



AENSI Journals

Journal of Applied Science and Agriculture

ISSN 1816-9112

Journal home page: www.aensiweb.com/jasa/index.html

Private Sector Investment And Financial Sector Policies In The Economy of Iran

¹Banafsheh Haghparast and ²Masoud Nonejad

¹Ma of Economics, Shiraz Branch, Islamic Azad University, Shiraz, Iran.

²Assistant Professor, Department of Economics, Shiraz Branch, Islamic Azad University, Shiraz, Iran.

ARTICLE INFO

Article history:

Received 20 January 2014

Received in revised form 16

15 April 2014

Accepted 25 April November 2014

Available online 5 May 2014

Key words:

Private Sector Investment, Public Sector Investment, Autoregressive Distributed Lag Model (ARDL), Iran.

ABSTRACT

Private sector investment plays an important role in long-term economic growth in developing countries. The response of private sector investment to the financial sector policies plays an important role in the economy and can affect important economic variables. This study investigates the effects of variables related to private investment using econometric models in the period 1971-2011. ARDL model is used to estimate the long-term equilibrium relationship among the variables and error correction model (ECM) is used to evaluate the short-term relationship among the variables. The results suggest that interest rate as one of the financial sector policies has no significant effect on private sector investment in the economy of Iran. Private sector investment in the economy of Iran is affected by other variables. Public sector investment also has a significant negative effect on investment in the private sector. Liquidity coefficient of commercial banks in the long-term balance shows that liquidity of commercial banks has a positive and significant effect on the private sector investment. Gross domestic product coefficient in the long run shows that gross domestic product has a positive and significant effect on private sector investment; this confirms the neoclassical theory of investment. Error correction coefficient in this model is 0.68 and is statistically significant. Thus, short-term and long-term patterns are related and in each period 68 percent of the imbalance is corrected in the next period.

© 2014 AENSI Publisher All rights reserved.

To Cite This Article: Banafsheh Haghparast and Masoud Nonejad., Private Sector Investment And Financial Sector Policies In The Economy of Iran. *J. Appl. Sci. & Agric.*, 9(4): 1415-1423, 2014

INTRODUCTION

Private sector investment plays an important role in long-term economic growth in developing countries. The response of private sector investment to the financial sector policy plays an important role in the economy and can affect important economic variables (Ang, 2009: 1261).

The role and importance of investment in communities' economic development process have been emphasized in most theories of economic development. Due to lack of investment in developing countries and the need for efficient allocation of resources to stimulate economic growth, the relative advantages in allocating investing resources of a country should accurately be identified and directing investing resources to productive and efficient sectors, efficient use of limited resources must be provided to accelerate economic growth (ibid).

The financial sector in developing countries has a dual nature and structure. This dual structure reveals its interactions through the variables acting in the financial sector. On the one hand, the funds are state-controlled and government due to its strength in the financial sector officially allocates credit and loan through lower interest rates and accordingly determines loans interest rates and fees, On the other hand, alongside the formal lending market, there is an unofficial credit market whose lending rates and cost is quite distinct from the public sector and there financial and credit resources in the economy are allocated with high interest rates and it shows a higher sensitivity to the market fluctuations (Haghighat, 2005: 34).

The economy of Iran is placed in credits rationing conditions due to ordered controls. Determining the highest anticipated interest rates for various credit facilities caused credits rationing and financial disorder in the country. From the view of facilities users, Interest rate is the current and market rates in unofficial market rather than the preferential rates in the official market. Borrowers prepare their demands for funds accordingly. Under such conditions, the reduction of interest rate of loans or deposits will not follow with favorable and perceived effects on usually open and free financial sector (Khotayi and Seyfipour, 2005: 55). The intensified interferences increases the share of unorganized financial market in the country's financial market as a whole. The remedy is structural reforms in the financial sector to intergrate the unorganized financial market into the formal financial market through which the investment is affected (Khotayi and Seyfipour, 2005: 55).

