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Abstract

Objective: One of the objectives of economic policy makers in the distribution of funds is to push banking resources and funds toward productive activities in order to increase investment. Therefore, evaluating the impact of lending interest rates and loan balance in the Iranian economy is of particular importance. Materials and Methods: This study estimates the investment function using the VAR method and time series data for the period 1991 to 2012 in the Iranian economy with the following variables: GDP, loan balance by the public sector, loan balance by the private sector, real interest rates of the unofficial market, and weighted average interest rate. Results: The results show that real interest rates for bank loans to those who have applied for a loan is lower than market rates. Therefore, the optimal allocation of unrequired loan balance and its impact on this sector’s investment is very low. Interest rates for loans and interest rates for deposit accounts in our country do not follow the factors affecting expected interest rates. With a look at the unofficial money market, a lack of coordination is quite evident between lending interest rates and in deposit interest rates on the one hand and interest rates expected by the market on the other. This is because interest rates of the unofficial market have a high variation range. The effects of bank lending to the public sector are insignificant, with a near-zero coefficient. Conclusion: In fact, it shows that bank lending to the public sector does not lead to increased investment. Therefore, according to estimated model, it can be said that an increased volume of bank lending to the private sector increases investment. However, weighted average interest rate does not have a significant effect on investment. In this sense, the lowering of interest rates cannot increase investment. Rather, financial liberalization followed by the destruction of credit rationing and the increase of credit volume increases investment.

INTRODUCTION

Various factors such as financial, structural and policy variables influence investment in and the economic growth of any country. Numerous studies conducted on the theories and models of investment by economic researchers and professionals are mainly concerned with advanced economies with a marked dependence on the market economy [1,3]. In contrast, the economies of developing countries are characterized by features that distinguish them from advanced economies. Developing countries have structural economic problems which makes it difficult for the application of economic theories in these countries without any revision or precaution. Considering that the banking system has a significant impact on investment in different sectors, that investment has a direct impact on the economy, and that bank loans act as the economic engine of businesses and investors of the public and private sectors leading to the prosperity of the economy, this study examines the impact of lending interest rates and loan balance in the Iranian economy [4, 7]. In conventional banking systems, the interest rates variable is considered as an effective tool in monetary policy. The interest rates variable is one of the most important variables in the economy as prices in financial markets. The interest rates variable is considered as the cost of capital by investors and as opportunity cost by depositors. In this respect, the forces in the market determine the balanced lending interest rate. In non-usury banking systems, banks grant the resulting resources to applicants in the form of bank loans as proxies for depositors and, in accordance with contracts, receive their share from the interest and give it back to the depositor. In such systems, determining the interest rates depends on the efficiency of economic activities. In addition, further changes may be applied to this rate in support of different economic sectors which leaves its effects on the economy of the country [8].

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Theories Explaining the Factors Affecting Investment:

Theories that explain the factors affecting investment, such as final return on investment, the neoclassical theory of investment and the acceleration principle, focus on two factors in investment: financing expenses and production volume.

Final Return on Investment:

The internal return on investment (IRR) of a project is the level of returns that zeroes the net present value of the project. In other words, for a rate of return equal to “r”, we have:

\[-1 + \frac{R_1}{1 + r} + \frac{R_2}{(1 + r)^2} + \ldots + \frac{R_n}{(1 + r)^n} = 0\]

In this case, “r” is named the internal rate of return of the project. Accordingly, in the case of investment restrictions, projects with higher returns are selected for funding. Investment continues until the last project’s rate of return reaches r̅r̅. r̅r̅ is the lowest rate of return that a firm archives by keeping its money in the form other assets or by depositing it in the bank. Investors decide to do or not do a project by comparing the final return on investment (r) with r̅r̅. As long as r < r̅r̅, an investment plan is profitable and can be performed.

Tobin’s Q Theory:

James Tobin (1969) has provided a dynamic theory of investment based on the idea that investment depends on the ratio of the market value of financial assets to the replacement cost, which is called the Q ratio. For example, if the market value of existing assets is represented by Mu and the replacement cost by Rc, the Q ratio can be defined as follows:

\[Q = \frac{Mu}{Rc}\]

Tobin argues that firms should invest when q is higher than 1. Therefore, if q < 1, investment is not economically justified.

