpha_1 \log G + \alpha_2 \log T \quad \text{.....(3.7)}$$

Factorizing we have:

$$\log Y = (\varpi_1 + \alpha_1) \log G + (\varpi_2 + \alpha_2) \log T \quad \text{.....(3.8)}$$

Where:

$$\beta_1 = \varpi_1 + \alpha_1 \quad \text{.....(3.9)}$$

and

$$\beta_2 = \varpi_2 + \alpha_2 \quad \text{.....(3.10)}$$

Equation 3.8 shows the impact of economic growth, *G*, and stock market liquidity, *T* on stock market development, *Y*. The model shows that stock market development is the result of the combined effect of economic growth and liquidity on both stock prices and the number of listings.

To examine the validity of this model, Calderon-Rossell used data from 42 countries from the main active stock markets in the world with annual observations from 1980–87. The analysis showed that stock market liquidity and economic growth are important determinants of stock market growth. The model, however, failed to explain why rapid economic growth did not translate into more rapid equity markets development. Furthermore, as a partial equilibrium model, it fails to take into account the potential effect of government policies (Yartey & Adjasi, 2007).

3.2 Empirical Literature review

In Malawi and many other developing countries, exploring developments and revolution of financial markets has become a prominent area of research in recent years. Many studies have been carried out on the impact of financial market reforms on financial market development and economic growth. Empirical studies have shown that financial market reformations have significant effects on the economy.

3.2.1 Empirical review on Financial Market Reforms

Chirwa (2001) examined the effect of financial sector reforms on market structure, financial intermediation and savings mobilization in the Malawian formal banking system. He noted that financial sector reforms led to the removal of credit ceilings and interest rate controls and opened the banking system to new competition. The results from this study showed that financial liberalization had significantly reduced financial repression in Malawi with respect to the depth of the financial system, reduction in monopoly power, increase in savings mobilization and relocation of credit to the neglected sectors. However, due to macroeconomic instability during the adjustment period, elements of financial repression remain as reflected by a fall in real interest rates, increase in intermediation margins and a fall in the relative share of loans and advances in total assets.

Chirwa & Mlachila (2004) investigated the impact of financial sector reforms on interest rate spreads in the commercial banking system in Malawi. The aim was to assess the impact of financial reforms on the pricing behavior of commercial banks in Malawi. The study used alternative definitions of spreads and discovered that spreads increased significantly following liberalization. The observed high spreads were

attributed to high monopoly power, high reserve requirements, high central bank discount rates, and high inflation using panel regression. The authors recommended that there should be significant changes in market structure for customers to benefit from the increase in the number of financial institutions through entry of established international banks capable of breaking the monopoly position of the established domestic commercial banks.

Furthermore Jere (2015) examined the impact of institutional reforms and subsequent privatization in the development of Malawi Stock Exchange (MSE) and stock performance. The study split the MSE listings into privatization and normal categories, and reviewed the development of the MSE by the number of listings, growth in market capitalization and stock performance since inception. The empirical findings show that reforms helped to increase the number of listings and growth in market capitalizations. To analyse stock market performance the study used the Capital Asset Pricing Model (CAPM) and found that normally listed stocks are better stocks than privatized listed stocks in terms of risk profile. However, there is supporting evidence under the market indices that the privatized stocks give better than the counterparty on the MSE.

Ojo & Adeusi (2012) investigated the impact of capital market reforms on the Nigerian economic growth between 1981 and 2010. They argued that the prevailing challenges in the world financial markets, especially the capital market justifies the various forms of reforms going around the world. The results show that capital reforms positively impact economic growth. The study recommended among other things that government should objectively evaluate enacted laws and reforms agenda

in a manner that will enhance economic growth rather than considering political issues before embarking on reforms.

3.2.2 Empirical review on Financial Market and the Macro Economy

The results of previous studies on the relationship between capital market and economic growth are mixed. Mishra et al. (2010) examined the impact of capital market efficiency on economic growth in India using market capitalization, total market turnover and stock price index as a measures for stock market development and GDP as a measure of economic growth for the period first quarter 1991 to the first quarter of 2010. They used multiple regression model to examine the study hypothesis. The results showed that the stock market of India has a positive and significant impact on economic growth. This linkage is established through high rate of market capitalization and total market turnover. The large size of capital market as measured by greater market capitalization is positively correlated with the ability to mobilize capital and diversify risk on an economy wide basis. They claimed that the increasing trend of market capitalization in India would bring capital market efficiency and thereby contribute to the economic growth of the country.

Simwaka, et al (2012) examined the causal relationship between financial development and economic growth in Malawi using the autoregressive distributed lag (ARDL) approach. Results show that there is positive and significant relationship between financial development and economic growth in the long run. Granger causality tests show that economic growth drives financial development with no feedback effects, however financial development has no causal effects on economic growth. These results imply that economic growth is vital for development of the

financial sector in Malawi. The authors attributed the absence of causality of financial development on economic growth to the relatively less developed financial sector in Malawi, and the fact that financial markets tend to develop slowly to explain medium term economic growth. As a policy recommendation, they pointed out that policies must be put in place to support development of growth enhancing financial sector. For financial development to have a positive effect on economic growth, it is necessary that the expansion of the financial system be accompanied by an increase in flow of funds towards productive investment activities.

Baboo & Odit (2009) investigated the impact of stock market development on economic growth of Mauritius. They used market capitalization to GDP and Value trade to GDP as an indicator for stock market size and liquidity respectively. They analyzed both the short run and long run relationship by using Error Correction Model (ECM). They found that stock market development positively affects economic growth in Mauritius both in the short run and long run.