Corresponding Author: Banafsheh Haghparast, Ma of Economics, Shiraz Branch, Islamic Azad University, Shiraz, Iran.
E-mail: haghparastbanafsheh@gmail.com

In 2011, market interest rate in the unofficial credit markets was 5.55% and the weighted interest rate of loans was 5.17 percent. Thus, the received subsidies rate of borrowers is 38% if it is multiplied by the total facilities of this year (2.144281 billion rials), the total received subsidies of borrowers is 54682 billion Rials. Therefore, the interest rate of facilities in the unofficial financial market is commonly many times higher than interest rate of short-term deposits in the country's banking network (Khotayi and Seyfipour, 2005: 55).

The aim of this study is to investigate the impact of real interest rates, liquidity reserves of the commercial banks, private sector bank credits, the real cost of using capital in private sector investment, financial sector policies in the economy of Iran taking advantage of annual time series data over 1971-2011 period, using Autoregressive Distributed Lag Model (ARDL).

Literature review:

Ahmed and Miller (2000), in their study, investigated crowding-out and crowding-in effects of the components of government expenditure. The analysis explores the effects of tax- and debt-financed expenditure for the full sample, and for subsamples of developed and developing countries. In general, tax-financed government expenditure crowds out more investment than debt-financed expenditure. Expenditure on social security and welfare reduces investment in all samples while expenditure on transport and communication induces private investment in developing countries. Dehn (2000) in his study investigates investments in 44 developing countries. Positive *ex post* commodity price shocks have strong positive effects on private investment rates in low income developing countries, conditional upon the level of commodity prices. It is also shown that the prospect of uncertain future commodity prices and *ex post* negative shocks do not affect private investment rates. Hermes and Lensink (2001) investigated the relationship between savings, investment, financial liberalization and economic development in 25 European countries. The results of this study revealed that the financial liberalization affects domestic savings and total investment, but financial liberalization has reduced the amount of domestic savings rather than increasing it. In other words, when there is a one percent increase in financial liberalization, domestic savings declines 0.09 percent. Financial liberalization also has an impact on total investment. Sancak (2002) in a study investigates financial liberalization and real investment in Turkish firms. The results of this study indicate that financial liberalization has significant effect on real investment and investment rate declines 0.07 when interest rates increase one percent. In the other hand, the investment increases 2 percent when capital goods prices increase. Huang (2006) in a study investigated fiscal policy and private investment in developing countries. The results show that there is a two-sided causality between financial development and private investment. Ang (2009) in a study explores the role of financial policies in determining private investment in the economy of India and Malaysia. The results of this study show that real production, allocated credits and liquidity reserves of banks have a positive and significant effect on private investment. The real cost of capital utilization and the real interest rate have a significant and negative effect on private investment. Kiani and Alizadeh (200) examined effective factors on investment in Iranian agriculture in a twenty years period. The results of this study show that the capital stock of government and the Agriculture Bank's concessional credits are the most important factors affecting private sector investment in agriculture, and the sensitivity of private investment towards the state capital stock is more than other variables. Elasticity of private investment towards capital costs are in much lower level. The prices of agricultural products also as one of the most important and effective variables in the private sector investment has lost its positive role. Keshavarzian and Azimi (2005) investigated the effect of the liberalization of interest rates (benefit) on investment and economic growth of Iran. The results of this study show that the real interest rate in investment transactions has a positive relationship with growth. Increased real interest rate in the country's banking system increases the amount of investment and production. The real interest rate also is assigned the highest coefficient in the money demand function and it shows that increase of interest rate draw large amounts of people's money to the banking system and leads to economic stability. Hojati and Eghbali (2004) examined the impact of fiscal policy on private sector investment in the economy of Iran. The results of this study indicate that increasing government expenditures compared with its revenues or the state budget deficit will encourage investment in the private sector. Another consequence is that the state revenues has a negative effect on investment in the private sector by itself and the state expenditures has a positive effect on it. Jalali and Sabaghpour Fard (2005) investigated the effect of foreign direct investment on the economic growth of Iran through the path of financial markets. The results of this study revealed that the impact of foreign direct investment on economic growth is significant and stable. Thus, The development of financial markets causes the increased stable impact of foreign direct investment on economic growth. Abbasinejad and Yari (2007) evaluated the impact of interest rates of bank facilities on private investment in long-term perspective of Iran. The results of this study indicate that the facilities granted by banks to the private sector is significant, increased facilities cause a decline in private investment; This is in opposition to theoretical discussions and shows that the performance of banks in order to inject and propel the bank credits and resources has not been towards productive activities and most of these resources have been distribution in early-yielded and services investments.

