

CHAPTER II

THEORETICAL FRAMEWORK

The second chapter of this research study is about theoretical framework. Theoretical framework defines the key concepts and theories that are relevant to our research objective. Theoretical framework also reveals how other researchers have defined these key concepts and presents the previous findings of other researchers. Thereby, theoretical framework of this research will be divided in two subtitles, which are literature review and result of previous researchers.

A. Literature Review

This research studies the interrelationship between capital market index and economic growth, so its literature review enlarges the definition related to the objects of the research. Let us quote below those concepts, followed by its definition.

1. The Meaning of the word “Interrelation”

“Interrelation” is the first word that we can read on the title of this research study. What does the word “interrelation” mean?

The word “interrelation” is a noun derived from the verb “to interrelate” which is defined by Oxford Dictionary (1994) as to be connected very closely so that they have an effect on each other. Interrelated means mutual related. Interrelationship means mutual relationship. The dictionary.com, an online dictionary, gives a simple definition of interrelation: a reciprocal relation. Thus,

briefly, the word interrelation could be defined as a connection between two or more systems among other systems. The connection between those two or more things could have many forms, so let us refer to Thesaurus.com (2013) to give us some words related to the word “interrelation”, like its synonym, here are: correlation, interconnection, interdependence, relationship, interchange, parallel, liaison, network, interconnection, attachment, reciprocity, match, rapport, linkage, tie-in, and affiliation.

A meaning of the word “interaction” given by Fitzmaurice (2000) might help us to understand the intending of the word “interrelation” which is used in this research. The term *interaction* has a very precise statistical meaning and refers to how the effect on the response of one explanatory variable depends on the level of one or more other explanatory variables. That is, interaction is said to arise when the effect of one explanatory variable depends on the particular level or value of another explanatory variable (Fitzmaurice, 2000). To explain the meaning of the word interrelation, we base on his definition because it is the closest definition of what we are purposing to explain.

2. Capital Market

The Economic Times defines capital market as a market where buyers and sellers engage in trade of financial securities like bonds, stocks, etc. the buying/selling is undertaken by participants such as individuals and institutions. Capital market is place where people go and buy securities as shares, debentures and bonds. Capital markets help channelize surplus funds from savers to

institutions which then invest them in productive use. Capital market is a financial market that provides facilities for mobilizing and dealings in medium and long term funds (Usman and Adejare, 2012). According to Aremu et al. (2011) the roles of capital market in the development of the economy include provision of opportunities for companies to borrow funds needed for long term investment purposes, provision of avenue for marketing of shares and other securities in order to raise fresh funds for expansion of operations leading to increase in output/production, provision of a means of allocating the nations real and financial resources between various industries and companies. Through the mechanism of capital market, the distribution of the scarce resources (such as capital) is efficient and effective. this efficient and effectiveness of distribution of scarce resources provide benefit to the company, provide a reduction in over reliance of the corporate sector on short term financing for long term projects and also provision of opportunities for government to finance projects aimed at providing essential amenities for local investors. Another advantage of capital market is that it encourages the inflow of foreign capital when foreign companies or investors invest in domestic securities, provides needed see money for creative capital development and acts as reliable medium for broadening the ownership base of family-owned and dominated firms.

Capital market consists of primary markets and secondary markets. Primary markets deal with trade of new issues of stocks or other securities, whereas secondary market deals with the exchange of existing or previously-issued

securities. Another important division in the capital market is made on the basis of the nature of security traded, i.e. stock market and bond market.

3. Market Index

Investopedia defines an “index” as a statistical measure of change in the value of an economy, or a financial market. A stock market index measures the change in the market value of all the companies listed on the exchange by using a portfolio of companies that represent the market. The valuation of the index can be based on various methodologies like market capitalization, weighted average or free float. Indices can be national, regional or global, and can be based on specific sectors (mining, pharmaceutical) or on companies with specific attributes like small, medium or large cap companies. These indices are used as benchmarks to measure the performance of individual companies as well as portfolios like mutual funds.

A stock index can give a good idea of how the overall stock market, or a certain portion of the stock market, is performing. This index measures the performance of a group of components. Stock market index measures the performance of the overall market.

