

CHAPTER FIVE

ANALYSIS & FINDINGS

UNIVERSITI SAINS ISLAM MALAYSIA  
جامعة العلوم الإسلامية الماليزية  
ISLAMIC SCIENCE UNIVERSITY OF MALAYSIA

## CHAPTER FIVE

### ANALYSIS & FINDINGS

#### 5.1 INTRODUCTION

The relationship between the stock market and economic growth is widely examined using various approaches. This study investigates the role of LSM in promoting economic growth using qualitative and quantitative methods. This chapter explains the analysis and findings of these two approaches. The first part of this chapter would be a qualitative analysis, which is reflected in an interview. At the end of this section, the researcher will address whether the interview achieved the research objectives through the achievement of its propositions.

The second section would be a quantitative analysis, which contains four types of analysis: questionnaire, co-integration test, causality test and a Vector Error Correction Model (VECM). Then the study would be addressed whether the results agreed with the study hypotheses.

#### 5.2 PART 1: QUALITATIVE ANALYSIS – SEMI STRUCTURED INTERVIEW ANALYSIS

The first part of this chapter is the interviewed result obtained from the head of LSM, and the three of the managements' heads in the market. During four days starting from the 7th of June 2012. Based on that, there are several issues raised and discussed such as the reasons behind the delay LSM establishment, the role of LSM in promoting economic growth and its performance. In addition to that some questions were about the measures taken by LSM to appeal the investors, the type of investors that the market prefers: the firms or the individual investors based on the interviewees opinions. In addition to that the interview includes questions about the LSM plans to improve its activity for further development, and some questions that are meant to support the research objectives. There are some other important questions such as,

why the main sectors in Libya haven't listed in LSM. The results of the interview are categorized into three themes LSM problems; the role of LSM in promoting economic growth and the procedures are taken to attract local and foreign investors. At the end of the interview, there is an open ended question which gives a space of freedom to the interviewees to add their opinions about the improvement LSM performance and any issue related to the research objectives. (See appendix 3.1).

### 5.2.1 The Problems Encountered in LSM Establishment

This theme of the interview includes questions about the facts and the opinions of the interviewees about some important aspects about LSM, the problems that stood behind the delayed its establishment, LSM background in the first two years and why it didn't start its activity until 2008. Also, this theme is explores whether LSM has any weakness preventing it from playing its role in promoting economic growth effectively or its performance is good compared with its establishment date. In addition to that, some question provides the information about the extension of the suitability of economic and political environments for its establishment. Another important issue addressed in this theme which is, the reason behind prevent private sector companies to be listed in LSM. The last point in this theme was about the type of LSM whether it is strong or semi-strong market, or it is a weak market based on the Efficient Market Hypothesis Theory.

First issue, regarding the issue of delay in the establishment of LSM despite the availability of human and financial resources, all of the interviewees agreed that the delayed of LSM establishment came from problem is associated with the political reasons. They mentioned that the political environment was not appropriate in any way to create it, despite a supportive economic environment for its establishment. In addition to that, there is no awareness of its importance among Libyan people because their culture about that was very weak.

The interviewees refer to the reasons behind the weak performance of LSM in the first two years in the absence of LSM trading in those years because 2006 was the establishment year. The trading started in 2007, but the mode of operations was very small and limited because the trading was based on a hand-trading. Besides, the

number of companies that contributed in the market did not exceed 7 corporates. Thus, the market did not begin its real activity until the month of April in 2008 when it started to use electronic trading to make its advanced contribution to the Libyan economy.

The second issue discussed on the weaknesses faced by the LSM. The interviewees stated that LSM suffers from some weaknesses, which prevent it from performing better. The problems were the complexity evident in the rules of the market and its laws that restrict the movement of the market in improving its activity, as well as the absence of the main five sectors role in the market. These major sectors came from oil, electric, telecommunication, building and agricultural sectors. Also, there are some sectors that contribute in the market (manufacturing sector by one company, investment sector is also by one company), but their contribution is small and does not bring any significant impact to the market's performance. In addition to that, preventing the private sector from the contribution in the LSM because of political reasons, was one of the main weaknesses. Moreover, the market did not have Islamic department and branches that led to the reluctance of Libyan people from investing their savings in the market. They thought and believed that there is a *riba* element in the market operations. Lastly, lack of market branches in the other Libyan cities, except in Benghazi and also affect the performance of LSM. Hence, consequently, they prefer to invest their money through other channels.

The third point argued about the type of LSM is that all the interviewees agreed that LSM is considered as a semi-strong market based on EMH theory. This view is because the listed companies' information provided to the investors has been just public information like accounting data in the annual reports of these companies. Also, it is worth mentioning here that Libyan economy is considered as a mono economy because it depends heavily on the oil sector that contributes about 95 percent of export revenue, 25 percent of GDP, and the government earnings reached 80 percent. The percentage of the oil and gas sector's contribution to the Libyan economy in 2010 was 62.1 percent, while the commodity production sector and Public service sector & social contributed around 7.6 percent and 7.2 percent respectively (CBL annual report, 2010).

In brief, this theme addressed an overview about the LSM features and the problems faced which prevent it from doing its activities during the first two years, and some related issues that help to make enough idea about the main points regarding it.

### 5.2.2 The Role of Libyan Stock Market in Promoting Economic Growth

The next issue is the LSM role in the economic growth and its performance in promoting economic growth. According to the interviewees, although the LSM is quite recently established, its performance and achievement is much better compared to its establishment date. They also stressed that LSM has a positive role in economic growth; they build their answers on their working experience with it and their optimistic view about its future.

Furthermore, the next main issue that has been clarified during the interview session concerns to the reason behind the non- contribution of the biggest sectors in LSM. All of them connect this issue with the government policy. Libyan government did not want these sectors to collaborate with the market, and that was the case especially for the oil sector. Because the Libyan economy was closed economy and the oil sector due to serve political purposes, it was under public sector control. In fact, the oil revenues, which go to the economic channels, are too small, although, it is the main supporter of the Libyan economy as reported earlier. In addition, the managements of these sectors under the control of political administrations who did not want anyone to know its financial statements for political reasons.

Another important statement addressed in this theme, the absence of the private sector companies' contribution in LSM. The interviewees explained that the private has no contribution in LSM, because of a political reasons.

Moreover, about the plans of LSM and the best ways to improve its role in promoting Libyan economy, the interviewees have some ideas about how making LSM more effective to promote economic growth. They mentioned to the LSM tries to translate the above ways to the organized plans to make the role of the stock market more prevalent in promoting economic growth. Firstly, by attracting the main sectors to

contribute in LSM. In addition to that, they suggested that Libyan government must allow the private sector to contribute in the market.

Secondly, the interviewees stressed that LSM should make some changes in the market regulations to give it more freedom to do its activities that will have a positive effect on its performance. All interviewees unanimously agree with this idea. Thirdly, the interviewees are of the opinion that the market needs to take some actions in order to improve people's awareness about the advantages of investing in LSM. Also, they mentioned that the government must give more help to LSM such as financial support. This view is parallel with Ake & Ognaligui (2010b) in their study of Duala Stock Exchange, they recommended the government to find proper financial policies, to encourage companies to be listed in LSM and develop its culture among Libyan people.

According to the interviewees, suggested that LSM should open the invest fundamentals, Islamic branches, make deals with the other markets and trying to benefit from their experience, and opening branches in the other cities. They confirmed that through these procedures the LSM perform will be better and solve all its problems effectively and efficiently and will make its role in the economy stronger.

To sum up, based on the above discussion, it can be conducted that LSM has a positive role in promoting economic growth in Libya, although this role is quite small because the market is still infant, but its performance is good compared with its establishment date. These results lead to accepting the first and second interview propositions which are, LSM has a positive role in promoting economic growth, and its performance is good comparing with its establishment date. Which will lead to achieving the first and second objectives of the study based on the interview.

### 5.2.3 The Procedures Taken to Attract Local and Foreign Investors

The next issue discussed is related to measures taken by the market to attract the local and foreign investors. All of the interviewees agree that the number of foreign investors during the study years was small. However, the number of local investors increased during the study years. At another point, they said that there is no difference

between the local and foreign investors, and there are no restrictions forced on the foreign investors. In addition to that, the interviewees said that LSM since it established tried to make the policies attract the investors. A new policy has been implemented and changed many fundamental policies in the country. The market adopted this new situation accordingly and started to change its rules and provided incentives to the investors to appeal them to invest their savings in the market. Some of them also added that, foreign investors can own around 10% of the shares in the market as one of an attractive measures.

Besides, about the type of investors (individual and companies) the market prefers has been raised during the interview session. All of the interviewees stated that the market does not prefer one type more than the other because they believed each investor has its own advantages. Thus, the market focuses its activities to attract the two types of investors.

Moreover, the interviewees are also having asked about their plans in order to attract the local and foreign investors. They mentioned that there are a series plans to open branches of the market in the whole Libyan cities to make easier for the citizens attend the market every time. The interviewees also said that there are foreign investors in the market in the form of partnership with companies listed on the market for instance, the Arab Bank with the Al-Wahda Bank & the French bank with Al-Sahara Bank. They attributed the lack of foreign investors in the market to the laws tying the movement of the investors. Thus, they are going to change and modify these rules so that it could become an attraction for foreign investors to invest their money in Libyan Stock Market.

In addition, they said that through the opening Islamic branches within the market as well as open Islamic funds will contribute to attract more local investors. The reason is most Libyans are worried that there are *riba* elements in the LSM transactions, so they do not prefer to invest their savings in the market due to this issue. Hence, to tackle this problem, the market inserted Islamic financial services, such as, constructing two-investment funds by LYD 750 million and plans to enter Islamic trading instruments and linked them to the market. As time passed by, it will be able

to give freedom of the citizen to choose between financial instruments, and will be able to attract Libyan people to invest.

It is worth to note that, according to the interviewees, there are some deals made between the LSM and some Arab and European markets such as, the London market and the United Arab Emirates (UAE) market and it will be one of The World Federation of Exchanges (WFE). The government will also support LSM activities. Besides, American reports reported that LSM in next ten years will be the top market in Africa in terms of stock trading in the buying and selling (Dr. Mohammad Karroud said).

Furthermore, on the subject of publicity for the market, all the interviewees stressed that in order to publicize the LSM inside and abroad, the market has made a number of measures, such as the advertisements on local and foreign television channels and web pages. In addition to that, LSM distributes leaflets internally, and publish magazines which explain the definition of the market of its activities and plans in future.

