Investigate the effect of the liberalization of financial development on export growth in Iran

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Abstract  
Financial liberalization is a category that has been raised followed by the discussion of globalization and financial integration in recent decades. Given that belief in the effectiveness of state and government planning has declined today and theoretical foundations of large governments and the centrally planned is attacked. So the financial liberalization has been one of the most important national policy in recent decades. The purpose of this study was to evaluate the impact of financial liberalization on growth in exports of Iran. Research population of this study is about Iran and the course 1390-1350 has been studied and the data were collected in the form annually. In this research to analyze the data two methods were used by using EVIEWS 7 Software, that were VAR vector Auto Regressive and the Granger causality test. Test results of the assumptions show that there is no relationship between exports and economic development and the flow of causal (in the form of one-way and two-way), but there is a one-way relationship between economic growth and the liberalization of financial development and this relationship is from financial development to economic growth and also there is a one-way causality between economic growth and exports that this relationship is from financial development to export growth.

Key words: the liberalization of financial development, economic growth, export growth, economy of Iran.

Introduction  
The recent wave of financial liberalization have been causes a significant influx of capital flows between developing countries since the mid-90s. More independence of central banks, reducing financial repression with the loss of control over interest rates and financial innovation, reducing credit and liberalization of capital flows have been important aspect of the phenomenon of financial liberalization in various forms. Therefore, it is concluded that the benefits of financial liberalization, especially for developing countries that are relatively weak in investment, and have more swinging income growth, should be substantially (Dadgar, 1382). While the expansion of capital flows with high growth rates, the number of developing countries have occurred, some of these countries also suffered from the collapse in growth rates and financial crises. Crisis in these countries has been as expenses resulted from fluctuations in economic growth (Abrishami, 1384). So financial liberalization is a very important component of economic liberalization, and it covers the income and expenses. In this chapter, we examine the impact of financial liberalization on the growth of exports in Iran from different angles. First, financial liberalization has studied and then we study the functional observations in some developing countries of liberalization and exports, while we will look at some of the macroeconomic variables in the process of financial liberalization. The role of financial liberalization in the process of export growth and the economy is One of the crucial issues in this section, that should be examined in relation to the major issues of the financial sector budget deficits, financial repression, economic growth with some macroeconomic variables (Azouji and Farhadi Kia, 1386). Financial liberalization is a category that has been raised followed by the discussion of globalization and financial integration in recent decades. Given that belief in the effectiveness of state and government planning has declined today and theoretical foundations of large governments and the centrally planned is attacked. So the financial liberalization has been one of the most important national policy in recent decades (Bahrami, 1379). When financial liberalization was considered as an inevitable step in the development of poor countries. In this regard, it was alleged that financial liberalization would cause the financial resources of countries with abundant capital and the expected rate of return on capital is low, be converted to those who are faced with a shortage of capital and the expected rate of return on capital is high, (Taghipour, 1392) and added that resource flows to countries that are implementing liberalization process have reduced the cost of capital and the resulting increase the investment and production (Kemijany, 1387). The main issue was not that time that
the capital account should be released or not, but the problem was that when it is necessary to do so. The question was whether it should be done before the economic reforms such as trade liberalization and stabilization of inflation in the financial liberalization began or after it? (Adass and Glasser, 1999).

**Theoretical Foundations of research**

**Financial liberalization**

Development economists agreed the policy of containment of the interest rate and it was prescribed until the 1970s. In fact, these economists were aware of the importance of the financial sector in the economy. But they knew a positive impact the financial sector on economic growth depends on the state controls and financial repression conditions. Economists such as Goldsmith (1969), McKinnon (1973) and Shaw (1973) noted and emphasized to the key role of financial liberalization in the process of the country’s export growth in the early 1970s. In fact the liberal attitude about the release goes back to the seventeenth century AD. John Locke, Adam Smith, Bentham and Schumpeter were one of the first people who stressed care about money and uncontrolled financial intermediaries and unconditionally (Jalalabad, 1382). Schumpeter’s comments are indicative of the importance of financial liberalization on the development and growth of exports. McKinnon and Shaw rejected the Keynesian models of money, Keynesians and structuralists. They believed that the main assumptions of these approaches do not comply with the conditions of developing countries of that era (Fry, 1978). They release the key role of liberalization and financial development on economic growth and showed that financial repression means fixing the nominal interest rate below the level of the equilibrium real interest rate, by limiting the actual investment amount of savings, leads to lower economic growth. Empirical data were Financial Reform in Taiwan and Korea that provide policy proposals of their model. The policy prescriptions of McKinnon and Shaw to economies with repressed financial markets were to raise interest rates or reduce the rate of inflation. In their model increased capital investment and average efficiency of capital with the removal of interest rate ceilings and thereby leads to increased economic growth. Review of financial liberalization in other countries shows that price stability, fiscal discipline and credibility of monetary policy, have been three major factors in the success of financial liberalization in Asian countries and have had a failure in Latin American countries during the past three decades (Haghnezhad, 1382).

