

# MEASURING FINANCIAL INVESTMENT DEVELOPMENT IN CAMBODIA

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## ABSTRACT

*Financial markets performed a vital function within the global economic system. It is the heart of global financial system, which channels savings to the institutions needing funds for business development. Moreover, it develops a mechanism for financial investments which private firms and government institutions can issue the stock, bond and other securities in order to raise funds to support the investment and business development projects. Simultaneously, the publics and investors are interested to invest in the financial instruments for the income generation. Hence, this mechanism has provided the chances and benefits to support the economic growth and the challenges to the financial sector development in the country as well.*

*The study intends to define the development of financial investment mechanism and the benefits of financial investment development to support the economic growth and the challenges of the financial investment that have an impact on the financial sector development in the country. The descriptive research and quantitative and qualitative approach has been used to meet the objectives and test the variables and the hypotheses of study. Descriptive statistic model of Excel is used to analyze and assess the sources of data and aims to summarize and describe the samples that are concerned with the research, the measures commonly used to describe a data set and measures of variability. The convenience sampling technique is used in the survey by drawing the samples from interviews, as the result, 120 respondents selected from the population size 300. After analysis and evaluation, the findings found that first, 70 percent of respondents expressed their lack of financing source to support the economic development. Second, most of firms are not yet to prepare themselves to list in the CSX and have insufficient knowledge of the financial investment and its process, thus; they are worry about high risk in the investment and legal framework, transparent and efficient market operations and managements and the investor protection. Third, although, the financial investment development is less profited to support the current economy growth of Cambodia, but at least, there is a number of benefits to support macroeconomic such as the tax income, the employment opportunity creation and the financial legal framework improvement as well as the financial sector development.*

**Key Words:** *Financial Markets, Money and Capital Markets, Security Markets, Financial Investment Development, Global Economic and Financial System, Financial Asset Transaction, Financial Institutions, Securities Investment, Financial Market Development & Economic Growth*

## **1. INTRODUCTION**

The financial market development in the country provided the chances and benefits to the economic growth and financial sector development. Likewise, it creates a mechanism for financial investment in the country, which all the private enterprises, corporations and government institutions issue the financial instruments such as stock, bond and other securities in order to raise funds for support of the business and investment development. In this regards, the investors, savers and businesspersons have taken their chances go into the securities investment to obtain the incomes from the interest rate, dividend growth and appreciation of securities prices.

The road map of financial sector development of Cambodia aims at to improve the national economic growth sustainably and the contribution of poverty reduction. The Government has set out the Financial Sector Development Strategy 2006-2015 (FSD) in order to strengthen the financial system through the capital market development to increase the national revenue for support of the economic growth and assure the competitiveness advantage of Cambodia within the globalization framework. According to the FSDS, the securities market of Cambodia established to mobilize the resources for financing to the government institutions and the private corporations to the business and investment expansion projects that recently relied on the banking system. In addition, this mechanism supports the financial sector development in the country and increases the productions, goods and services to meet the needs of the local markets. Although, the financial investment is a source of economic growth, but it is a basis of the financial crises, because this mechanism is a newest one in the country, thus, the challenges may happening because of the most capital flows in the capital markets is a sources of debt and currency crises. Moreover, the most important concern is that the people still do not participate in this investment process. Because their knowledge are still low and incomplete in terms of the investment principle, the risk reduction and portfolio managements, and unreliability on the investor's right protection, the transparency and operation of the securities market as well as carrying out of the securities laws, regulations, and policies involving the financial investment process.

Therefore, in order to assure the investment process in the country to be efficient and transparent, Cambodia must face many difficulties and challenges in the new mechanism. Thus, the study aims to determine the relationship between financial investment developments and economic growth since the capital markets has been developed that intends to see the market is providing the opportunities and benefits to the financial sector development and economic growth or not. The study also defines the challenges of market development to the economic and financial sector development. How does the financial investment development really support the economic growth in country or not anything?

## **2. PROBLEM STATEMENT AND QUESTIONS**

The research aims to study the problems that Cambodia is facing since development of capital market order to reinforce the financial system and the economic growth. Currently, the banking systems is unable to finance the economic growth in the country, because of the banking system has an inadequate progress relying on the amounts of saving mobilization from depositors throughout the county, if compared to the neighboring countries in ASEAN. The financial system is unable to sustain the well-functioning operation to improve the economic growth. Thus, in order to sustain the national economic growth, Cambodia has committed to develop the capital markets, besides the banking system to mobilize the savings from the publics and investors to support the long-term investment. However, the market development is difficult that needs to develop strong components of the markets in order to acquire an efficient market.

Accordingly, the research intends to investigate to see that the mechanism of financial investment development is offering the opportunities and benefits to support the economic growth in the country or not? In addition, the study aims to examine the challenges happening from financial investment development have an impact on the economic and financial sector development in the country or not?

## **3. RESEARCH OBJECTIVE**

The research intends to see that since the capital markets development has been developed in the country. It provides opportunities to develop the financial investment mechanism to support the economic growth and financial sector development in the country. Thus, the main purpose of this study aims at to define an alternative financing source from the financial investment development to support the economic growth and financial sector development in the country. The study also determines the benefits from the financial investment development in the country that can funding to the long-term investment and business development through raising funds from the capital markets to support the economic growth. In addition, the study intends to find out the challenges from the financial investment development in the country that have an impact on the economic growth and financial sector development in Cambodia.

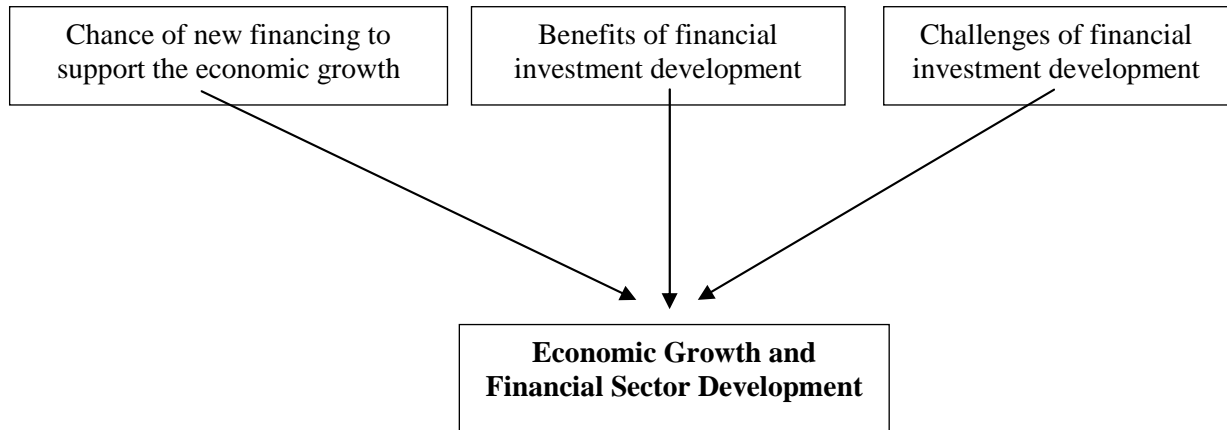
## **4. HYPOTHESIS OF STUDY**

H<sub>1</sub>: Financial investment development has provided a chance of new financing to support the economic growth in the country.

H<sub>2</sub>: Financial investment development has provided benefits to support the economic growth and the financial sector development in the country

H<sub>3</sub>: Financial investment development has provided challenges to economic growth and financial sector development in the country

## **5. PROPOSED CONCEPTUAL FRAMEWORK/MODEL**



The study aims to determine the interrelationship between the independent variables and dependent variable conducting the research on how the three independent variables affect the economic growth and financial sector development. To illustrate, the study tries to figure out how a new financing from capital market development aligns to benefits and challenges to economic growth. In short, the proposed framework suggests how a new financing, benefits and challenges from financial investment development can be linked together in reaching conclusion

## 6. RESEARCH METHODOLOGY

The quantitative data is collected using the non-probability self-administered questionnaire consisting of 3 parts and 19 questions distributing to the respondents. In analyzing the data collected, the Microsoft Excel's Descriptive Statistics and Statistics Model have been applying. This section also introduced the sampling techniques aiming to collect information from the target population using the questionnaires in the forms of frequency and percentage and then implement into the Normal Distribution and Descriptive Statistics to make the reliability test and subsequent empirical analysis.

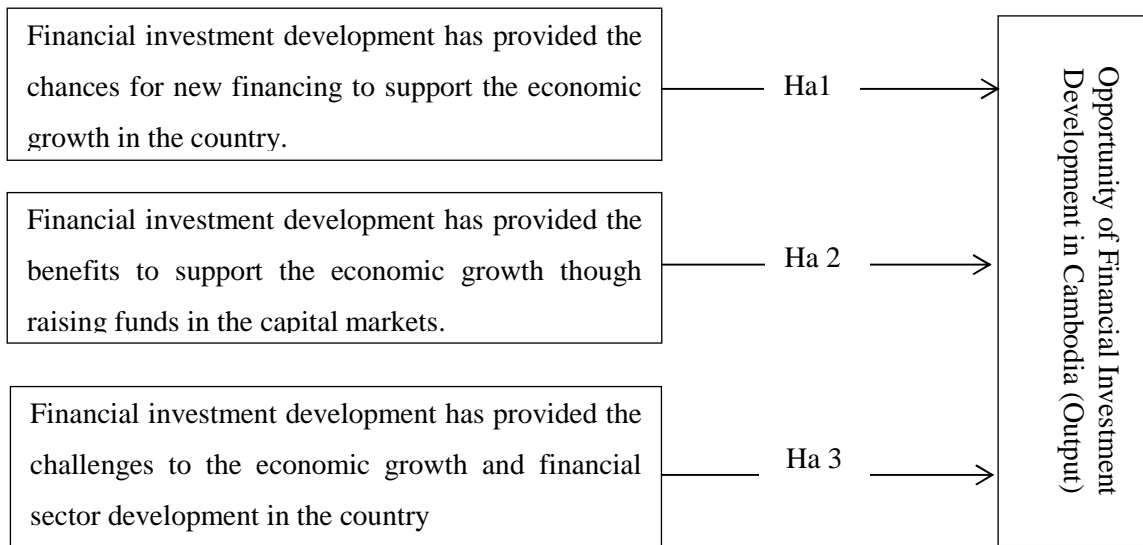
### 6.1 Research Designs

According to the research problems and objectives, the methods that used for the research purpose is descriptive research design. The design has been used both quantitative and qualitative approaches for reaching conclusion. The conceptual model has been formulated to show the interrelationships between the variables and hypotheses. The study intends to determine the inputs and outcome of the research focusing on the financial investment development in the country given the chances to raise a new fund to support the economic growth and the benefits to the economic growth and financial sector development in the country. In addition, the study determines its challenges or impact on the economic growth and financial sector development as well. The variables for experiment are divided into dependent variable (DV) and independent variable (DV). The cause and effect model has been applying as depicted in the following figure:

- (Y) Opportunity of financial investment development → (Output)
- (X1) Development of financial investment mechanism }
 

}

- (X2) Benefits of financial investment development
  - (X3) Challenges of financial investment development
- (Inputs)**



## 6.2 Sampling Design

The key investors from the private business organization and institutional individuals were selected as respondents in the research. The 120 respondents selected from the population size 300. The sample size calculation of the Indochina Countries showed that if the level of confident 95 percent was taken, the sample size should be between 100 to 200. Hence, the margin error is about seven percent. The calculation is conformed to Taro Yamane (1967), which can calculate the sample sizes, shown below. Where **N** is the population size (300) and **e** is the sampling error (0.07) assumed for this equation:

$$n = \frac{N}{1 + N(e)^2} = \frac{300}{1 + 300(0.07)^2} = 121 (\approx 120)$$

Accordingly, the 120 investors has been selected to be the respondents in this research. To avoid the bias in selecting the respondents, the Systematic Random Sampling used for selection.

## 6.3 Data Collection Methods

The data collections for the research are quantitative and qualitative design. The requirement of data sources and other information for this research are primary data and secondary data. The researcher creates the structured questionnaire as the research instrument to collect data and specific information from the institutional and public investors. The samples scientifically selected in the right place are the questionable representatives of the target population. The process of sampling selection used the personal interviews between researcher and respondents at their offices for this survey. Primary data provides the raw facts through questionnaires interviewing with 120 respondents and used it to test an experiment of the working variables and hypotheses as the evidences to support my proclamation. To

support the research for full investigation, the secondary data has been used such as official statistics, government reports, website, and previous researches, historical data and existing information are collected from other resources.

#### **6.4 Research Instrument**

The questionnaires orderly formulated and manipulated into the three parts consisting of 19 questions, the data gathered from the questionnaires and then prepared them to make tabulation of frequency, percentage, means and standard deviation and the normal distribution to indicate the consistent degree among respondents and to test the variables and research hypotheses based on the subjective and objective statistical analysis and evaluation on the interviewing result. The variables that used in this research are determined as the independent variables and dependent variables.

#### **6.5 Measurement Model for Research**

The descriptive statistic model used to analyze and interpret the data. The data that collected from the questionnaires are required to compute in the Microsoft excel using arithmetic formulas such as the average, mean, median, mode, standard deviation, variance, minimum and maximum, range, sum, count, kurtosis and skewness. The mean and standard deviation and the normal distribution have been used to find the relationship between mean and standard deviation. The Normal Distribution Calculator of David M. Lane (2012) has been using. The ANOVA, T-test, Scatter Plot, Pearson Correlation Coefficient and Multiple Linear Regressions Model  $Y = a + b_1x_1 + \dots + b_nx_n$  and other formula have been used to compute for finding the conclusion of the research.

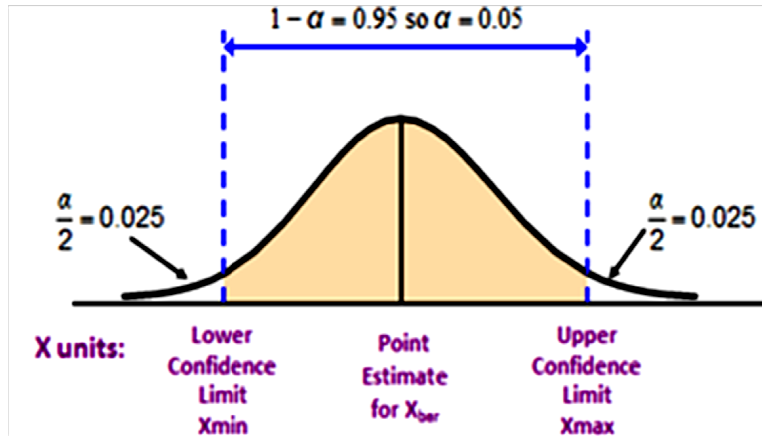
#### **6.6 Data Analytical Methods**

The primary and secondary data has been used to analyze by the quantitative and qualitative designs. The primary data is analyzed by the quantitative design based on the statistics model and tabulation, the calculation of average, percentage and growing ratio to show and interpret the data. In the analysis, the data manipulated in computer using the excel spreadsheet in order to draw charts such as bar, line, column, scatter to analyze and evaluate each figure. Whereas, the secondary data has been used because of the questionnaires are not fully covered and questioned. Thus, the secondary data is analyzed and evaluated by the qualitative design to make conclusion. The data used to analyze on the chances, benefits and challenges from financial investment development in the country basing on the specific variables for measuring and classified into three independent variables and the t-Test has been used to test the research hypotheses.

## 7. DATA COLLECTION ANALYSIS

### 7.1 Normal Distribution Analysis

$f(x, \mu, \sigma) = \frac{1}{\sigma\sqrt{2\pi}}e^{-\frac{(x-\mu)^2}{2\sigma^2}}$	$X_{\min}$ is for $P(-\infty \text{ to } X_{\min}) = 0.025$
95% confidence level = 1.96	$X_{\max}$ is for $P(-\infty \text{ to } X_{\max}) = 0.975$

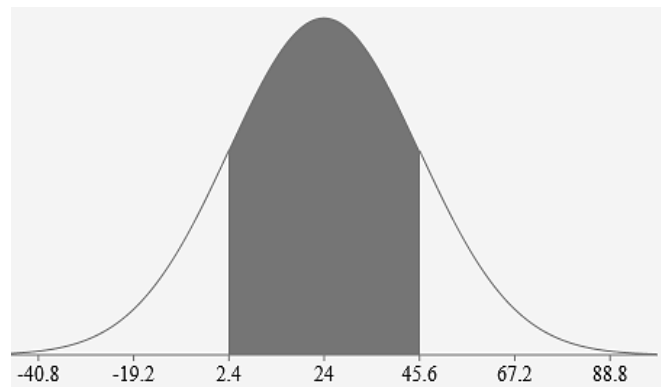


The Normal Distribution Calculator of David M. Lane (2012) has been used to compute the mean ( $\bar{X}$ ) and standard deviation (SD) to see the percentage of distribution of the shade area of accurate constancy of respondent's response.

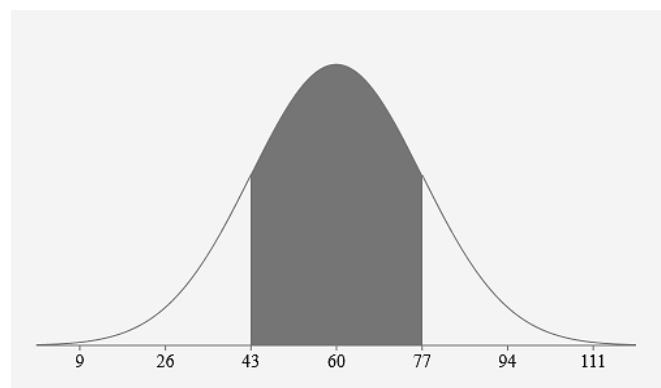
#### 7.1.1 Interpretation of the Questions:

##### Part I: Chance of Financial Investment Development (IV<sub>1</sub>):

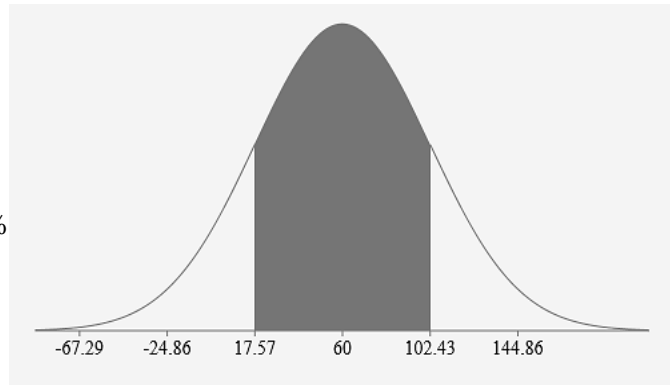
**Question 1:** the variable in the question 1 is a high frequency, it is approximately 43.5%,  $\bar{X} = 24$  and SD = 21.60 identifying the SD point is close to the mean and lies between 24 and 45.60 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



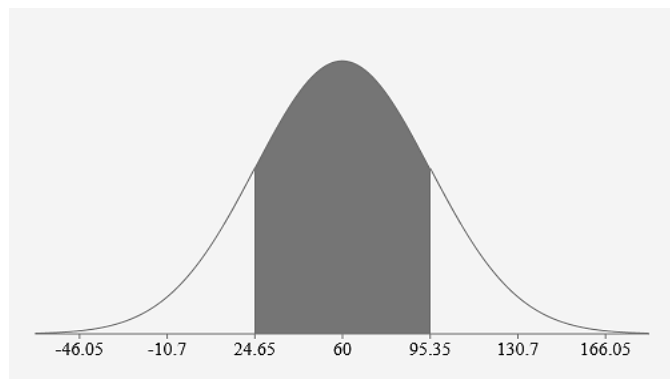
**Question 2:** the variable in the question 2 is a highest frequency, it is approximately 60%,  $\bar{X} = 60$  and SD = 17 identifying the SD point is close to the mean and lies between 43 and 77 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



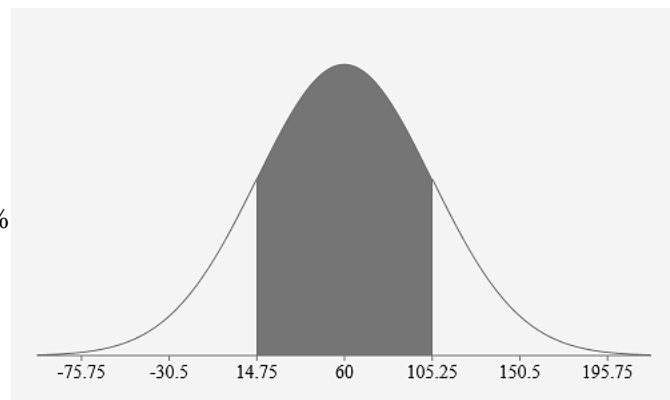
**Question 3:** the variable in the question 3 is a highest frequency, it is approximately 75%,  $\bar{x} = 60$  and  $SD = 42.43$  identifying the SD point is close to the mean and lies between 17.57 and 102.43 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



**Question 4:** the variable in the question 4 is a highest frequency, it is approximately 70.83%,  $\bar{x} = 60$  and  $SD = 35.35$  identifying the SD point is close to the mean and lies between 24.65 and 95.35 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.