In another topic, the interviewees agreed that the investors are satisfied with the LSM services. This situation is evident in the continuous increase in the number of investors, in addition to what appears in the questionnaire that distributes by a special committee periodically every 6 months.

Briefly, according to the interviewee's answers the third proposition which is LSM made a series measures to attract local and foreign investors would be accepted, that mean that the third objective of this study is also achieved based on the interview.

In conclusion, according to the different three themes of the interview, it should be said that the study propositions are accepted based on the interviewees' answers. It means that the study objectives are achieved. Table 5.1 shows the summary of the semi structured interview based on each interviewee opinion.

Table 5.1: Summary of the nterview

Questions	The interviewees at LSM			
	Dr. Mohammad Karroud  (Head of LSM)	Dr. Fathi Almoghribi  (Head of Studies and Training Department)	Mr. Mohammad Alhouni  (Director of Indicators and Reports)	Mr. Mohammad Nasouf  (Management of Depository and Central Registry management)
<b>THEME: THE PROBLEMS ENCOUNTERED IN ESTABLISHMENT LSM</b>				
Why LSM has been established very recently?	1) Political reasons  2) There was not enough idea about the importance of the stock market for the economy	1) The government did not want to establish a stock market.  2) There was not enough idea about the importance of the stock market for the economy, and a lot of Libyan people do not know anything about it.	1) Political reasons  2) The government does not have enough idea about the importance of the stock market establishment for the economy, despite of Libya's possibilities to establish a strong stock market.	1) Political reasons  2) Libyan government did not want to establish it.
Are there any trading operations in 2006 and 2007?	1) In 2006, there was no trading because it was the establishment year.  2) In 2007 there was small and hand trading because the market didn't use electronic trading until April 2008	1) Because 2006 was the establishment year, there was no trading.  2) In 2007 the LSM started to make its operations, but the trading was small because the market didn't use electronic trading until April 2008	1) In 2006 - there were no operations because it was the establishment year.  2) In 2007 - there was a small trading because the market did not use electronic trading until April 2008	1) There was no trading in 2006 - because it was the establishment year.  2) In 2007 - small & hand trading because the market did not use electronic trading until April 2008
Why LSM did not start its activity effectively until 2008?	1) It did not have a strong base to get started  2) It needs many measures to take its first steps.  3) It did not start its electronic trading until 2008	1) It is a normal thing for a country which in a closed economy.  2) It did not have any experience on how the stock market works. And it did not start the electronic trading until 2008.	The idea of the stock market was not known by Libyan people. Also, it did not start the electronic trading until 2008.	1) The issue is very new in Libya  2) Most Libyans had not heard of its existence due to the absence of publicity.  3) It did not start the electronic

				trading until 2008.
Did the political and economic environment is suitable for the establishment of the stock market?	Economic environment was suitable. But political environment was not conducive	Libya has an economic environment. However, the problem was with the political environment.	Economic environment was suitable. However, the political environment was not appropriate. Although the previous government started to do some steps to change some policies supporting LSM.	Economic environment was suitable because Libya has good possibilities to establish it. However, the political situation was not allowed.
Does Libyan stock market have weaknesses which prevent it from operating effectively?	<p>1) Oil and agriculture sectors don't contribute in the market</p> <p>2) Manufacturing contributed by one company and investment sector also contributed by one company.</p> <p>3) Market rules prevent it from making many decisions to improve its operations.</p> <p>4) It does not have an Islamic department to attract the local investors</p> <p>The absence of the private sectors in the market.</p> <p>There is another important point which is, the government support is weak.</p>	<p>1) The two sectors do not make a contribution (oil &amp; telecommunication)</p> <p>2) The Laws restricted its free movement in the market</p> <p>3) It does not have an Islamic department to attract the local investors</p> <p>4) It does not have good incentives to appeal foreign investors.</p> <p>On the other hand the economic system in Libyan was unstable, so the investors worry about that.</p> <p>Also, there is no contribution of the private sector in the market, consider as one of LSM weaknesses</p>	<p>1) Oil, agriculture and telecommunication sectors do not contribute in the market</p> <p>2) Manufacturing contributed by one company, while the investment sector a contributed by one company.</p> <p>3) Market regulations prevent it from making many decisions to improve its operations.</p> <p>4) It does not have an Islamic department to attract the local investors</p> <p>5) Lack of market branches in the other Libyan cities</p>	<p>1) The two main contributing sectors (banking &amp; insurance) with the absence of oil, electric &amp; Agriculture telecommunication sectors.</p> <p>2) Markets' regulations prevent it from improving its job.</p> <p>3) It doesn't have an Islamic department to attract the local investors</p>

<p>According to the efficient market theory, What type of market that LSM fall under?</p>	<p>LSM is a semi strong market- it gives all the public information in companies annual reports to the investors</p>	<p>Based on the type of information which contribution companies disclosed, LSM considers as a semi strong</p>	<p>LSM is a semi strong market because the companies give just public information through their annual reports</p>	<p>Companies in the market are disclosed just their public information. Based on Efficient Market Theory, LSM is a semi strong market</p>
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#### END THEME: THE ROLE OF LSM IN PROMOTING ECONOMIC GROWTH

<p>Does Libyan stock market positively promote Libyan economy?</p>	<p>In the past a small percentage of activity, but when we started to change its regulations and add some important things to improve its contribution, and tried to attract the main sectors of the economy to contribute in the market to make direct promoting on the economy. Also, its activity clears through the profits of the main contribution sectors (banking and insurance sectors)</p>	<p>Previously, there was small activity, but when LSM started to change something in the stock market, including some regulations to improve its contribution, and tried to attract the main sectors of the economy to contribute in the market to make direct promoting on the economy. Also, its activity clear through the profits of the main contribution sectors (banking and insurance sectors), we accept that its contribution will be better.</p>	<p>The impact of LSM in economic growth was small, but when LSM did some steps such as take some procedures to attract local and foreign investors, and attempt to appeal the main sectors of the economy to contribute in the market to make direct promoting on the economy. Its activity clears through the profits of the main contribution sectors (banking and insurance sectors) because these sectors are important sectors of Libyan economy</p>	<p>This step needs a lot of work from the market, it does not mean that there is no effective. However, the contribution of LSM in the economy was small because of some reasons such as political reasons, but when LSM started to change some of its regulations and add some important things to improve its contribution, and tried to attract the main sectors of the economy to contribute in the market especially oil sector companies</p>
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<p>Why the biggest sectors in Libya (oil, electric, agriculture telecommunication &amp; building) do not contribute in the market</p>	<p>The government did not want to enter these sectors to LSM because most of their revenue was going to the other channels</p>	<p>It was government policy.</p>	<p>Big sectors especial oil sector was totally under the government control, and the government wants to disclose on their budgets.</p>	<p>1) Because there was a control political system in Libya, the government didn't want to enter these companies to be listed in the market for political reasons.</p>
<p>Is there any contribution of the private sector in LSM</p>	<p>There is no contribution of the private sector in LSM. Because Libyan government prevents its companies to be listed on the market.</p>	<p>There is an absence of the private sector in LSM because of political reasons</p>	<p>The contribution of the private sector is Zero, because the Libyan government prevented its companies to be listed in it.</p>	<p>Since, the establishment of LSM there has been no contribution of the private sector in it, because the Libyan government prevents this sector companies to be listed in LSM.</p>
<p>In your opinion, what is the best way to make LSM more effective in promoting economic growth? Also, do you have any plans to make stock market become more effective in promoting economic growth</p>	<p>1) Open invest fundaments 2) Attract big sectors in the economy to contribute in the market, make deals with the other markets &amp; try to benefit from their experience 3) Open branches in other cities and do more procedures to attract the investors such as make them aware of the importance of the stock market to the national economy. 4) Open Islamic branch. This step will attract a lot of the Libyan people to invest their savings in the market. Change the market regulations</p>	<p>1) Open invest fundaments 2) Attract big sectors in the economy to contribute in the market, make deals with the other markets &amp; try to benefit from their experience 3) Open branches in other cities and open Islamic branch in LSM.</p>	<p>1) Attract big sectors in the economy to contribute in the market. 2) Try to benefit from the other countries' experience in this field. 3) Open branches in other cities. 4) Provide adequate incentives to attract foreign investors to invest in Libya. 5) Open Islamic branches. 4) The Libyan Stock Market should continue to issue the Annual Directory of listed public contributing companies,</p>	<p>1) Change the market rules to be suitable the development of the world stock markets. 2) Open invest fundaments 3) Attract the big sectors of the economy to contribute in the market. 4) Make deals with the other markets &amp; try to benefit from their experience</p>

	give it a space of freedom to do its activities.		and distribute it to investors in other countries through Libyan Embassies and Representative Offices.	5) Open branches in the other cities
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### D THEME: THE PROCEDURES TAKEN BY THE LSM TO ATTRACT LOCAL AND FOREIGN INVESTORS

Based on your experience in LSM, do you think that the local and foreign investors have a good contribution in LSM?	An LSM number of local individual investors increased with time in LSM it reached (3059) at the end of 2010, although Libyan people apprehensive from the Riba. But LSM is still suffering from the lack of foreign investors, because of a constant of the situation of the regulations in Libya. However, the number of the foreign investors is quite small because of unsuitable of Libya' policies. However, there are foreign investors in the form of partnership with companies listed on the market.	Compared with the market age and the first three years, the number of local investors became high. However, it still suffers from the lack of foreign investors. However, there are some foreign investors in the form of partnership with companies listed on the market.	During the first three years, the number of local investors was very small with the absence of the foreign investors. However, with time when the LSM culture spreads among Libyan people the number of local investors started to increase. However, the number of foreign investors still small.	Although the increase of local investors number. However, this number could be greater if LSM open Islamic branch, because they fear from the Riba. However, the contribution of foreign investors is still small.
What are the measures taken by the market to attract local investors	<ol style="list-style-type: none"> <li>1) Change the market regulations to be flexible to do some attracting procedures.</li> <li>2) Open Islamic branch to make local investors more confidence.</li> </ol>	Provide adequate incentives to investors to push them to put their savings in it, and editing the market regulations.	<ol style="list-style-type: none"> <li>1) Editing the market regulations</li> <li>2) Open Islamic branch to make local investors more confidence.</li> </ol>	<ol style="list-style-type: none"> <li>1) Started to change the market regulations regarding the interests of the investors.</li> <li>2) Open Islamic branch and open branches in other cities.</li> </ol>
What are the measures taken by the market to attract foreign	<ol style="list-style-type: none"> <li>1) Started to change the market regulations to achieve the improvement requirements.</li> <li>2) Provide best incentives to</li> </ol>	<ol style="list-style-type: none"> <li>1) Started to change the market rules</li> <li>2) Apply best incentives to attract</li> </ol>	<ol style="list-style-type: none"> <li>1) Started to change the market rules</li> <li>2) Provide good incentives to attract them</li> </ol>	<ol style="list-style-type: none"> <li>1) Started to change the market regulations to give some incentive to the local and foreign</li> </ol>

