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Determinants of Capital Market Development in Kenya

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ABSTRACT: This study sought to determine the determinants of capital market development in Kenya. The empirical study was conducted using time series data for the period 2001- 2020. This study adopted quantitative approach and employed secondary data of twenty years; Pearson correlation test was used to evaluate the relationship between the variables. Furthermore, this study used multiple regression analysis by applying Ordinary Least Square (OLS) method. The macroeconomic variable data involved were stock market liquidity, investment, and foreign direct investment. For capital market development indicators, market capitalization, listed companies, value traded and turnover ratio were considered. The regression results demonstrate that all the variables, stock market liquidity, investment and foreign direct investment are important determinants of capital market development in Kenya. The findings from Ordinary Least Square (OLS) indicated that the model is significant in a whole and the three independents explain 91% changes in the dependent variable. The study recommends the following policies among others; the government should regulate and control financial sector in order to promote the capital market development. Policy maker should cut off restriction for the foreigner investors and to create strategies to increase the foreign direct investment and offer incentives.

KEYWORDS: Capital Market Development In Kenya

I. INTRODUCTION

Capital market is a critical channel of raising funds for businesses which in turn helps further economic growth. Determining capital market development will not only involve an understanding of its determinants but will also involve a clear definition of what 'Capital market development' really entails and more importantly, how its progress or development can be measured. Currently, the size of capital markets stands at $ 178 trillion globally, this demonstrates clearly how capital markets can be important in helping governments and businesses access long term finance. These funds can be used in helping promote sustainable growth with greater employment opportunities for growing economies. There exists clear evidence that capital market development can lead to efficient allocation of resources which will, in turn, lead to increased productivity.

For capital markets, to be large and liquid more or relative to the economy, the market should not be so concentrated. It should, however should be strongly linked to the real sector and should develop in equal measure to economic activities. Also, capital market development can be considered as the performance of stock market which is based on the increase or reduction in stock prices or returns (El-Wassal, 2013).

Capital markets aims at ameliorating the information and transaction costs and other parameters that undermine the liquid transfer of funds from economic units of surplus to economic units of deficit. By consolidating the resources of many small savers and thus exploiting economies of scale, a well-functioning capital market will help allocate savings to its more productive uses at the least cost possible, while minimizing the risks for all the stakeholders (Levine 2005).

There are several ways of measuring capital market development, using listed companies, market capitalization, Turnover ratio, values traded among others (Garcia and Liu, 1999). Several studies have measured CMD using market capitalization as a percentage of Gross Domestic Product (GDP) which is believed to be a better proxy to measured capital market development (Yartey, 2008).

In the quest to elucidate the determinants of capital market development, there has been a a lot of debate among economists and financial experts. There are several studies that deemed the determining factors to range from the macroeconomic and institutional factors. These groups have been found to be the most common driving forces for the capital market development. Macroeconomic factors include stock market inflation, income level, saving and investment, banking sector development, foreign capital investment, supply and demand factors. On the other hand, institutional factors are accounting standards, property laws, public awareness, clearance and settlement issues, education, transparency and the inside information problems, and taxation issues.

Furthermore, there are many other factors like macroeconomic stability, which include real interest rate, inflation, money supply and exchange rate, economic policies like monetary policy, fiscal policy/taxation policy and foreign participation policy. Based on the above-mentioned studies, this study will force on macroeconomic

factors. Several studies used those factors as determinants of capital market development. These studies areas pointed out by Garcial and Liu (1999); Ben Naceuret al (2007); Billmeier and Massa (2007); Yartey (2008); Cherif and Gazdar (2010); Kemboi et al (2012); Aduda J.et al (2012); El-Wassal, (2013); John and Duke (2013).

Established by an Act of Parliament, Cap 485 A, under The National Treasury and Planning, Capital Markets Authority is an independent public agency that came into being on December 15, 1989. This is the date when the Act was passed and was inaugurated in March 1990. The Capital Market Authority is the regulator of capital markets in Kenya and is responsible for licensing, supervising and monitoring the activities of market intermediaries. In this context, market intermediaries include the stock exchange and the central depository and settlement system and all the other persons authorized under the CMA Act. Capital Market authority plays a very important role in the economy by creating an enabling environment for mobilization and allocation of much needed capital resources to finance productive investments in various sectors of the economy. Capital Markets Authority has a regulatory framework that it employs in order to achieve its mandate of regulating and developing the Kenyan capital markets.