*Theoretical background:**The impact of financial sector policies on private investment:*

Financial policy is a set of policies usually adopted by governments that unlike the monetary policy directly affects national income and production and total demand. Instruments usually used by governments in order to implement the policies of financial sector include real interest rates, bank credit allocated to the private sector, the real cost of capital utilization (including inflation rate); the implementation of each of these policies could affect the economy in different ways. One of the economic variables affected by these fiscal policies is private sector investment. Changes in interest rates and taxes among the instruments of the fiscal policy are mostly used policies by governments.

Theoretically The balance in the economy will be established when the markets of goods and services and money market simultaneously be in balance; A balanced national income and interest rate can be established under this conditions, but fiscal and monetary policies will cause a change in this balance and other macroeconomic variables are also affected by these changes.

Expansionary fiscal policy, when the IS and LM curves are normal, passes IS to the right and indeed increases the total demand and increased demand and national income increases money demand, therefore it creates much demand for the money in the market that as a result of it interest rates enhances and the investment declines as a result of increased interest rates. Thus, a part of the effect of expansionary fiscal policy on investment is neutralized. The negative effect of interest rates on investment and thus the neutralization of fiscal policy effect is so called the substitution effect or externalization. In regard to the expansionary fiscal policy of increase in government's expenditures (G), it must be added that the increase in G increases the government's budget deficit gets the government to supply more bonds for compensating this deficit. To sell more bonds (i.e. buy money to finance an increase in G), the state is obliged to increase interest rates.

Increase in interest rates along the LM curve reduces the demand for investment and indeed tends to neutralize the effects of the stste expenditures (Branson, 2003: 238).

According to the assumption that investment is just a function of interest rates $i = i(r)$, It is observable in IS and LM macroeconomics model that the increase in government expenditures, meanwhile both the r and Y increases, the investment declines, because $\Delta i / \Delta r < 0$ and as the increase in the government's expenditures

(G) cause a fall in investment i, It can be said that the public sector and the private sector in response to fiscal policy are replaced. But if the investment function is extended to state of $i = i(r, y)$, the impact of the increase in government purchases on investment is no more apparent.

A set of points in the space y and r on the swap line can be specified (the same investment lines which are conceptually similar to the indifference curves) and they keep investment stable when r and Y change. Two example of such lines are shown by $i_0 i_0$ and $i_1 i_1$ that has a positive slope (to obtain slope, get differential from investment function keeping i fixed).

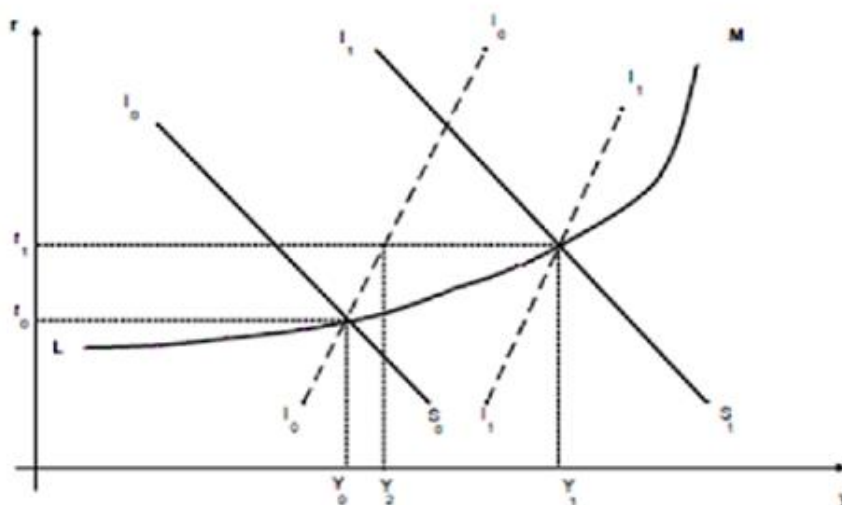


Fig. 1: Examining fiscal policies impase (inincrease in government expenditures) on private investment

A rule that can be expressed as a graph examination result is that if in the initial balance i slope is steeper than the slope of LM curve, a jump to the top of the IS curve derived from the expansionary fiscal policy will cause increase in the investment.