**The impact of financial liberalization on exports**

The impact of financial liberalization and reduce rate of exchange is different on export performance and depends on level of development, reliability of supply, import facilities and type of policy. In countries with underdeveloped infrastructure before trade liberalization and reduction of the exchange rate, the first action is indeed expanding supply capabilities. On the other hand, to achieve a certain level of industrialization needs to be protected nascent industries (King and Levine, 1993). We cannot provide a general solution for successful commercial policies and industrialization for all countries so the characteristics of each country should also be considered. Analysis the situation of surveyed countries indicated that they had a different export performance and economy. Survey conducted showed that the good performance of the economy and export growth cannot be merely the effect of policy type of trade and adjustments to the exchange rate. Although the supply capability is an important factor in the performance of export, but in many cases the increase exports partly has been done at the cost of reducing the supply of goods in the domestic market. In fact, export development has been achieved at the cost of reduced investment in many cases (Caprio et al, 2001).

**The research hypotheses**

- There is a significant relationship (Causality) between financial liberalization (Financial development) and export growth.
- There is a significant relationship (Causality) between financial liberalization (Financial development) and economic growth.
- There is a significant relationship (Causality) export growth and economic growth.

**Conducted research in the the country**

- Zaynab Dabou (2012) examined the impact of financial liberalization on the performance of banks in Nigeria. In this paper, the liberalization of interest rates as the first phase of liberalization of investment policy on the bank of Nigeria has been studied experimentally. It also examined how the financial operations of banks recover after the liberalization policy. Wilcoxon test was used to measure changes of variables in the test (profitability, loan and productivity).
Taghipour (1392) studied an article as the estimating indicators for financial liberalization and comparison with other countries. That in this study is estimated financial liberalization index for the economy of Iran which covers various aspects of the reform in the financial sector and have been compared with a few countries such as (Turkey, Pakistan, Malaysia and India). To obtain a comprehensive index of financial liberalization has been used several methods such as the principal components method (PCM) and the simple sum of the indices of the subset of financial liberalization. Results from this study indicate that Iran, Pakistan and India have attempted to carry out financial reform in a limited way in recent years, particularly since the early 1990s.

Ali Hossein Samadi (1388) reviewed the article entitled Financial Repression and Economic Growth in Iran. In this study, the constraints of financial system were examined and the findings of this study indicate that abandon of real interest rate ceilings increased the level of investment and actual savings, so this will lead to further increases in revenue and ultimately further economic growth.

Ali Falahati (1388) examined the effect of financial liberalization on the size of the state which results from this research is intended that with increase foreign direct investment reduce the size of government as an approximation for financial liberalization and trade liberalization long-term and short-term both. In addition, long-term effect of Increasing the volume of foreign direct investment on reducing the size of government growth is more than the short term effects on reducing the size of government.

Conducted research outside the country

Ang and Am kibiin (2007) examined the relationship between growth and financial development and financial liberalization in Malaysia by using the VAR model over the period 1960- 2001. The results show that although financial reform will lead to the development of the financial sector, but this change in policy will not lead to long-term growth. Instead, financial development is a product of economic growth in Malaysia. To obtain general results, the researchers compared the Malaysia views with other countries and they found that if the financial liberalization lead to increase the financial development so there is a two-way relationship between financial development and growth and if financial liberalization reduce financial development, economic growth does not occur.

Shaw and McKinnon (1973) in a study have examined the formulation of policy for economies with repressed financial markets, increase or decrease in interest rates and inflation, They release the key role of liberalization and financial development on economic growth and showed that financial repression means fixing the nominal interest rate below the level of the equilibrium real interest rate, by limiting the actual investment amount of savings leads to be slower economic growth. And also mentioned and emphasized the role of financial markets in the process of economic growth.

Goldsmith (1969) examined the role of financial markets in the process of economic growth and in this study examined the development of exports and the development of financial markets so the results of this study suggest that this will lead to economic growth.

Research Methodology

In this research to study the impact of financial liberalization on export growth, the method of (VAR) vector Auto Regressive and the Granger causality test were used, and hence the principles of this model and records of its application was introduced by the libraries and documentation method and major indicator of financial liberalization are applied which have the most recommended and used in related research. In this regard the model of the relevant vector autoregressive was estimated and by using two instruments of this model that means impulse response functions\(^1\) and variance analysis\(^2\) was measured the impact of financial liberalization on export growth and Granger causality test is to understand this point whether the liberalization could lead to be exports. In this study to obtain the required information and data, the following methods are used:

1) Refer to the data released by the Central Bank of the Islamic Republic in the organization’s website and also data bank of time series which is related to the central bank.

2) Refer to the academic librariessuch as the School of Economics and Management of Tehran University, Economics of Allameh Tabataba’i University, Azad University of Kermanshah, Razi University of Kermanshah.
Statistical Society
Research population of this study is Iran and the course 1390-1350 has been studied and the data were collected in the form annually.

Technology or research techniques
In this study as previously stated, the model of the relevant vector autoregressive and impulse response functions and variance analysis and Granger causality test is used to study the impact of financial liberalization on export growth and also will take advantage from unit root tests. Then, all of these methods will be introduced. Time series is a collection of observations that is arranged according to time (or any other number). Time series model can be divided into two groups of univariate and multivariate time series models in a general division. The current value of a variable time series in univariate time series model are related to the values of its past and present and past errors. These patterns are Self-described processes (AR), moving average (MA), Self-described processes of moving average (ARMA) and processes of collective self-described moving average (ARIMA). Multivariate models try to explain the behavior of a variable based on its past values and a number of other variables simultaneously. vector Auto Regressive model (VAR) of this sentence is:

Validity (reliability)
Criterion validity (reliability) of the study is called the recognition rate and accuracy criteria and criteria that used to measure the phenomenon. In other words, validity is the ability of the tool to measure the adjective that this instrument is designed to its measurement. Validity (reliability) is divided into two categories in a general division:
1- Credit (validity) Internal: is called the credit that have an answer to this question: Are the results of the study can answer questions expressed in the topic?
2- Credit (validity) External: external or internal credit review the generalizability of the results to this question: Whether the results can be generalized to a larger or similar?
According to the results that will be addressed in the next chapter. This study has the internal validity, and since the study of other texts and research indicates, the results of this study can be generalized to similar groups and countries so this study also has the external validity.
In general evaluating validity in the process of content analysis research is very important. This indicator suggests that whether will measurement tool have reproducibility features? If a researcher can obtain the same results in the evaluation of a social or economic phenomenon by repeating the operations of research, similar results will be obtained if be a certain conditions, then it can be said that research is in the full validity. By examining internal studies on the subject can be found that this research has the validity.

Stability
The reliability of a measure refers primarily to the accuracy of its results. In this study, given that the information and data required is gathered of the reputable centers and statistical Professional (including central banks), these data are the sufficient reliability.

Findings
Major indicator of financial liberalization
Review the status of several major indicator of financial liberalization that used in research during the period 1390-1350 in Iran, is as follows:

Indicator of financial depth
The Size index of the formal financial intermediaries is to the volume of economic activity as an analogy for the development of the financial sector and under the name of depth or financial depth. Cash ratio of debt to gross domestic product GDP is one of the common methods for calculating and measuring financial depth. In Iran the index can be calculated as the ratio of \( \frac{M2}{GDP} \). Although the combining elements of M2 are not analyzed in this indicator and do not know exactly the extent of the financial sector in the economy beholden to which one of the constituent elements, but in general, this indicator can show the breadth and depth financial evaluation over time. Chart 1 shows the index over the period 1390 to 1350.
Chart 1 shows the indicator of financial depth during the years of 1350-1390 in Iran. As you can see, this indicator is growing. On the other hand, it seems figures on the indicators of financial depth in Iran, rather than it be an illustrative of deepening and financial liberalization, it was represents an increase in M2 (liquidity) that this was from increase in the monetary base due to the state budget deficit financing through the banking system up to deepen and broaden financial instruments.

**Performance indicators from financial system**

This index can be considered as the ratio of private sector debt in the banking system on gross domestic product (GDP) and can largely explain the performance of the banking system and hence can be expressed financial system in using the facilities of the private sector in relation to the economic growth. Obviously, whatever funds received of the private sector be increasingly more than GDP, it shows that the private sector has been active. And in general we can say that the performance of the banking sector in financial development has been successful. Diagram(2) of this indicator is shown at the bottom.

Chart 2 shows the indicator of financial system performance during the years of 1350-1390 in Iran.

**DPS index**

This index can be obtained from liquidity ratio minus currency and checking outside the banking system to Gross domestic product (GDP). In general, whatever the size of this index be more, so more resources are for transmission by the banking system and financial intermediaries to promote economic growth. Diagram(3) of this indicator is shown at the bottom.
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In Table 1 some statistical properties of four major indicators of financial development with other variables in the model is presented.

Table 1 shows statistical properties of four major indicators of financial development.

<table>
<thead>
<tr>
<th></th>
<th>GDP</th>
<th>GPGDP</th>
<th>FPGDP</th>
<th>M2CUPGDP</th>
<th>M2PGDP</th>
<th>PRDPGDP</th>
<th>XPGDP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean</td>
<td>1179193.0</td>
<td>0.089406</td>
<td>-0.216068</td>
<td>0.220604</td>
<td>0.238784</td>
<td>0.220449</td>
<td>0.323975</td>
</tr>
<tr>
<td>Median</td>
<td>1055690.0</td>
<td>0.008006</td>
<td>-0.084525</td>
<td>0.023796</td>
<td>0.028328</td>
<td>0.017993</td>
<td>0.293792</td>
</tr>
<tr>
<td>Maximum</td>
<td>2157934.0</td>
<td>0.429498</td>
<td>0.315856</td>
<td>0.143632</td>
<td>1.553746</td>
<td>1.630826</td>
<td>0.846297</td>
</tr>
<tr>
<td>Minimum</td>
<td>686901.7</td>
<td>0.000442</td>
<td>-1.443925</td>
<td>0.000442</td>
<td>0.000531</td>
<td>0.000062</td>
<td>0.141916</td>
</tr>
<tr>
<td>Std. Dev.</td>
<td>398589.7</td>
<td>0.137976</td>
<td>0.408369</td>
<td>0.380664</td>
<td>0.410664</td>
<td>0.410375</td>
<td>0.130502</td>
</tr>
<tr>
<td>Kurtosis</td>
<td>1.021167</td>
<td>1.523795</td>
<td>-1.839992</td>
<td>1.964890</td>
<td>1.982585</td>
<td>2.119454</td>
<td>1.715503</td>
</tr>
<tr>
<td>Skewness</td>
<td>3.014640</td>
<td>3.874211</td>
<td>5.452867</td>
<td>5.774097</td>
<td>5.865602</td>
<td>6.519397</td>
<td>3.619881</td>
</tr>
<tr>
<td>Jarque-Bera</td>
<td>7.126041</td>
<td>17.17225</td>
<td>33.38787</td>
<td>39.52876</td>
<td>40.89709</td>
<td>51.78999</td>
<td>51.08978</td>
</tr>
<tr>
<td>Probability</td>
<td>0.028353</td>
<td>0.000187</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000000</td>
<td>0.000641</td>
</tr>
<tr>
<td>Sum Sq. Dev</td>
<td>6.35E+12</td>
<td>0.761495</td>
<td>6.670607</td>
<td>5.796205</td>
<td>6.726109</td>
<td>6.736307</td>
<td>0.681232</td>
</tr>
</tbody>
</table>