Capital markets play a critical role in the economic development process, particularly in terms of distributing funds to productive activity. Using a variety of econometric methodologies, this role has been widely explored and documented in the empirical literature. According to the literature, well-functioning capital markets support long-term economic growth (Beck et al., 2000). Nonetheless, why have so many countries remained financially underdeveloped, if capital market development is so beneficial to growth? Why have certain economies built well-functioning capital while others have failed to do so? Given the link between capital market development and economic growth, it's critical to comprehend the elements that can explain the disparity in capital market development levels.

The nature of economic policies, regulatory procedures, and institutional structures determine the determinants of capital market development in any country (Kemboi, 2012). Most studies have traditionally concentrated on the relationship between macroeconomic variables and capital market development in industrialized nations. As a result, there are few studies undertaken in poor nations such as Kenya. As a result, in order to elucidate the relationship between macroeconomic variables and capital market development in Kenya, research was conducted in the developing capital market rather than the developed capital market.

In addition, there have been substantial developments in Kenya's capital market development. For example, a rise in resource allocation and capital mobilization for long-term investment, as measured by total market capitalization, value exchanged, and turnover, resulted in economic benefits such as faster productivity growth, more job possibilities, and improved macroeconomic stability. In this study, three quantitative variables were used. Stock market liquidity, investment, and foreign direct investment are all available. Furthermore, macroeconomic indicators are critical in assessing capital market development success. It is advantageous for investors to evaluate their investments in light of the current stock market trend. Investors cannot make informed decisions on when to enter or exit the stock market without the use of macroeconomic data. As a result, the question is whether the development is linked to these factors, and if so, to what extent. The study examined the factors of capital market development in Kenya for this reason.

II. MAIN OBJECTIVE

The main objective of the study was to determine the determinants of capital market development in Kenya.

A. Specific objectives

i) To examine the extent to which Stock Market Liquidity influences Capital market Development in Kenya

ii) To examine the extent to which Investment influences Capital Market Development in Kenya.

iii) To examine the extent to which Foreign Direct Investment influences Capital Market Development in Kenya

III. THEORETICAL REVIEW

A. Markowitz Pricing Theory

The Markowitz portfolio theory is the foundation of the capital market theory as any understanding of the theory behind stock price activities must begin with Markowitz (1952, 1959). This model involves a single-period model, where an investor forms a portfolio at the beginning of the period. The investor's goal is to get the best out of the portfolio's expected return. This is subject to a certain level of risk that can be acceptable to the investor or minimize the risk, subject to an acceptable expected return. The single-time period is accompanied with assumptions about the attitude of the investor towards risk. It allows risk to be measured by the standard deviation of the portfolio's return. Sharpe (1964), Lintner (1965), and Mossin (1966) independently created what is now known as the Capital Asset Pricing Model (CAPM), based on the Markowitz framework. The assumption behind the CAPM model is that the investors use Markowitz ideology in developing portfolios. Therefore, Capital Market Theory involves a number of predictions concerning equilibrium and expected returns on risky assets. Ideally, the concept is created by making some simplified assumptions to facilitate the creation of the analysis and create a deeper understanding of the arguments without changing the asset theory predictions random walk theory asserts that price movements will not follow any patterns or trends and that

past price movements cannot be used to predict future price movements.In an efficient market at any point in time the actual price of a security is a good estimate of its intrinsic value. (Fama E. F., 1965-1974). Fama, states that, in uncertain world the intrinsic value can never be ascertained exactly. Thus, there isalways room for disagreement among market participants concerning what they deem is an intrinsic value of a security.In an efficient market such discrepancies between actualprices and intrinsic values should cause the actual price of thesecurity to wander randomly about its intrinsic value

B. Capital Market Theory

Capital market theory simply explores the repercussions of considering a risk-free asset from the foundations of the modern portfolio theory by Markowitz. Sharpe (1964) is acknowledged for developing the CAPM. However, Lintner and Mossin had initially created similar models around the mid-1960s.

Some of the assumptions made concerning Capital Market Theory include: Investors are Markowitz efficient and they decide to make an investment based on the expected return and involved amount of risk; investors can borrow or lend an indefinite amount at a risk-free rate of interest; all investors have corresponding expectations when it comes to returns.

The capital market theory is a model whose main aim is to price assets, most commonly, shares. The theory determines the environment in which securities analysis is performed. Capital market theory is a positive model in that it predicts how investors behave instead of how they should behave, as in the case of modern portfolio theory (MPT).