Furthermore, Yartey & Adjasi, (2007) examined the impact of stock markets development on economic growth for 14 African countries. They used the ratio of market capitalization to GDP as the stock market development indicator, the total value of shares traded relative to GDP and Stock markets turnover to GDP ratio as liquidity indicators on the stock markets. They included macroeconomic variables such as GDP as the economic growth development indicator, investment and trade openness (sum of exports and imports relative to GDP). They used the Difference Generalized Method of Moments dynamic instrumental variable modeling approach to test the study hypothesis. They found that the total value of shares traded relative to

GDP has a positive and significant effect on economic growth while the other stock market development indicators have no significant effect.

Pat & James (2010) examined the impact of the Nigerian capital market on her socio-economic development from 1981 to 2008. They used GDP as a measure of socio-economic growth, and market capitalization, total new issues, volume of transaction, total listed equities and Government stock as measures of capital market (stock market) development. The authors found that capital market indicators have no significant impact on socio-economic growth. They referred to the same reasons stated by Ariyo & Adelegan (2005) and Ewah, et al (2009) who found that the capital market in Nigeria has not contributed meaningfully to the economic growth of Nigeria due to low market capitalization, small market size, few listed companies, low volume of transactions, low absorptive capitalization, and illiquidity. They recommended that the government has to put up measures to stem up investors' confidence and activities in the market so that it could contribute significantly to the Nigerian socio-economic development.

3.2.3 Empirical review on Stock Market Liquidity

It has been acknowledged that liquidity is one of the significant indicators of capital market development. This is the position maintained by Levine and Zervos (1996). They maintained that although many profitable investments require a long run commitment if capital, savers do not like to relinquish control of their savings for long periods. Liquid stock markets bridge the gap by providing an asset which savers can quickly and inexpensively sell. This was the finding in an earlier study conducted by Hicks (1969) who argued that industrial revolution was not the consequence of a set

of new technological innovation since technological innovation by itself was insufficient to stimulate growth. He claimed that the precondition for the implementation of new technologies was the existence of liquid capital markets. Thus, according to him, the industrial revolution had to wait for the financial revolution before it could occur. Thus, liquid stock markets reduce the downside risk and costs of investing in projects that do not pay off for long periods. This is because with liquid stock markets, the initial investor do not lose access to their savings for the duration of the investment project since they can quickly, cheaply and confidently sell their stake in the company (Levine & Zervos, 1996).

Abiola and Mudathir in 2014 evaluated the effect of financial reforms on the liquidity of the Nigerian stock market using time series data spanning the period 1986 to 2010. The empirical model was analyzed using Ordinary Least Square (OLS) technique and the impact of the financial reforms was determined using the Chow-Forecast Test of parameter stability and breaking point technique. The analysis revealed that the financial reforms of 1996 impacted significantly on the stock market liquidity. However, credit to the private sector which was used to account for financial intermediary development impacted negatively on the liquidity of the stock market.

In the area of capital formation, it has been argued that large, liquid and efficient capital markets can ease savings mobilization. By mobilizing savings, capital markets enlarge the set of feasible investment projects. Since some worthy projects requires large capital injections and some enjoy economies of scale, capital markets that ease resource mobilization can boost economic efficiency and accelerate long run economic growth.

Some researchers noted that market liquidity affects market-based governance thus impacting positively on the value of the company. According to Tadesse (2005), liquid stock markets can increase incentives for investors to get information about firms and improve corporate governance. They also contended that greater market liquidity implies more and better information. This is because prices reflect information about firms more accurately. It has also been argued that greater liquidity makes it easier for active shareholders to build positions so as to effect changes in corporate policies. Bhide (1994) had noted that more liquidity implies less monitoring since shareholders can dispose easily their holdings if they disagree with management's policies. Tadesse (2005) also argued that investors generally prefer a liquid stock market since in takeovers bidders prefer a market where they can assess a vast amount of information on short notice.

3.2.4 The Significance of Legal and Regulatory Framework

An adequate regulatory framework is crucial to the development of stock markets. Regulations are essential in the face of the growing importance of capital markets throughout the world since the development of a market economy is dependent on the development of the capital market. A strong and transparent regulatory and legal framework address asymmetries of information between issuers and investors, clients and financial intermediaries and between counterparties to transactions and ensures smooth functioning of trading and clearing as well as settlement mechanisms that will prevent market disruption and foster investor confidence (Carvajal & Elliot, 2007). It is important to note that a well regulated market has the potential to encourage additional investors to partake and contribute in furthering the development of the

economy. This is made possible since, as stated by El-Wassal (2013), compulsory disclosure of reliable information and financial data on listed companies increases investor participation, while regulations that enhance investor confidence in brokers enhance investment and trading in stock markets thereby improving efficiency in the capital market.

A distinction can be made between the three essential elements of securities regulations: the legal framework itself, supervision of the legal framework and enforcement of relevant laws. Supervision and enforcement are tools used to assure compliance with the legal framework. Compliance refers to adherence to laws, rules and regulations, while supervision aims to detect noncompliance with laws and rules, and enforcement seeks to detect and punish non-compliance. Taken together, both supervision and enforcement seek to promote implementation of laws, rules and regulations (El-Wassal, 2013).