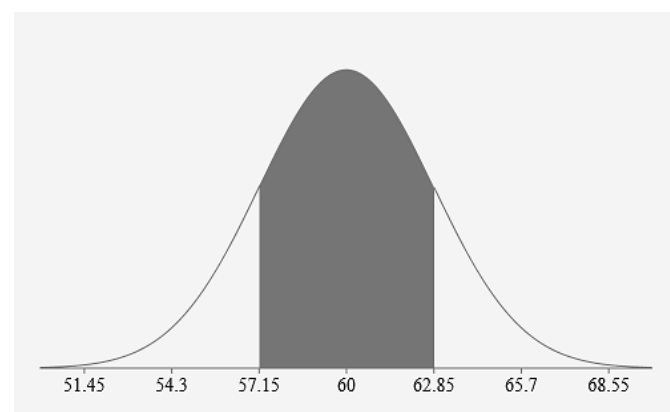


**Question 5:** the variable in the question 5 is a highest frequency, it is approximately 76.67%,  $\bar{x} = 60$  and  $SD = 45.25$  identifying the SD point is close to the mean and lies between 14.75 and 105.25 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



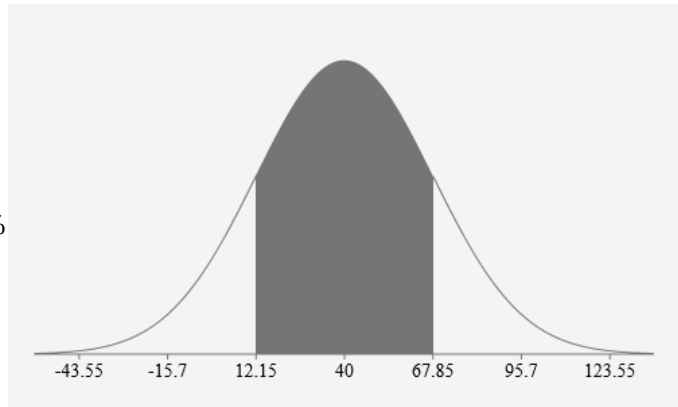
## Part II: Benefits of Financial Investment Development (IV<sub>2</sub>):

**Question 6:** the variable in the question 6 is a highest frequency, it is approximately 76.67%,  $\bar{x} = 60$  and  $SD = 2.85$  identifying the SD point is close to the mean and lies between 57.15 and 62.85 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.

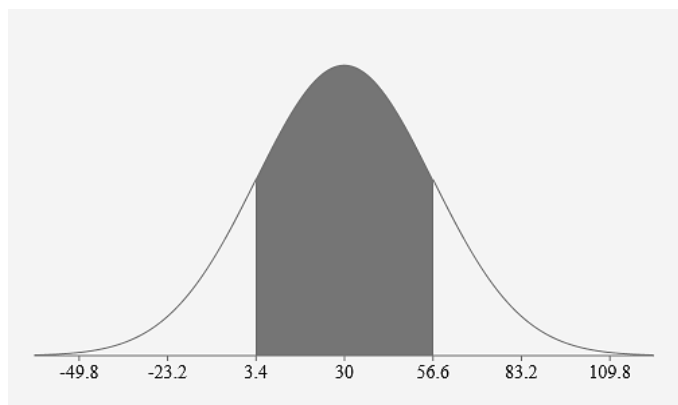




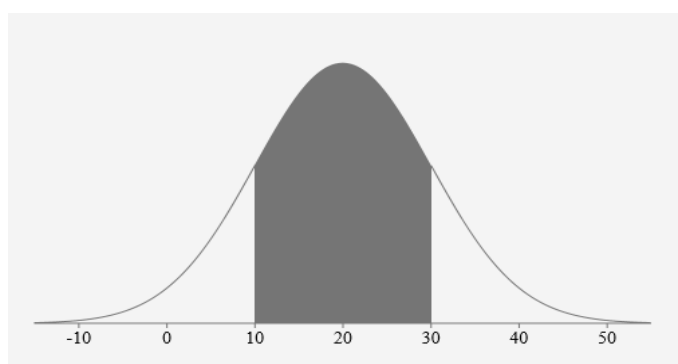
**Question 7:** the variable in the question 7 is a high frequency, it is approximately 58.33%,  $\bar{x}=40$  and  $SD=27.85$  identifying the SD point is close to the mean and lies between 12.15 and 67.85 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



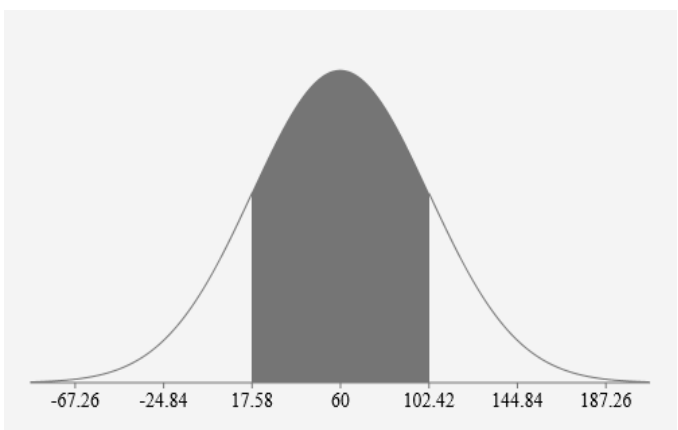
**Question 8:** the variable in the question 8 is a highest frequency, it is approximately 90%,  $\bar{x} = 30$  and  $SD=26.60$  identifying the SD point is close to the mean and lies between 3.4 and 56.60 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



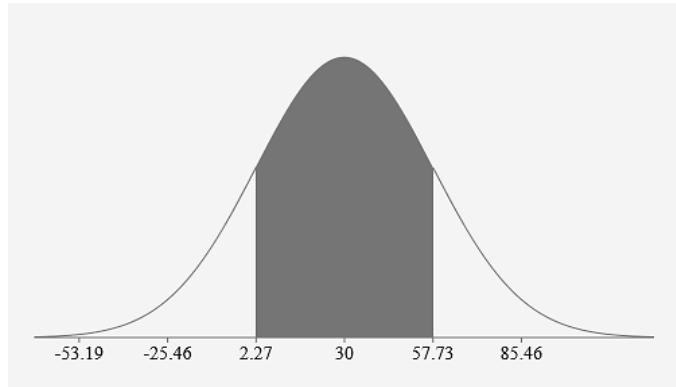
**Question 9:** the variable in the question 9 is a high frequency, it is approximately 26%,  $\bar{x} = 20$  and  $SD=10$  identifying the SD point is close to the mean and lies between 10 and 30 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



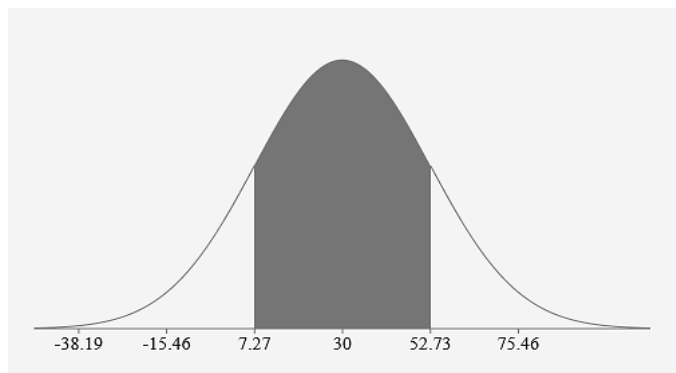
**Question 10:** the variable in the question 10 is a highest frequency, it is approximately 75%,  $\bar{x} = 60$  and  $SD = 42.42$  identifying the SD point is close to the mean and lies between 17.58 and 102.42 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



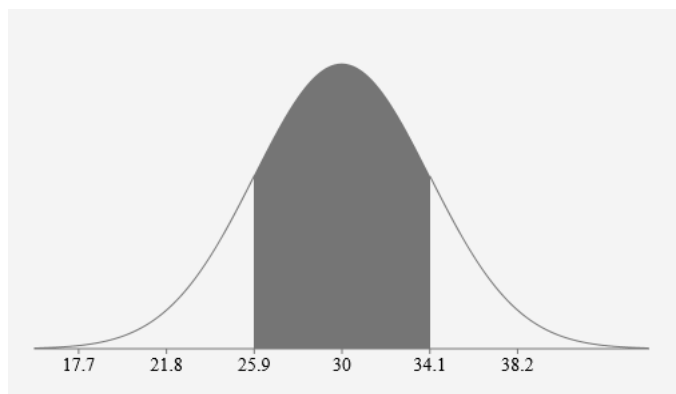
**Question 11:** the variable in the question 11 is a high frequency, it is approximately 50%,  $\bar{x} = 30$  and  $SD = 27.73$  identifying the SD point is close to the mean and lies between 2.27 and 57.73 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



**Question 12:** the variable in the question 12 is a high frequency, it is approximately 50%,  $\bar{x} = 30$  and  $SD = 22.73$  identifying the SD point is close to the mean and lies between 7.27 and 52.73 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.