C. Calderon-Rosell Theory

Calderon Rossell (1991) developed a model or theory that examines the most important determinants of capital market development. This model represents the most serious attempt to lay the foundation for CMD financial theory. This model takes into account market liquidity and economic growth as key indicators. Yartey (2015) adopted the Calderon-Rossell model to include other factors that may affect the development of capital markets. The determinants are divided into two groups known as macroeconomic and institutional factors. Macroeconomic factors include savings, income levels, private capital flows, investments, stock market liquidity and macroeconomic stability.

Institutional variables are corruption, public order and morals, democratic accountability, and the quality of bureaucracy.

D. Efficient Market Theory (EMT)

Efficient Market Theory (EMT) is a theory that explains the development of capital markets. This theory was developed by Fama in 1965 and used by Ewah et al (2009), Hodnett and Hsieh (2012). The price of the asset states that it reflects all relevant information available about the intrinsic value of the asset. This is known as the present value of cash flows expected by securities owners. However, the probability of winning, represented by the presence of undervalued and overvalued stocks, motivates investors to trade, and their trading directs the stock price to the present value of future cash flows.

Fama E. (1991) demonstrates that market efficiency is a continuum since the lower the transaction costs in the market, including the expenses of acquiring information and negotiating, the lower the efficiency. Stock prices have a significant informational influence in two ways. First, investors want to know if certain trading techniques may yield excess returns, or if they can outperform the market. Second, as capital market development accelerates, new capital markets will see the most utility if stock prices appropriately reflect all facts. The author also discusses three various types of market efficiency, including the weak, semi-strong, and strong kinds.

Efficient markets theory has the power to rule out the possibility of persistent outperformance by a specific group of investors who utilize a specific sort of information as a trading instrument. Under the assumption of efficient capital markets, however, all investors are risk-averse and are able to make sensible judgment.

E. Capital Asset Pricing Theory

The Capital Asset Pricing Theory, sometimes known as the CAPM, is a specific equilibrium model that many investors are interested in. William Sharpe (1964) and John Linter's CAPM (1964) marked the beginning of asset pricing theory. The CAPM's appeal is that it makes accurate and intuitive predictions about how to quantify risk and the relationship between expected return and risk. It helps users assess the link between risk and predicted investment returns and estimate the relevant risk of specific assets. Because of its simplicity and ramifications, the CAPM is appealing as an equilibrium model. Alternatives have been developed as a result of major challenges to the concept over time. The Arbitrage Pricing Theory, or APT, is a popular alternative to the CAPM since it allows for many sources of risk. While the CAPM is a straightforward model based on reasonable reasoning, several of the model's assumptions are impractical. Some proposed adaptations to the basic CAPM have relaxed one or more of these assumptions (Black, 1972). It's important to remember that no matter how well an investment is diversified, it's impossible to eliminate all risk

F. Inter-temporal Capital Asset Pricing Model (ICAPM)

The CAPM is a single-period model that is static. As a result, it misses the multi-period aspect of capital market participation. To capture this multi-period feature of financial market equilibrium, Merton (1973) created the intertemporal capital asset pricing model (ICAPM). This pricing model framework recognizes that the investment opportunity set may change over time, and investors would prefer to protect themselves from negative changes in the available options. Investors may wish to hold security as a hedge if it has a history of strong returns when disasters

happen to the investment opportunity set. As a result of the increased demand, the security's equilibrium price would rise (all else constant). The necessity to represent this hedging demand in the asset price equation is one of the ICAPM's fundamental insights

IV. EMPIRICAL REVIEW

Garcia and Liu (1999) looked into the macroeconomic factors that influence capital market growth. For the period 1980-1995, they used panel data from 15 industrial and developing countries (sample of Latin America and Asian countries, Japan and the USA). According to their findings, the real income level, saving rate, financial intermediary development, and stock market liquidity are all major predictors of capital market development, whereas macroeconomic stability has no explaining power. Banks and markets, the study concluded, are complementing rather than substitutive. At the same time, they believed that rising income levels and the creation of financial intermediaries can help the capital market develop. According to them, when the banking system develops favorably, it contributes greatly to the development of the capital market since it can expedite transactions between investors and the stock market.

The macroeconomic factors of capital market development in the Middle Eastern and North African (MENA) region were explored by Ben Naceret al (2007). The study included unbalanced panel data from twelve MENA nations, as well as fixed and random effect specifications. Saving rate, financial intermediary, stock market liquidity, and the stabilizing variable are all major predictors of capital market development, according to the research. Furthermore, they discovered that financial intermediaries and capital markets are complements rather than substitutes in the growth process. For the objective of capital market development in the region, the research produced several policy implications for MENA countries. Savings should be encouraged through proper incentives, stock market liquidity should be improved, financial intermediaries should be developed, and inflation should be controlled.