In this table, mean, median, maximum, minimum, and standard deviation of observations, skewness, strain of the model variables is presented. Jarsue-bera statistics compares the skewness and elongation of the distribution of each variable with a normal distribution. If data have normally distributed in each variables so Jarsue-bera statistics has a small amount and the amount of its probability is greater than 5%. The null hypothesis (which Jarsue-bera statistics is testing that) indicates that the data are normally distributed. The assumption of normal distribution of the data is rejected if probability < 5%. In other words, in this case, the data distribution is not normal. Total data and the sum of squared deviations and number of observations are reported in this table. Respectively, Symbols are represented these variables in this table:

FOGDP: The ratio of investment to gross domestic product.
GDP: Gross domestic product.
GPGDP: The ratio of government expenditure on gross domestic product.
M2CUPGDP: The ratio of liquidity minus coins and bills outside the banking system on gross domestic product.
M2PGDP: The ratio of liquidity on gross domestic product.
PRDPGDP: The ratio facilities granted to the private sector on gross domestic product.

It should be noted here two essential points:
First, the selection criteria have been used to explain financial development in most studies related to financial development (Abu and Abugharn, 2007, King and Levine, 1993, Calderon and Liu, 2003).
Secondly, in this study has not been utilized indicators represents for the role of exchange and capital markets in the process of financial liberalization, due to the limited activity in the stock market during the Iran-Iraq war and the lack of required data and also the country's financial sector are relying more on activities of banks.

The reliability of the test of variables
The reliability of the test of variables is examined before estimating the reliability model of the variables through the Dickey-Fuller test (DF) and generalized Dickey Fuller (ADF) in the model. The test results in Table 2 are summarized and test results are available in Annex investigate fully.
As Figure 3 shows the financial indicators of liquidity on GDP, and \( \frac{M^2}{GDP} \) shows the ratio of liquidity minus coins and bills outside the banking system on (M2CUPGDP) GDP and also shows the ratio facilities granted to the private sector on (PRDPGDP) GDP. Behavior of the three variables was very close together and is largely similar. So bring along the three variables mentioned will lead to problems such as both linear between these three variables in VAR econometric model simultaneously. Calculating the regression coefficient between these variables suggests this problem. Therefore, to avoid possible problems in estimation of model, we attempt to create a composite index of financial liberalization (by using three mentioned indicators), and by using a statistical technique that is called principal component methods (Principal Component). The principal component methods (PCM) is one of the most common approaches in the economic literature, which has been used in the various studies to construct a general index of financial liberalization such as Kaperu and et al. (2000), Laiou (2003) and Demtouyad and Louaintel (1997). PCM method is one of the most valuable results of linear algebra that is widely used in the all forms of analysis from Science Neural Networks to computerized diagrams. Because it is an easy way to extract relevant information from a complex set. In this way the variables are summarized into a set of Non-correlated components that each of them is a linear combination of the original variables in the model. Non-correlated component that are obtained, they are called essential components of the PC. In general, the main application of this method is to reduce the number of variables and find the relationship between the variables. The main advantage of this method in econometrics is to eliminate both linear in the models, through the large number of variables that has a linear dependence in the model. Here we describe the method of principal components. If we assume that \( X_1 \) and \( X_2 \) are two hypothetical variables, we can write them in terms of a linear combination of principal components of \( \hat{P}C_1 \) and \( \hat{P}C_2 \) as follows, namely:

\[
X_i = a_i PC_1 + a_{i2} PC_2
\]

as follows, namely:

\[
X_1 = a_1 PC_1 + a_{12} PC_2
\]

(1)

we can also get to the main constituents in the form coordination of the variables \( X_1 \) and \( X_2 \), namely:

\[
PC_1 = W_1 X_1 + W_{12} X_2
\]

\[
PC_2 = W_{21} X_1 + W_2 X_2
\]

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\]

as follows, namely:

\[
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\]

(1)

we can also get to the main constituents in the form coordination of the variables \( X_1 \) and \( X_2 \), namely:

\[
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\]

\[
PC_2 = W_{21} X_1 + W_2 X_2
\]
In the this study, to obtain a composite index of financial liberalization by using principal component PCM, first it is necessary to estimate the principal components (PC). This work has been done for the last three financial indicators by using Eviews software and the three eigenvectors were estimated in total. The first vector explains 99% of the total variation (variance) of the original variables. Therefore, we select only the first principal component (PC1). By selecting the first principal component, composite index of financial liberalization (FIDEIN) are calculated by the following method: Figure (4) (5) is shown in the composite index of financial liberalization and the results of the unit root test and its end in the table (3) is presented.

![Chart 4 shows the composite index of financial liberalization](image)

Chart 4-5 shows the composite index of financial liberalization

Now, in order to evaluate and test the assumptions outlined in the research, initially Granger causality test is executed between financial development and economic growth and exports.

