Evaluating the Correlation between the Financial Sector Development and the Exports of Middle Eastern Countries

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Abstract: With the aim to evaluate the correlation between the exports of Middle Eastern countries and financial sector development, this study explains the relationship between the Institutional environment, Business environment, Financial stability, Financial Banking Services, Financial Non-banking Services, Financial markets and Financial access with the exports of Middle Eastern countries in 6 selected countries during the years 2008 to 2011. This research is applied based on the objective, has the library type based on the data collection and is among the correlative studies based on the method; it seeks to explain the relationship and calculate the amount of correlation and coefficients of each of the independent variables with the energy consumption by using the econometric models. Data and information needed for the research are collected based on the method of document library studies and the information related to the research variables are extracted by referring to the websites of International Association of Economics and UNCTAD Organization. First, the reliability or stability of variables used in various forms was determined by using the reliability determining tests such as the Dickey-Fuller unit root test. The accuracy test of classical assumptions was done for estimated functions and assurance of desired estimations accuracy and assurance of estimated relationship and long-term and balance coefficients of independent variables. Evaluation of stability (Durability or reliability) of variables was done by EViews software and the statistics R², F and Durbin-Watson were used in the analysis as the outputs of software. As the main result, it should be mentioned that the financial sector development has a significant and positive correlation with the exports of Middle Eastern countries.

Keywords: Financial development, financial intermediations-financial access, employment

INTRODUCTION

Scientific studies have indicated that the financial markets can play an important role in the economic growth (Ghali, 2008). An efficient financial system granted the capital from depositors to the loan applicants and guides the resources towards the productive and profitable projects. The more the investment productivity is increased, the more the rate of economic growth will be enhanced (King and Levine, 1993a). Some of the scholars believe that the financial markets are the brain of economic system and the main center for decision making and if these markets are faced with the failure, the function of whole economic system will fail (Stiglitz, 1994). The economists’ views about the importance of financial systems for economic growth have been changed during the recent 50 years. Numerous studies have been conducted in the field of correlation between the financial development and economic growth, but in these studies no appropriate analytical framework has been provided for the path of causality that whether the financial development has an effect on the economic growth or not (Asari et al., 2008). Financial sector development is one of the factors which can play a role in achieving the objective of accelerated and continuous economic growth. Financial sector contains various markets including the money and capital market. Importance of financial sector development depends on the role which is played in equipping the financial resources for investment, imports, attracting the foreign capital, optimization and Concept of financial development has been more considered after introducing the concept of financial suppression in the 1970s (Komeijani and Seifipour, 2006). After about two decades of scientific contention, the literature of correlations between financial development and economic growth reached to a kind of relative maturity. At the macro level, it has been clears that the financial development has a causal positive and significant effect...
on the economic growth. Moreover, the economic research has entered from the macro level to the micro economic areas. Economic theories indicate that the policies, which are applied for strengthening the financial sectors, reduce the costs of information, exchanges and supervision and thus enhance the production by improving the productivity. Six subsidiary indices, including the banking sector, financial non-banking sector, legislation and supervision, monetary sector and monetary policy-making, open financial sector and institutional sector were assessed in evaluating the index of financial development of Middle Eastern countries and North Africa. Based on the financial development index, this report has classified the Middle Eastern and North Africa countries into five categories including the very high, high, medium, low and too low development. Accordingly, the countries, which have gained the scores 2.5 and lower in this index, are put into the category of too low financial development. Countries, which have gained the scores 2.5 to 4.9, are put into the category of low financial development. Countries with scores from 5 to 5.9 are located in the category of medium financial development and countries with scores from 6 to 7.5 are put into the category of high financial development. Moreover, the countries with scores of financial development higher than 7.5, are put into the category of very high development (Middle East and North Africa (MENA) Iran, Bahrain, Lebanon, Jordan, Kuwait, United Arab Emirates, Saudi Arabia, Pakistan, Oman, Egypt, Qatar, Tunisia, Morocco, Sudan, Djibouti, Yemen, Mauritania, Algeria, Syria, Libya). In order to understand and measure the degree of economic development, all different factors such as the Financial Development Index, which affect the supply of financial services, should be taken into account. Different aspects of financial development degree can be considered within 7 main pillars which are classified into three major groups.

