Impact of Financial Repression on Investment in Iran's Economic Sections (Services, Industry and Agricultural Section) by Using the Panel Data Approach

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Abstract

Achieving a desirable economic growth and development is not possible without efficient financial institutions and proper equipment of financial resources. In this respect, efficient financial systems can cause a better allocation of resources and ultimately increase economical growth through getting information about investing opportunities, collecting and equipping savings, monitoring the investments and applying corporate governance, facilitating exchange of goods and services and managing risks by reducing the expenses of trading and getting and analyzing information. In this study, the impacts of financial repression on investment in Iran's economical sections have been reviewed during a period from 1976 to 2013. In order to meet the purposes of the study, a combined data model has been used and the results of the model showed that the impact of the indexes of financial repression on investment in economical sections is negative. Therefore, programs of the policy makers in this regard can be especially significant. Also, given the constraints of Iran's economical sections, it is necessary for the injection of investment to be done in such a way that it would be absorbed completely.

Keywords: Investment, Financial Repression, Combined Data Method.
Achieving economical growth is one of the most important purposes of the countries and most of them try to provide proper conditions for economical growth. In this field, different policies are used among which are policies which have been executed in many countries over the past years. It is the application of intervening and commanding policies by the government on financial – monetary mechanism of the economical system, which was done with the purpose of increasing the rate of economical growth through financially supporting the productive projects and with the cost of the rate of the receivable and payable true profit of the financial intermediate becoming negative and also imposing the consequences obtained from the application of these policies, which is recognized as the policy of financial repression in the economical texts of these policies (Abasi, et al. 2011). The intervention of the governments in financial markets through determining the maximum rate of the profit of bank deposits, high rates of legal savings, intervening in the way of distributing bank credits, codifying rules and regulations limiting current accounts and capital accounts lead to the reduction of the rate of bank interest to a level less than the rate of inflation and therefore the rate of the true interest becomes negative. This condition is called financial repression in economical texts which was indexed by Agaroala (1983) and Geleb (1987) (Komijani, 2008). On one hand, applying the policy of financial repression causes the banks to give low-priced facilities to specific demanders and this process leads to unexpected increase of income and financial resources of people due to the nature of the economical system which is commanding and not interactive. And since there is no proper income in developing societies; on the other hand, wide interventions in the process of financial provision leads to the reduction of the efficiency of financial intermediates and this matter has made the process of financial provision to face interruption, the outcome of which is lack of a proper current of resources among different income groups (Faray, 1983). Investment has been introduced as one of the most basic pillar of growth and development and there has been an agreement. Investment has also had a special status on the side of total demand and it has a key role on the side of total and it is this binary role which causes the investment changes to be the origin of great evolutions in the production of products and also in the demand dimension (Tayebi, 2003). By considering the importance of investment in Iran's economical sections and the impact of macro-policies in these sections and on the other hand, Iran is one of the countries which represses its financial system and given the reviews done in the field of reviewing the impact of financial repression on economical variables and since the necessary review has not been done in the field of the effectiveness of financial repression on investment, the question which rises is this: do the indexes of financial repression have an impact on investment in the economical sections (services, industrial and agricultural sections)?