investors	attract them to invest in it.  3) LSM Made a new policy to attract foreign investors, which is they can own around 10% of the shares in the market, and we will start this policy as soon as possible.	them to invest in it.  3) Foreign investors can own around 10% of the shares in the market.	to invest in it.  3) Foreign investors can own around 10% of the shares in the market.  4) LSM should continue to issue the Annual Directory of listed public contributing companies, and distribute it to investors in other countries through Libyan Embassies Representative officers. Also, Libyan government should help to make Libyan policies and investment' environment more suitable for them to invest in Libya.	investors.  2) Provide good incentives to attract them to invest in it.  3) Foreign investor can own around 10% of the shares in the market.  Provide a suitable environment to make them a confidence to invest in LSM.
What type of investors LSM prefers, individuals or companies	The market does not prefer any type of investors. In my opinion, although companies' investors are better than individuals to invest in LSM, because they invest a high quantity of money, as institutions rather than the individuals. However, each type of investors has its advantages.	The market accepts the two types to invest in it, it does not prefer a special one rather than the other. It is true that institutions are better to invest in LSM. However, individuals also should be in the market to make its operations more moves.	Any type of investors is acceptable in LSM because each one has its advantages	The two types are accepted in LSM. I do not prefer one type more than the other one because each one has its advantages
Do you have a good advertisement to attract the investors?	Yes: LSM has many publications. And advertisements on TV, newspapers and magazines. Also, it has web pages on the internet. To make the investors enough knowledge about its operations and to encourage the savers to invest their savings in it.	Yes: Of course, LSM many publications to explain its operations, and its investment advantages. Adding to that, it has advertisements on TV, newspapers and magazines. Also, LSM also has web pages on the internet	Yes: 1) LSM has many types of advertisements such as, publications, advertisements on TV, newspapers and magazines. It also have web pages on the internet	Yes: 1) LSM has many publications which explain how it work, how to invest it, and the benefits come from the investment in it.  2) Advertisements on TV,

				newspapers and magazines  3) Have web pages on the internet
Do you think the investors are satisfied with the services offered?	Yes, I think so, it is clear in the increasing of the investors number on the market based on a survey done with them every 6 months.	Yes, based on a survey that we do every 6 months with them. And it can be noticed from the increasing of the investors number	The impression is good it is reflected in the increase of their numbers in the market & based on a survey done with them every 6 months. They just have some complaints from the fixed LSM regulations.	Yes, based on a survey that we distribute every 6 months among them.
What are your plans to make more attraction local and foreign investors?	Libyans doubt about Riba – So, LSM has planned to open Islamic branches within the market and open Islamic funds to appeal them to invest in the market with more confidence. Also, we have planned to open branches in other cities.	i) Open Islamic branch  ii) Change some of stock market regulations which can make the investment in the market more attractive to the investors. And the search for more incentives for them to appeal them to invest in it.	Libyans doubt about Riba. So, LAM plans to open Islamic branches within the market and open Islamic funds to appeal them to invest in the market with more confidence.	Libyans fear from the Riba. So, LSM has plans to open Islamic branches within the market and open Islamic funds to appeal them to invest in the.

#### UNENDED QUESTION

Do you have any suggestion you want to add or any recommendation to increase the role of LSM in promoting economic growth?	Libyan government and the LSM players should work together to improve LSM performance through many procedures as I mentioned before, such as involving big sectors to contribute to it. And open Islamic branch in the market. These two steps will stimulate the market to become strong.  Also, Libyan government must open new chances in Islamic finance and investment such as Sukuk and investment funds, Also, there is an important thing which is,	In my opinion, there are urgent steps that the market should take. For example, it should work hardly to attract main sectors of the economy to become listed in it. Also, to appeal foreign investors to invest in it. These two resources will take it to the developing stage sharply.  Also, it should be open the door to the private sector (private	When LSM becomes strong, this will make its role in economic growth more affective. So, LSM Libyan government must support LSM, through the granting of facilities. And enter the main sectors' companies in the economy to become listed in the LSM, because this will increase its capital which will make it more powerful.	Firstly, LSM needs the financial support from the Libyan government to be strong among the other markets. Libyan government also should open an Islamic institutions such as Islamic banks. Also, LSM should focus on the Islamic branches to give local investors more
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Libyan government should allow the private sector to be listed on the market, because this sector is prohibited from the investing in LSM.	companies) to enter the market. Because in the past, Libyan government was prevented private companies from the contribution in LSM.	confidence.
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Source: Questions conducted for four days starting from 7<sup>th</sup> June 2012.

## 5.3 PART 2: RESULTS OF SURVEY OF QUESTIONNAIRE

### 5.3.1 Introduction

The second part of this chapter analyses the questionnaire, which was distributed in LSM, for three weeks starting from 20<sup>th</sup> June, 2012, from 9 am until 1 pm every day. Following Masoud (2009), Alkordi (2012) and Samir (2010), the questionnaire divided into two main parts. The first part is on the respondents' demographic characteristics which are gender, functional capacity, study level and the years of experience. Meanwhile, the second part contains the statements related to the study objectives. The questionnaire contains twenty-three questions. The first eight of them are about the role of LSM in economic growth. The second group of this part contains nine statements about the contribution of local and foreign investors in LSM and the measures taken to appeal them. The rest of the questions are to know the relationship between LSM variables and their effects on LSM profits. The present study uses five Likert scale to measure the responses of the respondents. (See appendix 4.3).

The research population is a group of people, things, or events that the researcher wants to examine in order to collect the required data for the research problem (Uma, 2003). The process of identification of a research population based on the type of problem being solved and the purpose of the main research objective, with other major concepts or issues involved. It is appreciated that such a strategy may suffer from a low-response rate (Starbuck, 2004). However, as this method is considered the most effective in the circumstances, it was used cautiously by the researcher in an attempt to improve the response. Hair et al., (2011) reported that it is very important to determine the appropriate sample size before the data collection, from either a large (infinite) society or a small (finite) population. They also added that the researcher can

determine the sample size by referring to factors such as time available, budget and previous similar studies.

### 5.3.2 Demographic Factors

#### 5.3.2.1 Gender

Based on the questionnaire distribution, the majority of respondents are males, they are (475) respondents, equals 87 percent approximately. The number of female respondents is (72). This big difference comes from the culture of the Libyan people, and because the LSM is new. On the other hand, most of the respondents are investors and most of the investors are males because Libyan society suffers from the lack of businesswomen due to most of them working in public sectors such as education and health sectors. However, the culture of the Libyan society on the subject of women entrepreneurs who can invest in the LSM is still limited. Figure 5.1 shows the average respondents' gender.

Figure 5.1: Gender Distribution

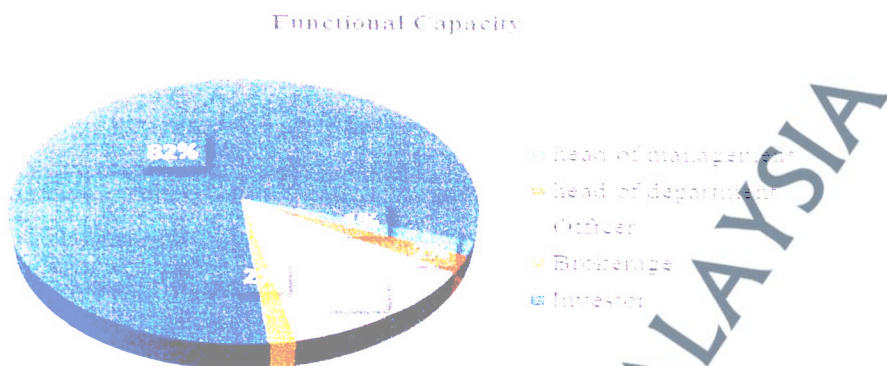


Source: Survey Questionnaire, n=547

#### 5.3.2.2 Functional Capacity

The largest number of respondents are investors; they are (447), which equal 81.7 percent, while the average of heads of managements and brokerages has the lowest same average; which is (9) equal to 1.6 percent. Figure 5.2 displays the percentage distribution according to functional capacity.

Figure 5.2: Functional Capacity Distributions



Source: Survey Questionnaire, N=547

### 5.3.2.3 Education Background / Level:

According to the information in the questionnaire more than 50 percent of the respondents have a bachelor degree; they numbered 350. Meanwhile, a small percentage holds a PhD degree which is 3.3 percent; fifty percent of whom are LSM members. The respondents who have a Master's Degree are 129. The high number of high-education holders among the respondents reflects that the Libyan society in total is a literate society. Figure 5.3 illustrates the education level of respondents.

Figure 5.3: Education Level of Respondents



Source: Survey Questionnaire, N=547

### 5.3.2.4 Years of Experience

There is a small difference between the years' experience of first and second groups of respondents, and this number is due the new experience of Libya with the stock market. However, the number of respondents who have seven years to more experience is smaller than the numbers of other groups, the average of this group is 23 percent, while the average of other groups is 37 percent and 39 percent respectively. Chart 5.4 illustrates the classification of participants according to their experiences years.

Figure 5.4: Experience Years of Respondents



Source: Survey Questionnaire, n= 547

Table 5.2 shows the summary of the demographic factors of the respondents.