- **Factors, policies and institutions:** They are the fundamental properties which provide conditions for the development of intermediations, markets, financial instruments and service.
- **Financial intermediations:** they introduce the diversity, size, depth and efficiency of intermediations and financial markets which provide financial services.
- **Financial Access:** Individuals and economic firms access to various types of financial service and capital.

Seven different pillars, which are classified into the above categories, are as follows:

- Institutional environment
- Business environment
- Financial stability
- Financial Banking Services
- Financial Non-banking Services
- Financial Markets
- Financial Access

The data of this classification are also presented in the annual reports of WEF and they are among the international accepted indicators. The subject literature will be evaluated in the next section.

**TERATURE REVIEW**

The theoretical principles, research background and need for conducting research are provided in this section, respectively.

**Theoretical principles:** Meaning definitions of seven pillars of different aspects of financial development are presented in this section. These definitions are collected and provided based on the definitions accepted in annual reports of World Economic Forum.

- **Institutional environment:** Institutional environment includes the laws and regulations which authorize the deep and efficient development of financial intermediation, markets and services. This includes the national laws, rules and regulations of financial sector and also the mandatory contracts and governmental cooperation.
- **Business environment:** Business Environment means those factors which affect the performance of economic enterprises and the managers of economic enterprises cannot change or improve them. Business environment focuses on the following cases.
  - Availability of human resources
  - Government physical assets such as technological infrastructures
  - Tax rates and costs of implementing the business for financial intermediations
- **Financial stability:** Financial stability considers the business in a condition between the risk and creative trade and return on capital. Financial stability helps to avoid currency crises, systemic banking crises and debt crises.
- **Financial banking services:** It means efficient allocation of capital in a financial system through the systems based on the bank or financial systems of market. Some of the research has shown that the economic growth of banks has been more effective and efficient than the systems based on the market especially in the underdeveloped economies in which the financial intermediaries have less complexity.
- **Financial non-banking services:**
Financial non-banking intermediates: Asset managers and managers of alternative investment and insurance companies both are considered as the complementary of banks also as a replacement for them. This complementary role has been laid in the attempt to fill the gap created by the commercial banks. Competition with the banks allows both sides to act effectively in organizing the market needs. Activities of financial non-banking intermediaries are limited to the participation in stock markets and also allocating the financial resources with long-term nature such as the insurance activities.

- Financial markets: Four major types of financial markets can be mentioned as the bond market (including the state and large companies bond), stock markets, in which the stock is traded, foreign currency markets, and dependent markets. Statistically, the liquidity of stock market has a significant positive effect on the capital accumulation, productivity growth, and rate of economic growth.

- Financial access: Provided measures in this field are limited to the size and depth of operation of financial systems and degree of acceptance by the groups of capital savers and users. These issues are related to providing and allocating the capital, which is the factor of economic growth, at the macro level in terms of size and depth and at the micro level in terms of integrated access (World Economic Forum (WEF), 2008). In this study, seven mentioned variables are used as independent variables in the development of financial sector. Research background will be investigated in the next section.