<table>
<thead>
<tr>
<th>Conclusion</th>
<th>Prob</th>
<th>Amount of F statistic</th>
<th>Null hypothesis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Confirm the null hypothesis</td>
<td>0/7965</td>
<td>0/41470</td>
<td>Export is not granger causality of Financial development ( Export→development financial ) Financial development is not granger causality of Export ( development financial→Export )</td>
</tr>
<tr>
<td>Confirm the null hypothesis</td>
<td>0/2780</td>
<td>1/3478</td>
<td></td>
</tr>
<tr>
<td>Rejection of the null hypothesis</td>
<td>0/0323</td>
<td>3/09008</td>
<td>Economic Growth is not granger causality of Financial development. Financial development is not granger causality of Economic Growth .</td>
</tr>
<tr>
<td>Confirm the null hypothesis</td>
<td>0/1126</td>
<td>2/07016</td>
<td></td>
</tr>
<tr>
<td>Rejection of the null hypothesis</td>
<td>0/0202</td>
<td>3/4893</td>
<td>Economic Growth is not granger causality of Export. Export growth is not granger causality of Economic Growth .</td>
</tr>
<tr>
<td>Confirm the null hypothesis</td>
<td>0/4593</td>
<td>0/93365</td>
<td></td>
</tr>
</tbody>
</table>
Note: The amount of interrupts are considered equal to 4 in all tests, to take advantage of the past information. obtained results of Granger causality test show that:

1- There is not a significant relationship (in the form of unilateral or bilateral) between export and Financial development. In other words, the first hypothesis that there is a relationship between financial liberalization and export is rejected.

\[ \text{export growth} \Leftrightarrow \text{Financial development} \]

2- There is a one-sided relationship between economic growth and Financial development and this relationship is from economic growth to financial development. In other words, Financial development\(\rightarrow\) economic growth. But there is not a significant relationship (Causality) from financial development to economic growth, that means financial development \(\Rightarrow\) economic growth. In this case, second hypothesis of the study is confirmed that there is a relationship between economic growth and financial development.

3- There is a unilateral causality relationship between economic growth and exports and this relationship is from economic growth to export growth. In other words, economic growth \(\rightarrow\) export growth. But there is not a significant relationship (Causality) from exports to economic growth, that means export growth \(\Rightarrow\) economic growth. In this case, the third hypothesis of the study is confirmed and in other words, the relationship between export growth and economic growth is confirmed.

Then to analyze the short-term dynamics between the variables we take advantage of Vector Auto Regressive (VAR) model and two important and powerful tool that is relevant to that, and means immediate response function and variance decomposition. VAR model is estimated as follows:

\[
\text{GDP growth} = f(\text{Log Government spending}_{\text{GDP}}, \text{Log Investment}_{\text{GDP}}, \text{Log Exports}_{\text{GDP}}), \text{The composite index of financial development of log}
\]

\[
\text{GLGD}_t = f(LGP_\text{GDP}, LFP_\text{GDP}, LXP_\text{GDP}, \text{FINDEIN})
\]

Over-estimate the VAR model must determine model lag length. Determine the degree of VAR model plays an important role in the analysis of results to determine the optimal degree of Eviews software, Schwartz criteria - Bayesian (SB) Akaike (AK) Hanan Quinn (HQ), as well as statistics of Rastnaiy ratio (LR) to determine the optimal lag length is provided. The minimum amount of each of these criteria, determines the optimal degree of the VAR model. Although some of these criteria in practice not lead to the same results for determine the degree of VAR. The optimal interval 1 is selected based on these criteria. The results are presented as follows:

\[
\text{GLGD}_t = -0.008222 + 0.315891GLGD_{t-1} - 0.003118LPGDP_{t-1} - 0.008069LFPGD_{t-1} \\
- 0.005881LXPGD_{t-1} + 0.001975FINDEIN_{t-1} \\
LGP_{t} = 0.385950 - 3.146684LGP_{t-1} + 0.836436LPGDP_{t-1} - 0.476541LFPGD_{t-1} \\
+ 0.269450LXPGD_{t-1} + 0.092071FINDEIN_{t-1} \\
LFPDP_{t} = 0.123724 - 4.059038LGD_{t-1} + 0.054417LPGDP_{t-1} + 0.872411LFPGD_{t-1} \\
+ 0.026724LXPDP_{t-1} - 0.025027FINDEIN_{t-1} \\
LXPDP_{t} = -0.591100 + 7.658304LGD_{t-1} - 0.103995LPGDP_{t-1} - 0.152636LFPGD_{t-1} \\
+ 0.668458LXPDP_{t-1} + 0.050082FINDEIN_{t-1} \\
FINDEIN_{t} = 1.281221 - 7.328517LGD_{t-1} + 0.240401LPGDP_{t-1} + 0.507633LFPGD_{t-1} + \\
Here it should be noted, although none of the variables in the model were not sustainable, but all models have been included in the model at state level, because the fundamental point is to maintain the stability condition in a VAR model. In other words, the roots of the characteristic equation should not be outside the unit circle. Check out these model shows that the model is stable and the test results (the roots of the characteristic equation) are available in the Appendix. Generally, we cannot directly be found certain conclusions in a Vector Auto Regressive (VAR) model, but also should be used immediate response function (IRF) and analysis of variance (VD). In fact an immediate response function (IRF) will follow the effects of one standard deviation shock to the endogenous variables in the model. To the used model in this study, reaction of variables is depicted relative to one standard deviation shock in each of the endogenous variables of pattern as a diagram over the ten courses. The percent change of variables take place on the horizontal
Investigate the effect of one standard deviation shock in exports to financial liberalization.