Therefore, whether the investment increases or decreases after adopting fiscal policy depends on the initial state of the economy and the economic conditions of the country, in the implementation of these policies, affects the quality of their implementation. In terms of economic prosperity when interest rates are high, a large part of changes in government expenditures is neutralized by changes in the opposite direction of investment demand because of the strong variation of r compared with y changes. That means the investment decreases affected by fiscal policy because r effect is stronger than y effect in the prosperity state, and much of the effect of expansionary fiscal policy is neutralized, but fiscal policy stimulus in a recession, is completed through the increase in investment, the effect of increasing r tending to reduce investment is neutralized by the increased effect of y and finally i increases (ibid, 148).

Effective factors on private investment:

A. the real interest rates:

The announced interest rates of the country, for time series before revolution, has been rediscount rate, and bank interest rates have been announced for deposits after implementation of usury-free banking law in the post-revolutionary period. Regarding the constant settlement of financial markets in competitive markets and their close association with each other, there is not a high range of interest rates in different markets. Furthermore, the change of base rate by central bank in the same direction and with the same rate causes change of interest rates in all financial markets.

Under such conditions, the interest rate reduction can stimulate economic demand through increasing investments and purchasing of durable goods and creates an economic boom. Experimental observations have confirmed this as well.

When there is not a recession and production elements are used relatively completely and there are bottlenecks in the production process which is objective evidence of the economy of Iran. Such decisions lead to inflation rather than increase in production. Thus, while the relationship between the financial sector and the real sector is mainly through interest rates in competitive conditions, in terms of rationing, its effects on the real sector can not be tracked through changes of interest rates in the official market (Khatayi and Seyfipour, 2005: 62).

B. Public investment:

The other important and influencing factor is the public sector investment. Developing economies are mainly faced with two major problems; government's high share of expenditures and investment, very limited financial resources. Iran's economy is suffering from both problems simultaneously and severely, oil-rich resources made state extremely large and bulky and economic sanctions and restrictions extremely limited access to international financial resources. This made increase in private investment impossible without public investment reduction in terms of limited currency and exchange resources. On the other hand, the growth of public sector investment in some cases has resulted in increasing private sector investment. Therefore, to sum up the effects of public investment, it can be a complement or substitute for private investment. As a result, the relationship between public investment and private investment has a range whose one extreme is supportive effect and another extreme the effect of substitution. The predominant view in supporting effect is that government expenditures can reduce the production cost of the private sector due to the support and development of this sector (Abbasinejad and Yari, 2007: 143).

C. The real capital utilization cost (Inflation):

Other factor that affect private investment is inflation rate. Inflation increases the risk of long-term projects and reduces the maturity of bank loans. High inflation rate also is known as economic instability indicator which shows economy's invalid economic policies. This means, when the economy is in a state that does not take advantage of all its capacities, demand increase will bring faster response of investor to the differences between actual and desired investment, but when the actual production is higher than the capacity, investor's response will be slower (Khatayi and Seyfipour, 2005: 59).

D. Bank credits allocated to the private sector:

Increase or decline of production activities is basically affected by distribution methods of banks credits (or lending). That how much credit, to what profit rate, to which group and for which economic activity, credits are paid can influence the functioning of the economy. Available statistics indicate that economic policy makers intended to allocate resources and bank credits to production activities. However, the performance of the banking system do not show thorough accomplishment of the approved objectives, but the bank performance also

indicates more allocation of bank loans and bank credits to the real sectors and production sectors (Hojati and Eghbali, 2004: 142).

E. Liquidity reserves of commercial banks:

increased cash reserves of commercial banks induce people to trust more to banks and also to increase their funds and thus, it provides the basis investment increases (Ang, 2009).