To calculate the return of stock index between any two points in time, find the price level of the chosen index on the first and last trading days of the period of evaluating, then subtract the starting price from the ending price to determine

the index's change during the time period, then divided the index's change by the starting price, and multiply the quotient by 100 to express the index's return as a percentage (*The Motley Fool*, 2015).

$$\text{Market Index return} = \frac{\text{Ending Price} - \text{Starting Price}}{\text{Starting Price}} \times 100$$

A positive percentage indicates that the index increased during the time period, while a negative percentage indicates that the index fell.

4. Economic Growth

Economic growth is the expansion of economy's production. The economy growth rate is the percentage change in quantity of goods and services produced from one year to the next (Parkin, 2005: 118). Economic growth is an increase in the capacity of an economy to produce goods and services, compared from one period of time to another. Economic growth is measured by an increase of the real GDP. Economic growth helps to deduce how much more the economy produces than it did before.

Based on Frank et al. (2009), the measures that policymakers might take to promote economic growth are (1) policies to increase human capital: because skilled and well-educated workers are more productive than unskilled labor, governments in most countries try to increase the human capital of their citizens by supporting education and training programs. (2) Policies that promote saving

and investment: the cost of increasing economic growth is the cost of creating new capital. We know by expanding the capital stock we can increase future productivity and output. But, to increase the capital stock, we must divert resources that could otherwise be used to increase the supply of consumer goods. Average labor productivity increases when workers can utilize a sizable and modern capital stock. To support the creation of new capital, government can encourage high rates of saving and investment in the private sector. About investment, government can contribute directly to capital formation through public investment. Public investment includes the building of roads, bridges, airports, dams, energy, communication networks. (3) Policies that support research and development: productivity enhanced by technological progress, which in turn requires investment in R&D. Some types of knowledge, particularly basic scientific knowledge, may have widespread economic benefits. (4) The legal and political framework: government policymakers should consider the potential effects of tax and regulatory policies on activities that increase productivity, such as investment, innovation, risk taking, that also provide the framework within which the private sector can operate productively.

Economic growth is measured by the rate of change of the nation's gross domestic product. The economic growth of one nation from one period to another period is, practically, the variation of gross domestic product of that nation from the same period. The economic growth rate provides insight into the general

direction and magnitude of growth for the overall economy. Thus to elaborate the economic growth rate, we refer to the formula below (*Investopedia*):

$$\text{Economic Growth} = \frac{GDP_2 - GDP_1}{GDP_1}$$

5. Gross Domestic Product:

GDP or Gross domestic product is generally the first criteria to measure the growth of economy. Gross Domestic Product is the market value of all final goods and services produced within a country in a given period of time (Mankiw, 2004: 326). To gauge the wealth of a country, economists use gross domestic product. It represents, in monetary value, all goods and service which nation produced during a specific period of time generally yearly or quarterly. GDP is composed by the consumption of households, plus the investments, plus the spending doing by government, and the difference between exports and imports (Mankiew, 2004, 329).

$$GPD = \text{Consumption} + \text{Investment} + \text{Public spending} + (\text{Export} - \text{Import})$$

Because the amount produced could vary from year to year, and also the price to evaluate the value of products varies from period to period, so economists use a measure called real GDP and nominal GDP. Nominal GDP measures the amount of production of good and service valued at current price. Meanwhile, real GDP is used to measure the amount produced that not affected

by changes in prices, but the production of goods and services valued at constant prices.

Still in the concept of GDP, we often hear about GNP, Gross National Product. If GDP counts all the output generated within the boundary of country by its national citizens and foreigners entrepreneurship, GNP counts all of output produced by its citizens inside and outside of land.

GDP is important because it gives information about the size of the economy and how economy is performing. GDP measures a nation's income and also a nation's consumption. GDP revealed the health of nations. By the GDP, economists judge whether the policy of development and banking sectors are outperforming or underperforming.

6. Interrelationship between Capital Market and Economic Growth

Is there any relation between Capital Market and Economic Growth of a nation? This question is worth considering in great detail because it is the theoretical answer of what this research study is going to check up. In order to deliver a satisfactory answer regarding the interrelationship between Capital Market and Economic Growth, let me remind the definition of Capital Market and Economic Growth which we have already talked early.

Capital market is a place – not physically delimited- where buyers and sellers of financial securities meet. Capital market is a place where the providers of funds and the users of funds meet and make deal about trading securities. Capital markets encompass fixed-income and equity securities with maturities greater than one year (Jones, 2014:27). These securities are interests issuing authority or company which give certain intangible rights to the purchaser in relation to dividend, interest payment and/or management of the company (Usman and Adejare, 2012).