The macroeconomic determinants of capital market development were studied by Billmeier and Massa (2007). They used a fixed-effect panel regression to analyze panel data from seventeen Middle East and Central Asia countries. The findings revealed that both institutions and remittances have a positive and significant impact on capital market development. In the institutions approach characterized as legal systems that include transparency, contract enforcement, and protection of property rights is important for the capital market development.

Yartey and Adjasi (2007) examined the Capital market development in Sub- Saharan Africa. The study used unbalanced panel data from 14 African countries. The regression model used to compute data. The finding suggests that the well-developed banking sector, macroeconomic environment, accounting institutions, and shareholder protection are necessary determinants of Africa's capital markets development. Also, the study offered some suggestions in order to develop the capital markets in Africa. The suggestions included to increase automation, demutualization of exchanges, regional integration of exchanges, promotion of institutional investors, regulatory and supervisory improvements, involvement of foreign investors, and educational programs.

Furthermore, Yartey (2008) examined the macroeconomic and institutional determinants of capital market development. He used a Secondary panel data from the period of (1990 - 2004) and represented by 42 countries. Calderon-Rossell model was used. The study found that gross domestic investment, private capital flows, stock market liquidity and income level are important determinants of capital market development. The findings further revealed that the institutional factors such as political risk, law and order, and bureaucracy quality are important determinants of capital market development. Based on his findings, he suggested that at the early stages of its development, the banking sector is a complement to the capital market in financing investment. However, as they both develop, banks and the capital market begin to compete as vehicles for financing investment. The resolution of political risk can encourage investor confidence and propel the growth of the capital market.

Cherif and Gazdar (2010) investigated the macroeconomic and institutional determinants of capital market development. They used panel data from MENA countries from 1990 to 2007. By using both panel data and instrumental variable techniques (fixed and random effects specification), they found that income level, saving rate, stock market liquidity, and interest rate influence capital market development. The findings further found out that the banking and capital market sectors are complementary instead of being substitutes. They recommended that a well-developed banking sector is important for the capital market development in the region and play a vital role in promoting the capital market as demonstrated by the experience of many East Asian countries. Domestic saving is also an essential determinant of capital market development.

Yartey (2010) used a panel data set of 42 emerging economies from 1990 to 2004 to look at institutional and macroeconomic variables of stock market development. He used a modified Calderon-Rossel partial equilibrium model of stock market growth. The findings indicated that macroeconomic determinants such as income level, domestic investment, foreign direct investment, banking sector development and stock market liquidity are important for stock market development while in institutional factors including Political risk, law and order, bureaucratic quality and democratic accountability are

important determinants of stock market liquidity

Khorshidi and Hoseini (2010) analysed the macroeconomic determinants of capital market development, the case being Iran. The study used time series and traditional econometrics (OLS) models. The empirical result revealed that macroeconomic factors such as income level, saving, investment rate, financial intermediary development, stock market liquidity and macroeconomic instability and institutional factors represented by property laws, clearance and settlement issues, transparency and the inside information problems, taxation issues and accounting standards are important determinants of capital market development. The study recommended that a proper structure be made to push national income to the capital market. Due to promotion of investment rate; the investment share of national income must be increased. It also recommended that privatization is an accurate policy to expansion along with the effect of financial intermediaries.

Kemboi and Tarus (2012) examined macroeconomic determinants of capital market development in Kenya over the period 2000-2009. The study used quarterly secondary data. The hypothesis on the co-integrated relationship between capital market development and macroeconomic determinants was examined using Johansen-Julius co-integration technique. Although an error correction model was used in estimating the relationship between macroeconomic factors, on the one hand and capital market development on the other. The findings indicated that macroeconomic factors comprising income level and stock market liquidity are important determinants of the Nairobi Stock Market. The findings also depicted that macroeconomic stability is not a significant forecaster of the securities market development.

Aduda and Onsongo (2012) investigated the determinants of development in the Nairobi Stock Exchange (NSE). Secondary data from 2005 to 2009 were employed.The regression modal was used to determine the factors influencing the development of the NSE. The findings indicated that macroeconomic variables such as stock market liquidity, institutional quality, income per capita and domestic savings were important determinants of stock market development in the Nairobi Stock Exchange. The regression analysis found that there was no relationship between stock market development and macroeconomic stability (inflation) and private capital flows. The findings for institutional quality revealed that law and order, bureaucratic quality, democratic accountability and corruption index were important determinants of stock market development as they enhanced the viability of external finance. The study also recommended that the share of bank lending to the private sector should be increased to avoid public sector programs crowding out private investment financed through financial saving. It also recommended that the government should address constraints affecting domestic saving and policy approaches should be geared toward strengthening the banking legal infrastructure.