In supporting the significance of rules and regulations in the capital market, La Porta et al, (1998), discovered that countries with a lower quality legal regime and poorer law enforcement exhibit smaller and narrower capital markets and that the listed companies on their stock markets are characterized by more concentrated ownership. In addition a study by Chami, Fullenkamp, & Sharma (2009), emphasize the importance of regulatory structure in the process of removing obstacles that render potential borrowers, lenders and liquidity providers unwilling or unable to play their roles and by creating an appropriate incentive for each agent to fulfill their end of the bargain. The key insight of the strand of research that emphasizes the role of institutional framework in the development of stock markets identifies the following

factors: political stability, quality of legal institutions (particularly with respect to investor protection), law enforcement, disclosure of reliable information and a diversified investor base

3.2.5 Summary on Empirical Literature Review

It is worth highlighting that a variety of the previous studies focused on the impact of macroeconomic factors on the financial market. This study seeks to make a unique contribution to literature on the impact of institutional factors that are as essential as macroeconomic factors to capital market development. The study at hand has adopted the Calderon-Rossell behavioral structural model of stock market development as a theoretical foundation and the ARDL technic of estimation to examine the effects of Financial Market Legislation on Capital Market Development and the macro economy in Malawi. The view of the study is that the development and institutions of the capital market have to be explored in their entirety to ensure that there is a solid framework for the efficient operation of the market. This is mainly because the capital market is an engine of economic growth and development as investigated by previous studies.

CHAPTER FOUR

METHODOLOGY

4.1 Theoretical foundation for the study

The aim of the study is to investigate the developments of capital markets and to determine the factors that have an effect on the development of the markets with particular focus on FML. The theoretical foundation for the study is based on Calderon-Rossell behavioral structural model of stock market development which has been reviewed in the previous chapter. In this model economic growth and stock market liquidity are considered as the main determinants of stock market development. Dynamics behind the development of capital markets with focus on stock market are not easy to determine using the classical Calderon –Rossell model because stock market development is a complex issue. For this reason this study will modify the model in order to capture the FML.

4.2 Method of estimation

Based on previous literature, estimations are carried out using the cointegration analysis as suggested by Johansen. However, this study will use the Autoregressive Distributed Lag Model (ARDL) based on Pesaran, Shin and Smith (2001). Empirical research has shown that this approach is very suitable for analyzing long run relationships between economic time series in recent years. The technique is reported to offer several advantages. First the test is based on a single ARDL equation, rather than on a VAR as in Johansen, thus reducing the number of parameters to be

estimated. Secondly, unlike the Johansen approach the restrictions on the number of lags can be applied to each variable separately. The ARDL approach also does not require pre-testing for the order of integration (0 or 1) of the variables used in the model. Furthermore, it has been demonstrated that the ARDL approach yields superior estimates of long run coefficients, and diagnostic tests of the estimated equation are more reliable (Gerrard & Godfrey, 1998). Most importantly the ARDL approach is suitable for small sample sizes.

The study will estimate two separate models; the first is to test the impact of the FML on stock market capitalization and secondly to examine the impact of the FML on stock market liquidity. Calderon-Rossell model will be modified to incorporate financial and economic variables that affect the two capital market development indicators; stock market capitalization and stock market liquidity. In particular, the modified models will examine the role of macroeconomic factors such as real income, financial intermediary development and money supply (M2). The model will be altered further to include a dummy variable that will reflect the period before and after the Act was introduced.

The conventional specification of an ARDL model is presented below;

$$\Delta y_t = \delta_0 + \delta_1 t + \delta_2 y_{t-1} + \delta_3 x_{t-1} + \sum_{i=1}^{n} \delta_4 \Delta z_{t-i} + e_t \quad \text{.....(4.1)}$$

where y_t is the dependent variable, x_t is the explanatory variable, z_t is a vector of the lagged values of the first difference terms of y_t and x_t representing the long run relationship and e_t is the white noise error term. The summation sign represents the short-run error correction dynamics.

The ARDL model specified to determine the long-run relationships and the short-run dynamics of the variables is as presented in equation 4.1. However, before proceeding with the estimation of the long-run relationships and the short-run effects, the first step is to establish whether there is a long run relationship(s) among the variables. This is accomplished by testing whether the variables are cointegrated or not. The Wald or F-Statistic is the statistic underlying the procedure (Pesaran, Shin, & Smith, 2001).The computed F-statistics is compared with the critical values tabulated in what is known as the Bounds Test. The decision rule is that if the estimated F-statistics is greater than the tabulated values, we reject the null hypothesis of no long-run relationship between the variables of interest and if the F-statistic is below the lower bound we fail to reject the null. Pesaran et al (2001) identified a case in which the estimated value falls between the lower and upper critical values. In that case the outcome is inconclusive.

Once cointegration between the variables has been established the next step is to estimate the long run ARDL model in order to obtain the long run coefficients and their asymptotic standard errors. This is followed by the estimation of the short run elasticities of the variables with the error correction representation of the ARDL model. By employing the error correction of the ARDL, we determine the speed of adjustment to equilibrium. The existence of long run relationship among the variables necessitates the estimation of the unrestricted ARDL error correction. ECM provides the error correction term and its coefficient is the speed of adjustment to the long run following a shock to the system. It is expected to be negative and statistically significant so as to confirm the existence of cointegration among the variables in the model.

4.3 Description of variables

4.3.1 Stock Market Development

The dependent variable of interest is stock market development. It is measured in two ways firstly using market capitalization as a proportion of GDP and secondly using stock market liquidity.

4.3.1.1 Stock market capitalization

This measure equals the value of listed shares divided by GDP. The assumption behind this measure is that overall market size is positively related with the ability to mobilize capital and diversify risk on an economy-wide basis.

4.3.1.2 Stock Market Liquidity

Liquidity is the ease and speed at which economic agents can buy and sell securities. It is an important attribute of stock market development because theoretically liquid markets improve the allocation of capital and enhances prospects of long term economic growth. It is measured by value traded and turnover ratio. Value traded is the ratio that measures the value of equity transactions relative to the size of the economy. On the other hand, turnover ratio, measures the value of equity transactions relative to the size of the stock market. These two liquidity indicators do not directly measure how easily investors can buy and sell securities at posted prices. However, they measure the degree of trading in comparison to the size of both the economy and the market. Therefore they positively reflect stock market liquidity on an economy wide and market wide basis (Levine & Zervos, 1998). Besides, these two measures complement each other, and so making use of both provides a more comprehensive

picture of the liquidity of stock markets than the information provided by the use of only one of them.