Table 5.2: Summary of the Demographic Factors of the Respondents

Gender		
Gender	Number	Percentage %
Male	475	86.8
Female	72	13.2
<b>Total</b>	<b>547</b>	<b>100.0</b>
Functional Capacity at LSM		
Functional Capacity	Number	Percentage %
head of management	9	1.6
head of department	12	2.1
Officer	70	12.8
Brokerage	9	1.6

Investor	447	81.7
<b>Total</b>	547	100.0
<b>Education Background / Level</b>		
<b>Education background</b>	<b>Number</b>	<b>Percentage %</b>
Secondary School or equality	50	9.1
Bachelor	350	64.0
Master	129	23.6
PhD	18	3.3
<b>Total</b>	547	100.0
<b>Years of Experience</b>		
<b>Years of Experience</b>	<b>Number</b>	<b>Percentage %</b>
One to Three years	203	37.1
Four to Six years	217	39.7
Seven years to more	127	23.2
<b>Total</b>	547	100.0

Source: Survey Questionnaire, N=547

### 5.3.3 Population and Sample of the Study

In this study, the sample is equal the whole society because the LSM society is small; the respondents are LSM members, contribution companies officers, investors and brokers. The researcher uses one-sample t-test. The total number of the population in the study is about 3280; which contains 110 stock market members, including listed companies officers, and 11 brokers. However, since there are a large number of populations of the investors (approximately 3059), and it is very hard for the researcher to find all of them, because some of them left the market due to two reasons; firstly is because of the war problem, and secondly is because the others do not come to the market regularly. Due to the above mentioned reasons, the researcher uses the sampling method equal to 15 percent of the size of the population and thus, the sample for the investors become 459 respondents. Therefore, the sample size was around 547, comprising of 110 LSM players, 11 brokers and 459 investors. Due to the nature of the study subject, the study population includes three categories, as follows:

**Category I:** 110 Staff and employment of LSM, and listed companies officers.

**Category II:** 11 Brokers.

**Category III:** 3059 investors.

As mentioned before, because the investors society is big (3059) in the two branches (Tripoli and Benghazi), and due to the war, the researcher could not get the whole society. Therefore, the researcher used the method of sampling, which represents 15 percent of the size of the society and thus the study sample of investors became 459 investors. However, the other categories of the society which are brokers and employments, they have entered in the survey. Hence, the study sample becomes  $(110 + 11 + 459 = 580)$ , but before some reasons, some questionnaires are excluded, which led study sample to become (547).

#### 5.3.4 The Distribution of the Survey Questionnaire

The questionnaire was distributed after being adjusted to the sample of the study (employees, listed companies officers, brokers, and investors) in their various existence places. The researcher adopted primarily on distribution method and receipt directly which gives the field of clarifies and discuss the questions of the questionnaire with some of the study categories. 580 questionnaires were distributed to the participants in the study of the samples referred to the above data, which constituted 15% of the whole society, and has been restored to 557, which equal to 96.0% of the total questionnaire distributed. 10 responses were excluded due to the lack of validity, and the number of forms that were subjected to statistical analysis (547 forms), 94.3% of the total distributed questionnaire. The following table 5.3 shows the distribution of samples of the study procedures and the movement of the questionnaire:

Table 5.3: The Sample Distribution and the Questionnaire Movement

Capacity	Distributed	Received	Excluded	Suitable for analysis	
	questionnaire	questionnaire	questionnaire	questionnaire	questionnaire
	Number	Number	Number	Number	Percentage (%)
Investor	459	450	3	447	97.4
Brokerage	11	10	1	9	81.8
Member	110	97	6	91	82.7
<b>Total</b>	<b>580</b>	<b>557</b>	<b>10</b>	<b>547</b>	<b>94.3</b>

Source: Survey Questionnaire, n=547.

### 5.3.5 Pilot Study

#### 5.3.5.1 Internal Consistency

In the present research, after the questionnaire was constructed, a pilot study has been conducted to test the clarity and validity of each question. Depends on the result of the pilot test, some amendments have been made by omitting some items from the original questionnaire. There are three reasons for that exclusion: first, some questions are repetitive very similar question with the other question. Second, some other questions seem to be too confident as the respondents feel reluctance elaborate more on the questions. Third, it is expected that the questions asked are related to political issues. Thus, the answers of the respondents may not reflect the real condition as this issue is very sensitive to all citizens. Therefore, they have been removed from the existing questionnaire to maintain the reliability of the questionnaire.

#### 5.3.5.2 External Consistency

Before distributing the questionnaire, some suggestions were considered from two experts in economics who are (Dr. Enhemmed Abu-Ghalla and Dr. Salah Enbaia), and statistics expert (Dr. Jamal Endair). The questionnaire was then modified accordingly. See appendix (4.2).

The next step is conducting a reliability test to tackle the issue of internal consistency of the scale. A Cronbach alpha coefficient is used as an indicator for the internal consistency. In the current study, all questions have a good internal consistency with Cronbach alpha coefficient reported having values of 0.764, 0.861, 0.806 respectively.

Many amendments were made to the questionnaire; as a result, of pre-test and pilot test stages. In response to the comments received, the number of pages was reduced without excluding any questions. Most of the questionnaire modifications related to organization inclusiveness, layout, instructions and improvements to the clarity of content to make it more intelligible to the respondents and readers.

### 5.3.6 Statistical Analysis of the Questionnaire

The questionnaire is divided into three groups which are consistent with the present study as follows:

1. The role and performance of LSM in promoting economic growth.
2. The procedures are taken to appeal to local and foreign investors and their contribution in LSM.
3. Relationship between stock market ratios and the effect to the company's and stock market profits.

#### 5.3.6.1 First theme: The Role and Performance of LSM in Promoting Economic Growth

This theme contains eight questions talking about the first objective of the study, based on the respondents' answers. Table 5.4 presents the frequency of questions distribution for the role and performance of LSM in promoting economic growth.

Table 5.4: Frequency of Distribution for the Role and Performance of LSM in Promoting Economic Growth

No	Item	Strongly Disagree (1)	Disagree (2)	Don't Know (3)	Agree (4)	Strongly Agree (5)	Total
1	Libyan Stock Market has a positive role in economic growth	2 (0.4%)	228 (41.7%)	24 (4.4%)	186 (34.0%)	107 (19.6%)	547 (100%)
2	Libyan Stock Market does not have a role in economic growth	96 (17.6%)	388 (70.9%)	23 (4.2%)	21 (3.8%)	19 (3.5%)	547 (100%)
3	Libyan citizen has enough idea about LSM and its operations	162 (29.6%)	316 (57.8%)	27 (4.9%)	41 (7.5%)	1 (0.2%)	547 (100%)
4	Libyan Stock Market is keen to gain the confidence of the people who dealing with them and protect them from fraud	22 (4.0%)	20 (3.7%)	41 (7.5%)	266 (48.6%)	198 (36.2%)	547 (100%)
5	Libyan Stock Market is not working on the application of the principle of transparency of clearing and settlement	190 (34.7%)	189 (34.6%)	104 (19.0%)	60 (11.0%)	4 (0.7%)	547 (100%)

6	Libyan Stock Market operates routinely, without specifying any targets for the future	164 (30.0%)	202 (36.9%)	67 (12.2%)	108 (19.7%)	6 (1.1%)	547 (100%)
7	Transparency and disclosure have an important role in LSM operations	20 (3.7%)	20 (3.7%)	27 (4.9%)	306 (55.9%)	174 (31.8%)	547 (100%)
8	Libyan Stock Market has a good plans to improve its performance	0 (0.0%)	4 (0.7%)	134 (24.5%)	281 (51.4%)	128 (23.4%)	547 (100%)

The numbers in parentheses represent the percentage of each value

The study used *t*-test in order to know the significance of each statement. The following table shows the Mean, Standard Deviation (SD), *t*-test and *P*-value (representing a significant level, only if the value is 0.05 and below) for each statement of the study. Table 5.5 shows the statistical analysis of the categories of the sample.

Table 5.5 The Statistical Analysis for the Role and Performance of LSM in Promoting Economic Growth

No	Item	Mean	Std. Deviation	<i>t</i> - Test	<i>p</i> -value
1	Libyan Stock Market has a positive role in economic growth	3.31	1.209	5.940	* 0.000
2	LSM doesn't have a role in economic growth	2.05	0.826	26.960-	*0.000
3	Libyan citizens have enough idea about LSM and its operations	1.91	0.809	31.549-	* 0.000
4	Libyan Stock Market is keen to gain the confidence of the people who dealing with them and protect them from fraud.	4.09	0.969	26.398	* 0.000
5	Libyan Stock Market is not working on the application of the principle of transparency of clearing and settlement.	2.08	1.018	21.037-	* 0.000
6	Libyan Stock Market operates routinely, without specifying any targets for the future.	2.25	1.118	15.677-	* 0.000
7	Transparency and disclosure have an important role in LSM operations.	4.09	0.915	27.762	* 0.000

8	Libyan Stock Market has a good plans to improve its performance	3.97	0.713	31.959	* 0.000
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\* Significant at the 0.05, n=547

Based on the above table, the items on this theme are about the first objective of the research, which is, the role of LSM on economic growth in Libya and its performance. T - test analysis showed that LSM has a positive impact on economic growth in Libya, and this is clear from the findings of the questionnaire results through the eight questions which pertaining to this hypothesis, which in turn achieved the first goal of the research objectives. The findings were as follows:

1. The first item is (LSM has a positive role in supporting economic growth in Libya). The number of respondents who are agree is (293 from 546) which is equal (53.6%). Meanwhile, the respondents who were disagreeing were 230 equals to (42.1%). Using T- Test the value, the mean in this statement is (3.31) with a standard deviation (1.209), while the statistic testing is (5.940) with P-value (0.000). It means that the p-value of the test was smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is greater than 3, the study sample agree with this statement and agree that LSM has a positive role in the economic growth in Libya.

2. Second item is (LSM does not have a role in economic growth). The number of respondents who are agreeing with the question was (40) equal (7.3%). Meanwhile, the number of the others who are disagree was (484) equal (88.5%). Using t-test value, the mean in this question (2.05) with a standard deviation (0.826), while the statistical testing is (26.920-) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$  ). Thus, when the value of the average reference is smaller than 3, the respondents disagree with this item which is LSM does not have a role in the economic growth.

3. The third item is (Libyan citizens have enough idea about LSM and its operations). Most of the respondents agree with this item they are (478), which equal (87.4%). Meanwhile, the respondents who are agree are (42) which equal (7.7%). Using t-test value, the mean in this item (1.91) with a standard deviation (0.809), while the statistical testing is (31.549-) with p-value (0.000). It means that the p-value of the test was smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is smaller than 3, they disagree with this item which is a Libyan citizen has enough idea about LSM and its operations.

4. The fourth item is (LSM is keen to gain the confidence of the people who dealing with them and protect them from fraud). The respondents who agree with this statement are (464), it is equal (84.8%). Meanwhile, the others who are don't agree are (42) which equal (7.7%). Using t-test value, the mean in this question (4.09) with a standard deviation (0.969), while the statistical testing is (26.398) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means they reject the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is greater than 3, they agree with this item which is LSM is keen to gain the confidence of the people who dealing with them and protect them from fraud.