El-Wassal (2013) provided a conceptual framework for the determinants of capital market development and explained the general concept of capital market development. The study suggested five dimensions for assessment and proposed three sets of variables that shape or determine capital market development. The variables were institutional factors, supply factors, demand factors, and economic policies. In addition, supply and demand factors stood as building block of capital market, the institutional factors and economic policies
stood as supporting block. The study concluded by highlighting three principles. These principles are first, capital market development is a difficult, complex, multi-faceted, and long-term process. The second principle is capital market development is only part of the overall development of a country's financial system, and third, capital market development is mainly a private sector activity.

Abdelbaki (2013) investigated the relationship between macroeconomic variables and Bahraini stock market development. He used the Autoregressive Distributed Lag model. The study found that income, investment, private capital flows and stock market liquidity are important determinants of Bahraini stock market development. According to the study, as the market is liquid, the stock price will change from time to time, whereas investors can gain profits from the stock market in which it increases the income level of investors

V. METHODOLOGY

A. Research design

The quantitative design was used in this study because it combines theoretical consideration with empirical observation and focuses on numerical data analysis. The related design was also used by Yartey (2008), Aduda et al (2012), and Garcia and Liu (1999). Garcia and Liu (1999) also used a similar design. This method resulted in a description of the determinants discovered during the study in the existing situation. As a result, the above-mentioned design was ideal for gathering data on the determinants of capital market developments in Kenya

B. Data Collection Methods

The information was gathered primarily through reports obtained directly from various sources. Data on GDP, market capitalization, and share value were obtained from the Kenya National Bureau of Statistics Annual Economic Survey books. Data on gross capital formation and foreign direct investment were derived from word bank publications. This method of data collection was chosen because it saves time and money and therefore does not necessitate the use of a team of employees. These are the quantitative variables in most cases.

C. Theoretical & Empirical Model

For data analysis in this study, a regression model was

used. To support this, several authors have used this model, including Lazaridis and Trofornidis (2006), Yartey (2008), and Aduda.J.et al (2012). The research was divided into two models: theoretical and empirical. A theoretical model is typically developed based on a review of the literature, which serves as the foundation for collecting and analyzing data. In the case of this study, the theoretical model included the following components such as Y, which stands for CMD, c, for constant term of the model, βi; 2. 3, stands for the coefficient of the predictors, εt, stands for the Error term for each observation and Xi 2 ---3, stands for the predictor as independent variables. Therefore,

Theoretical model is

$$Y=c+\beta iXi+ \beta 2X2i+\beta 3X3ti+\varepsilon i \ldots\ldots\ldots\ldots\ldots\ldots 1$$

Where;
Y =Dependent variable
C =Constant term of the model
βi; i=1, 2 and 3 =Coefficient of predictors i
εi =Error Term for each observation
Xi; i=1, 2 and 3=Predictor (independent variable i)

The empirical literature was used to guide the specification of the empirical model. The empirical model in this study includes the various variables in a question as determinants of capital market development in Kenya. As a result, based on the availability of data from various sources, the following variables were considered for the empirical model.

Thus, the empirical model is

$$CMD = c + \beta 1SML +\beta 2INV +\beta 3FDI +\varepsilon i \ldots\ldots\ldots\ldots\ldots\ldots 2$$

Where;
CMD =; Capital Market Development
c =Constant term of the model
εi =Error Term for each observation
SML=Stock Market Liquidity
INV =Investment
FDI =Foreign Direct Investment
β1=beta coefficient for stock market liquidity
β2= beta coefficient for investment
β3= beta coefficient for foreign direct investment

Pearson Correlation was used to evaluate the relationship between the variables in the model. Then, using the T-test and F-test, the Ordinary Least Square (OLS) regression technique was used to estimate the relationship between CMD and its potential determinants, as well as the overall significance of the model.

D. Variables Measurement Procedures

A variable is an element that helps the researcher collect relevant information for a specific study. According to Saunders et al. (2012), a variable is an individual element or attribute from which data is collected. Stock Market liquidity, Investment and foreign direct investments were the variables used to collect data and information on the determinants of Kenyan capital market development. Variables in this study were classified as independent and dependent variables. Relevant independent variables were grouped as macroeconomic factors, which include variables such as stock market liquidity, investment, and foreign direct investment. Capital Market Development was the dependent variable in this study. The above-mentioned variables, are defined in the same way by Cherif and Gazdar (2010).

i. Capital Market Development

Capital market development is the dependent variable in this study, and it is closely related to learning and innovation capacity because it enables creative construction by transferring resources to young and efficient businesses. This is possible because a transparent market allows for the removal of asymmetric information barriers, allowing younger companies to obtain financing without the need for corporate equity or special connections. Cherif and Gazdar (2010) defined capital market development as a component of financial development, which is linked to economic growth. In other words, capital market development refers to the performance of the stock market as measured by the increase or decrease in stock prices or returns.