4.3.2 Income level

Real income has been found to be highly correlated with the size of the capital market. GDP per capita is used to measure the income level. This is a measure of economic development. Economic development creates additional demand for financial services which leads to financial sector growth. According to the demand following phenomenon, lack of financial growth is a manifestation of lack of demand for financial services. Therefore, as the real side of the economy develops, its demand for various financial services becomes visible, and these are met from the financial side (Jung, 1986). Thus according to such authors, real GDP per capita may determine the amount of finance from economic agents available for the purpose of participating in the financial market. Income level is expected to have a positive impact on capital market development showing that as the economy grows in terms of its output, many economic agents are able to participate in the financial market and this leads to the boosting of the sector.

4.3.3 Financial intermediary Development

To determine whether capital market development is significantly correlated with banking sector development, measures of banking sector development were included in the regression namely the value of domestic credit provided by the banking system to the private sector relative to GDP and money supply (M2) relative to GDP as a measure of financial depth. It is expected that there will be a positive relationship between financial intermediary development and the capital market since banks and

stock markets act as complements. Empirically, Demirguc-Kunt and Levine (1996) show that the degree of stock market development is positively related to bank development.

4.3.4 Dummy

Binary variable equal to 1 for t = 2010 to 2014 representing the time after the Securities Act was implemented, otherwise zero. We expect greater improvement in the capital market after the introduction of the Act.

4.4 Data sources

The study employed quarterly time series data on Malawi for the period 1996 to 2014. The data was collected from the Malawi Stock Exchange, the Reserve Bank of Malawi, International Financial Statistics and World Bank country data.

4.5 Diagnostic Tests

Diagnostic tests are undertaken to establish the reliability of the results and checking if the model framework employed satisfies the various econometric assumptions. The study tested for stationarity using the Augmented Dickey Fuller (ADF) and the Phillips Perron Tests, serial correlation using the Breusch-Godfrey LM test and heteroskedasticity using the Breusch-Pagan-Godfrey test. To check for omitted variables and model specification the study employed the Ramsey's RESET.

CHAPTER FIVE

EMPIRICAL RESULTS AND DISCUSSION

5.1 Unit Root Test for Stationarity

The study employed time series data for the analysis. One problem often associated with time series data is non-stationarity since the use of non-stationary variables is likely to give nonsensical results and large standard error. This study therefore begins its estimation process by first testing for unit root. The Augmented Dickey-Fuller (ADF) test and Phillip-Peron (PP) test are used in this study for the unit root test.

5.1.1 Augmented Dickey Fuller Test

The ADF test is an extension to the Dickey Fuller test for unit root which is one of the methods used to check for stationarity and order of integration of variables. The ADF test is specially used when the error terms are correlated and it includes extra lagged terms of the dependent variable in order to eliminate autocorrelation. The lag length could be determined by the lag length required to whiten the error term (Gujarati, 2004). In this study the lag length was automatically selected using the Akaike Information Criterion (AIC). Based on the ADF test statistic, the results as shown in Table 5.1 at 10 percent level of significance, four of the variables had unit root at levels i.e., market

capitalisation (MCAP), domestic credit (DCREDT), money supply (M2) and income level (INCOME) while turnover ratio (TOR) and value traded (VTRADED) were I(0) at one percent level of significance. The results further show that the variables had no unit root in their first difference except M2.

5.1.2 Phillips-Perron Test

The asymptomatic distribution of the Philips-Perron test is the same as the ADF test statistic. However, the PP uses nonparametric statistical methods to take care of the serial correlation in the error terms without adding lagged differenced terms (Gujarati, 2004). The PP results corresponded with the results from the ADF tests. However, unlike the ADF test M2 was found to be stationary after differencing once.

Table 5.1: Unit Root Estimation

	ADF		PP		
Variable	Levels	1st Difference	Levels	1st Difference	Order of Integration
MCAP	3.3283 [1.0000]	5.5850* [0.0001]	2.4817 [1.000]	-5.0855* [0.0001]	I(1)
DCRDT	3.4577 [1.0000]	-1.6717 [0.4409]	4.4822 [1.0000]	-9.0069* [0.0000]	I(1)
TOR	-8.3358* [0.0000]	-9.3365* [0.000]	-8.3399* [0.0000]	62.7616* [0.0001]	I(0)
VTRADED	-8.2720* [0.0000]	-6.7715* [0.0000]	-8.4144* [0.0000]	-32.1527* [0.0001]	I(0)
M2	2.3481 [1.0000]	2.3214 [1.000]	15.5111 [1.0000]	-5.1576* [0.000]	I(1)
INCOME	2.8858 [1.0000]	-4.2868* [0.0010]	2.6797 [1.0000]	-4.1377* [0.0016]	I(1)

Ho: The series is non-stationary, or contains a unit root. *, ** and *** indicate the rejection of the null hypothesis of non-stationary at 1%, 5% and 10% significant level, respectively and the figures in square brackets are P-values.

Based on the results of the ADF and PP unit root tests there is a mixture of I(0) and I(1) variables. This gives a good justification for using the bounds test approach or ARDL model which was proposed by Pesaran et al. (2001).

The research has two specific objectives, firstly to examine the impact of Financial Market legislation on capital market capitalization and secondly to assess the effect of Financial Market legislation on stock market liquidity. The following section explains how these objectives were accomplished and the findings.