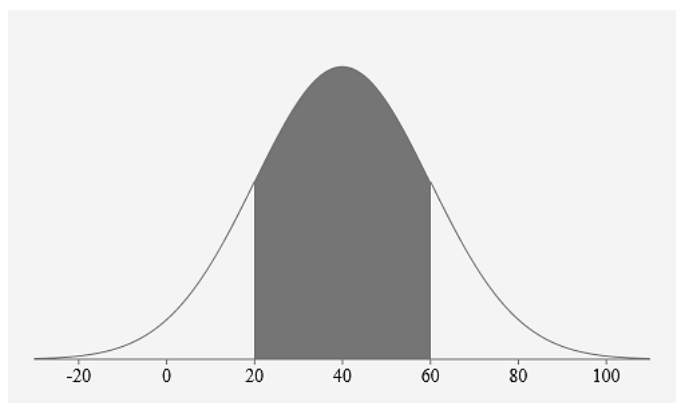


**Question 13:** the variable in the question 13 is a highest frequency, it is approximately 79%,  $\bar{x} = 30$  and  $SD = 4.10$  identifying the SD point is close to the mean and lies between 25.90 and 34.10 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.

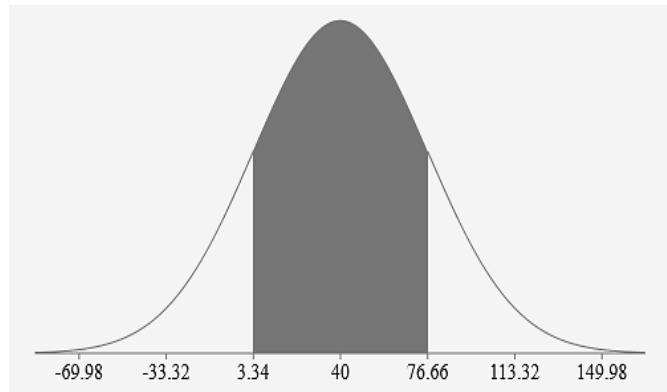


### Part III: Challenges of Financial Investment Development (IV<sub>3</sub>):

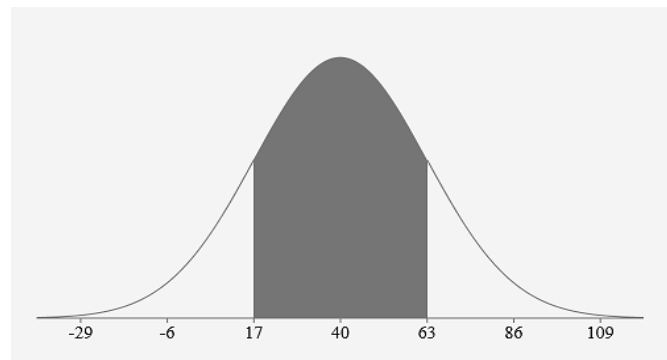
**Question 14:** the variable in the question 14 is a high frequency, it is approximately 50%,  $\bar{x} = 40$  and  $SD = 20$  identifying the SD point is close to the mean and lies between 20 and 60 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



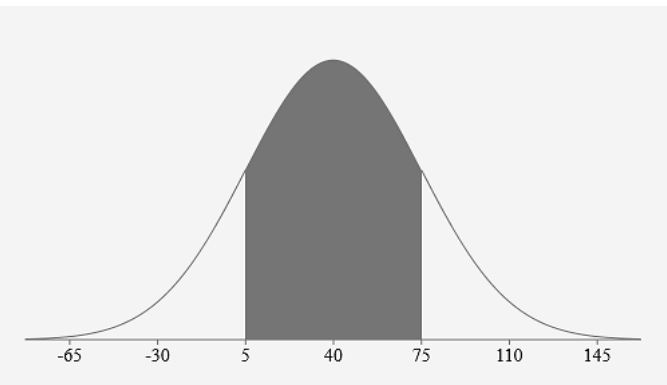
**Question 15:** the variable in the question 15 is a high frequency, it is approximately 26.67%,  $\bar{x} = 40$  and  $SD = 36.66$  identifying the SD point is close to the mean and lies between 3.34 and 76.66 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



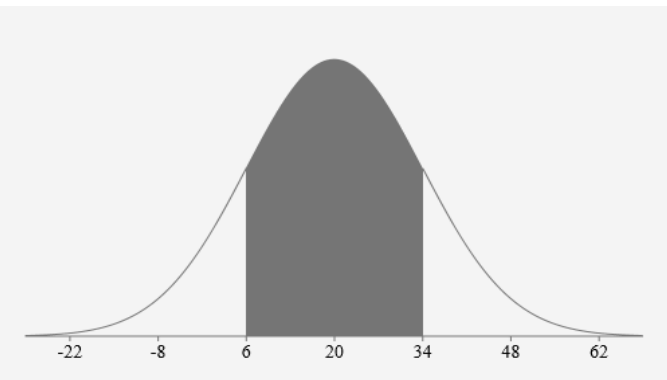
**Question 16:** the variable in the question 16 is a high frequency, it is approximately 50%,  $\bar{x} = 40$  and  $SD = 23$  identifying the SD point is close to the mean and lies between 17 and 63 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



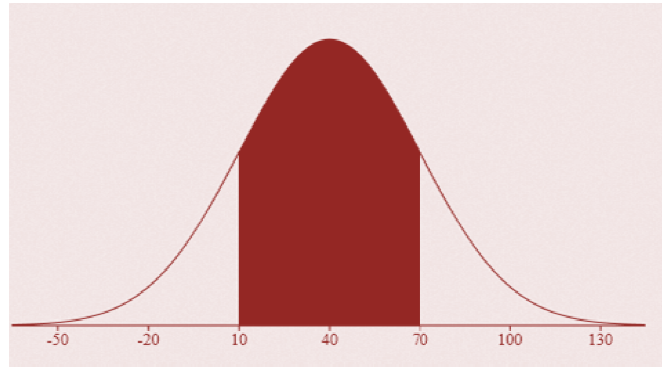
**Question 17:** the variable in the question 17 is a high frequency, it is approximately 62.50%,  $\bar{x} = 40$  and  $SD = 35$  identifying the SD point is close to the mean and lies between 5 and 75 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



**Question 18:** the variable in the question 18 is a high frequency, it is approximately 29.17%,  $\bar{x} = 20$  and  $SD = 14$  identifying the SD point is close to the mean and lies between 6 and 34 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



**Question 19:** the variable in the question 19 is a high frequency, it is approximately 58.8%,  $\bar{x} = 40$  and  $SD = 30$  identifying the SD point is close to the mean and lies between 10 and 70 that contains 68% of distribution. Thus, it can conclude that respondent's response is accurate constant.



Source: Developed from PhD Dissertation from page 103 - 144

## 8. MAJOR RESEARCH FINDINGS

### 8.1 Experiment of Variables

$\square$	$X_1$	$X_2$	$X_3$
2	24	60	40
6	60	40	40
10	60	30	40
14	60	20	40
18	60	60	20
22	-	30	40
26	-	30	-
30	-	30	-

In order to make an experiment of the relationship between the independent variables (X) and a dependent variable (Y), the *Multiple Regression Model and Scatter Plot* have been used to test the independent variables (IVs), if they have positive relationship with the dependent variable (DV) or not. The slope shows that the regression line is significantly different from 0 and has significant linear relationship between X and Y. In order to explain the behavior of DV, the multiple regression equation here  $Y = a + b_1x_1 + \dots + b_nx_n$  has been used to apply and calculate Y.

### 8.2 Descriptive Statistics for Standard Outputs

DV ( $\square$ )	IV(s)	Group Mean	Standard Deviation	Median	Mode	Min	Max
11.40	IV <sub>1</sub> ( $X_1$ )	52.80	16.10	60	60	24	60
	IV <sub>2</sub> ( $X_2$ )	37.50	14.88	30	30	20	60
	IV <sub>3</sub> ( $X^3$ )	36.67	8.20	40	40	20	40

Source: Developed from PhD Dissertation from page 145 -148

### 8. 3 Multiple Regression Model

#### 8.3.1 Regression Model Summary

Multiple R	R Square	Adjusted R Square	Standard Error
0.8954	0.8018	0.6533	5.7689

#### 8.3.2 ANOVA Model Summary

ANOVA Model	Sum of Square	df	Mean Square	F	Significant F
Regression	538.8760745	3	179.62536	5.397237	0.068527183
Residual	133.1239255	4			
Total	672	7			

#### 8.3.3 Multiple Regression Analysis

Analysis	Coefficients	Standard Error	t Stat	P-value
Intercept (a)	36.36048511	6.517845666	5.5786048	0.005062
B <sub>1</sub>	-0.070845531	0.08817691	-0.803448	0.466746
B <sub>2</sub>	-0.225528554	0.148812135	-1.515525	0.20422
B <sub>3</sub>	-0.347827703	0.142223287	-2.445645	0.070776

-Y = a + B<sub>1</sub>X<sub>1</sub> + B<sub>2</sub>X<sub>2</sub> + B<sub>3</sub>X<sub>3</sub> (the Multiple Regression Equation)

- a = y-intercept is constant

- B = coefficient or slope

Y=36.36048511 - 0.070845531\*(X<sub>1</sub>) - 0.225528554\*(X<sub>2</sub>) - 0.347827703 \*(X<sub>3</sub>)

Y=36.36048511- 0.070845531\*(52.8) - 0.225528554\*(37.5) - 0.347827703 \*(36.70)

**Y=11.39724  $\cong$  11.40**

*Source: Developed from PhD Dissertation from page 149 -150*

R Square (R<sup>2</sup>) is the proportion of variance in the value of dependent variable that explained by the independent variables in the equation together. According to the calculation above indicates that when R<sup>2</sup> = 0.80189892 (80%) or adjusted R<sup>2</sup> has 0.653323111 and F=5.397237>F sig. = 0.068527183, are statistically significant correlation between IVs and DV. Thus, we can conclude that there is positive significant relationship between the financial investment development and economic growth in the country. However, based on the result of the survey showed that P-value of B<sub>3</sub> is 0.070776  $\cong$  0.05, thus, the figure indicates that B<sub>3</sub> has more impact on Y than B<sub>1</sub> that its value is 0.466746 > 0.05 and B<sub>2</sub>

is  $0.0020422 > 0.05$  meaning that since the capital market development or financial investment development in the country to support the economic growth and financial system development. Cambodia is getting more challenges than chances and benefits. It means that that this mechanism does not provide the chances to the investors to join in the financial investment both funds raising and securities investment. Hence, according to above statistics, we can conclude that although we do not have many chances and benefits from the financial investment development in the country, but  $R^2 = 0.80189892$  (80%) indicates that there is significant relationship between the financial investment development and economic growth in Cambodia.