5. Fifth item is (LSM is not working on the application of the transparency's principle of clearing and settlement). The respondents who agree with this item are (64), it is equal (11.7%). Meanwhile, the others who are don't agree are (379) which equal (69.3%). Using t-test value, the mean in this question (2.08) with a standard deviation (1.018), while the statistical testing is (21.037-) with p-value (0.000). It means that the p-value of the test was smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is smaller than 3, they disagree with this item which is LSM is not working on the application of the principle of transparency of clearing and settlement.

6. Sixth item is (LSM operates routinely, without specifying any targets for the future). The respondents who agree with this item are (114), it is equal (20.8%). Meanwhile, the others who are do not agree are (366) which equal (66.9%). Using t-test value, the mean in this question (2.25) with a standard deviation (1.118), while the statistical testing is (15.677-) with p-value (0.000). It means that the p-value of the test was smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is smaller than 3, they disagree with this item which is LSM operates routinely, without specifying any targets for the future.

7. Seventh item is (Transparency and disclosure have an important role in LSM operations). The respondents who agree with this item are (480), it is equal (0.7%). Meanwhile, the others who are don't agree are (40) which equal (74.8%). Using t-test value, the mean in this question (4.09) with a standard deviation (0.915), while the statistical testing is (27.762) with p-value (0.000). It means that the p-value of the test was smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is bigger than 3, they agree with this item which is transparency and disclosure have an important role in LSM operation.

8. Eighth item is (LSM has good plans to improve its performance). The respondents who agree with this item are (4), it is equal (87.7%). Meanwhile, the others who are don't agree are (409) which equal (7.4%). Using t-test value, the mean in this question (3.97) with a standard deviation (0.713), while the statistical testing is (31.959) with p-value (0.000). It means that the p-value of the test was smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis). Thus, when the value of the average reference is bigger than 3, they agree with this item which is LSM has a good plan to improve its performance.

To sum up, according to the respondents answers for this theme items, more than half of them agree that LSM has a positive role in promoting economic growth, and

compared with its establishment date, its performance is good. That means rejecting the null hypothesis which is LSM does not have a role in economic growth, and accept the alternative hypothesis which is LSM has a positive role in economic growth. This result would be evaluated in testing hypotheses section.

### 5.3.6.2 Second theme: The procedures Taken to Appeal Local and Foreign Investors

This theme contains nine items, which are about the investors. They are about the measures taken by LSM to attract local and foreign investors, the contribution of these two types of investors in it and the extent of market transparency in the provision of information to investors. Table 5.6 displays the frequency distribution for sample categories about the measures taken by LSM to attract local and foreign investors.

Table 5.6: Frequency of Questions Distribution for the Procedures Taken to Appeal Local and Foreign Investors and Their Contribution

No	Item	Strongly Disagree (1)	Disagree (2)	Don't Know (3)	Agree (4)	Strongly Agree (5)	Total
1	Local investors do not have any contribution in LSM operations	205 (37.5%)	261 (47.7%)	22 (4.0%)	58 (10.6%)	1 (0.2%)	547 (100%)
2	Foreign investors (institutions and individuals) have a big contribution in LSM.	53 (9.7%)	288 (52.7%)	126 (23.0%)	70 (12.8%)	10 (1.8%)	547 (100%)
3	Libyan Stock Market is very interested in the needs and wishes of its investors	3 (0.5%)	142 (26.0%)	48 (8.8%)	232 (42.4%)	122 (23.3%)	547 (100%)
4	The impression of the investors about LSM is very positive	3 (0.5%)	125 (22.9)	106 (19.4)	234 (42.8)	79 (14.4)	547 (100)
5	Some investors feel remorse for their investment in the LSM	23 (4.2%)	198 (36.2%)	294 (53.7%)	29 (5.3%)	3 (0.5%)	547 (100%)
6	Libyan Stock Market provides information to all investors	2 (3.7%)	46 (8.4%)	66 (12.1%)	184 (33.6%)	231 (42.2%)	547 (100%)

	without discrimination (with prevent their diversion for some investors)						
7	Big investors have more chance to get the information more than the other investors cause of their relations with the LSM members	117 (21.4%)	178 (32.5%)	69 (12.6%)	181 (33.1%)	2 (0.4%)	547 (100%)
8	Libyan Stock Market provides accurate information to investors, but it is incomplete	121 (22.1%)	135 (24.7%)	96 (17.6%)	192 (35.1%)	3 (0.5%)	547 (100%)
9	Libyan Stock Market provided its Information by difficult way which small investors can't understand them easily.	139 (25.4%)	290 (53.0%)	19 (3.5%)	94 (17.2%)	5 (0.9%)	547 (100%)

The numbers in parentheses represent the percentage of each value. Table 5.7 exhibits the statistical analysis for the categories of the sample.

Table 5.7 The Statistical Analysis for the Procedures Taken to Appeal Local and Foreign Investors and Their Contribution in LSM

No.	Item	Mean	Std.Deviation	t- Test	p-value
1	Local investors do not have any contribution in LSM operations.	1.88	0.918	28.446-	* 0.000
2	Foreign investors (institutions and individuals) have a big contribution in LSM	2.44	0.899	14.462-	* 0.000
3	LSM is very interested in the needs and wishes of its investors.	3.60	1.114	12.592	* 0.000
4	The impression of the investors about LSM is very positive	3.48	1.015	10.995	* 0.000
5	Some investors feel remorse for their investment in the Libyan Stock Market	2.62	0.678	13.176-	* 0.000
6	Libyan Stock Market provides information to all investors without discrimination (with prevent their diversion for some investors).	4.02	1.100	21.767	* 0.000
7	Big investors have more chance to get the information more than the other investors	2.59	1.165	8.333-	* 0.000

	cause of their relations with the LSM members.				
8	Libyan Stock Market provides accurate information to investors, but it is incomplete.	2.67	1.183	6.468-	* 0.000
9	Libyan Stock Market provided its Information by difficult way which small investors can't understand them easily.	2.15	1.019	19.479-	* 0.000

\*Significant at the 0.05 level. n=547

1. According to the respondents who received the questionnaire. The number who are agreeing with the item which is (Local investors do not have any contribution in LSM) reached (59) which equals (10.8%), while the number of respondents who are disagreeing is (466) which equals (62.4%). Using t-test value, the mean in this question (1.88) with a standard deviation (0.918), while the statistical testing is (28.446-) with p-value (0.000). It means that the p-value of the test is lesser than the level of (0.05), which indicates that the value of the mean is statistically significant (it means reject the null hypothesis) and accept the alternative hypothesis  $H_1: \mu \neq 3$  ). Thus, when the value of the average reference is smaller than 3. It means that the respondents disagree with this item.

2. Second item is (Foreign investors have a big contribution in LSM). The number who agree with this item is (80) which equal (14.6), while the number of respondents who are disagreeing is (341) which equal (85.2%). Using t-test value, the mean in this question (2.44) with a standard deviation (0.899), while the statistical testing is (14.462-) with p-value (0.000). It means that the p-value of the test is lesser than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu = 3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$  ). Thus, when the value of the average reference is smaller than 3. It means that the respondents disagree with this item.

3. The third item is (LSM is very interested in the needs and wishes of its investors), The respondents who agree with this item is (354) which equal (65.7%), while the number of respondents who are disagreeing is (145) which equals (26.5%). Using t-

test value, the mean in this question (3.60) with a standard deviation (1.114), while the statistical testing is (12.592) with p-value (0.000). It means that the p-value of the test is lesser than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). So, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

4. The fourth item is (The impression of the investors about LSM is very positive), The number of respondents who agree with this item is (313) which equal (57.2%), while the number of respondents who are disagree is (128) which equals (23.4%). Using t-test value, the mean in this question (3.48) with a standard deviation (1.015), while the statistical testing is (10.995) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). Thus, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

5. Fifth item is (Some investors feel remorse for their investment in the LSM). The respondents who agree with this item are (32) which equal (5.8%), while the number of respondents who are disagreeing is (221) which equal (40.4%). Using t-test value, the mean in this question (2.62) with a standard deviation (0.678), while the statistical testing is (13.176-) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). Thus, when the value of the average reference is smaller than 3. It means that the respondents disagree with this item.

6. Sixth item is (LSM provides information to all investors without discrimination “with preventing their diversion for some investors”). The respondents who agree with this item are (415) which equal (75.8%), while the number of respondents who are disagreeing is (48) which equal (12.1%). Using t-test value, the mean in this item (4.02) with a standard deviation (1.100), while the statistical testing is (21.767) with

p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). Thus, when the value of the average reference is greater than 3. It means that the respondents are agreeing with this item.

7. Seventh item is (Big investors have more chance to get the information more than the other investors cause of their relations with the LSM members). The respondents who agree with this item are (415) which equal (33.5%), while the number of respondents who are disagreeing is (295) which equals (53.9%). Using t-test value, the mean in this question (2.59) with standard deviation (1.165), while the statistical testing is (8.333-) with p-value (0.000). It means that the p-value of the test is lesser than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). So, when the value of the average reference is smaller than 3. It means that the respondents disagree with this item.

8. Eighth item is (LSM provides accurate information to investors, but it is incomplete). The respondents who agree with this item is (195) which equal (35.6%), while the number of respondents who are disagreeing is (256) which equal (46.8%). Using t-test value, the mean in this item (2.67) with a standard deviation (1.183), while the statistical testing is (6.468-) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). So, when the value of the average reference is smaller than 3. It means that the respondents disagree with this item.

9. Ninth item (LSM provided its Information by difficult way which small investors cannot understand them easily). The number of respondents who agree with this item is (99) which equal (18.1%), while the number of respondents who are disagree is (429) which equals (78.4%). Using t-test value, the mean in this question (2.15) with standard deviation (1.019), while the statistical testing is (19.479-) with p-value

(0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). Thus, when the value of the average reference is smaller than 3. It means that the respondents disagree with this item. Based on this theme items, more than half of respondents agree that LSM made series procedures to attract local and foreign investors to invest in it.

### 5.3.6.3 Third theme: Libyan Stock Market Variables and Their Effect on its Profits

The items on this theme are about LSM variables and their effects on investors, contribution companies' profits, and in the end on stock market profits. Table 5.8 below shows the frequency of distribution for sample categories about LSM variables and their effect on its profits.