The number of listed companies, market capitalization (as a percentage of GDP), value traded (as a percentage of GDP), and turnover are all used to gauge capital market development (percent). Khorshid.H.et al. used these indicators (2010). Capital market development was measured in this study using market capitalization. This is due to the fact that market capitalization is a good proxy with less arbitrary than any other index. Market capitalization was used as a proxy for capital market development in influential studies (Yartey 2008), Cherif and Gazdar, (2010).

ii. Stock Market Liquidity

Stock market liquidity is a critical variable that influences the development of Kenya's capital market. When it comes to deciding which investment to make, market participants consider liquidity. As a result, it is expected that a more liquid stock market will result in greater capital market development. According to Aduda J.et al. (2012), stock market liquidity measures the liquidity of the company's share, which is the ease with which the firm's shares are bought and sold. As a result of the company's share prices reflecting all available information, the company's transaction costs will decrease, and stock market liquidity is expected to have a significant impact on the capital market.

This variable has been used in previous studies by Garcia and Liu (1999), Billmeier and Massa (2007), Yartey and Adjasi (2007), Yartey (2008), Cherif and Gazdar (2010), Ben Naceret al (2007), and Kemboi and Tarus (2007). (2012). The number of shares traded on the stock market

is used to calculate liquidity. This is due to the fact that when various measures are combined, they provide a clear picture of the relationship between stock market liquidity and capital market development.

iii. Investment

Investment is one of the key variables influencing capital market development because the capital market serves as a conduit for transferring savings to investment projects. According to Mashika J.et al (2011), investment is an increase in the capital market in the economy that also improves the operation of the capital market, which eventually feeds into economic growth. Gross Capital Formation is an indicator of domestic investment. Prior studies that have used the variable include Billmeier and Massa (2007, Yartey (2008, Cherif and Gazdar, (2010), Khorshid H.et al (2010).

iv. Foreign Direct Investment

Foreign direct investment (FDI) is a factor that influences capital market development. Foreign investors have been regarded as major participants in capital markets in recent years. Foreign direct investments (FDIs) can boost growth by stimulating domestic capital accumulation. Thus, strong domestic investment performance indicates high capital returns, which will attract more foreign capital. According to Errunza (1982), the long-term impact of foreign capital inflows on capital market development is more extensive than the benefits of initial flows and increased investor participation. Private capital flows are used to calculate foreign direct investment. Private Capital Flow was also used by Yartey (2008) and Aduda J.et al (2012) as a proxy for foreign direct investment.

VI. RESULTS AND DISCUSSIONS

A. Descriptive Statistics

The descriptive statistics results for capital market development as a dependent variable and its determinants are shown in Table 4.1 below. The output contains information that can be used to better understand the descriptive properties of the data. The total number of cases in the data set was recorded in the column labeled N, which was 20. According to the findings, the average capital market development is 4.830 while the minimum and maximum observations of capital market development were 2.650 and 15.10, respectively. The standard deviation quantifies the degree of variability in the variable's distribution. As a result, the larger the standard deviation, the greater the difference between the individual data points. The standard deviation in this case was 2.99.

The stock market liquidity results show that these variable influences capital market development with minimum and maximum observations of 0.00 and 0.04 respectively. The mean value of stock market liquidity to influence capital market development, on the other hand, was 0.02 with a standard deviation of 0.01. Another variable was investment, and it was discovered that the growth rate of investment to influence capital market development ranges from 15.670 to 22.88 ranges, with the average of investment to determine capital market development being 18.780 and a standard deviation of 1.951.

Finally, the result of foreign direct investment shows that the minimum and maximum ranges were 0.00 and 0.47, respectively, with a mean of 0.16 and a standard deviation of 0.13. This means that, within this range, foreign direct investment can have a positive impact on growth by stimulating domestic capital accumulation and having a positive impact on the current market value of the firm receiving flows, thereby enhancing capital market development.