5.2 FML on capital market capitalization

To examine the impact of FML on stock market capitalization we employed the following ARDL specification**;**

$$\Delta(MCAP)_t = \beta_0 + \beta_1(MCAP)_{t-1} + \beta_2(DCRDT)_{t-1} + \beta_3(VTRD)_{t-1} + \beta_4(TOR)_{t-1} + \beta_5(M2)_{t-1} + \sum_{i=1}^{q}\beta_6\Delta(MCAP)_{t-i} + \sum_{i=1}^{q}\beta_7\Delta(DCRDT)_{t-i} + \sum_{i=0}^{q}\beta_8\Delta(VTRADED)_{t-i} + \sum_{i=0}^{q}\beta_9\Delta(TOR)_{t-i} + \sum_{i=0}^{q}\beta_{10}\Delta(M2)_{t-i} + \beta_{11}D1 + \upsilon_t \text{.....(5.1)}$$

Where Δ is the first difference operator, υ_t is a white-noise disturbance term, q is the optimal lag length, β_0 is the intercept and the rest of the variables are defined as follows;

MCA = Stock Market Capitalisation

DCRDT = Domestic Credit to the private sector

VTRADED = Value Traded ratio

TOR = Turnover Ratio

M2 = Money Supply

D1 = Dummy

The coefficients ($\beta_1 - \beta_5$) represent the long-run relationship whereas the remaining expressions with summation sign ($\beta_6 - \beta_{10}$) represent the short-run dynamics of the model. The optimum lag lengths for differenced terms were selected using the Schwarz Bayesian Criteria (SBC), Hannan-Quinn Criteria (HQC) and Akaike Information Criteria (AIC), the combination of ARDL (1,3,3,0,0,0) was giving us the lowest AIC.

5.2.1 Diagnostic tests for the Market Capitalization Model

The diagnostic tests, based on The Breusch Godfrey Lagrange Multiplier (BG-LM) test suggested that no serial correlation was present in the ARDL model up to lag order 4[3]. To check for model misspecification and conditional heteroscedasticity, the Ramsey RESET and the Breusch-Pagan-Godfrey test were conducted[4].The results of the diagnostic tests indicate the model is correctly specified and there is no evidence of conditional heteroscedasticity. This evidence indicates that the relationship between the variables is verified.

Equation (5.1) was estimated to derive the ARDL estimates for the Market Capitalization model. The results are presented in Table 5.2.

[3] See results in Table 1 in Appendix 2
[4] See reults in Table 2 in Apendix 2

Table 5.2: Estimation Results on Market Capitalization model

Dependent variable is MCAP

ARDL(1, 3, 3, 0, 0, 0) selected lags based on Akaike Information criterion (AIC)

Variable	Coefficient	t-Statistic	Probability
C	-61.2100	-1.4265	0.1598
$MCAP_{t-1}$	0.6187*	7.1584	0.0000
DCRDT	-1.4595*	-2.9088	0.0054
$DCRDT_{t-1}$	-0.4649	-0.7056	0.4836
$DCRDT_{t-2}$	-4.2668*	-6.4124	0.0000
$DCRDT_{t-3}$	2.0958**	2.7076	0.0192
M2	4.4696*	5.7635	0.0000
$M2_{t-1}$	2.7533**	2.5788	0.0128
$M2_{t-2}$	2.2205***	1.9552	0.0561
$M2_{t-3}$	4.4460*	4.7941	0.0000
TOR	3.3919***	0.6102	0.0544
VTRADED	22.7414	1.2236	0.2267
DUMMY	82.8000*	4.0039	0.0002
R-squared	0.946578		
AdjustedR-squared	0.995438		
F-statistic	873.7517		
Prob(F-statistic)	0.000000		

Note:*, ** and *** denotes statistical significance at 1%, 5% and 10% significant level, respectively.

The R- squared of 0.94 implies that the explanatory variables included in the model explain 94% of the level of market capitalization. The remaining six percent is accounted for by the variables excluded in the model and are captured by the error term. F-statistic is significant at one percent level of significance, thus confirming the overall significance of the model.

The main focus of this analysis is to investigate the effect of the financial market legislation introduced in 2010 on the capital market development. Hence, this study

employed a dummy variable to ascertain whether there was any structural change of significant impact on the dependent variable (market capitalization) with effect from 2010 to 2014. The dummy variable is positive (82.8) and significant. This means that a discrete change from the period before implementation of the legislation to the time when it was implemented will result into an increase in market capitalization. This result implies that the implementation of the Act brought about significant changes that positively affected the development of the capital market in Malawi by meaningfully influencing the improvement of stock market capitalization, an indicator of capital market development.

The estimation results of the market capitalization model as shown in Table 5.2 reveal a positive and significant relationship between market capitalization and its lagged values showing that stock market capitalization is a dynamic variable. From the results there exists a negative but significant relationship between market capitalization and Domestic Credit to the private sector which contradicts our a priori expectation. In support of this finding, Garcia (1986) argued that the activities of the Central Bank can bring about a negative correlation between bank growth and stock market development. However, the third lag of Domestic Credit is positive and significant (2.0958) which is in line with our apriori expectation, indicating that a unit change in domestic credit increases market capitalization by a high percentage. Money supply was found to be positive and significant concurring with the expectation that money supply has a significant impact on stock market capitalization. It is worth highlighting that stock prices tend to move higher when the money supply in an economy is high. Plenty of money circulating in the economy makes more money available to invest in stocks hence the positive relationship between money

supply and stock market capitalization. The coefficient of Turnover Ratio is positive (3.3919) and significant in this analysis. The result supports the apriori expectation of a positive impact of capital market liquidity rate on stock market capitalization. According to Levine (1991), liquidity helps investors to facilitate investment projects and make them less risky. Nonetheless the coefficient of the Value Traded though it is positive as expected, it is not significant.