Table 5.8: The Frequency of Questions Distribution for LSM Variables and Their Effect on its Profits

No.	Item	Strongly Disagree (1)	Disagree (2)	Don't Know (3)	Agree (4)	Strongly Agree (5)	Total
1	In general the increasing of turnover ratio has positive effects on the profits in the stock market	3 (0.5%)	62 (11.3%)	88 (16.1%)	299 (54.7%)	95 (17.4%)	547 (100%)
2	When the market capitalization ratio increases, this will lead to the decrease of turnover ratio	1 (0.2%)	250 (45.7%)	35 (6.4%)	148 (27.1%)	113 (20.7%)	547 (100%)
3	Some companies prefer not to distribute profits. Because they need those profits in expansion and growth and add those profits to the book value.	24 (4.4%)	137 (25.0%)	46 (8.4%)	264 (48.3%)	76 (13.9%)	547 (100%)

which increases the share price in the market significantly. The companies called growth companies

4	The achievement of the company and retained earnings without distribution will lead to higher book value of the shares and thus increase the market value of it	1 (0.2%)	19 (3.5%)	1 (0.2%)	248 (45.3%)	278 (50.8%)	547 (100%)
5	Turnover Ratio is directly proportional to the total value of shares traded and inversely with Market Capitalization Ratio	22 (4.0%)	46 (8.4%)	50 (9.1%)	248 (45.3%)	181 (33.1%)	547 (100%)
6	Turnover ratio considers as the most important criteria that must be taken by investors before making an investment decision. Also it is one of the criteria differentiation not only among listed shares in a market but beyond that to include differentiation among different financial markets for foreign investors	23 (4.2%)	10 (1.8%)	67 (12.2%)	304 (55.6%)	143 (26.1%)	547 (100%)

\*The numbers in parentheses represent the percentage of each value

The table 5.9 shows the statistical analysis for the categories of the sample.\

Table 5.9: The Statistical Analysis for LSM Variables and Their Effect on its Profits

No	Item	Mean	Std. Deviation	t - Test	P-Value
1	In general the increasing of turnover ratio has positive effects on the profits of the LSM	3.42	1.135	8.702	* 0.000
2	When the market capitalization ratio increases, this will lead to the decrease of turnover ratio rate.	4.43	0.693	48.313	* 0.000
3	Some companies prefer not to distribute profits. Because they need those profits in expansion and growth and add those profits to the book value, which increases the share price in the market significantly. The companies called growth companies	3.22	1.231	4.239	* 0.010
4	The achievement of the company and retained earnings without distribution will lead to higher book value of the shares and thus increase the market value of it	3.77	0.886	20.308	* 0.000
5	Turnover Ratio is directly proportional to the total value of shares traded and inversely with Market Capitalization Ratio	3.98	0.915	24.965	* 0.000
6	Turnover ratio considers as the most important criteria that must be taken by investors before making an investment decision. Also it is one of the criteria differentiations not only among listed shares in a market but beyond that to include differentiation among different financial markets for foreign investors	3.95	1.058	21.006	* 0.000

\* Significant at the 0.05 level, n=547

1. The first item in this theme is (In general the increasing of turnover ratio has positive effects on the profits of LSM). The number of respondents who agree with this item is (394) which equal (72.1%), while the number of respondents who are

disagree is (65) which equals (11.8%). Using t-test value, the mean in this question (3.42) with a standard deviation (1.135), while the statistical testing is (8.702) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). Thus, the value of the average reference is bigger than 3. It means that the respondents agree with this item.

2. The second item in this theme is (When the market capitalization ratio increases, this will lead to a decrease in the turnover ratio rate). The number of respondents who agree with this item is (261) which equal (47.8%), while the number of respondents who are disagreeing is (251) which equals (45.9%). Using t-test value, the mean in this question (4.43) with a standard deviation (0.693), while the statistical testing is (48.313) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). So, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

3. The third item in this theme is (Some companies prefer not to distribute profits. Because they need those profits in expansion and growth and add those profits to the book value, which increases the share price in the market significantly. The companies called growth companies). The number of respondents who agree with this item is (340) which equal (62.2%), while the number of respondents who are disagree is (161) which equals (29.4%). Using t-test value, the mean in this question (3.22) with a standard deviation (1.231), while the statistical testing is (4.239) with p-value (0.010). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ). So, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

4. The fourth item is (The achievement of the company and retained earnings without distribution will lead to higher book value of the shares and thus increase the market value of it). The number of respondents who agree with this item is (526) which equal (96.1%), while the number of respondents who are disagreeing is (20) which equals (3.7%). Using t-test value, the mean in this question (3.77) with a standard deviation (0.886), while the statistical testing is (20.308) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$  ). So, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

5. The fifth item is (Turnover Ratio is directly proportional to the total value of shares traded and inversely with Market Capitalization Ratio). The number of respondents who agree with this item is (429) which equal (78.4%), while the number of respondents who are disagree is (68) which equals (12.4%). Using t-test value, the mean in this question (3.98) with a standard deviation (0.915), while the statistical testing is (24.965) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means reject the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$  ) Thus, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

6. The sixth item in this theme is (Turnover ratio, consider as the most important criteria that must be taken by investors before making an investment decision. Also, it is one of the criteria differentiations not only among listed shares in the market, but beyond that to include differentiation among different financial markets for foreign investors). The number of respondents who agree with this item is (447) which equal (81.7%), while the number of respondents who are disagreeing is (33) which equals (6.0%). Using t-test value, the mean in this question (3.95) with a standard deviation (1.058), while the statistical testing is (21.006) with p-value (0.000). It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean is statistically significant (it means rejecting the null hypothesis

$H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$  ). So, when the value of the average reference is bigger than 3. It means that the respondents agree with this item.

### 5.3.7 Testing Study Hypothesis

#### First hypothesis: LSM has a Positive Role in Economic Growth in Libya, and its Performance is Good Compared with its Establishment Date

To validate this hypothesis, the researcher used one-sample t-test which is statistical hypothesis testing  $H_0: \mu=3$  vs  $H_1: \mu \neq 3$ . Next table illustrates the Mean, Standard Deviation for this hypothesis and t-test results (t-test value and P- value significance).

Table 5.10: T -test Results for First Hypothesis

First Hypothesis	N	Mean	Std . Deviation	T- Test	df	Sig. P-Value
Libyan stock Market and its role in economic growth	547	3.28	0.285	22.712	546	0.000

From the above table t-test value is (22.712) with significant p-value (0.000) It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean (3.28) is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$  ), that means that study respondents agree that LSM has a positive role in economic growth in Libya, and its performance is good.

#### Second hypothesis: Procedures Taken by LSM to Appeal Local and Foreign Investors

To validate this hypothesis the researcher used one sample t-test which is statistical hypothesis testing  $H_0: \mu=3$  vs  $H_1: \mu \neq 3$ . Next table illustrates the Mean, Standard deviation for this hypothesis and t-test results (t-test value and P- value significance).

Table 5.11: T-test Results for Second Hypothesis

Second Hypothesis	N	Mean	Std . Deviation	T - Test	df	Sig. P-Value
Procedures taken to appeal local and foreign	547	3.09	0.249	8.389	546	0.000

From the above table t-test value is (8.389) with significant p-value (0.000) It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean (3.09) is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ), that means that study respondents agree that LSM made serious measures to attract local and foreign investors.

### Third hypothesis: LSM Variables and Their Effect to its Profits

To validate this hypothesis, the researcher used one-sample t-test which is statistical hypothesis testing  $H_0: \mu=3$  vs  $H_1: \mu \neq 3$ . Next table illustrates the Mean, Standard deviation for this hypothesis and t-test results (t-test value and P- value significance).

Table 5.12: T-test Results for Third Hypothesis

Third Hypothesis	N	Mean	Std . Deviation	T Test	df	Sig. P-Value
LSM variables and their effect to its profits	547	3.65	0.380	39.824	546	0.000

From the above table t-test value is (39.824) with significant p-value (0.000) It means that the p-value of the test is smaller than the level of (0.05), which indicates that the value of the mean (3.65) is statistically significant (it means rejecting the null hypothesis  $H_0: \mu=3$  and accept the alternative hypothesis  $H_1: \mu \neq 3$ ), that means that study respondents agree that LSM variables have a positive effect to its profits.

## 5.4 EMPIRICAL ANALYSIS AND FINDINGS

The variables in this analysis are measure of economic growth and stock market development in Libya. Real gross domestic products (RGDP) are used as a measure of the level of economic development. In order to construct the level of stock market development, the study considers two aspects namely size and liquidity. Market capitalization as a ratio of GDP (MCR) and stock market index (IDX) are used as proxies of market size, while turnover ratio (TR) is used as proxy of market liquidity.

This study used Real Gross Domestic Product (RGDP) as a dependent variable to measure the economic growth, and Market Capitalization Ratio (MCR), Turnover Ratio (TR), and Index (IDX) as independent variables to measure stock market, using monthly data. However, because monthly data of RGDP are not available based on Libyan Central Bank Reports and the other a valuable resource, the researcher interpolated RGDP annual data to get monthly data. This section will explain the trends of the study variables during the study years one by one.

### 5.4.1 Real Gross Domestic Product Trend Outlook in Libya During the Study Years

During the years of the study RGDP took fluctuated trend going up and down, during the study years. In the year of 2008, the production and service economic activities have seen a marked improvement. That was through the growth rates achieved, which reached ratio to 6.1 percent compared with 5.6 percent and 5.9 percent in 2006 and 2007, respectively. In addition, the value of RGDP at constant prices (2003) reached about LYD 50.2 billion, in contrast with LYD 48.7 billion in 2007. This increasable of gross domestic product by constant prices came from the development of the non-oil economic sectors, which reached 7.1 percent. Meanwhile, the achieved quarrying sector and related activities reached 5.2 percent (CBL annual reports, 2006, 2007, 2008).

Regarding the contribution of the economic sectors in the Real Gross Domestic Product RGDP, the oil and natural gas ratio reached 52.5 percent, while the rest of the other sectors were 47.5 percent of the total RGDP. The percentage of the contribution

of real estate, rental and business activities to RGDP was 3.9 percent. Meanwhile, the percentage in the activities of the public administration, defence and compulsory social security was 8.5 percent, the construction sector was 7.2 percent, transport, storage and communications were 6.6 percent. Meanwhile, the percentage contribution of wholesale and retail trade and personal goods in real gross domestic product (RGDP) reached 5.9 percent, the contribution of manufacturing activity was 5.3 percent, and the contribution of other sectors ranged between 0.1 percent to 3.3 percent (Central Bank of Libya annual report, 2008).