Economic growth refers to the increase in the capacity of an economy to produce goods and services, compared from one period of time to another time. Economic growth can be measured by many aggregates of income, but the most useful measurement is the gross domestic product. Thus the rate of change of GDP is principal index of measuring the economic growth. The gross domestic product gives an overall idea of the quantity of goods and services produced by one economy over a period of time. A positive rate of variation of gross domestic product is regarded as the main purpose of any economy in order to increase economic growth and reach national development.

Capital markets have vital role on economic growth. Osei (2005) stated that lack of long-term investment capital is the major constraint to market growth and development. The capital market is a network of specialized financial

institutions, processes and infrastructure that, in various ways, facilitate the bringing together of suppliers and users of medium to long-term capital for investment in socio-economic development projects (Al-Faki, 2006 in Usman and Adejare, 2012). Capital market is using by companies and government to raise funds for their operations (activities, development projects). Undoubtedly, stock exchange are expected to increase the economic growth by increasing the liquidity of financial assets, making international and global risk diversification possible for would-be international and domestic investors, promoting wiser investment decision by saving-surplus units based on available information, influencing corporate governance (i.e. solving agency problem by way of increasing shareholder' investment/value) and channeling more savings to corporations (Osei, 2015).

Some theories state that a well-managed and organized structure of capital market pushes economy to growth. Theoretically, there is a relationship between capital market index and economic growth. The growth of GDP is systematically raises the stock market returns. Or vice-versa, the increasing of the turnover of stock market gives rise to economic growth. Some previous researchers such as Ekpung and Uchena (2013), Oke and Adeusi (2012), Nordin and Nordin (2016) have found a positive relationship between capital market and economic growth.

However, theoretical and real economy sometimes reveals a disconnected pattern. In real economy there are several factors that cause disproportionate returns which is why GDP growth and stock market returns are not an exact match. Hermann (2016) gave some factors that cause real GDP growth to differ from stock market returns: the volatility of valuation (sentiment, confidence, emotions); the expectations; the dilution; the globalization; the impact of Central Bank Policies; the exclusion of Private Sector; the Mergers and Acquisitions activity and the influence of Politics and Media.

7. Previous Research Findings:

Recently, discussing topic about capital market and economic growth has pulled much attention of researchers. Based on journals sourced from e-journals, we conclude that the result of the most previous researchers tend to find out that there is a positive interrelation between capital market index and economic growth. However, because of the different method employed and different place of the study, some others researchers found out another result. Here are in this section we develop the published findings of the previous researchers.

One of the most important researches related with our topic has been done by Ming Men and Rui Li (2006). They used Engle-Granger co-integration test method, Augmented Dickey-Fuller approach, and E-views 5 software in purposed to do an Empirical Study on the Relationship between Stock Index and The National Economy: The Case of China. Men and Li (2006) employed

monthly data of Chinese gross domestic product (GDP) as the variable of macro-economic performance; and Shanghai Securities Exchanged Index (SHSECI) and Shenzhen Securities Exchange Index (SZSECI) as a representative of Chinese stock prices from 1995 to 2005 i.e. 132 observations, the data is obtaining from China Economic Information Network. The finding of their research revealed that both Shanghai Securities Exchange Composite Index and Shenzhen Securities Exchange Composite Index are not co-integrated with Chinese GDP. Meanwhile there is no Granger causality relationship between stock index yield and GDP growth rate. Furthermore, the results indicated that there is no long-run equilibrium relationship between GDP and stock index in China.

Using regression analysis to measure the relationship between economic growth, measured by GDP growth rate; and stock market indicators such as Size of market (SIZE), Liquidity of Market (LIQ), Stock market All-Share Index (ASI), Market Capitalization (MKTCAP), Sector Index by Bahrain Bourse (SECINDEX), Asiri and Abdalla (2015) investigated Economic Growth and Stock Market Development in Bahrain. They used times series data collected for a period of 25 years (1990-2014) from different sources: World Bank for economic indicators and Bahrain Bourse for the stock market indicators. They concluded that firstly, stock market indicators have substantial influence on economic growth in Bahrain. Secondly, economic growth causes the development of stock market development. Thus, their research has presented

evidence implicating symbiotic relationship between the growth of the stock market and the health of the economy in the Kingdom of Bahrain.