2- Theoretical principles

In 1973, Mckenon defined the term financial repression as follows for the first time: when financial repression occurs, import and export activities of minerals, supporting industrial products, international big corporate and various governmental institutions and so on and even unusual budget deficits of the government takes limited resources obtained from bank deposits and other economical financial resources shall be provided through insufficient resources of loaners and owners of renting and contributing firms. Don (2006), in explaining financial repression, believes that theoretically there is a direct and positive relationship between
Economical freedom and movement of capital and economical development with financial reformations and there is a positive and diverse relationship between these variables with financial repression. Sing (2008) assigns financial repression to the increase of improper controls or increase in the financial section in such way that this matter is more in newly-rose economies than developed countries and increase of the ratio of allocation of resources (money) to true assets in comparison with financial asset is indicative of this phenomenon. Gapta (2008) reviews the role and impact of taxes on financial repression in the theoretical expression of financial repression and believes that economical environment is considered as the presence of financial repression in government's control such as customers, financial intermediates, institutions, government and the external section which introduces the focus and control of the government over economy. Dolu and Taw (2008), in a theoretical review, considers financial repression as access to official financial provision mainly bank loans which is based on the laws codified by the governments which is an indication of governmental controls. Vankteramani and Miklowich (2010) expressed liberation and financial repression and theoretically they define factors, components and indexes of financial repression including: 1) control over rates of interest; 2) ability of limiting the size of bank loans; 3) management of foreign currency deposits and determining its rate; 4) binary (or multiple) foreign currency market and multiple rates of foreign currency. The mentioned definitions of financial repression are of help for a conceptual recognition of financial repression to be obtained in such way that the developing economies usually prevent financial development through development of financial markets and financial repression is the prevention of financial development. According to the research of Guivani (1991) said that when the policy of financial repression is executed in a country, the welfare cost of entrance of capital increases. This matter increases inflation. On the other hand, financial repression reduces the tax earning of the government as well as reducing economical growth and investment. From the perspective of Roobini and Martin (1999), financial repression is a series of policies, rules, regulations, taxes and qualitative and quantitative limitations and the governments' control over things and the governments don’t let financial intermediate so that they would show their maximum capacity. Also, many studies have reviewed financial repression some of which will be mentioned as follows:

Hou (2014) reviewed financial repression and liberation of the rate of interest. The results showed that financial repression prevents liberation of the rate of interest. Samadi, et al. (2013) reviewed the role of financial repression in the growth of agricultural section. The results showed that financial repression reduces the growth of the agricultural section.

Hong and Wang (2010), in an article called financial repression and economical growth in China, presented the results obtained from the long-term relationship between the variables of financial repression and economical growth. Demetridiz, et al. (2008), in an article called the end of financial repression, analyzed the relationship between countries regarding private investment. The results indicate that the rate of world interest determines the sustainability of private investment and it is not significant as the representation of financial constraint. Therefore, the findings provide evidences that financial repression in the developing countries requires more participation of international and worldly financial factors. Based on the research findings, the researchers suggest that in the future researches, in the framework of the model of macroeconomic model, the dependency between worldly economy and financial repression is
reviewed. Koalkanti (2007), in an article, reviewed the impact of financial repression on entrepreneurship and economical development in Latin American and European Countries and developed and developing Asian countries. The results indicate that the development gap of performance of each of these countries is associated with the quantitative effect of financial frictions of these countries. Ahmadian and Amiri (2011), in their study, reviewed the impact of financial repression on inflation in Iran's economy. The results of this research show that as the rate of legal saving increases the rate of inflation also increases. Abasi, et al. (2011), in their study called review of the impact of financial repression on Iran's economical growth, reviewed the impact of financial repression on Iran's economical growth. The obtained results show that application of the financial repression policy has directly led to the reduction of economical growth and this is indicative of this matter that application of financial repression policy is directly and indirectly a policy against economical growth.

3- Research method

Combined data is a series of data based on which the observations have been reviewed through a number of sectional variables (N) during a specific interval (T). Baltaji (2001) has also introduced the combined data regression model by introducing the 1-tailed and 2-tailed error factor models:

\[ y_{it} = \alpha + X_{it} \beta + u_{it} \]

\[ i=1,\ldots,N \]

\[ t=1,\ldots,T \]

In the equation above, the section dimension (families, firms, countries and as such) are shown by i; whereas t shows time, \( \alpha \) is a scholar. The \( \beta \) vector is \( k \times 1 \) and \( X_{it} \) is the i\(^{th}\) for the explanatory variable k. Baltaji believes that most of the regression models associated with combined data use the 1-tailed error component model for the components of error.

\[ u_{it} = \mu_i + v_{it} \]

In the equation above, \( \mu_i \) is the specific individual effect which cannot be seen and it does not change with time; whereas \( v_{it} \) shows the residual error and it is considered as the usual error component in regression. About constant effects, \( \mu_i \) has been assumed as constant parameters which shall be estimated.