Variables	Min	Max	Mean	SD	Skewness
CMD	2.65	15.10	4.83	2.99	2.78
SML	0.00	0.04	0.02	0.01	-0.31
INV	15.67	22.88	18.78	1.95	0.24
FDI	0.00	0.47	0.16	0.13	0.78

i. Trends in Capital Market Development

Market capitalization was used to gauge capital market development. The table below shows that CMD has been relatively stable throughout the review period, with the exception of the first three years, when there was a decline. CMD has been stable for the remaining 17 years, from 2003 to 2020, between a low of 2.65 percent and a high of 4.83 percent.

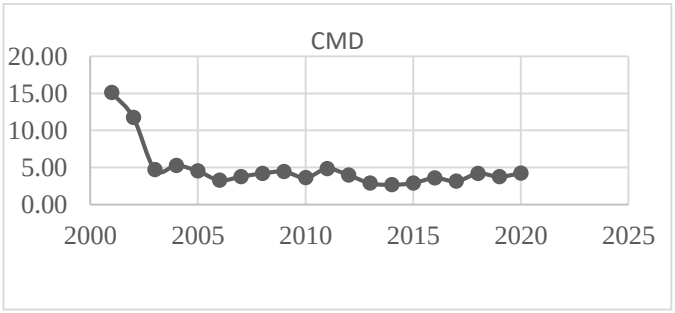

Fig 1. Capital Market Development in Kenya

ii. Trends in Stock Market Liquidity in Kenya

The number of shares traded in the study is used to calculate stock market liquidity. It assesses the liquidity of the company's stock. The liquidity of the stock market is a critical variable that influences the development of the capital market. In other words, more liquid stock markets may encourage investment, profitability, and allocation efficiency. Figure 2 depicts the trend of stock market liquidity as measured by the number of shares traded. The chart below shows SML fluctuating, with the highest point in 2006 being 3.68 percent liquidity. The lowest liquidity

level was 0.01 percent in the year 2000.

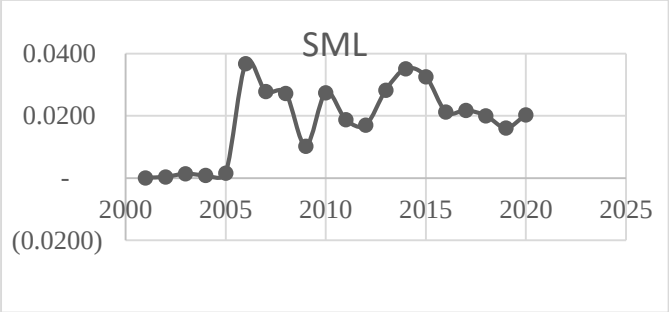

Fig 2. Trends IN Stock Market Development in Kenya

iii. Trends In Investment

Investment is one of the key factors that drives the growth of the capital market. Gross capital formation is used to measure investment, and stock markets are one way to link savings to investment projects. Larger savings, on the other hand, increase the amount of capital flowing through stock markets. Investment continues to be a major driver of capital market development as well as overall economic growth. Figure 3 depicts investment trends in Kenya as measured by gross capital formation. The trend shows that investment has fluctuated over the review period, ranging from 15.84 percent in 2003 to 22.88 percent in 2014.

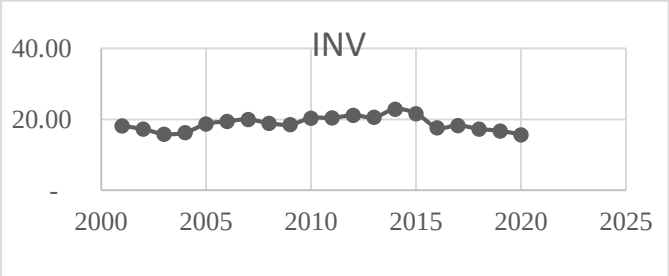

Fig. 3. Trends in Investment in Kenya

iv. Trends in Foreign Direct Investment in Kenya

Foreign direct investment is an investment in which foreign owners have control over the behavior of the firms in which they invest. It is calculated using private capital flows. Foreign direct investment and the stock market have a strong relationship. This can be demonstrated by contrasting their roles, as foreign direct investment promotes capital market development and contributes to a country's economic development, while the stock market has a positive impact on the economy and expands investment opportunities. Furthermore, in order to increase their share of foreign direct investment flows, most countries imposed simple restrictions on foreign direct investment, as well as strengthened macroeconomic stability, domestic financial reforms, and tax incentives. Foreign direct investment also plays a role in increasing domestic savings in the country by creating jobs and improving technology transfer as well as managerial skills.