## 8.4 Hypotheses Testing Summary:

### 8.4.1 t-Test Model: Two-Sample Assuming Equal Variances

Hypotheses	Result				Supported
	P(T<=t) two-tail	T Stat	T Critical two-tail	*R-value	
H <sub>1</sub> : Financial investment development has provided chances of new financing to support the economic growth.	P = 0.10 P > 0.05	1.750	2.200	0.7666	No
H <sub>2</sub> : Financial investment development has provided the benefits to support the economic growth and financial sector development.	P = 0.059 P = 0.05	0.123	2.178	-0.4798	Yes
H <sub>3</sub> : Financial investment development has provided challenges to economic growth and financial sector development.	P = 0.904 P > 0.05	2.159	2.262	-0.0247	No

\*R-value: Pearson Correlation Coefficient

Source: Developed from PhD Dissertation from page 158 -163

### H<sub>1</sub>: Financial investment development has provided chances of new financing to support the economic growth

The result of hypotheses testing indicates that there is significantly positive relationship between the independent variables “*new financing from financial investment development*” and the dependent variable “*supporting economic grow*”. Even the P-value is greater than 0.05 ( $P = 0.10$   $P > 0.05$ ), but the value of t-critical two test is greater than t-Stat ( $2.200 > 1.75$ ) and the value of R is 0.7666. The value of 0.7666 shows that “*new financing from financial investment development*” has a positive

correlation with “*supporting economic grow*”, which means that high X variable scores go with high Y variable scores. The value of  $R^2$ , the coefficient of determination, is 0.5877.

## **H<sub>2</sub>: Financial investment development has provided the benefits to support the economic growth and financial sector development**

The result of hypotheses testing shows the P-value is equal to 0.05 ( $P = 0.05$ ,  $P \cong 0.05$ ) indicates that H<sub>2</sub> is supported. The value of t-critical two test is greater than t-Stat ( $2.17 > 0.123$ ) and the value of R is -0.47 shows that there is a significant relationship between the independent variables “*benefits from financial investment development*” and the dependent variable “*supporting the economic growth and financial sector development*”. Although, the value of -0.47 shows technically a negative correlation, but the relationship between both variables just shows a little weakness. However, the relationship between IV and DV are still confident because the value of R is nearer to zero. The value of  $R^2$ , the coefficient of determination, is 0.2302.

## **H<sub>3</sub>: Financial investment development has provided challenges to economic growth and financial sector development**

The result of hypotheses testing indicates that there is significantly positive relationship between the independent variables “*challenges from financial investment development*” and dependent variable “*supporting economic growth and financial sector development*”. The P-value is greater than 0.05 ( $P = 0.90$   $P > 0.05$ ), the value of t-critical two test is greater than t-Stat ( $2.26 > 2.15$ ) and the value of R is -0.024 showing that there is a significant positive relationship between both variables. Although, the value of -0.024 indicates technically a negative correlation, but the relationship between both variables just shows a slight weakness. Thus, the relationship between IV and DV are still confident because the value of R is nearer to zero. The value of  $R^2$ , the coefficient of determination, is 0.0006.

## **9. Expectation of Cambodia Economic Growth (2012-2016)**

### **9.1 GDP Growth Forecast and Market Capitalization to GDP Ratio**

So far, the CSX has two listed companies are PPWSA and GTA. These are:

- Number of listed shares of PPWSA	86,973,162
- Average Share Prices in Riel	6,700
- Number of listed shares of GTI	40,000,000
- Average Share Prices in Riel	9,200
- Nominal GDP (Million \$US)	US\$ 15,649,000,000

*Source: Developed from PhD Dissertation from page163-172*

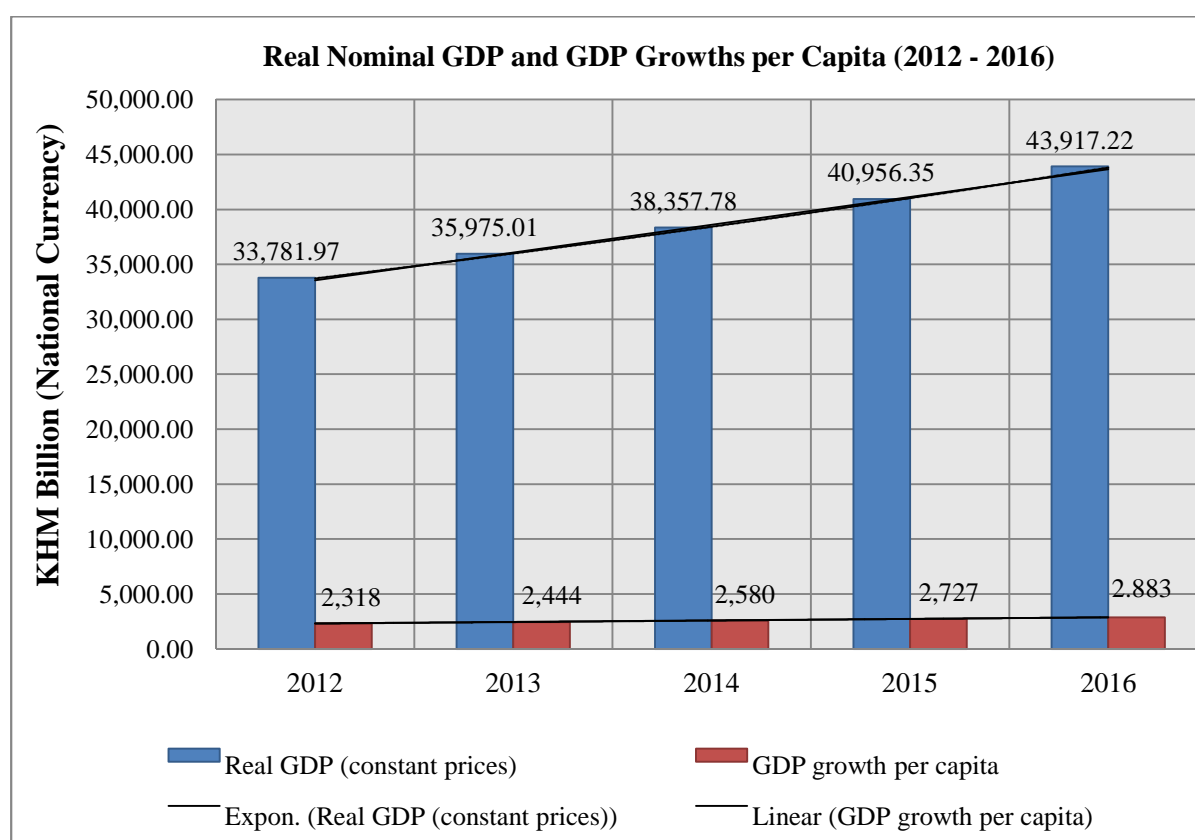
The formula below has been applying to calculate the Market Capitalization to GDP ratio:

$$\text{Market Capitalization to GDP} = \frac{\text{Stock Market Capitalization}}{\text{Nominal GDP}} \times 100$$

<i>Forecast of GDP Growth Rate and Market Capitalization</i> <i>The GDP in Constant Prices and the National Currency in Billion Riel (KHM Billion)</i>				
Year	Real GDP (Nominal)	Real GDP growth rate	Market Capitalization to GDP ratio	GDP per Capita
2012	33,781.97	6.47%	0.65%	2.318
2013	35,975.01	6.50%	0.98%	2.444
2014	38,357.78	6.63%	1.65%	2.580
2015	40,956.35	6.78%	2.10%	2.727
2016	43,917.22	7.24%	2.70%	2.883

Sources: Developed from PhD Dissertation from page163-168

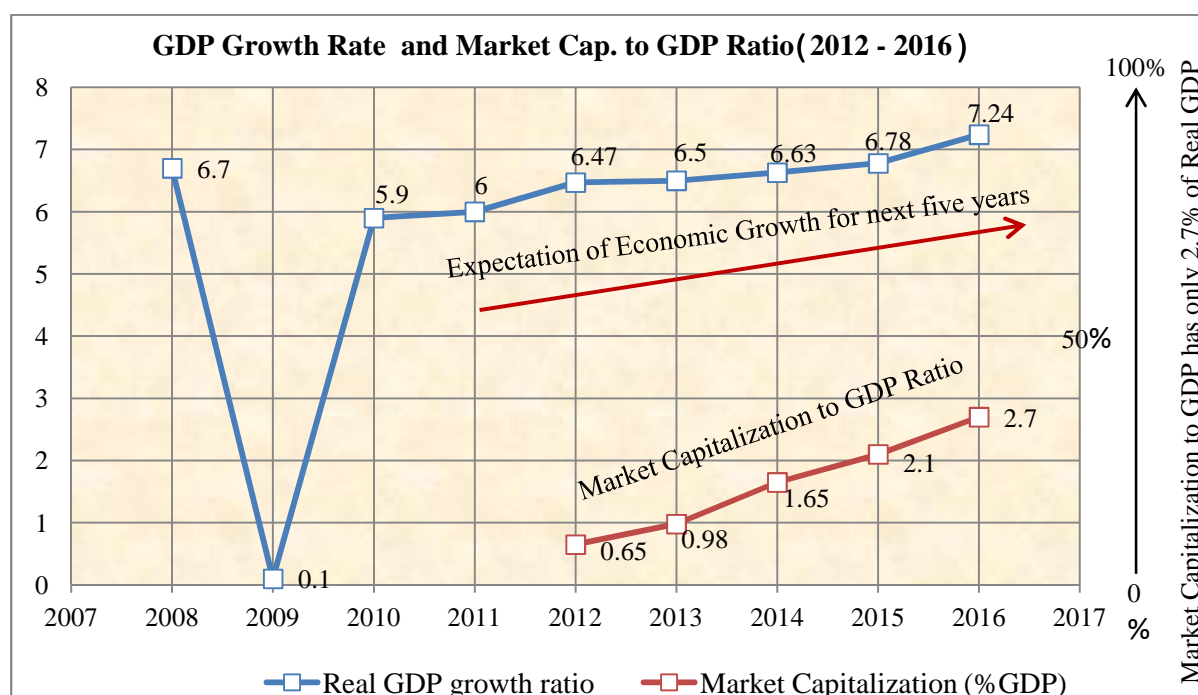
### 9.1.2 GDP Growth Forecast and Market Capitalization to GDP Ratio