Identification tests

The \( H_0 \) of the Hausman test is indicative of the absence of a correlation between error and explanatory variables and if this hypothesis gets accepted, the assumption of the randomized effect method is accepted; otherwise the constant effects method will be accepted. In order to determine the type of the used model in combined data, various tests are used. The most common test among them is the Chaw test for using the constant effects model against the estimated
model of the combined data. The Hausman test is for using the constant effects model against random effect and LM test for the random effect to be used against the combined model.

The Chaw test is done for using the combined model against the constant effects model. The hypotheses of this test are as follows:

H₀: Pooled Model

H₁: Fixed effect Model

The first hypothesis is bound based on the rates and its opposing hypothesis is not bound based on the rates. The statistic of Chaw test is bound based on the total of the squares of the model's error and the unrestricted model is as follows:

\[
\text{chow} = \frac{\text{RRSS} - \text{URSS}}{\text{URSS}} \times \frac{N - 1}{\text{NT} - N - K}
\]

The stationary tests are among the most important tests for estimating a regression for reliable coefficients. In order to prevent the creation of a made regression, the stationary test are used.

**Hausman test**

According to Hausman test (1987), presence of the differences between estimators of the constant effects method and random effects method has been considered as the H₀. Therefore, rejection of the H₀ shows the constant effects method. In this test, the H₀ is indicative of the absence of a correlation between total error and explanatory variables and if this is accepted, this hypothesis of the random effects method will be accepted and otherwise the constant effects method will be accepted. In order to estimate the impact of financial repression on investment in economical sections, the combined data and the econometric techniques have been used. The estimation models in this research are introduced as follows:

\[
LINV_i = \alpha_0 + \alpha_1 LIN_i + \alpha_2 LGAPINF_i + \alpha_3 LGAPE_i + \alpha_4 LD_i + \alpha_5 LGDP_i + \alpha_6 LPR_i
\]

In which:

LGDP = logarithm of gross domestic production

LD = ratio of government's debt to the volume of cash flow

LIN = rate of true rate

LGAPE = gap of rate of foreign currency

LGAP INF = gap of rate of inflation

LINV = investment logarithm (services, industrial and agricultural section)
LPR = logarithm of employed workforce (services, industrial and agricultural section)

The variables of this research have been extracted through the central bank and Iran's statistic center.

4- Discussion and Results

According to the results of the stationary test of Eem Pesran and Sheen, all of the studied variables ratio of government's debt to the volume of cash flow, the rate of true interest, gap of the rate of foreign currency, gap of the rate of inflation, investment logarithm, logarithm of employed workforce were not at a significance level and the H0 cannot be rejected and they became static with differencing except for the logarithm of gross domestic production which is static. Kao co-integration test reviews the long-term relationships and the obtained results are indicative of the presence of a long-term relationship between the reviewed variables and variables are convergent during the period.

Given the F-test, in table (1) it is seen that the reviewed model is not combined and one of the constant effects models or random effects models are selected. In order to select the method to be used here, the Hausman test is reviewed and the statistic of this test is the determiner and is indicative of the fact that as the H0 indicating of the compliance of the coefficient is rejected, the constant effects method is used.

Table 1: results of selecting the model (F-Limer test and Hausman test)

<table>
<thead>
<tr>
<th>P-Value</th>
<th>F-value</th>
<th>s-test</th>
<th>Test type</th>
</tr>
</thead>
<tbody>
<tr>
<td>0/000</td>
<td>76.21</td>
<td>H</td>
<td>Hausman</td>
</tr>
</tbody>
</table>

Source: research findings

The expressed model for the interval from 1976 to 2013 was estimated by using the panel data method and constant effects method and the results of the estimation can be seen in table (2).