Investment model analysis in the Iranian economy:

Presentation of Data:

This section estimates the empirical model of long-term and short-term investments with regard to interest rates according to theoretical and particular economic conditions in Iran. According to empirical and practical studies, investment demand is considered as a function of the following factors:

1. GDP at factor cost: According to the neoclassical theory and the acceleration principle, the coefficient of this variable shows the effects of production demand on investment.
2. Loan balance by the public and private sectors: Considering the Iranian capital market’s failure of development, there is no possibility of providing adequate investment resources for economic institutions through the capital market by issuing shares and bonds. In addition, it is difficult to provide these resources through unofficial capital markets due to high interest rates for loans. Therefore, not only large institutions but also small enterprises try to reach investment resources through bank loans.
3. Borrowing costs: One of the most influential factors in standard functions of investment is lending interest rates or borrowing costs (R). This study is an applied research project in term of objectives and a descriptive- analytical research project in term of methodology. Data collection procedures were conducted through library materials such as books, journals, articles, and theses. The VAR method is also used for estimating the model.

The Study Model:

The model used in this study is described as follows. The first model uses the difference between the weighted lending interest rate and the inflation as the indicator of the real interest rate in the official market. The model is presented in the form of the following equation:

\[I = F (\text{RBC}, \text{REALR}, \text{GDP}, \text{DP}, \text{REALRNB})\]

Dependent variable: I: Investment
Independent variables:
GDP: GDP at constant prices (1997)
RBC: lending balance to the private sector at constant prices
DP: loan balance to the public sector at constant prices
REALRNB: real interest rates of the unofficial market
REALR: weighted real interest rate for loans, i.e., the weighted interest rate minus the inflation rate

Durability of the Variables:

Durability results show that the variables can become durable with a logarithmic subtraction. Because the variables are not durable, in order to avoid spurious regression, the subtraction of variables is used as the basis for the estimation of the model.
on shows, With a look at the invested in he somewhat. However, i.e.,ack of the public sector are of a lower negative effect on investment in Iran. In fact, an increase in the weighted rate efficiency and have significant effect on investment in the country. This suggests that loans granted to the public sector are of a lower efficiency and have no significant effect on investment in the country.

REALR: The results also indicate that the variable of real interest rates for loans, i.e., the weighted interest rate minus the inflation rate, has a negative significant effect on investment in Iran. In fact, an increase in the weighted interest rate increases production and investment costs and ultimately reduces investment.

REALRNB: The results also indicate that the variable of real interest rates of the unofficial market has a negative significant effect on investment in Iran. In fact, an increase in the real interest rates of the unofficial market increases production and investment costs and ultimately reduces investment.

Results:
The results of model estimation can be briefly summarized as follows:

In the banking system, the index of monetary policy (legal deposits) has a negative impact on the growth rate of bank deposits and their loan balance. In other words, a decrease in the statutory reserve ratio (expansionary monetary policy) increases the volume of deposits and loans. Therefore, we can confirm the existence of a credit channel of monetary policy. However, since its effect is minimal, the monetary policy and its credit channel are practically inefficient and dysfunctional. Interest rates for loans and interest rates for deposit accounts in our country do not follow the factors affecting expected interest rates. With a look at the unofficial money market, a lack of coordination is quite evident between lending interest rates and in deposit interest rates on the one hand and interest rates expected by the market on the other. This is because interest rates of the unofficial market have a high variation range.

One of the objectives of economic policy makers in the distribution of funds is to push banking resources and funds toward productive activities in order to increase investment. In this respect, it can be concluded that the performance of banks is somewhat in line with the objectives of economic policy makers. The effects of bank lending to the public sector are insignificant, with a near-zero coefficient. In fact, it shows that bank lending to the public sector does not lead to increased investment. Therefore, according to estimated model, it
can be said that an increased volume of bank lending to the private sector increases investment. However, weighted average interest rate does not have a significant effect on investment. In this sense, the lowering of interest rates cannot increase investment. Rather, financial liberalization followed by the destruction of credit rationing and the increase of credit volume expands investment.

REFERENCES