Figure 4 shows that for several years, foreign direct investment in Kenya provided a cyclical movement in direction. The review period begins with a 0.2 percent, then improves slightly to 5.6 percent in 2002. This is followed by a drop to 1.4 percent the following year in 2003. However, there is an increase in FDI flows for the next six years, followed by a decline to the lowest level of 0.4 percent. This is followed by a sharp increase to a peak of 45 percent in 2012.

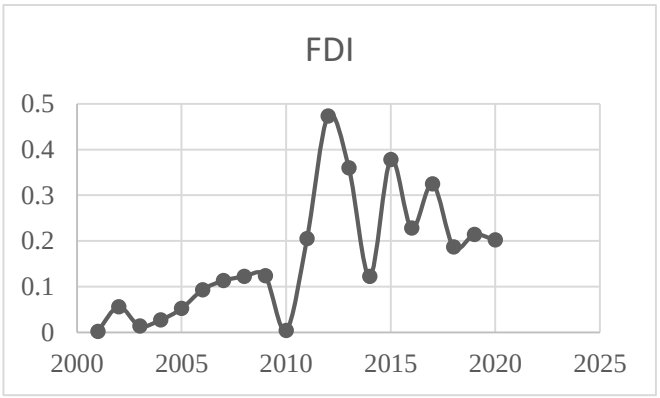

Fig 4. Trends of Investment in Kenya

B. Correlation Analysis

	CMD	FDI	INV	SML
CMD	1			
FDI	0.54	1		
INV	0.68	0.65	1	
SML	0.73	0.68	0.84	1

From the above table, correlation between capital market development and foreign direct investment is 0.54 or 54%. Correlation between investment and capital market development is 0.68 or 68% and finally, correlation between stock market liquidity and capital market development is 0.73 or 73%.

Dependent Variable: CMD
Method: Least Squares
Sample: 2001 2020
Included observations: 20

Variable	Coefficient	Std. Error
C	2.31	96.76580
SML	1.93	29.80126
INV	1.67	0.229730
FDI	1.42	8.704006

CMD = 2.31+1.9SML+1.67INV +1.42FDI.

From the above equation, we can conclude that 1.93% change in stock market liquidity will bring about 1% increase in stock market liquidity. Similarly, 1.67%

increase in Investment will lead to a 1% increase in stock market liquidity. Finally, the above equation confirms that 1.42% increase or decrease in Foreign direct investment will bring 1% increase or decrease in capital market development.

C. Summary of Study

From the finding of this research, we can conclude that all the independent variables (Stock Market Liquidity, Investment and Foreign direct investment) are important in determining capital market development and all have a positive influence on capital market development at positive 1.93, positive 1.67 and positive 1.42 respectively.

D. Recommendations

Based on the findings, the study advises that the government should regulate and supervise the financial sector, particularly stock markets, in order to maximize the benefits of capital market development. This ensures that there are more players on the stock exchange, which enhances competition and the quality of securities investments, having a significant impact on capital market development.

The Capital Markets Authority should remove restrictions on international investors in listed firms and develop measures to promote foreign direct investment and create incentives for long-term investing and stock market listing. This will draw big investors to other areas of the economy, resulting in the necessary capital market development.

Furthermore, to boost private capital flows in the country, the government should reduce restrictions on foreign direct investment by providing open, transparent and dependable conditions for all manner of firms and assure them of a conducive environment of doing business. The government should also invest heavily in infrastructure required to attract quality investors. Such infrastructure as transport facilities (airport, ports), adequate and reliable supply of energy, provision of an adequately skilled workforce, facilities for the vocational training of specialized workers among others.

Also, the government should provide incentives to local and foreigners such as reduction on corporate tax, capital gain, zero stamp duty, withholding tax on dividend income and withholding tax on interest income. As a result, all of these incentives should be supplied to foreigners, which will boost stock market capitalization and, as a result, not only encourage economic growth but also the development of capital markets. For example, China provides foreign-invested enterprises a tax rebate of 40% on profits reinvested to raise the firm's capital or create new firms. Similarly, India provides a tax exemption on income earned by enterprises involved in tourism or travel if the gains are received in convertible foreign currency.

From the findings of the study, the results reported that the investment variable plays an important role in determining capital market development and thus, Kenya has to encourage savings and investment by appropriate policies through encouraging competition and improving the institutional framework. In order to encourage capital market development in the country, it is very crucial to encourage savings by appropriate incentives through creation of jobs, enhancement of technology transfer and tax incentives of which have significantly increased private savings. This has also been the primary way that the Kenya policy makers have sought to stimulate household savings, to improve stock market liquidity by encouraging local participation, both at individual and company level.

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