Research background: In this section, the studies conducted on the economic development and their correlations with other sectors are provided. Conducted theories and research can only be studied and modeled as the research fields or conducted works in different sectors of economy. Obviously, the authors' viewpoints on the study area and the circumstances of time are pervasive and other scholars may provide other comments in order to complete or refuse it. Heshmati (2004) has studied the factors affecting the financial development in banking system of Iran. Shadman-Valavi (2003) has provided the financial development and economic growth in his study in thirteenth Annual Conference on Monetary and Currency Policy in Iran. Naderi (2003) has researched in the field of financial development, financial crises, and economic growth. Coricelli and Roland (2008) have provided their topics in the field of Finance and Growth: When Does Credit Really Matter. Ghali (2008) have proposed the financial development and its correlation with the economic growth. Kenourgios and Samitas (2007) have studied the financial development and economic growth in the transition economy. Ritab (2007) indicated in a study that the banking sector development is the cause of economic growth and the economic growth is the cause of banking sector development in Middle East and North Africa countries. James (2008) showed in a study on the Malaysian economy that the financial development has led to the economic growth by the saving and investment by the private sector. Goldsmith (1969) found an appropriate correlation between the economic growth and financial market development for 35 countries from 1860 to 1963. McKinnon (1973) and Shaw (1973) studied the correlation between the financial market development and economic growth and the proximity of these two factors in some of the countries. However, these two did not specify the causal relationship way between two variables. King and Levine (1993b) concluded in 119 developed and developing countries during the years 1960 to 1989 that the symbols of financial market development significantly predict the economic growth. Levine et al. (2000) expressed in their study named The Financial Intermediation and Growth: Causality and Causes, that the theoretical superiority and empirical evidence indicate a positive correlation between the financial market development and economic growth. However, other researchers believe that the financial issues are inactive compared to other factors which affect the difference of economic growth in the countries. In other words, the financial intermediations are the only channel for leading the household saving towards the investment activities and the key factors should be sought in the capital stock and investment rates. However, most of the empirical studies conducted in this regard, have achieved a positive correlation between the financial development and economic growth (Nazifi, 2004). Table 1 represents the conducted research in this section comparatively and chronologically.

The objective of this study is to study and evaluate the correlation between the financial sector development and exports of Middle Eastern countries for 6 selected countries during the years 2008 to 2011. In the next section, the need for conducting research is presented.

Need for research: Modifying the structure of financial markets in developing countries is inevitable and necessary. Studies have indicated that there is a direct and significant correlation between financial sector development and economic development. Market of capital, money and insurance all play a significant role as the major pillars of financial sector in economy of each country. Increasing the efficiency and development of financial markets can partly reduce this problem. Capital market is able to collect the stagnant savings and make them available for the capital applicants by the efficient financial methods. Most of
the scholars believe that there is a very close correlation between the financial sector development and economic growth Relation. Based on the conducted studies, a group of connoisseurs believe that the economic growth and consequently the increased demand have led to the financial sector development and another group has consider the financial sector development as a channel in line with directing the investments and economic growth. In this research, the main issue is that whether there is a correlation between the financial sector development and increased exports in Middle Eastern countries or not? One of the important problems for economics researchers is the existence of prevailing correlation and coefficients in the economic variables in line with the economic growth and development. If we consider the positive balance of foreign trade as the factors of economic growth, it is obvious that the study of correlation between the financial sector development and the foreign trade is so important. Hence, this study seeks to respond to this problem with the aim to examine the correlation between the financial sector development and exports in the research field of Middle Eastern countries. The research methodology is described as follows.

RESEARCH METHODOLOGY

This research is applied in terms of objective, with the library type based on the data collection and is among the correlation studies in terms of method because it seeks to explain the relationship and calculate the correlation rate and coefficients of each independent variable (financial sector development) with the exports of Middle Eastern countries by using the econometric models. Data and information needed for the research are collected based on the method of document library studies and the information related to the research variables are extracted by referring to the websites of International Association of Economics from the year 2008 to 2011. The estimation of model validity and accuracy tests (determining the reliability or stability of used variables) are done by using the reliability determining tests such as the Dickey-Fuller unit root test and then the statistics Jarque-Bare is used in order to test the normality of residual terms. The next step is to calculate the coefficients of model and to determine the regression function. After proving the durability of research variables and evaluating the normality of error distribution the estimation of ordinary least squares regression model is studied by using the software EViews.

Research hypotheses: In order to develop the main hypothesis this question is raised whether there is a significant correlation between the exports of Middle Eastern countries as the dependent variable and the financial sector development as the independent variable. For responding to this question, the research hypotheses are determined as follows.