Model presentation:

Following model is selected, using a neoclassical investment model and Iran's economic conditions, designed by Ang (2009) to examine the impact of financial sector policies on private sector investment

$$I_t = f(\text{GDP}_t, \text{COC}_t, \text{PUB}_t, \text{DCP}_t, \text{IRR}_t, \text{RLR}_t, \text{D57}) \quad (1)$$

In which private sector investment I_t is dependent variable; GDP_t : Real gross domestic product (nominal GDP divided by the prices index); COC_t : The real cost of capital utilization: inflation and depreciation; PUB_t : Real investment in the public sector; DCP_t : Bank credit allocated to the private sector; IRR_t : Real interest rate; RLR_t : Commercial bank's liquidity reserves (by volume) and D57 : Dummy variable that is zero before the revolution and one after it.

Real interest rate is defined as the interest rate of one year commercial bank deposits minus the annual inflation rate. Private investment and public investment are defined private fixed gross capital formation and public fixed gross capital formation respectively. They are converted into real values using index of gross capital formation. The cost of capital utilization is measured by working capital (measured by gross capital formation index), the financial cost of capital goods (estimated by the average lending rate of commercial banks), inflation rate, depreciation rate (assumed to be constant at 5% level) and firm's income tax rates. Now for examining final investment models and achieve the final model, the following equation considering the optimal investment should be minimum:

$$\text{Min}_{I_t} E_t \left\{ \sum_{t=1}^{\infty} \delta^t [a(I_t - I_t^*)^2 + b(I_t - I_{t-1})^2 - 2c(I_t - I_{t-1})(I_t^* - I_{t-1}^*)] \Omega_t \right\}, \quad (2)$$

In which I_t is investment and Ω_t is firm's information set in time t. Solving this equation and simplifying it, we will have

$$\Delta I_t = a_0 + a_1 \Delta I_t^* - a_2 (I_{t-1} - I_{t-1}^*). \quad (3)$$

That in this equation $(I_{t-1} - I_{t-1}^*)$ is error correction which consider long-term equilibrium relationship among the variables if ΔI_t^* being a difference considers short-term dynamics. However, the adjustment of private sector investment process can be described using unbound error correction model that can be described, and ARDL model (Pesaran, Shin, and Smith, 2001: 289-326) can be used for long term relationship, the unbound error correction model is described as follows:

$$\Delta I_t = \alpha_0 + \beta_0 I_{t-1} + \sum_{j=1}^k \beta_j \text{DET}_{j,t-1} + \sum_{i=1}^p \gamma_{0i} \Delta I_{t-i} + \sum_{i=0}^p \sum_{j=1}^k \gamma_{ji} \Delta \text{DET}_{j,t-i} + \text{D57} + \varepsilon_t \quad (4)$$

In which I_t is real private investment and DET is a vector of variables that includes GDP, COC, PUB, DCP, IRR, RLR.

It should be noted that the data used in this study are extracted from statistical sources and published reports of the Central Bank in the form of annual time series over 1971-2010 period

Model Estimation and Specification:

To estimate the model, since the data used in this study are time series, It is necessary to obtain stability of variables to avoid false regression.

Augmented Dickey–Fuller test (ADF) was used to examine stability of variables. The results indicated that variables of private sector investment (I), Real gross domestic product (GDP), Real investment in the public sector (PUB), Bank credit allocated to the private sector (DCP) are firm level variables i.e. I(1) at confidence level of 95 %, but variables of the real cost of capital utilization (COC), Real interest rate (RIR) and Commercial bank's liquidity reserves (RLR) are firm level variables of I(0) type.