Table (2): results obtained from the model estimation for the dependent variable of investment based on Medel Panel

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>t-value</th>
<th>Significance level</th>
</tr>
</thead>
<tbody>
<tr>
<td>LGDP</td>
<td>/640</td>
<td>9/96</td>
<td>0/000</td>
</tr>
<tr>
<td>LD</td>
<td>/150-</td>
<td>-8/68</td>
<td>0/000</td>
</tr>
<tr>
<td>LGAPE</td>
<td>-0/09</td>
<td>-7/36</td>
<td>0/000</td>
</tr>
<tr>
<td>LGAPINF</td>
<td>-0/27</td>
<td>-3/75</td>
<td>0/0003</td>
</tr>
</tbody>
</table>
Based on the results of table (2), the gross domestic production coefficient is positive and t-value and the significance level associated with it is indicative of the positive effect of the mentioned variable on investment. This means that as gross domestic production increases investment increases. The effect of the gap of the rate of foreign currency on the studied investment is negative and t-value is equal to 7.36 is indicative of the significance of the effect of this variable. This means that as the gap of the rate of foreign currency increases investment reduces. Based on the estimation coefficient, a one-unit increase in the gap of the rate of foreign currency leads to the reduction of investment in the economical sections for 0.09 units. The coefficient of the ratio of government's debt to the volume of cash flow is negative and t-value and significance level associated with it is indicative of the significance of the negative effect of the mentioned variable investment. This means that as this ratio increases, investment reduced in the three economical sections of Iran. The effect of the rate of true interest on investment is negative and t-value is equal to 3.07 is indicative of the significance of the effect of this variable. This means that as this variable increases, investment reduces. Based on the estimation coefficient, a one-unit increase in the rate of interest, leads to a 0.003-unit reduction in investment. The coefficient of employed workforce in the economical sections is positive and t-value and significance level associated with it is indicative of the significance of the positive effect of the mentioned variable on investment. This means that as this ratio increases, investment also increases in the three economical sections.

5- Conclusion and Recommendations

The results of this research confirm the relationship between the indexes of financial repression on investment in the economical sections. The rate of true interest is one of the indexes of financial repression which affects investment in economical sections. Therefore, financial repression reduces the rate of the saving by maintaining rates which are lower than the natural rate of interest; on the other hand, investment and production increase. It was observed that the difference of the official and unofficial rate of foreign currency have positive impact on investment. The rate of foreign currency is one of the important factors affective on the exportation of the products. Since the rate of foreign currency is a relative price (ratio to other currencies). The businessmen are usually concerned about the predictability of the future of the foreign currency market and it reduces investment because they feel that exportation has been put in a chaotic condition and it leads to investment. Gap of inflation has an impact on investment in economical sections. Inflation at a high level leads to the reduction of savings, loss of investment incentives, capital escaping from the governmental section towards speculation as well as disturbing the system of prices and it increases the risk of economical activities. Increase of the gap of inflation reduces the current value of the investments which will have their return.
with a few-month delay and it leads to harm and damage to investment with delayed investments. The ratio of government's debt to the volume of cash flow has a negative impact on investment in the economical sections. The cause of this matter can be that the ratio of government's debt to the volume of cash flow has a negative impact on investment. In other words, the more the debts of the government are, the lesser its income will be and an increase in the rate of the interest will follow it and consequently investment reduces and this leads to the reduction of economical growth.

Therefore, in the respect of the research results, some recommendations will be presented as follows:

- Given the research results, the government shall adopt some policies to eliminate financial repression for reducing the deviations in the performance of financial markets.
- Given the research results, it is recommended to pay more attention to the factors influencing the rate of foreign currency in order to control it because controlling the gap of the official and unofficial rates of foreign currency is the necessary condition for developing the rate of exportations through increasing the exportation demands.
- Policy making is recommended in Iran's economical sections with a glance at macro-policies of the country and in order for the risk of investment to reduce, the negative relationship between financial repression and economical growth requires a special attention.
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