- **Main hypothesis:** There is a significant correlation between the exports of Middle Eastern countries as the dependent variable and the financial sector development (Institutional environment, business environment, financial stability, financial banking services, financial non-banking services, financial markets and financial access) as the independent variables.
- **Subsidiary hypotheses:** Evaluation of relationship between the subsidiary hypothesis and the dependent variable by the Pearson test is presented as follows. Subsidiary research hypotheses based on the independent variables are as follows, respectively

<table>
<thead>
<tr>
<th>No.</th>
<th>Researcher's Name (Year)</th>
<th>Working field</th>
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<tbody>
<tr>
<td>1</td>
<td>Goldsmith (1969)</td>
<td>Financial structure and development</td>
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<tr>
<td>2</td>
<td>McKinnon (1973:0</td>
<td>Money and capital in economic development</td>
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<tr>
<td>3</td>
<td>Shaw (1973)</td>
<td>Financial deepening in economic development</td>
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<tr>
<td>4</td>
<td>King and Levine (1993a)</td>
<td>Finance, entrepreneurship and growth</td>
</tr>
<tr>
<td>7</td>
<td>Heshmati (2004)</td>
<td>Factors affecting the financial development in the banking system of Iran</td>
</tr>
<tr>
<td>9</td>
<td>Levine et al. (2000)</td>
<td>Financial intermediation and growth: causality and causes</td>
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<td>10</td>
<td>Kenourgios and Samitas (2007)</td>
<td>Financial development and economic growth in a transition economy</td>
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<tr>
<td>11</td>
<td>Ritab (2007)</td>
<td>Financial sector development and sustainable economic growth</td>
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<td>12</td>
<td>James (2008)</td>
<td>What are the mechanisms linking financial development and economic growth in Malaysia</td>
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<td>13</td>
<td>Coricelli and Roland (2008)</td>
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<td>14</td>
<td>Ghali (2008)</td>
<td>Financial development and economic growth, review of development economics</td>
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Table 1: Comparison of conducted Studies

There is a significant correlation between the financial stability and the exports of Middle Eastern countries.

There is no significant correlation between the financial stability and the exports of Middle Eastern countries.

There is a significant correlation between the financial banking services and the exports of Middle Eastern countries.

There is no significant correlation between the financial banking services and the exports of Middle Eastern countries.

There is a significant correlation between the financial non-banking services and the exports of Middle Eastern countries.

There is no significant correlation between the financial non-banking services and the exports of Middle Eastern countries.

There is a significant correlation between the financial markets and the exports of Middle Eastern countries.

There is no significant correlation between the financial markets and the exports of Middle Eastern countries.

Research variables: Given the Research variables in this study contain the dependent variable of exports of Middle Eastern countries and Independent variables including the Institutional environment, Business environment, financial stability, Financial Banking Services, Financial Non-banking Services, Financial markets and financial access. Regression Model (Y) is developed in a way under which α is the constant value, coefficients are for mentioned variables, respectively and ε is the error term of model. Value β is the correlation coefficients of variables and can be calculated by the Pearson correlation coefficient test:

\[ Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \beta_6 x_6 + \beta_7 x_7 + \varepsilon \]

RESEARCH FINDINGS

Given the research hypotheses and model, the regression model of Ordinary Least Squares (OLS) has been estimated. Before estimating the econometric models OLS, the durability of variables has been examined by using the stability tests of research variables (EViews software). Then the model is estimated and coefficients and effectiveness amount and method of research variables are estimated.

Dickey-Fuller unit root reliability test: Evaluations indicate that the variables are unstable in most of the economic time series. In this case, the results of estimation are not very reliable and thus the researcher gains the wrong interpretations. Generalized Dickey-Fuller unit root test, which is among the most appropriate reliability tests of variables, is used in order to examine the durability of time series. In this method, the statistic of ADF test or the calculated t of target delay variable is compared to the critical values of
The results of estimating the model indicate that: $R^2$ statistic implies that 77% of changes in the dependent variable (Exports of Middle Eastern countries) can be explained by the explanatory variables and this suggests the high explanation power of model. High F statistic of model (6.46) indicates the significance of the whole regression. Durbin-Watson statistic of model equal to 1.92 rejects the self-correlation hypothesis among the components of model.

According to the results of estimating the model coefficients, the following conclusions can be inferred:

Financial sector development has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial sector development, the exports of Middle Eastern countries will be increased equal to 67.85 units.