It is clear from the above mentioned that the sectors of real estate activities, business and renting activities, public administration and defence, and compulsory social security of the most important non-oil sectors are the ones that contributed to the real gross domestic product (RGDP). The construction sector has taken great importance through the high proportion of its contribution to the real gross domestic product (RGDP) during the three years before 2008, which shows the evolution experienced by this sector. In contrast, the fishing sector, and the social and personal services sectors remained below the required level as its contribution to the real gross domestic product (RGDP). On the other hand, because of the increase achieved in the economic growth rates in the national economy in 2008, the average of per capita from real gross domestic product (RGDP) from LYD 8970 dinars in 2007 to LYD 8574 in 2008.

In 2009, the productive and service economic activities of the Libyan economy during 2009 witnessed a significant decline in the growth rates achieved, reaching to -0.7 percent compared to 2008. Real gross domestic product (RGDP) value at constant prices (prices of 2003) was around LYD 49.9 billion, compared to LYD 50.2 billion in 2008 (Central Bank of Libya annual report, 2009).

The decline rates of real growth at the macroeconomic level in 2009 compared with what it was in the past years came from the low rate of growth in the activity of extraction of oil and natural gas which estimated at -7.7 Percent. This decrease was the result of natural decline in the quantities of crude oil due to the commitment of Libya by OPEC Organization decisions; about reducing the oil production to prevent the deterioration of the oil prices.

Regarding the contribution of economic activities in RGDP, the contribution of the extraction of crude oil and natural gas accounted for 45.1 percent of real GDP. Meanwhile, the rest of the other economic sectors reached the largest level 54.9 percent. It was observed that the real estate activities, renting and business activities accounted for 10.9 percent of total RGDP. On the other hand, the activities of public administration and defence, and compulsory social security reached 9.0 percent, while the rates of the construction sector and the transport, storage and communications were 7.3 percent. In addition to that, the activity of wholesale, repair of motor vehicles, retail trade and personal goods was 6.5 percent. The contribution of manufacturing activity has accounted for 5.2 percent, while the contribution of the rest of sectors in real gross domestic product (RGDP) was between 0.1 percent and 3.6 percent (Libyan Central Bank annual report, 2009).

The previous data shows that sectors of renting and business activities, Real Estate, public administration and defence and compulsory social security are the most important of non-oil sectors which contributed to RGDP. In addition, the contribution of the construction sector in RGDP still increased as a result, by the development witnessed in this sector in recent years. Also, the transport, storage and communication has started to take great importance through the high proportion of its contribution in real gross domestic product (RGDP) which illustrates the evolution experienced by this sector. On the other hand, some sectors have remained below the required level, such as community service activities and other personal and education sector, and formed low in contribution rates in real gross domestic product (RGDP). Besides, due to declining rates of growth in the national economy in 2009, the average per capita real gross domestic product (RGDP) was LYD 8340.

In the year of 2010, Total real gross domestic product (RGDP) was about 3.0 percent. It is valued at constant prices (prices 2003) about 51.3 billion dinars. In addition, the value of the oil GDP increased to about LYD 22.7 billion in 2010, with a real growth rate of 1.2 percent. Meanwhile, non-oil GDP increased to about 28.6 billion dinars, with a real growth rate of 4.5 percent. Furthermore, because of the increased growth rates in the national economy in 2010, per capita has risen to 8417. In the year of 2011

RGDP was declined to LYD 20 million. (Libyan Stock Market annual report, 2010). However, because of the war the study includes just the two months before the war.

From the previous discussion, it would be noted that the difference in the rate of growth in RGDP during the years of the study is negligible. In 2008, the total RGDP was about LYD 51.2 billion, with a growth rate of 6.1 percent. In 2009, this number declined to be around LYD 49.9 billion, with a growth rate of -0.7 percent, which did not exceed LYD 1 billion ups and downs. This simple difference in growth was because the growth in economic activities of oil and the non-oil component of the national economy was not significant between the study years. The reason behind that, there was no significant change in economic policy, which led to this very simple change in the RGDP growth rates.

Adding to that the other reason for this small average of economic growth was a natural decline in the quantities of crude oil due to the commitment of Libya by OPEC Organization decisions; about reducing the oil production to prevent the deterioration of the oil prices. After that in 2010, RGDP started to increase again to become LYD 51.3 billion, with a growth rate 4.5 percent. Table 5.13 shows the trend outlook of RGDP between the study years.

Table 5.13: Trend Outlook of RGDP during the Study Years (2008-2010)

Year	RGDP (LYD) By Constant Prices (2003)
2008	50,228,724.00
2009	49,854,286.00
2010	51,346,500.00

Source: The table prepared by the researcher supporting on Central Bank of Libya reports.

Figure 5.5: Real Gross Domestic Trend Outlook Between the Study Years (2008- 2010)



#### 5.4.2 Market Capitalization (MCR)

Because 2006 was the establishment of (LSM), the market had no activities in that year. Also, in 2007 the activity of the market was very small because the trading was handy trading. The Libyan Stock market continued in this situation until 4 – 2008 when it started to use an electronic trading, on that time the market operations increased, and the trading volume started to be more than before. Table 5.14 shows the annual trend outlook of Market Capitalization Ratio during the study years.

Table 5.14: Annual Trend Outlook of MCV during the Study Years (2008 – 2010)

Year	Market Capitalization Value (LYD)
2008	874,780,997.50
2009	2,654,819,771.00
2010	3,770,649,810.00

Source: Libyan Stock Markets annual reports 2008, 2009, 2010

Market capitalization witnessed increasing trend during the study years. In the year of 2008, it was LYD 874,780,997.50 then started to increase during the next two years until arriving at around LYD 3 million in 2010. Figure 5.6 explains this trend.

Figure 5.6: Trend Outlook of MCV during the Study Years (2008 – 2010)

## Market Capitalization Value (LYD)

**5.4.3 Turnover Ratio TR**

Turnover Ratio is one of the measures which the investor has to take in his consideration when he wants to invest in the stock market. Moreover, it helps foreign investors to make a comparison among the different stock markets. Turnover Ratio can be counted by the following equation:

$$\text{Turnover Ratio} = \text{Trading Volume (TV)} / \text{Market Capitalization Ratio}$$

In the present study, Turnover Ratio took a fluctuating trend among study years, the highest level was in 2009 which reached 1.38 p, while the lowest trend was in 2010 which was 0.24 percent. The low of the Turnover Ratio in the stock market comes from some reasons such as, The shares of some companies is considered a long-term investment, which have high returns, or at least convincing, so they're buying and selling movement is very rarely. In addition, there are many shares of companies considered maintained by the owner of the company and its strategic investors, so the disclosed equity ratios are too high, may exceed 90 percent. However, these shares owners or strategic investors to leave part of their shares, which will cut the way for new investors and traders to enter and trade the company's shares. Table 5.15 shows the annual trend of (TR) during the study years.

Table 5.15: Annual Trend Outlook of TR during the Study Years (2008 – 2010)

Year	Turnover Ratio (TR)
2008	0.35%
2009	1.38%
2010	0.24%

Source: LSM annual reports (2008, 2009, 2010).

Figure 5.7: Annual Trend Outlook of TR during the Study Years (2008 – 2010)



#### 5.4.4 Index (IDX)

LSM Index took increasable trend during the study years; the highest trend was in 2010. 2008 witnessed the lowest level of the Index; it was 769.76 because the LSM started to use electronic trading in April adding with the limitation of listed companies. However, it started to increase during the next two years until arriving in 2010 to the highest level, which equivalent to 1295.04, because the increase of the number of listed companies. In addition to that, LSM made many agreements in these two years with local companies such as Al-Madar and Libyana were included in this regard; for instance. In addition to that, LSM signed contracts about clearing and control system, income and install trading, signing an understanding memo with NCDX and MCX Exchange in India, a cooperation agreement with London Stock Market and an agreement with Arab society of certified accountants in Jordan. All these factors contributed to improving the level of the LSM Index in these two years. Table 5.16 shows the annual trend outlook of LSM Index.

Table 5.16 Annual Trend Outlook of LSM Index during the Study Years (2008 – 2010)

Year	LSM Index (IDX)
2008	796.75
2009	1104.28
2010	1295.04

Figure 5.8: Annual Trend Outlook of LSM Index during the Study Years (2008 – 2010)



To sum up, many factors helped to the inconstancy of LSM variables trend during the study years, such as, the instability of share prices of listed companies, the weakness of some companies' performance. Also, there are some positive factors such as launching the new stock price index, which contributed to improving LSM operations and trading starting from 1/9/2009. Figures 5.9, 5.10 illustrate the visual plots of variables in level and 1<sup>st</sup> difference.

Figure 5.9: Visual Plot of Variables in Level

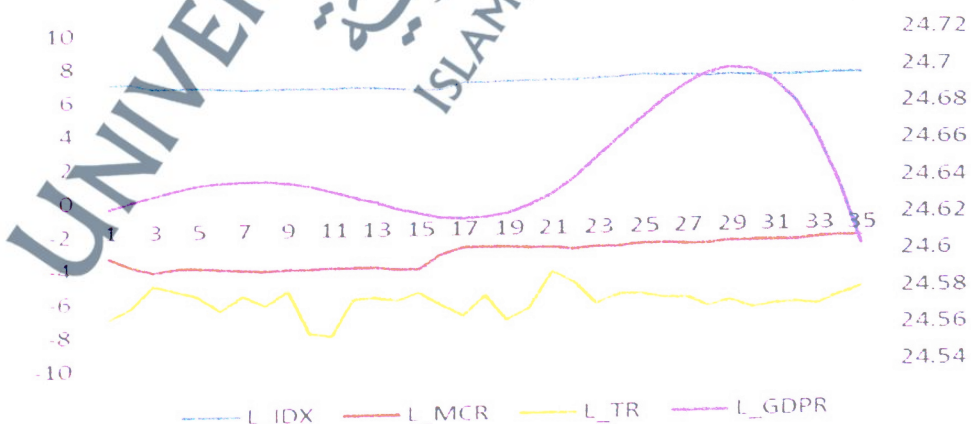
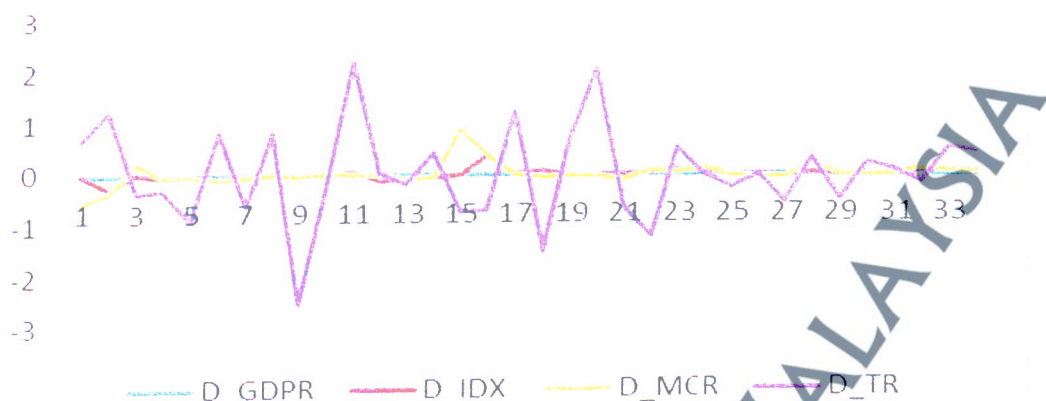


Figure 5.10: Visual Plot of Variables in 1<sup>st</sup> Difference

## 5.5 EMPIRICAL ANALYSIS

The data are monthly spanning the period 2008:M4 to 2011:M2. The study does not extend the sample beyond 2011:M2 due to war in Libya. All variables are expressed in natural logarithm. Table 5.17 provides descriptive statistics for these variables.