As can be seen, one standard deviation shock caused a sharp increase in the index of financial liberalization and financial development in the area of export on financial development. On the other hand, one standard deviation shock in export growth comes increased financial liberalization. And ultimately have a positive impact on exports. And on the other side, Economic growth response to one standard deviation shock in financial liberalization has led to a slight increase in economic growth. Finally, its effect disappears in the long term. The following we presents the results of analysis of VD variance. By using this method, the contribution of each variable can be measured of changes other variables in the model. In other words, we can used to assess to what extent the changes of variable has been affected by that variable and to what extent is influenced by other variables disturbing component of indigenous systems. The results of analysis of variance variables of economic growth, exports and financial development indicator tables (4), (5) and (6) are shown. In fact, analysis of variance measures the numerical value of the effects that the various shocks (impulses) have on the endogenous variables of pattern.
Table 4 shows the decomposition of the variance of output growth

<table>
<thead>
<tr>
<th>Period</th>
<th>Economic Growth</th>
<th>Government expenditure on production</th>
<th>Investment on production</th>
<th>Exports on production</th>
<th>Financial Development Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GLGDP</td>
<td>LGPGDP</td>
<td>LFPGDP</td>
<td>LXPDP</td>
<td>FINDEIN</td>
</tr>
<tr>
<td>1</td>
<td>100</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>97.5941</td>
<td>0.534208</td>
<td>0.443537</td>
<td>1.345657</td>
<td>0.082497</td>
</tr>
<tr>
<td>3</td>
<td>95.45528</td>
<td>0.97594</td>
<td>0.802258</td>
<td>2.607024</td>
<td>0.160341</td>
</tr>
<tr>
<td>4</td>
<td>94.37033</td>
<td>1.169729</td>
<td>0.96115</td>
<td>3.294355</td>
<td>0.204441</td>
</tr>
<tr>
<td>5</td>
<td>93.95462</td>
<td>1.225135</td>
<td>1.010216</td>
<td>3.584747</td>
<td>0.225284</td>
</tr>
<tr>
<td>6</td>
<td>93.83103</td>
<td>1.231563</td>
<td>1.019529</td>
<td>3.683298</td>
<td>0.234576</td>
</tr>
<tr>
<td>7</td>
<td>93.80519</td>
<td>1.230009</td>
<td>1.01931</td>
<td>3.706689</td>
<td>0.238806</td>
</tr>
<tr>
<td>8</td>
<td>93.79953</td>
<td>1.233007</td>
<td>1.018801</td>
<td>3.707726</td>
<td>0.240935</td>
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<tr>
<td>9</td>
<td>93.79018</td>
<td>1.241614</td>
<td>1.019496</td>
<td>3.706498</td>
<td>0.242213</td>
</tr>
<tr>
<td>10</td>
<td>93.77339</td>
<td>1.253708</td>
<td>1.020893</td>
<td>3.708842</td>
<td>0.243164</td>
</tr>
<tr>
<td>Average</td>
<td>95.03737</td>
<td>1.009407</td>
<td>0.831519</td>
<td>2.934484</td>
<td>0.187226</td>
</tr>
</tbody>
</table>
Table 5 shows the decomposition of the variance of output growth

<table>
<thead>
<tr>
<th>Period</th>
<th>Economic Growth</th>
<th>Government expenditure on production</th>
<th>Investment on production</th>
<th>Exports on production</th>
<th>Financial Development Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>GLGDP</td>
<td>LGPGDP</td>
<td>LFPGDP</td>
<td>LXPGDP</td>
<td>FINDEIN</td>
</tr>
<tr>
<td>1</td>
<td>44.28396</td>
<td>0.115932</td>
<td>0.610794</td>
<td>54.98032</td>
<td>0</td>
</tr>
<tr>
<td>2</td>
<td>56.2686</td>
<td>0.32047</td>
<td>0.95668</td>
<td>42.42029</td>
<td>0.040693</td>
</tr>
<tr>
<td>3</td>
<td>61.16347</td>
<td>1.092308</td>
<td>1.432565</td>
<td>36.18587</td>
<td>0.125791</td>
</tr>
<tr>
<td>4</td>
<td>62.88621</td>
<td>2.119914</td>
<td>1.8859</td>
<td>32.88054</td>
<td>0.227444</td>
</tr>
<tr>
<td>5</td>
<td>63.17241</td>
<td>3.144079</td>
<td>2.231504</td>
<td>31.13051</td>
<td>0.321501</td>
</tr>
<tr>
<td>6</td>
<td>62.90628</td>
<td>4.000786</td>
<td>2.451536</td>
<td>30.23752</td>
<td>0.39488</td>
</tr>
<tr>
<td>7</td>
<td>62.5183</td>
<td>4.662421</td>
<td>2.569019</td>
<td>29.80561</td>
<td>0.444824</td>
</tr>
<tr>
<td>8</td>
<td>62.1846</td>
<td>5.112607</td>
<td>2.619606</td>
<td>29.6084</td>
<td>0.474784</td>
</tr>
<tr>
<td>9</td>
<td>61.95082</td>
<td>5.402071</td>
<td>2.634499</td>
<td>29.5216</td>
<td>0.490452</td>
</tr>
<tr>
<td>10</td>
<td>61.80695</td>
<td>5.577253</td>
<td>2.634578</td>
<td>29.48395</td>
<td>0.497274</td>
</tr>
<tr>
<td>Average</td>
<td>59.91349</td>
<td>3.155666</td>
<td>2.002668</td>
<td>34.62642</td>
<td>0.301764</td>
</tr>
</tbody>
</table>