Before proceeding with the estimation of the long-run relationships and the short-run dynamics, the first step is to establish whether there is a long run relationship among the variables identified in our model. This is accomplished by testing whether the variables are cointegrated or not. An ARDL bounds test was conducted to investigate if the variables are cointegrated.

Table 5.3: Cointegration results

critical value Bounds of the F-Statistics					
1% level		5% level		10% level	
I(O)	I(1)	I(O)	I(1)	I(O)	I(1)
3.15	4.43	2.45	3.61	2.12	3.23
calculated F-Statistic		5.555467			

Ho: No cointegration

The cointegration test results in Table 5.3 indicate that the calculated F-Statistic of 5.5554 lies above the upper critical values at all levels of significance. This implies that the null hypothesis of no cointegration among the variables of the ARDL model is rejected at all levels. The result suggests that there exist a long run relationship among Stock Market Capitalization and the explanatory variables in the model. The

explanatory variables can be treated as long run forcing variables for the explanation of Stock Market Capitalization.

The evidence that the variables in the model are cointegrated provides support for the use of an Error Correction Model (ECM) to examine the short run dynamics[5]. An ECM has two important parts; first the estimated short run coefficients and second the Error Correction Term (ECT) that provides speed of adjustment whereby short run dynamics converge with the long run equilibrium path in the model. This study will focus on the ECT and the long run coefficients. The results of the long run coefficients associated with the ARDL (1, 3, 3, 0, 0, 0) are illustrated in Table 5.4.

Table 5.4: Estimated Long Run Coefficients

Variable	Coefficient	t-Statistic	Probability
C	-16.8876	-1.3571	0.1807
DCRDT	-10.7394*	-9.7514	0.0000
M2	13.1047*	16.4599	0.0000
TOR	8.8947	0.5993	0.5516
VTRADED	-59.6352	-1.1916	0.2389
DUMMY	37.3153	1.1548	0.2536
ECM	-0.3813*	-4.4124	0.0001

Note:*, ** and *** denotes statistical significance at 1%, 5% and 10% significant level, respectively.

[5] See Table 1 in Appendix 3 for the short run dynamics results

The ECT has a coefficient of -0.3813 which is statistically significant at one percent level. This helps to reinforce the findings of a long run relationship among the variables in the model. The magnitude of the ECT coefficient signifies that 38 percent of the deviations from the equilibrium level of the market capitalization are corrected each quarter. The results show that in the long run, liquidity and the rules and regulations as represented by the dummy variable would not have a significant impact on market capitalization. On the other hand bank sector development would have significant impact on capitalization with a unit increase in money supply causing a 13.1 increase in market capitalization.

5.3 FML on stock market liquidity

To investigate the impact of FML on capital market liquidity the following ARDL specification was used;

$$\Delta(VTRADED)_t = \alpha_0 + \alpha_1(VTRADED)_{t-1} + \alpha_2(MCAP)_{t-1} + \alpha_3(DCRT)_{t-1} + \alpha_4(TOR)_{t-1} + \alpha_5(M2)_{t-1} + \alpha_6(INCOME)_{t-1} + \sum_{i=1}^{k}\alpha_7\Delta(VTRADED)_{t-i} + \sum_{i=1}^{k}\alpha_8\Delta(MCAP)_{t-i} + \sum_{i=0}^{k}\alpha_9\Delta(DCRT)_{t-i} + \sum_{i=0}^{k}\alpha_{10}\Delta(TOR)_{t-i} + \sum_{i=0}^{k}\alpha_{11}\Delta(M2)_{t-i} + \sum_{i=0}^{k}\alpha_{12}\Delta(INCOME)_{t-i} + \alpha_{13}(D1) + \varepsilon_t \text{.....(5.2)}$$

Where Δ is the first difference operator, ε_t is a white-noise disturbance term, k is the optimal lag length, α_0 is the intercept and the rest of the variables are as defined in equation 5.1.

The optimum lag combination based on the lowest AIC was ARDL (2,2,2,0,0,2,0) which did not suffer from serial correlation[6].

[6] See results in Table 2 in Appendix 2

5.3.1 Diagnostic tests for the Stock Market Liquidity Model

In addition to the test for serial correlation, the diagnostic tests indicate that the model satisfies standard tests for functional form and conditional heteroscedasticity, as we failed to reject the null hypotheses of correct specification and no conditional heteroscedasticity[7]. The full estimation results for the Stock Market Liquidity Model are presented in Table 5.5. It is worth noting that the Stock Market Liquidity Model is a good fit since it was able to account for 61% of the variability in liquidity. The F statistics is significant at one percent level, which confirms the overall significance of the model.

Table 5.5: Estimation Results on Stock Market Liquidity model

Dependent variable is VTRADED

ARDL (2,2,2,0,0,2,0) Selected lags based on Alkaike Information Criterion

Variable	**Coefficient**	**t-Statistic**	**Probability**
C	720.6585	2.1196	0.0386
VTRADEDt-2	0.1483	1.2225	0.2267
VTRADEDt-2	-0.3347*	-2.6852	0.0096
DCRDT	0.0011	0.2585	0.7970
DCRDTt-1	0.0006	0.1259	0.9002
DCRDTt-2	-0.0082***	-1.9052	0.0620
INCOME	0.2474	1.1388	0.2597
INCOMEt-1	-1.2021**	2.5924	0.0122
INCOMEt-2	0.9777**	2.6079	0.0117
M2	0.0088***	1.8726	0.0664
MCAP	0.1005*	1.2319	0.0032
TOR	0.1945*	7.0377	0.0000
TORt-1	0.0598	1.6152	0.1120
TORt-2	0.0539	1.4331	0.1575
DUMMY	35.0592	0.5388	0.5922
R-squred	0.317648		
Adjusted R-squred	0.51337		
F-statistic	5.923102		
Prob(F-statistic)	0.0000		

Note:*' ** and *** denotes statistical significance at 1%, 5% and 10% significant level, respectively.