Based on time series quarterly data spanning from the first quarter of 1995 to last quarter of 2008 comprising 56 data points, Mittal and Pal (2011), examined the Impact of macroeconomic indicators on Indian capital markets. They used regression analysis and Error Correction Mechanism to find the significant impact of macroeconomic indicators which are inflation rate; exchange rate of INR against USD and interest rate of treasury bills to Indian Capital markets which are BSE Sensex and S&P CNX Nifty. Their research concluded that there is co-integration between macro-economic variables and Indian stock indices which is indicative of a long-run relationship.

Brasoveanu et al. (2008) examined the Correlations between Capital Market Development and Economic Growth: The Case of Romania. Using quarterly data 2000:1 to 2006:2 of market capitalization, number of listed shares, trading volume and GDP, regression function revealed that the capital market development is positively correlated with economic growth, but the strong effect is from economic growth to capital market.

Furthermore, Barna and Mura (2010) examined the correlation between capital market development and economic growth in Romania using a regression model. Based on quarterly data during 2000-2009 on GDP supplied by The National Institute of Statistics, and BET data provided by the website of Bucharest Stock Exchange, they found out that the capital market development is

positively correlated with economic growth, with feed-back effect, but the strongest link is from economic growth to capital market, suggesting that financial development follows economic growth, economic growth determining financial institutions to change and develop.

According to Nwaolisa et al. (2013), capital market has not significantly impacted on economic growth in Nigeria. They examined the Impact of Capital Market on the growth of the Nigerian economy under Democratic Rule. They employed multiple regression econometric procedure and Dick-Fuller test to verify the stationarity of variables. Variables of their study are capital proxied by total market capitalization (TMC), All Share Index (ASI), Total Value Stock (TVS); and economy growth proxied by real GDP growth rate (GDPGR). The result of their study states that total market capitalization and all share index have positive effects on GDP growth rate; and total value of stock has negative effect on GDP growth rate, but none is significant. Hence they concluded that capital market has not significantly impacted on economic growth in Nigeria.

In other research, by using quarterly data of five countries over the period 1957:1 to 2005:2 for the USA; 1957:1 to 2004:4 for Japan; 1970:1 to 2004:4 for France, Germany and the UK, Duca (2007) inspected a causal Relationship between the stock market and the economy: experience from International financial markets. Duca (2007) employed Granger causality test in order to examine direction of causality between variables namely nominal GDP and stock markets indices obtained from IMF International Financial Statistics. Granger

Causality Test revealed a unidirectional causality between GDP and stocks prices that is economic activity in a country depends on the stock market.

Nazir et al. (2010) indicated that the development of stock markets is highly important in sustaining a better economic growth. Nazir et al. (2010) employed ADF unit root testing methodology to investigate the relationship of stock market development and economic growth by taking size and liquidity of KSE as independent variables along with FDI and HDI of Pakistan. The impact of these variables was empirically tested on GDP per capita as a dependent variable of economic growth for the period of 1986 to 2008. The result of their study showed that the development of stock market is highly important in sustaining a better economic growth.

Finally, Acquah-Sam and Salam (2014) reported two results on their research about the Effect of Capital Market Development on Economic Growth in Ghana. They employed multiple linear regression to analyze the quarterly time series data from 199:1 to 2012:4 of variables such as GDP, market capitalization ratio, gross capital formation, development of financial intermediaries, capital market liquidity, foreign direct investment, macro-economy stability and T-bill rate. Their research revealed two results: the positive significance effect of capital market and Foreign Direct Investment on GDP growth, and insignificant effects of gross capital formation, T-bill and macroeconomic stability.

Table 1
Summarize of Previous Research Findings.

Authors (years) and Title	Variables	Method and period of analyze	Results
Men and Li (2006). <i>An Empirical Study on the Relationship between Stock Index and the National Economy: The Case of China.</i>	GDP as a variable for macroeconomic; SHSECI and SZSECI as the representatives of Chinese stock Prices.	Monthly data from 1995 to 2005; E-views 5; Augmented Dickey-Fuller approach; Engle-Granger method.	SHSECI and SZSECI are not co-integrated with Chinese GDP. No Granger causality relationship between stock index yield and GDP growth rate. There is no long-run equilibrium relationship between GDP and stock index in China.
Asiri and Abdalla (2015). <i>Economic Growth and Stock Market in Bahrain</i>	Size of market (SIZE); Liquidity of Market (LIQ); Stock market All-Share Index (ASI); Market Capitalization (MKTCAP); Sector Index (SECINDEX); Gross rate in real gross domestic product (GGDP).	Time series data 1990 -2014. Regression analysis.	First, stock market indicators have substantial influence on economic growth in Bahrain. Secondly, economic growth does cause development of the stock market development. Thus, the research has presented evidence implicating symbiotic relationship between the growth of the stock market and the health of the economy in the Kingdom of Bahrain.