Table 6 variance analysis of financial development

<table>
<thead>
<tr>
<th>Period</th>
<th>GLGDP</th>
<th>LGPGDP</th>
<th>LFPGDP</th>
<th>LXPGDP</th>
<th>FINDEIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>49.7209</td>
<td>21.5637</td>
<td>0.000413</td>
<td>0.040231</td>
<td>37.67503</td>
</tr>
<tr>
<td>2</td>
<td>38.66875</td>
<td>28.2393</td>
<td>1.03589</td>
<td>6.332492</td>
<td>25.729</td>
</tr>
<tr>
<td>3</td>
<td>30.15854</td>
<td>30.06009</td>
<td>2.185956</td>
<td>15.21145</td>
<td>19.38432</td>
</tr>
<tr>
<td>4</td>
<td>22.45264</td>
<td>35.83769</td>
<td>2.955841</td>
<td>23.16893</td>
<td>15.5849</td>
</tr>
<tr>
<td>5</td>
<td>16.8746</td>
<td>37.15879</td>
<td>3.352757</td>
<td>29.42024</td>
<td>13.19362</td>
</tr>
<tr>
<td>6</td>
<td>13.1163</td>
<td>37.60721</td>
<td>3.498803</td>
<td>34.13774</td>
<td>11.64461</td>
</tr>
<tr>
<td>7</td>
<td>10.61738</td>
<td>37.57488</td>
<td>3.501462</td>
<td>37.8623</td>
<td>10.6205</td>
</tr>
<tr>
<td>8</td>
<td>8.953444</td>
<td>37.29483</td>
<td>3.431373</td>
<td>40.38855</td>
<td>9.931798</td>
</tr>
<tr>
<td>9</td>
<td>7.821067</td>
<td>36.89964</td>
<td>3.329916</td>
<td>42.48511</td>
<td>9.462466</td>
</tr>
<tr>
<td>10</td>
<td>7.027668</td>
<td>36.46306</td>
<td>3.219723</td>
<td>44.14542</td>
<td>9.444129</td>
</tr>
<tr>
<td>Average</td>
<td>19.64066</td>
<td>34.16938</td>
<td>2.651143</td>
<td>27.30164</td>
<td>16.23717</td>
</tr>
</tbody>
</table>

As in table Analysis of production growth variance is clear, Production has the maximum contributions in justifying its volatility and then exports and government spending have the maximum contributions in justifying volatility of production growth averaged over ten courses. Financial development also has the lowest share in justifying volatility of production growth. The variable share of government spending, exports, investment and economic development in the first period was lower and gradually increased their share of output fluctuations. In the table of Analysis variance, we find that the share of exports in production growth on volatility of exports was more than any other variable and then export have the largest fluctuations in its justification. Finally, government spending and investment in order have had the maximum role in explaining fluctuations in export and financial development also has the lowest contribution in justifying...
fluctuations in exports. Also the role of government expenditure and investment and financial development in this period has increased. On the other, share of economic growth and export variables in justifying volatility of export in the end is less than the beginning of the period. In the table of Analysis variance, we can found that government expenditure variable has made the largest share in justifying volatility of financial development and then, export variables and economic growth in order have had the maximum role in justifying volatility of financial development. Also the role of government expenditure and investment and financial development has increased at the end of the period. And the Share of economic growth and financial development was less in justifying volatility of financial development at the end of the period than the beginning of the period. It should be noted that in the above table, the total numbers in each row is equal to one hundred. In Figure 8 the result of impulse response functions for all other variables in the model are briefly shown. And also Analysis variance of other variables is available in the appendix of the thesis.

Conclusions and recommendations
In this study, we intend to examine the impact of financial liberalization on export growth over the period 1390-1350 in Iran. On this basis three hypotheses were proposed as follows:
- There is a significant relationship (Causality) between financial liberalization (Financial development) and export growth.
- There is a significant relationship (Causality) between financial liberalization (Financial development) and economic growth.
- There is a significant relationship (Causality) export growth and economic growth.

To check the correctness or incorrectness of the above assumptions Granger causality test was used and as mentioned in the previous chapter the results separately for each of the assumptions are as follows:
1. There is not a significant relationship (in the form of unilateral or bilateral) between export and financial development. In other words, the first hypothesis that there is a relationship between financial liberalization and export is rejected.

\[ \text{export growth} \not\leftrightarrow \text{Financial development} \]

Actually the test this hypothesis and the results show that Iran’s export growth rather than be influenced by variables such as Financial liberalization, it is influenced by dominance of state politics. Since financial liberalization could help to create a comparative advantage in the export of goods that rely on the flow of foreign capital and debt, and in other words, Due to the unsuitable flow of foreign investment in the industrial sector of the Iranian economy, actually achieve such a result is not too far-fetched. The low share of Iranian exports in world trade on the one hand, and the other strict regulation of financial repression in the country’s fiscal and monetary, that it is another proof on the findings. And the results of the functions immediate reaction IRF is a clear indication that the expansion of exports can improve the financial development in the country. And appropriate policies in the field of financial development can have positive effects on the country’s exports. The results of analysis of VD variance clearly is indicates that Government spending and investment (after production fluctuations and fluctuations in the export sector), have the most role and share in interpret and explain the fluctuations in the country export sector.