Sources: Developed from PhD Dissertation from page168-169



### 9.1.3 GDP Growth Rate and Market Capitalization to GDP Ratio (2012–2016)



Sources: Developed from PhD Dissertation from page170-172

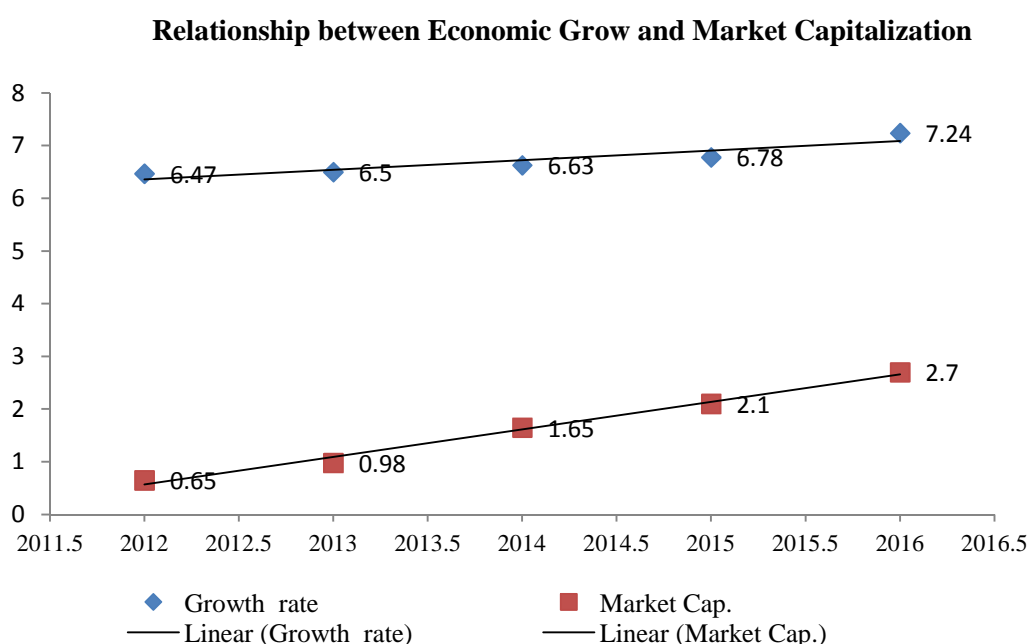
According to the results of calculation, showing Cambodia's economic growth is expected to grow gradually over the past 5 years (2012-2016), since the country launches the capital markets in early 2012. The value of GDP in the constant prices will increase from 33,781.97 billion to 43,917.22 billion riels. Whereas the growth rate of GDP expected to rise from 6.47 percent to 7.24 percent. For the market capitalization as a source of fund raising from the capital markets has contributed to the economic growth of country from 0.65% to 2.7%. For instance, 0.65 percent of GDP in 2012, 0.98 percent of GDP in 2013, 1.65 percent of GDP in 2014, 2.1 percent of GDP in 2015, and 2.7 percent of GDP in 2016. However, Cambodia's expectation growth is still lower than KSRI of Korea, which forecasted that the national GDP growth will increase to 24.3 billion USD in 2016 and market capitalization may worth 12 billion USD and size of bond market is 10.9 billion USD. The figure is higher than the forecasts of IMF, which estimated that GDP of Cambodia might comprise 21,081 billion USD in 2016. However, the expectation is still higher than the market capitalization of the Vietnam Stock Exchange that launched in 2000, which had an increase only 0.22 percent until 2005, then the market capitalization continued to increase 0.88 percent. Whereas, Cambodia's market capitalization will increase similarly to China in 1991 with a growth rate of only 0.53 percent, and then, the rate rose marginally to 89.3 percent in 2006. China's market capitalization rose sharply to 178.2 percent of GDP in 2007 and fell back by 81.02% in 2010. In addition, Cambodia's market capitalization is higher than the market capitalization of Indonesia in 1988 that increased only 0.28

percent and then, the growth rate of the market capitalization of Indonesia has rose from 2.22 percent to 50.01 percent in 2010 from year of 1989.

## 10. Discussion

This is a growth of the market capitalization of listed company contributing in the economic growth of Cambodia. According to model of Garresten, Lensink, Sterken (2004) indicates that the national market capitalization has contributed to the economic growth from 2012 to 2016 like this; 0.65 percent of GDP in 2012 and 0.98 percent of GDP in 2013 and 1.52 percent of GDP in 2014 and 2.1 percent of GDP in 2015 and 2.7 percent of GDP in 2016. Even if, we use a different calculation method by the World Bank, but the result also showed that there is a smallest difference between two methods. Thus, we conclude that there is a positive relationship between the financial investment development or capital market development and economic growth.

Accordingly, the market capitalization of CSX has contributed to Cambodia's economic growth since 2012 to 2016. The value of nominal GDP in the constant prices has increased from 33,781.97 billion in 2012, 35,975.01 billion in 2013, and 38,357.78 billion in 2014, 40,956.35 billion in 2015 to 43,917.22 billion riels in 2016. Thus, the national economic growth has been improved at 6.46% in 2012, 6.5% in 2013, 6.63% in 2014, 6.78% in 2015 and 7.24% in 2016. The figures indicate that there is a positive relationship between the economic growth and the market capitalization of the CSX for the next five years. The market capitalization has contributed economic growth of the country. Accurately, the Scatter plots has been used to compute and the result shows that there is a positive relationship between the regression linear of national economic growth rate and the regression linear of the market capitalization of the CSX as shown below:



*Sources: Developed from PhD Dissertation from page181-183*

The results are consistent with the outcomes of Harry Garresten, Robert Lensink and Elmer Sterken (2004), who claimed that there is a relationship between the economic growth and the development of capital markets meaning that when the economic growth increased an impetus of 1%, it defined the growth rate of the market capitalization 0.4% of GDP. Whereas, the findings of Nieuwerberg, Buelens and Cuyvers (2006) also indicated that there is a positive relationship between development of capital markets and economic growth measured by the market capitalization and the number of shares listed. However, Minier (2003) showed an evidence from the effect of the stock exchange development on the positive economic growth unless the market has growth in terms of revenue. If the market has not progress, so, the results obtained are negative. Whereas, Liu and Hsu (2006) also showed the positive results of the stock market development and economic growth measured by the market capitalization and revenue as a percentage of GDP, an influence of the capital market development has a positive effect on both economic growth and production factor.

As the result of interviews indicated that 75% of respondents supported the CSX and 70.83% of respondents strongly hope that they have chances to raise funds for business development and 76.67% of respondent indicated that they want to invest the securities and other 60% expressed that they want to list their firms in the CSX, although; they are not yet to prepare themselves. In addition, the majority of respondents 92% revealed that their knowledge in the financial investment is still low and over 50% showed they support the financial industrial services. A main factor beyond financing and investment, the mechanism has brought Cambodia steps into the integration of financial globalization generating the capital flows from abroad to the country through the financial investment and contributions of foreign bankers and investors to invest in Cambodia. The financial globalization can help a strong financial infrastructure and created a competition between internal and external institutions to make the financial system to work well, effectively, and transparently and accept an international accounting standard increasing the corporation governance, laws and regulations involving the financial sector to maintain the competitive advantage, the stable macroeconomic, risk management and strength of the financial sector.

## **11. Conclusion**

According to the result of findings, we can conclude that development of financial investment in the country has provided the chances and benefits to support the economic growth. Although, this mechanism has provided challenges or many concerns to Cambodia's economic growth and financial sector development. But, the development of this mechanism is an approach to integrate the national financial sector into the region and global financial systems and it also lead the country into the financial crisis due to the effect of external fear or outer crisis spreading from one country to another country because of their fears and panic behaviors. In addition, the human resources, the management

skills and implementation of international accounting standard can lead to the misconducts and create a culture of competition for speculations in the national market, rather than investment for long-term that caused an unstable securities trading and then effect the economic development and may lead the country to the financial crisis, rather than supporting the financial system of country. Implementation of laws and regulations did not fully applied and make the fraud and fear behaviors in the financial investment and then lead country to crisis on health of the financial system of country. Although, many challenge but they can be solved. Based on the international experiences indicates that the development of efficient capital markets, most important factors is the use of public policy through strengthening of legal framework, regulations and policies relating to the management of market in ensuring an efficient process of financial investment, transparency and reliability for investors.

Additionally, the SECC has to develop the education programs for public awareness on knowledge of securities investment and the legal framework to enable investors to manage risks that may occur in the investment, because when banks, securities, insurance and industrial sectors have jointly operated, the new risks may occur in the financial system and could threaten the financial stability.

In conclusion, although, financial investment development in the country has created the challenges to the national economic and financial sector development, but, this mechanism has provided some profits to contribute the current economy growth and financial sector development of Cambodia as well. According to the experiment of variables and hypotheses testing and market capitalization calculation to GDP ratio from 2012 - 2016 shows that Cambodia's financial investment development has provided benefits to sustain the economic and financial development in the country, Especially, the mechanism supports the macroeconomics such as tax income, employment opportunity and legal framework improvement and financial sector development. Additionally, the mechanism can sustain the financial service industries, corporate governance and transparency as well public awareness for companies and investors in the country. Accordingly, we can conclude that financial investment development in the country has provided opportunities to support the economic growth and financial sector development in Cambodia.