Institutional environment has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the Institutional environment, the exports of Middle Eastern countries will be increased equal to 30.45 units. Business environment has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the Business environment, the exports of Middle Eastern countries will be increased equal to 2.92 units. Financial stability has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial stability, the exports of Middle Eastern countries will be increased equal to 2.92 units. Financial markets have a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial markets, the exports of Middle Eastern countries will be increased equal to 15.85 units. Financial access has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial access, the exports of Middle Eastern countries will be increased equal to 15.85 units. Moreover, Financial Banking and Non-Banking Services have no significant correlation with the costs.
exports of Middle Eastern countries, thus two above variables do not play any role in the regression model.

Using the Table 3, the coefficients of model are entered the following regression model.

Estimation equation:

\[ Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \beta_5 x_5 + \varepsilon \]

Substituted coefficients:

\[ Y = \alpha + 30.45 x_1 + 2.92 x_2 + 7.13 x_3 + 7.87 x_4 + 15.85 x_5 + \varepsilon \]

**SUGGESTION AND CONCLUSION**

The main result of this study is to confirm the main research hypothesis under which there is a significant and direct correlation between the financial sector development and the exports of Middle Eastern countries. Subsidiary hypotheses, except for financial banking services and financial non-banking services, all had a direct and significant correlation with the exports of Middle Eastern countries. Therefore, all sub-hypotheses, \( H_{01}, H_{02}, H_{03}, H_{14}, H_{15}, H_{06}, H_{07} \), are confirmed.

Given the value of Dickey-Fuller statistic of residual term is lower than the critical value in the accuracy test of hypotheses and significance of model, it can be concluded that the residual term or model error is durable at all levels and the estimation is cointegrated and the regression is true. As shown in Table 2, all main and subsidiary variables of model are lower than the maximum Dickey-Fuller statistic. Thus, all considered variables are stable. Jarque-Bare value is equal to 1.07 and the probability value is equal to 0.585. In other words, the residual terms and distribution of errors (residuals) have normal distribution. Moreover, \( R^2 \) statistic implies that 78% of changes in the dependant variable (Exports of Middle Eastern countries) can be explained by the explanatory variables and this suggests the high explanation power of model and the value of F statistic of model (6.46) indicates the significance of the whole regression. Furthermore, Durbin-Watson statistic in the model is equal to 1.92 and this rejects the self-correlation hypothesis among the components of model.

The obtained regression model is as follows:

\[ Y = \alpha + 30.45 x_1 + 2.92 x_2 + 7.13 x_3 + 7.87 x_4 + 15.85 x_5 + \varepsilon \]

Institutional environment has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the Institutional environment, the exports of Middle Eastern countries will be increased equal to 30.45 units. Business environment has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the Business environment, the exports of Middle Eastern countries will be increased equal to 2.92 units. Financial stability has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial stability, the exports of Middle Eastern countries will be increased equal to 7.13 units. Financial markets have a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial markets, the exports of Middle Eastern countries will be increased equal to 7.87 units. Financial access has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the financial access, the exports of Middle Eastern countries will be increased equal to 15.85 units. Moreover, Financial Banking and Non-Banking Services have no significant correlation with the exports of Middle Eastern countries, thus two above variables will not play any role in the regression model.

As a result, it should be noted that based on the calculations of Table 3 the financial sector development has a significant and positive correlation with the exports of Middle Eastern countries, so that with one unit increase in the Institutional environment, the exports of Middle Eastern countries will be increased equal to 67.85 units.

- **Suggestion:** This study has no suggestion in the field of optimizing the exports of selected countries in the Middle East. The main reason for this issue has been the comparative study of correlation between the financial sector development and the exports of Middle Eastern countries (Selected Countries) and this correlation, which has been provided for the significant variables in the form of a regression model, cannot be used as a prescribed suggestion for all countries. Hence, the suggestions of this study are about the researchers’ future studies.

  - Evaluating the factors affecting the exports of each selected country in this study based on the endogenous factors of each country separately. Obviously, the results can offer specific suggestions to that country.
  - Researchers can use the further tests such as the error distribution normality test (residuals), collinearity hypothesis, White test for detecting the dissimilarity of variance, estimating the LM test in order to detect the successive correlation of residual
and estimating Ramsey test for further accuracy and reliability in next research in the field of significant tests.

- Determining other indicators affecting the increase of exports in Middle Eastern countries based on the Durbin-Watson test in next studies.

REFERENCES