Table 5.17: Descriptive Statistics for Study Variables\*

	RGDP	MCR	IDX	TR
<b>Mean</b>	24.64611	-3.314995	6.950316	-6.128740
<b>Median</b>	24.63785	-2.951208	7.008858	-6.051386
<b>Maximum</b>	24.69853	-2.524366	7.299743	-4.424616
<b>Minimum</b>	24.60315	-4.155056	6.548706	-8.082806
<b>Std. Dev.</b>	0.026181	0.611134	0.237240	0.751425
<b>Skewness</b>	0.809948	-0.268403	-0.228998	-0.413756
<b>Kurtosis</b>	2.463666	1.284748	1.631042	3.707458
<b>Jarque-Bera</b>	4.246254	4.710782	3.038885	1.728525
<b>Probability</b>	0.119657	0.094856	0.218834	0.421362
<b>Observations</b>	35	35	35	35

As a preliminary analysis, the study first subject each time series to ADF unit root test and report the results in table 5.18. The study includes both the constant and trend terms in the test equation and use the SIC for the optimum lag order in the ADF test.

Table 5.18 Augmented Dickey- Fuller (ADF) Unit Root Test Results

Variable	Level		1 <sup>st</sup> Difference	
	t-statistic	Probability	t-statistic	Probability
GDP	-2.578341	0.2918	-3.924496	0.0233**
MCR	-2.791188	0.2102	-4.716565	0.0033*
DX	-2.768948	0.2177	-5.439820	0.0005*
TR	-4.576562	0.0045*	-4.259752	0.0109**

*Note: \* and \*\* denote significance at 1% and 5% respectively*

The results indicate that the series is non-stationary when the variables are defined in levels except for TR. But first-differencing the series removes the non-stationary components in all cases suggesting that these variables are integrated of order one.

### 5.5.1 Co-integration Test Analysis

Accordingly, we proceed to the Johansen-Juselius co-integration test and provided the trace and maximal Eigenvalue test statistic and 5% critical value in table 5.19. In the test system we set the lag order to 4 as suggested by lag order selection criteria of AIC, SIC and QH.

Table 5.19: The Trace and Maximal Eigenvalue Test Statistic and 5% Critical Value

Null Hypothesis	Co-integration Test (Model 2)			
	Trace		Maximum Eigenvalue	
	Statistic value	Critical value (5%)	Statistic value	Critical value (5%)
None*	102.1361	55.24578	47.91445	30.81507
At most 1*	54.2216	35.0109	34.66665	24.25202
At most 2*	19.55495	18.39771	18.24902	17.14769
At most 3	1.305931	3.841466	1.305931	3.841466

*Note: \* indicates rejection of the null hypothesis at 5%*

Both statistics suggest three co-integrating vectors, which indicate that the presence of long run relations among the four variables. The finding of co-integration rules out

short-run is weak. This result agreed with the finding of (Ake, 2010) study results, which indicated that there is no relationship between Duala Stock Exchange and the economic growth in Cameroon using a Granger causality test.

### 5.5.3 Vector Error Correction Model Analysis

The finding of the Granger causality test suggests no causal relationship between development of stock market and economic growth in the short-run relationship. On the other hand, the cointegration test indicates the presence of long-run relationship among them. In order to address the issue of such behaviour differences, the next step is to analysis the short-run and the long - run relationship between development of stock market and economic growth. Therefore, the study constructs a relationship model using the vector error correction model (VECM). The detailed results from the VECM are presented in appendix (5.5), while the summary is presented in table 5.21.

Table 5.21: The Summary of VECM Results

Long-run relationship								
GDPR =	Cons	Trend	IDX	MCR	TR			
<i>coeff</i>	-24.96784	-0.001956	0.057384*	-0.022149*	0.018489*			
<i>t-stat</i>			4.89685	-6.51021	4.55131			
Short-run relationship								
$\Delta$ GDPR <sub>t</sub> =	ecm	Cons	Trend		$\Delta$ GDPR <sub>t-i</sub>	$\Delta$ IDX <sub>t-i</sub>	$\Delta$ MCR <sub>t-i</sub>	$\Delta$ TR <sub>t-i</sub>
<i>coeff</i>	-0.034749	0.001032**	-0.0000315**	<i>F-stat</i> <sup>#</sup>	6698.655*	0.191876	0.143275	1.685604
<i>t-stat</i>	-1.451286	2.034008	-1.969618	<i>Chi-sq</i> <sup>#</sup>	26794.62*	0.767504	0.573101	6.742414
Diagnostic test								
<i>Normality (Jarque-Bara)</i>		= 0.532354						
<i>Serial Correlation (F-stat)</i>		= 0.948315						
<i>Heteroskedasticity (F-stat)</i>		= 1.891484						

The symbols (\*) and (\*\*) denote significance at 1% and 10% respectively.

The symbols (#) denote the result of Wald test on jointly lagged variables

In the long-run behaviour, the coefficients of IDX, MCR and TR are statistically significant which mean that stock market development has a significant effect on economic growth. Since all variables are measured in logarithmic, the coefficients of

stock market variables represent elasticity. However, the coefficients have small values which provide little support to the view that stock market development is a leading factor in the process of economic growth. In addition, the coefficient of MCR has negative value which implies that changes in MCR has a negative effect on economic growth.

Individually, almost the coefficients of the lagged variables in the short-run relationship are statistically insignificant except for GDP at all lags and TR at lag four. It's supported by the results of the Wald test (F-statistic and Chi-square), as presented in Table (5.21), which are statistically significant for RGDP and statistically insignificant for other variables. It means that the changes in lagged LSM variables jointly have no effect on the changes in economic growth. The finding supports the results of the Granger causality test which suggest that there is no causality between LSM and economic growth in a short-run behaviour.

In the short term the relationship is not existing, because Libya still in the emerging and the time is limited, and LSM in the early beginning development. So, its activity is considered as a short- run activity. Thus, because the activity of RGDP is a long term measurement, its activity is not adjusted with LSM activity, for this reason there is no correlation among the two fields in short-run. In Table (5.12), the error correction coefficient (ECM) has correct sign but statistically insignificant. It means that a shock in the short-run is not adjusted in the long-run equilibrium or it has a permanent effect.

The finding indicates that the short-run behaviour between LSM development and economic growth has no relationship with its long-run behaviour. In the short-run behaviour of LSM investors cannot be used as a predictor of economic development, because when the investor invests through the market it is not suddenly have effect economic development in the short-run. So, they will tend to consider short-term profit oriented rather than long-term capitalization.

The diagnostic tests suggest that the residual follow the normal distribution, there is no serial correlation, and there is no heterokedasticity. It means that the model meets the required assumptions and the estimators are best linear unbiased estimators.

In brief, Granger causality test and VECM modelling indicate that the LSM has no significant contribution into economic growth in the short-term. Since both tests are based on first-different data, the fact is found that there exists no relationship between the stock market and economic growth in the short-term behaviour.

## 5.6 CONCLUSION

Based on the above analysis the interview and questionnaire indicated that LSM has a positive role in promoting economic growth, this result agreed with the findings of Masoud (2009) study which described that LSM and the banking sector in Libya in particular and emerging economy in general are more complementary rather than substitutes in providing financial services to the economy, and the contribution of local and foreign investors is a big factor. Also, LSM had taken serious measures to attract the investors and provide them with a suitable environment for investment. In addition to that, Turnover ratio has the positive effects of LSM and contribution companies' profits, while Market capitalization has a negative effect on them. However, in the short-run behaviour the role of LSM is not strong enough due to some reasons such as, LSM is in the emerging stage, and it suffers from some weaknesses, for example many important sectors do not listed in it. Also, because RGDP activity is long-run activity and the LSM activity will not effect on it in the short run. So, the investor does not expect get their profits in the short run, it means that they have to wait a long time that led some of them to search for other investment channels.

By other words, the questionnaire and interview methods arrived with the same results about all the important points in the study. The questionnaire's result is parallel with the interview's outcome that LSM has a positive role in economic growth, and it also suffered from the weaknesses that prevent it from managing its operations effectively. Besides, both methods suggested that LSM is considered as a semi strong market, according to the scheduler of the contributed companies in the market. Moreover, both methods disclosed that the market has made many measures to attract the local and foreign investors like changing market rules to give some freedom to the market to carry out its operations. Also, LSM has good plans to improve its activity to be one of the pioneer markets in the world. So, both methods found that there is the LSM has a positive effect on economic growth.

In conclusion the weakness of this contribution is due to the absence of the main sectors of the economy in LSM such as oil, agriculture and communication sectors. However, LSM made deals with some of these companies such as Libyana and Al-Madar telecommunication companies, and gave the incentives to other companies to be listed in it.

Finally, it could be mentioned that the study reached different results based on the different types of analysis. The results of the Interview and the survey questionnaire came from the optimistic expectation of the participants, they have a positive thinking that LSM will have a positive correlation in the long-term. However, the other analysis addressed that in the short-term, there is no correlation between the two fields. The study recommends the Libyan government to take series procedures to make the market more strong to be more effective in the future.