## BIBLIOGRAPHY

1. Keown, Arthur J. John D. Martin, J. William Petty and David F. Scott. JR; (2005), *Financial Management*, Pearson Prentice-Hall, USA, pp. 185.
2. O'Sullivan, Arthur and Steven M. Sheffrin (2003), *"Economics: Principles in Action"*, USA, Retrieved from <http://www.pearsonschool/economics.com>
3. Flyvbjerg , Bent, Nils Bruzelius, and Werner Rothengatter (2003), *Megaprojects and Risk: an Anatomy of Ambition*, Cambridge University Press, U.K.
4. Bolbol, A., Fatheldin, A., and Omran, M., (2005), *Financial Development, Structure, and Economic Growth: the Case of Egypt, 1974-2002*, Research in International Business and Finance 19, pp.171-194.
5. ASEAN Exchanges (2011), *Asean Exchange Collaboration*, ASEAN Exchange Network, Retrieved from <http://www.aseanexchanges.org/partners.aspx>
6. Australian Corporation Acts (2001), *Corporation Acts*, Section 763 B, Australia.
7. Bank for International Settlement (2001); *Consultative Document for Operational Risk*. Retrieved from [www.bis.org/publ/bcbzca07](http://www.bis.org/publ/bcbzca07) and [http://www/wiki/financial\\_risk](http://www/wiki/financial_risk)
8. Obama, Barak (2011), *the Occupy the Wall Street Demonstration*, a News Conference, White House. Retrieved from [http://www.cbsnews.com/8301-503544\\_16220116707-503544/obama-occupy-wall-street-reflects-broad-based-frustration](http://www.cbsnews.com/8301-503544_16220116707-503544/obama-occupy-wall-street-reflects-broad-based-frustration)
9. BBC (2011), *Leaders Agree Euro Zone Debt Deal after Late-night talks*, UK, Retrieved from <http://www.bbc.co.uk/news/world-europe>
10. Naceur, Ben S., and Ghazouani, S., (2007), *Stock Markets, Banks and Economic Growth: Empirical Evidence from the MENA region*, Research in International Business and Finance 21, pp.297-315.
11. Bond Valuation-Study Finance (2011), *Bond Pricing Calculation and Bond Yield to Maturity*, Retrieved from <http://www.studyfinance.com/templates/bondvalua>
12. Bloomberg, Economist, Alpha (2010), *Greek Deficit Revised to 13.6%; Moody's Cuts Rating and Greek Debt Concerns Dominate -Who Will Be Next*, Retrieved from <http://www.bloomberg.com>, [www.seekingalpha.com](http://www.seekingalpha.com), <http://www.economist>
13. Calderon, C. and Liu, L. (2002), *Direction of Causality between Financial Development and Economic Growth*. Retrieved from <http://www.comisiondistorsionesdeprecios.cl/eng/studies/working-papers/pdf/>
14. Calvo, S., Leiderman, L., and Reinhart, C., (1996), *Inflows of Capital to Developing Countries*, *Journal of Economic Perspective*, USA, Vol.10 (2), pp.123
15. Commodities Exchanges (2011), *List of the World Commodities Exchanges*, Retrieved from [http://en.wikipedia.org/wiki/Commodities\\_exchange](http://en.wikipedia.org/wiki/Commodities_exchange)
16. CDRI (2001), *Cambodia Development Review*, Phnom Penh, vol. 15, pp.2

17. CIA World Fact Book (2011), Public Debt US\$ and Debt to %GDP-2010 for the Selected European Countries, Retrieved from <https://www.cia.gov/library/publications/the-world>
18. Hill, Charles W.L. (1998), *Asian Financial Crisis in 1997-98*, University of Washington, Fact and Details. <http://www.factsanddetails.com/Asian>
19. Cobb, Charles and Paul Douglas 1900-1947 (2011), *Cobb-Douglas Production Function*, Retrieved from <http://www/dept.econ.yorku.ca/~sam/2350q/cd.pdf>.
20. CNN Money (2010), *Currency Graph Calculation, Currency Market*, Retrieved from <http://www.money.cnn.com/currency>
21. CNN Money (2011), *European Union Debt Crisis*, Retrieved from [http://www.money.cnn/european\\_sovereign\\_debt\\_crisis](http://www.money.cnn/european_sovereign_debt_crisis)
22. Ackerman, Rick (2006), *Market Capitalization as a % of nominal GDP*, NYSE from 1925 and NASDAQ from 1985, *the Ricks Pick's Chart store*, Retrieved from <http://www.thechartstore.com>
23. Crockette, A., (2000), *How Should Financial Market Regulations Respond to the New Challenges of Global Economic Integration*, the Federal Reserve Bank of Kansas City, USA, pp. 6.
24. Christine Lagard (2011), *IMF's expression on EU Debt Crisis*, Reuters, USA and Nigeria.
25. BOT, ThaiBMA, SET, SETSMART, MAI, *Credit and Bond Outstanding and Equity (2008)*, retrieved from <http://www.sec.or.th/infocenter/th/seminar/demuse>
26. Dorfman, Mark S. (1997), *Introduction to Risk Management and Insurance*, Prentice Hall, USA, pp.8.
27. Dornbusch, Park, Claessens, (2000), *Contagion: Understanding How It Spreads*, the World Bank Research Observer and Survey the Literature on Contagion, Retrieved from <http://www.worldbank.org/contagion>
28. Economic Watch (2011), *Cambodia Economic Statistic and Economic Indicators Database 2011-2016*. Retrieved <http://www.economicwatch.com/economic-statistics>
29. World Economic Watch (2011), *Financial Investment, Investing Money*, Retrieved from <http://www.economywatch.com/investment>.
30. Economy Watch: Investment-Finance Reports (2011), *Investment Opportunity*. Retrieved, <http://www.economywatch.com/investment/investment-opportunities>
31. World Economy Watch (2011), *Investment Securities and Speculation*, Retrieved from <http://www.economywatch.com/investment/investment-securities.html>
32. Economy Watch (2010); *Types of Financial Markets*. Retrieved from <http://www.economywatch.com>
33. E-How Money, the *Commodities Market Instruments*. Retrieved from [http://www.ehow.com/info\\_8024407\\_traded-instrument-commodity-market.html](http://www.ehow.com/info_8024407_traded-instrument-commodity-market.html)

34. European Sovereign Debt Crisis (2011), *2008-2011 Icelandic Financial Crisis*, Retrieved from [http:// www/wiki/European\\_sovereign\\_debt\\_crisis](http://www/wiki/European_sovereign_debt_crisis).
35. European Commission (2012), *the Fiscal Compact Ready to Be Signed*. Retrieved from <http://www.european-council.europa.eu>
36. European Debt Crisis (2009), *European Sovereign Debt Crisis*. Retrieved from [http://www.wiki/European\\_sovereign\\_debt\\_crisis](http://www.wiki/European_sovereign_debt_crisis)
37. Shik, Eom Kyong (2007), *Initial Design for the Cambodian Securities Market, Projection of the Cambodian GDP and Stock Market*, Korean Securities Research Institute (KSRI).
38. Zhang, Fengbo (2008), *Perspective on the United States Sub-prime Mortgage Crisis*, Special Report. Retrieved <https://www.sites.google.com/site/fengbozhang>
39. FOREX (2011), *the Foreign Exchange Market*. Retrieved from [https://www.en.wikipedia.org/wiki/Foreign\\_exchange\\_market](https://www.en.wikipedia.org/wiki/Foreign_exchange_market).
40. Financialmirror (2010), *Greek and German Bond Yield Spread More Than 1,000 bps*. Retrieved from <http://www.financialmirror.com>.
41. Fleming, Andrew (2011), *Adbusters Sparks Wall Street protest Vancouver-Based Activists behind Street Actions*, USA. Retrieved from <http://www.vancourier.com>.
42. FDIC (Federal Deposit Insurance Corporation) (2008), *Liquidity Risk Management, Financial Institution Letter*, USA. Retrieved <http://www.fdic.gov/news/news/financial/>
43. Financial Dictionary (2011), *Financial Investment Set*, the Free Dictionary
44. Garrestsen, Lensink and Sterken (2004), Growth, financial development, social norms and legal institutions, *Journal of International Financial Market*, Institution and Money.
45. Garner, Carley (2010), *Trader's First Book on Commodities*, New Jersey, FT Press Hull
46. G8 Summit (2003), *Confronting Global Economic and Financial Challenges*, Lion, France.
47. Graff, M. A. (1999), *Financial Development and Economic Growth*, a New Empirical Analysis in Economics.
48. Government Bond (2009), *HNX Annual Report 2010*, the Hanoi Stock Exchange, Retrieved from <http://www/en.hnx.vn/default.asp>.
49. Hanoi Securities Trading (2009), *Securities Trading*, Center Hanoi STC, Retrieved from <http://www/en.wikipedia.org/wiki/Hanoi>.
50. Hanoi Stock Exchange (2009), *Listed Companies, HNX Annual Report 2010 and HASTC Annual Report 2006*, Retrieved from <http://www/en.hnx.vn/default.asp>
51. Horcher, Karen A (2005), *Essentials of Financial Risk Management*, John Wiley and Sons USA.
52. Hondroyiannis, G., Lolos, S. and Papapetrou, E. (2005), *Financial Market and Economic Growth in Greece, 1986-1999, Journal of Economics*, Vol.15.
53. Hochiminh Stock Exchange (2008); *Vietnam Stock Market Overview*, Vietnam
54. Hochiminh Stock Exchange (June 2009), *Annual Report 2007*, Vietnam