Table 1
Summarize of Previous Research Finding (continued).

Authors (years) and Title	Variables	Method and period of analyze	Results
Pal and Mittal (2011). <i>Impact of macroeconomic indicators on Indian capital markets.</i>	Explanatory variables are the macroeconomic indicators: Inflation rate; exchange rate of INR against USD, interest rate of treasury bills; Dependent variables are the Indian Capital market: BSE Sensex and S&P CNX Nifty.	Quarterly data spanning from 1995:1 to 2008:4 Regression analysis Error Correction Mechanism	There is co- integration between macro-economic variables and Indian stock indices which is indicative of a long- run relationship.
Gevit Duca (2007). <i>The Relationship between the Stock Market and the Economy: Experience from International Financial Markets.</i>	Nominal GDP; Stock Market Index.	Quarterly data: 1957:1 to 2005:2 for the USA; 1957:1 to 2004:4 for Japan; 1970:1 to 2004:4 for France, Germany, and the UK. Granger Causality Test.	Economic activity in a country depends on the stock market amongst other variables.
Nazir et al. (2010). <i>Relationship between economic growth and stock market development.</i>	Foreign Direct Investment, Human development, size of the stock market, liquidity, GDP per capita	Time series for the period of 1986 to 2008. Regression model. Augmented Dickey-Fuller test.	Positive significance between stock market and economy growth. The development of stock markets is highly important in sustaining a better economic growth.

Table 1
Summarize of Previous Research Findings (continued).

Authors (years) and Title	Variables	Method and period of analyze	Results
Nwaolisa et al. (2013). <i>The Impact Of Capital Market On The Growth of the Nigerian Economy Under Democratic Rule</i>	-Capital was proxied by: total market capitalization (TMC), All Share Index (ASI), Total Value Stock (TVS) -Economy growth was proxied by real GDP growth rate (GDPGR)	-Multivariate regression approach. -Time series data covering 1999 to 2011. -Analysis Dickey-Fuller test to verify the stationary variables. -t-test to ascertain the significance of each of the constant parameters. -The diagnostic test on the R^2 to check for goodness of fit of the model.	- TMC and ASI have positive effects on GDP growth rate. - TVS has negative effect on the GDP growth rate. - But none is significant. Final result: capital market has not significantly impacted on economic growth in Nigeria.
Acquah-Sam and Salam (2014). <i>Effect of Capital Market Development on Economic Growth in Ghana.</i>	-GDP. - Market capitalization ratio, -Gross capital formation, -Development of financial intermediaries, -Capital Market Liquidity, - FDI,Macroeconomic stability , - T-bill rate,	Multiple linear regression. Quarterly time series: 1991:1 to 2011:4.	- Positive significant effect of capital market and Foreign Direct Investment on GDP growth. - Insignificant effects of gross capital formation, T-bill, and macroeconomic stability.

Table 1
Summarize of Previous Research Finding (continued).

Authors (years) and Title	Variables	Method and period of analyze	Results
Barna and Mura (2010). <i>Capital Market Development And Economic Growth: The case of Romania.</i>	- GDP, - BET: index weighted by market capitalization, and reflects the 10 most liquid shares traded in Bucharest Stock Exchange.	-Quarterly data from 2000-2009, -Regression function - EViews 5.0 - ADF and PP tests.	The capital market development is positively correlated with the economic growth
Brasoveanu et al. (2008). <i>Correlations between capital Market Development and Economic Growth: The Case of Romania</i>	- Capital market variables: Market capitalization, Number of listed shares, trading volume, Bucharest stock exchange Index. - Economic Growth variable: GDP	- Quarterly data 2000:1 to 2006:2 - Regression function and VAR models	The capital market development is positively correlated with economic growth. But the strong effect is from economic growth to economic growth.

Source: e-journal