[7] See results in Table 3 in Appendix 2

The coefficient of the second lag of credit to the private sector is negative (-0.0082) but significant at 10% level. This result implies that a unit change in credit to the private sector decreases stock market liquidity by 0.82 percent. It is important to note that the magnitude and sign of the variable credit to the private sector depends on the rate at which the private sector enterprises generate private savings to boost the capital base and the liquidity of the capital market. In other words, credit to the private sector might impact positively on the liquidity of the capital market if the credit given out to the operators in the private sector results in more private savings than is channeled to the capital market. But if the credit to the private sector does not generate savings to boost the liquidity of the capital market, the credit to the private sector and the capital market liquidity will be negatively related as observed in this analysis.

The coefficient of capital market capitalization is positive (0.1005) and significant at one percent level. 0.1005 indicates that a unit change in market capitalization increases stock market liquidity by 10.05 percent. This is in line with the expectation that a higher capitalization of the market will result in higher liquidity and vice versa. The turnover ratio is positive (0.1945) and significant in this analysis. This implies that the higher the turnover ratio on the capital markets the more the liquidity of the market which is in line with the apriori expectation. The coefficient for money supply variable is positive (0.0088) and significant at 10 percent level, meaning that a unit change in money supply increases stock market liquidity by 0.88 percent. This implies that higher money supply does translate to higher liquidity in the capital market. Income is positive (0.2474) as expected, the higher the income, the more likely it is for investors to save and invest that is channeling the high disposable income to the

capital market. However, it is insignificant in the analysis which could probably be because the people have not developed enough confidence in the capital market to see it as a necessary destination for their savings thus necessitating reform intervention in the market. Finally, the dummy variable is insignificant meaning that the introduction of the Act had no significant impact on stock market liquidity. In regards to the focus of the study's analysis, the employment of the Act did not have a meaningful effect on the ease and speed at which economic agents can buy and sell securities.

To check if there exist a long run relationship between stock market liquidity and the explanatory variables cointegration test was carried out and the results are presented in Table 5.6. The lower and upper bounds for the F-test statistic at the 1%, 5%, and 10% significance levels are [2.96, 4.26], [2.32, 3.50], and [2.03, 3.13] respectively. As the value of our F-statistic (6.0256) exceeds the upper bound at all levels of significance, even the optimistic 10% level, we conclude that there is evidence of a long-run relationship between the time series.

Table 5.6: Cointegration results

critical value Bounds of the F-Statistics					
1% level		5% level		10% level	
I(O)	I(1)	I(O)	I(1)	I(O)	I(1)
2.96	4.26	2.32	3.5	2.03	3.13
calculated F-Statistic		6.02557*			

Ho: No cointegration

After establishing the existence of long-run relationships of the variables, we estimate the long run coefficients and an ECM to facilitate the presentation of the

error correction term and short-run dynamics[8]. The long run coefficients and the ECT are presented in Table 5.7.

Table 5.7: Estimated Long Run Coefficients

Variable	Coefficient	t-Statistic	Probability
C	67.4050	2.2519	0.0283
DCRDT	-0.0055	-1.6121	0.1127
INCOME	0.0194	0.2714	0.7871
M2	0.0074***	1.8328	0.0722
MCAP	-0.0004	-1.2058	0.2330
TOR	0.1589*	3.8046	0.0004
DUMMY	29.5750	0.5378	0.5929
ECM	-1.1865*	-7.3432	0.0000

Note:*, ** and *** denotes statistical significance at 1%, 5% and 10% significant level, respectively

The coefficient of error correction term is negative and statistically significant at 1 percent level, indicating that there exists a strong long run relationship running from the explanatory variables to stock market liquidity. The magnitude of the coefficient suggests that about 118% of any deviation is corrected within the period. The speed of adjustment seems to be on the high side suggesting that any deviation from equilibrium will adjust in less than a few months. The coefficients of the long run model are consistent with those discussed earlier indicating that in the long run money supply and turnover ratio will have significant effects of stock market liquidity and that is stock market development.

[8] See Table 2 in Appendix 3 for the short run dynamics results

CHAPTER 6

CONCLUSION AND POLICY IMPLICATIONS

6.1 Summary

The aim of the study was to assess the effect of Financial Market Legislation specifically the CMDA and the Securities Act in Malawi, being one of the institutional factors that affect capital market development. Generally, to provide evidence on the impact of the rules and regulations on capital market capitalization (stock market size) and stock market liquidity.

The analysis revealed that Financial Market Legislation impacted significantly on capital market development in Malawi. However, we found that the variable that represented financial intermediary development (Domestic Credit to the Private Sector) interacted negatively with market capitalization and stock market liquidity, which implies that the activities of the financial intermediaries deterred the development of the capital market. Nevertheless, money supply which is an indicator of bank development exhibits a positive relationship with capital market development. Money supply measures the size of the banking sector in relation to the economy as a whole while domestic credit to the private sector measures the role of the financial intermediaries in the provision of long run financing of investment projects by private corporations.

6.2 Policy implications

The study revealed that Financial Market Legislation impacted significantly on the capital market development in Malawi but not to its full potential considering the Act only affect market capitalization and not liquidity. For this reason, there is need for far-reaching developments that will enable the capital market to discharge its duties as competently as possible. In other words, there is need for further reform to restructure more proficiently the activities of the capital market and other financial institutions, mainly to strengthen the institutional arrangement of the domestic financial sector and reduce stress on the system. Reforms should be introduced to synchronize the activities of the financial institutions in such a way that the activities of these institutions would boost capital market development and not inhibit it. Furthermore, listing requirements at the stock exchange must be made in such a way that medium scale companies get listed with ease. Much as the standard remains uncompromised it has to be made to give room for wider participation. It is worth mentioning that without significant further progress in this area, the country will be unable to benefit fully from the capital market.