55. Hull, John C. (2006). *Options, Futures and Other Derivatives*, 6<sup>th</sup> edition, Prentice Hall
56. IAIS (2004), *Guidance paper on investment risk management by the Investments Subcommittee*
57. IMF (1998), *Asian Financial Crisis*, [www.imf.org/external/np/speeches/1998/012298](http://www.imf.org/external/np/speeches/1998/012298)
58. IMF Country Report (2009); *Cambodia GDP Growth, Cambodia*  
(IMF, World Bank, UN, OECD, CIA Work fact, Transparency International)
59. Investment, Wikipedia, the free encyclopedia, <http://en.wikipedia.org/wiki/investment>
60. Investment Opportunities (2011); [www.investment-help-info.com/Investment-opportunities.html](http://www.investment-help-info.com/Investment-opportunities.html)
61. Investment, Savings and Financial Development (2011), retrieve from  
[www.med.govt.nz/templates/MultipageDocumentPage\\_\\_\\_\\_38485.aspx](http://www.med.govt.nz/templates/MultipageDocumentPage____38485.aspx)
62. Invest Korea (2012); *Korea Financial System; Korea's Financial Market Structure*.  
Retrieve from [www.investkorea.org/](http://www.investkorea.org/)
63. Investopedia, *Stock split definition*, <http://www.investopedia.com/terms/s/stockplits>
64. International Business Time AU, (2011). Retrieve from <http://au.ibtimes.com/articles/110821/20110210/what-is-foreign-exchange-currency-conversion-financial-markets-forex-foreign-exchange-markets.htm>
65. James H. Cobbe, *Fall 2001 ECO 2013 Cobbe*, Chapter 10, Florida State University and Faculty Senate (FSU)
66. John C. (2006), *Options, Futures and Other Derivatives*, 6<sup>th</sup> edition, Prentice Hall
67. John M. Dalton (1988); *Stock Market Works*; New York Institute of Finance, USA  
<http://www.bbc.co.uk/news/world-europe>
68. Joseph Tigue and Joseph Lisanti (1997); *Dividend Rich Investor*; McGraw-Hill, USA
69. S. Kerry Cooper and Donal R. Fraser (1993), *the Financial Marketplace*, Fourth Edition, A-W Publishing Company, USA
70. Kathy Kristof (2000); *Investing 101*; First Edition; Bloomberg Press Princeton, USA
71. Kishkin, F., (2003), "*Financial policies & prevention of financial crisis in emerging market countries*," University of Chicago Press
72. King, R. G. and Levine, R., (1993), *Finance and Growth: Schumpeter might be right*, *the Quarterly Journal of Economics*, MIT Press, vol. 108 (3)
73. Krisada Sektrakul (June 2009); *the Thai Securities market in context*; Thailand Securities Institute (STI)
74. Laura, Victor, and Delia, Andreas (2008); *Correlation between capital market and economic growth: the case of Romania*
75. Lawrence J. Gitman (2003); *Principle of Managerial Finance*; Tenth International Edition; printed by Lawrence J. Gitman, USA
76. Laeven L, Valencia F (2008) *Systemic banking crises: a new database*, IMF WP/08/224



77. Letter, Washington, [www.fdic.gov/news/news/financial/2008/index.html](http://www.fdic.gov/news/news/financial/2008/index.html)
78. Liu, W. and Hsu, C., (2006), *the role of financial development in economic growth: the experiences of Taiwan, Japan and Korea*, *Journal of Asian Economics*.
79. Marc Levinson (2005), *Economist; Guide to Financial Markets*, 4<sup>th</sup> edition, London
80. Merton Milller (2005); *Financial Markets and Economic Growth*; Article first published by *Journal of Applied Corporate Finance*
81. Merton Milller, *Financial Markets and Economic Growth*, University of Chicago, “Levend Beriker Associates”, USA
82. Miskin, F., (2003), *financial policies and prevention of financial crisis in the emerging market countries*
83. McConnel and Bruel (1999) *Economics: principles, problems and policies* 14<sup>th</sup> edition
84. Myers, S.C., (1977), *Determinants of Corporate Borrowing*, *Journal of Financial Economics*
85. Michael B. Lehmann (1996); *the Wall Street Journal*; Fifth Edition; IRWIN; USA
86. Nathan Rowader and Paul Herber (2011), *Forward Management*,  
[http://www.forwardfunds.com/pdfs/market\\_insights/Forward\\_What\\_Every\\_Investor\\_Should\\_Know\\_About\\_Commodities.pdf](http://www.forwardfunds.com/pdfs/market_insights/Forward_What_Every_Investor_Should_Know_About_Commodities.pdf)
87. NBR-The National Bureau of Asian Research (2011): *China’ Outward Investment and Global Financial Crisis: Challenges and Opportunities*. Retrieved from  
[www.nbr.org/research/activities](http://www.nbr.org/research/activities)
88. Nombulelo Duma (2011) *Dollarization in Cambodia: Causes and Policy Implications* by International Monetary Fund, (IMF)
89. Nieuwerburgh, S., Buelens, F. and Cuyvers, L., (2006), *Stock market development and economic growth*, exploration in economic history in Belgium.
90. Oversea Indian Facilitation Centre (OIFC); YTM Calculation, [www.moneychimp.com](http://www.moneychimp.com)
91. Oliver Blanchard (2012), Europe pushes the world into crisis, IMF in Washington
92. Organization of the SEC, the U.S. Securities and Exchange Commission,  
[www.sec.gov/about/whatwedo.shtml](http://www.sec.gov/about/whatwedo.shtml)
93. Pat Dorsey (2004); *Successful Stock Investing: Morningstar’s Guide to Building Wealth and Winning in the Market*; Morningstar; USA
94. Pamela Peterson Drake; *U.S Treasury Bill Yield Calculations*; USA
95. Peter S Rose (2003), *Money and Capital Markets: Financial Institution and Instruments in a Global Marketplace*, 8<sup>th</sup> edition, by McGraw-Hill Company, USA
96. Prum Somany (2006), *Practical Guidelines for Social Science Research* in BA, PUC
97. Pidd, Helen (2011-12-02) “Angela Merkel vows to create 'fiscal union' across Eurozone”  
Guardian, <http://www.guardian.co.uk/business/2011/dec/02/angela-merkel-Eurozone-fiscal-union>

98. Rajan, R. and Zingales, L. (1998), *Financial Development and Growth, the American Economic Review*
99. *Relationship between Financial Markets and Economic Growth (2003): Implications for Canada*. Retrieve from [www.wisecanada.ca/report/html/6E\\_markets/6E\\_markets\\_](http://www.wisecanada.ca/report/html/6E_markets/6E_markets_)
100. Reuters (2010), *Greece's sovereign-debt crunch*, <http://www.reuters.com>
101. Reuters (December 20, 2011), *Christine Lagarde*, IMF Head, speaks at a roundtable. Event in Lagos, Nigeria
102. Reuters (January 25, 2012), *IMF's expression* in Washington, USA
103. *The Role of Financial Markets in Economic Growth (2009)*, retrieve from [faculty.fuqua.duke.edu/~charvey/Research/.../C6\\_The\\_role\\_of.pdf](http://faculty.fuqua.duke.edu/~charvey/Research/.../C6_The_role_of.pdf)
104. Robert Merton Solow, *theory of economic growth, the neo-classical growth model*
105. Rose and Marquise (2006); *Money and Capital Markets*, McGraw Hill International, Singapore
106. Rubinstein, Mark (1999), *Rubinstein on derivatives*, Risk Books, Chicago
107. Securities Commission Malaysia (2009); *Introduction to Islamic Capital Market, Equity Market and Valuation of Securities*; Dolphin Press Sdn. Bhd; Malaysia
108. SEC protects investors, the U.S. SEC, [www.sec.gov/about/whatwedo.shtml](http://www.sec.gov/about/whatwedo.shtml)
109. Sergio L. Schmukler (2004), *Benefits and Risks of Financial Globalization: Challenges for Developing Countries*, the World Bank
110. Solow–Swan growth model, *the economic growth models, the framework of Neoclassical growth models*
111. Stephen A. Ross; Randolph W. Westerfield and Bradford D. Jordan (2000 & 2004), *Fundamentals of Corporate Finance*; Fifth Edition; Fourth International Edition; McGraw-Hill Company, USA
112. Smith, C. W. Jr., (1986), *Investment Banking and Capital Acquisition Process*, *Journal of Financial Economics* 15
113. Stulz, R., (1999), “*Globalization, Corporate Finance and Cost of Capital*,” *Journal of Applied Corporate Finance*
114. Stock Exchange of Thailand, number of listed companies, total market capitalization, market information, [http://www.wikininvest.com/wiki/Stock\\_Exchange\\_of\\_Thailand](http://www.wikininvest.com/wiki/Stock_Exchange_of_Thailand)
115. Timothy E. Johnson (1978); *Investment Principles*, published by Prentice-Hall, inc., New Jersey, USA
116. Thailand Securities Institute (2005); *Investment Knowledge for Investors and Financial Professionals*; the Stock Exchange of Thailand
117. Thailand Securities Institute (June 2009), *Thai Securities Market in Context*
118. Thecityuk, Financial market series (2011), *Commodities trading report*, retrieve from <http://www.thecityuk.com/assets/Uploads/Commodities-Trading-2011>

119. Thetyee.ca (2011), ‘the Tyee – Adbusters' Kalle Lasn Talks About *Occupy Wall Street*’  
<http://thetyee.ca/News/2011/10/07/Kalle-Lasn-Occupy-Wall-Street/>
120. The U.S. Securities Exchange Act of 1934, Section 4, [www.sec.gov/about/laws/sea34.pdf](http://www.sec.gov/about/laws/sea34.pdf)
121. The U.S. Securities Exchange Commission (SEC); *Stock Splits*;  
<http://www.sec.gov/answers/stocksplit.htm>
122. The World Bank, Cambodia (2011), [www.worldbank.org/kh](http://www.worldbank.org/kh)
123. World Bank (2012); *Benefits and Risks of Financial Globalization: Challenges for Developing Countries*, retrieved from [www.sschmukler@worldbank.org](http://www.sschmukler@worldbank.org).
124. World Bank Report (2011); *the Market capitalization of listed companies (% of GDP) Thailand*
125. William J. O’Neil (1995); *Make Money in Stocks*; Second Edition, R. R. Donnelley & Sons Company; USA
126. World Bank Indicators (2011), *Capital market, market capitalization of listed companies (% of GDP) in China*
127. World Bank Indicators (2011), *Capital market, market capitalization of listed companies by countries*
128. William Boyes and Michael Melvin (2005); *Macroeconomics*; Arizona S. University, USA
129. *The Wall Street Journal Online*, *T-Bills Listing on January 4, 2007*, New York, USA
130. Zvi Bodie, Alex Kane, and Alan J Marcus (2008), *Essentials of Investments*, Seventh International Edition, Singapore
131. Zhang, Fengbo (2008), *Perspective on the United States Sub-prime Mortgage Crisis*, Special Report. Retrieved from <https://www.sites.google.com/site/fengbozhang/>



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