2. There is a one-sided relationship between economic growth and financial development and this relationship is from economic growth to financial development. In other words, financial development → economic growth. Actually financial development flourishes as a result of the growth of the real economy. But there is not a significant relationship (Causality) from financial development to economic growth, that means financial development → economic growth. In fact findings are consistent with the hypothesis for countries that do not have sophisticated financial systems and advanced And confirming the view called "demand side perspective", so it is in relation to the impact of economic growth and financial development. This view, That the was introduced by Patrick (1996) Ireland (1994) and Demtryads and Hussain (1996). Clearly shows that changes in the financial markets and their development, In fact is reactive to economic growth. The growth and expansion of the real sector (due to technological progress or improvement of labor productivity) will lead to an increase and new demand for financial services. So findings of research suggest that demand side perspective regarding the impact of economic growth and financial development is true during the period under study in the Iranian economy. These results are consistent with the findings of research Kemijani and Nad Ali (1386). The financial development can only be economic growth that can provide an appropriate context for the efficient allocation of resources and increase the efficiency of capital. In the Iranian economy and other countries that rely on oil revenues because of the dominant role of the state in the economy, Effects of financial development in comparison with other sectors (in terms of impact on economic growth) was very pale, and in some cases even was negative. The results of instantaneous response function (IRF) is a proof of this result. Because economic growth response to one standard deviation shock in financial liberalization has led to a slight increase in economic growth and finally its impact will disappear in the long term. the results of analysis of VD variance clearly is indicates that Government spending and exports (after production) have the most role and share the in explaining the volatility of production growth. Also among the used variables in the model, Government spending has the most share in explaining the volatility of financial development. And economic growth among the variables has the lowest share in the volatility of financial development.

3. There is a unilateral causality relationship between economic growth and exports and this relationship is from economic growth to export growth. In other words, economic growth → export growth. Means growth of exports in Iran is following the economic growth in the country during the period under review. But there is not a significant relationship of Granger causality from exports to economic growth, that means:

\[ \text{Export growth} \not\leftrightarrow \text{economic growth} \]

The results of analysis of VD variance clearly is indicates that Government spending and exports (after production) have the most role and share the in explaining the volatility of production growth. And also the results of instantaneous response function (IRF) indication that one standard deviation shock in produce has a great impact on exports, especially in the beginning of the period, but the impact of these shocks will disappear at the end of the period. A major consequence of this assumption is that economic growth will encourage and stimulate exports. But the policy of encouraging exports due to structural barriers in the Iranian economy (including the state-wide domination and dependence on oil revenues) will not be lead to
achieving the goal of economic growth. Perhaps combination of Iran’s export goods is a major reason for this issue. On the one hand, economic growth will require massive investments and high-tech industries and high value added in industry which is not much achieved in Iran. In fact composition of exports is more reliant on agricultural products and some craft items such as rugs and exports of mineral raw materials and decorative stones (raw form). While the export industry can grow the economy. In fact Iran’s exports because of the Dominance of the oil sector and the state-wide is not lead to efficiency in the allocation of resources and provides economies of scale and the skilled workforce. Because in the oil-rich countries the export industries are often very poor and low prosper. In fact this result is confirmed in all studies that in the oil-rich countries, exports had not much effect on economic growth. Since the oil revenues have not a positive impact on other sectors of the economy. And most effects of it is financing of imports, consumption and providing the state budget. That does not stimulate economic growth.

**Proposals in line with the findings of the research**

- Reducing the role of causing disruption of government in the various sectors of economic sectors and encourages the entry of foreign investment into the economy to boost domestic production especially in the manufacturing and high-tech products with high added value and reduce dependence on imports of oil revenues.
- Insert useful rules to encourage exports and production, such as policies that reduce the cost of production in the the country.
- Reducing inflation and creating the framework for the entry of foreign banks in the country to expand and deepen financial liberalization. Because in the countries like Iran, the most common type of barrier to financial liberalization is high inflation and chronic and consequently high interest rates that it leads the financial system be inefficient.
- Deepening the role of capital markets (such as stock market and selling bonds) to finance productive projects. Experience has shown that in less developed countries with financial repression, Most banks are financing economic projects. In fact, the financial system is more bank-centered that due to the high inflation in these countries actually taking away the possibility of financial liberalization.

The design provides a precise mechanism of financial liberalization and applies efficient management of the financial system to formation of an integrated financial market and benefit from a non-cumbersome regulations and useful that it increases final performance of investment. Finally, with the help of allocating resources to provide the groundwork for economic growth and export growth.

**Limitations of the study**

The major limitations on the implementation of the research in the first place, are difficult access to get required statistical data to perform studies, such as these. In fact is clearly evident the weakness and lack of coherence in correct and logical Systems manufacturer Statistics in the country. The second limitation was the lack of access to capital market of the country for a long period. Because of the closure of the capital markets especially during the war, ability to accurately determine the exact role in the development of financial markets seem to be somewhat difficult.

**References**

6. Taghavi, Mehdi (1389). Relationship between trade and financial liberalization in developing countries, Tabriz, Arasbaran publication.
8. Haghnejad, Amin (1382). Financial liberalization and globalization, Heidari, Hassan (1382), and the process of financial liberalization in developing countries.