6.3 Limitation of the study

This study is subject to some limitations and the results must therefore be read with caution. The main limitation for the study was the unavailability of quarterly GDP data. This is only available on annual basis and quarterly data on GDP had to be interpolated using E-views statistical package. Interpolation involves estimating the value of a variable outside a known range from values within the range by assuming that the estimated values follow logically from the known ones. Even though there was this limitation it is assumed that the effect is minimal and may not significantly

influence the theoretical and empirical findings of this study. In addition there were data problems such that other explanatory variables like savings rate and foreign private flows among others were not incorporated in the study. These areas of shortcomings remain future areas of research. Future research should also provide additional evidence on the impact of capital market performance on economic growth in Malawi.

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APPENDICES

APPENDIX 1: STOCK MARKET PERFORMANCE

Table 1: Market Capitalization and Index-1st Quarter of 2016

Month Ending	Mkt Cap. MKm	Mkt Cap.MKm*	MASI
January	7522117.08	622115.4	14562.53
February	7509345.98	609344.3	14263.58
March	747220573	573304.05	13419.95
1st QTR 2016	**7473305.73**	**573304.05**	**13419.95**
1st QTR 2015	**7528915.58**	**65374.5**	**15364.5**

Note: *Excludes non Malawi register Old Mutual Pcl Shares

Table 2 Market Liquidity-1st Quarter of 2016

Month Ending	Mkt Cap/GDP %	Mkt Cap/GDP*%	TOR	Value Traded Ratio	shares Trade/shares in issue*%
January	235.04	19.439	0.00312	0.0161	0.01587
February	234.64	19.04	0.00333	0.0175	0.010396
March	233.51	17.914	0.0028	0.0156	0.02877
1st QTR 2016	**233.51**	**17.914**	**0.03698**	**0.2064**	**0.220144**
1st QTR 2015	**243.01**	**21.186**	**0.08721**	**0.4116**	**0.918456**

Note: *Excludes non Malawi register Old Mutual Pcl Shares

APPENDIX 2: DIAGNOSTIC TEST RESULTS

Table 1: Breusch-Godfrey LM test for serial correlation on Market Capitalization Model

Lags to include	LM Statistic	P-Value
1	0.202208	0.654900
2	0.100173	0.904900
3	0.186755	0.904900
4	0.144556	0.964500

Ho: No serial correlation hence based on the P-value we fail to reject the null hypothesis

Table 2: Ramsey's RESET test and Breusch-Pagan-Godfrey test

	Ramsey's RESET		Breusch-Pagan-Godfrey test
	F_2	F_3	λ
	0.493854	0.803568	0.791692
P-Value	0.613300	0.498100	0.693900

Ho: correct specification and no conditional heteroskedasticity.

From table 3 F_2 and F_3 are the test statistics for investigating the appropriateness of quadratic and cubic models respectively and λ is the statistic for the Breusch-Pagan-Godfrey test for heteroskedasticity. P-Value denotes the corresponding probability values under the respective null hypotheses of correct specification and no conditional heteroskedasticity.

Table 3: Breusch-Godfrey LM test for serial correlation on stock Market Liquidity Model

Lags to include	LM Statistic	P-Value
1	0.290555	0.292100
2	0.254787	0.776000
3	0.325972	0.806600
4	0.239857	0.914500

Ho: No serial correlation hence based on the P-value we fail to reject the null hypothesis

Table 4: Ramsey's RESET test and Breusch-Pagan- Godfrey test

	Ramsey's RESET Test		Breusch-Pagan-Godfrey test
	F_2	F_3	δ
	0.662583	0.707210	0.507757
P-Value	0.519500	0.551400	0.925900

Ho: correct specification and no conditional heteroskedasticity.

Note from table 4 that F_2 and F_3 are the test statistics for investigating the appropriateness of quadratic and cubic models respectively, δ is the statistic of the Breusch-Pagan-Godfrey test. P-Value denotes the corresponding probability values under the respective null hypotheses of correct specification and no conditional heteroskedasticity.

APPENDIX 3: SHORT RUN EFFECTS

Table 1: Short Run effects for the Stock Market Capitalization Model

Variable	Coefficient	t-Statistic	Probability
DCRDT	-1.459459	-2.908807	0.0054
$DCRDT_{t-1}$	4.266849	6.412444	0.0000
$DCRDT_{t-2}$	-2.095829	-2.707579	0.0092
$M2_t$	4.469567	5.763502	0.0000
$M2_{t-1}$	-2.220538	-1.95519	0.0561
$M2_{t-2}$	4.446025	4.794138	0.0000
TOR	3.391931	0.610181	0.5445
VTRADED	22.741426	1.223561	0.2267
DUMMY	140.6748	1.261111	0.2130
ECT	-0.381342	-4.41244	0.0001

Table 2: Short Run effects for the Stock Market Liquidity Model

Variable	Coefficient	t-Statistic	Probability
$VTRADED_{t-1}$	0.334736	2.685178	0.0096
DCRDT	0.00105	0.258483	0.7970
$DCRDT_{t-1}$	0.00817	1.905181	0.0620
INCOME	0.247408	1.138807	0.2597
$INCOME_{t-1}$	-0.977738	-2.607906	0.0117
M2	0.008769	1.872559	0.0664
MCAP	-0.000479	-1.231923	0.2232
TOR	0.194503	7.037716	0.0000
TOR_{t-1}	-0.053884	-1.433092	0.1575
DUMMY	35.0592	0.538829	0.5922
ECT	-1.186455	-7.343197	0.0000