Since examined variables are not from the same class, Johansen test can not be used to examine cointegration (long term relationship) of variables. In this case, Autoregressive Distributed Lag Model (ARDL) is used to estimate long-term dynamic relation and error correction. Bounds testing approaches of level relationships of Pesaran, Shin and Smith (2001) based on Unrestricted Error Correction Model (UECM) is used to examine cointegration (long term relationship) among variables.

when economic growth is dependent variable, Unrestricted error correction of variables is as follows

$$\Delta I_t = \alpha + \beta + \sum_{i=1}^p \Delta I_{t-i} + \sum_{i=0}^p \Delta GDP_{t-i} + \sum_{i=0}^p \Delta PUB_{t-i} + \sum_{i=0}^p \Delta DCP_{t-i} + \sum_{i=0}^p \Delta COC_{t-i} + \sum_{i=0}^p \Delta RIR_{t-i} + \sum_{i=0}^p \Delta RLR_{t-i} + \delta_1 I_{t-1} + \delta_2 GDP_{t-1} + \delta_3 PUB_{t-1} + \delta_4 DCP_{t-1} + \delta_5 COC_{t-1} + \delta_6 RIR_{t-1} + \delta_7 RLR_{t-1} + D57 + \varepsilon_t \tag{5}$$

In which Δ is difference and p is optimal lag.

According to Schwarz Bayesian criterion, when y -intercept is unbound and process is bound, optimal lag based on following table is 1.

Table 1: Optimal lag determination (Independent variable: Private sector investment)

Schwarz Bayesian criterion	Rank
-1.2621	0
-9.2379	1
-5.2419	2
Optimal lag $p = 1$	

Resource: Research findings:

It is necessary here to examine co-integration of variables. Null hypothesis is no long term relationa and means:

$$(6) H_0: \delta_1 = \delta_2 = \delta_3 = \delta_4 = \delta_5 = \delta_6 = \delta_7 = 0$$

Statistic F is here used to check that all coefficients are equal to zero (i.e. there is no long-term relationship). Because this statistic, regardless of whether variables are I(0) or I(1), has not a standard distribution, so the critical values of Pesaran and *et al.* (1996) should be used. The number of variables is 6 and above model has just fixed formula. On the other hand, the model also includes variable I(0) and I(1). Thus, both high and low critical amount are considered. As in level of 95% high amount is equal to 4.37 and low amount is 3.21 (Table 2) and the amount of calculated F for significance test of all variables is more than high amount, so null hypothesis, the existence of a long term relation, can be rejected.

Table 2: The result of F Test for The existence of a long term relation Dependent Variable: Economic growth rate

level of 90%		level of 95%		F Statistic
I(0)	I(1)	I(0)	I(1)	
2.71	3.80	3.21	3.47	8.69

Resource: Research findings

After the co-integration test and ensuring existence of long-term relationship among variables, to estimate the long-term relationship between economic growth and the short-term dynamics of its adjustments, Pesaran and shin’s modeling approach (1999) and unbounded error correction model are presented. As interest rates variable was not significant, it was omitted from model, and model was estimated again. As a result, the interest rate as one of the financial sector policies of economy has not statistically significant effect on private sector investment in the economy of Iran. Thus, the results of the model estimation are as follows:

Table 3: The short-term results of model estimation by *ARDL*(1,1,0,1,0,0,0)

Variable	Coefficient	Statistic t	P-value
<i>INPT</i>	-3.88	-4.69	0.000
<i>I(-1)</i>	0.36	2.78	0.009
<i>GDP</i>	0.06	4.83	0.000
<i>COC</i>	-0.75	-3.19	0.001
<i>PUB</i>	-0.08	-2.89	0.007
<i>PUB(-1)</i>	-0.25	2.83	0.008
<i>DCP</i>	0.02	2.11	0.002
<i>RLR</i>	0.04	3.24	0.001

D57	1.88	-3.64	0.001
R ² = 0.90 F= 36.81 (0.000) DW = 2.05			
A: Serial correlation F=1.67(0.20)			
B: Functional form F=0.74(0.39)			
C: Normality F=0.76(0.33)			
D: Heteroscedasticity F=1.23(0.27)			

Resource: Research findings

According to the results of model estimation, since the sign of estimated coefficients are consistent with the theoretical bases and all of them are statistically significant at 90 % confidence level. R² is equal to 90 %. F statistic is significant in 99 % level. Based on serial co-integration test of LM, Model has not a serial co-integration; because F statistic of test is 1.67 (0.20) and null hypothesis (i.e. nonexistence of co-integration problem) is not rejected. Model also has not any problem in regard to normality and BJ statistic for examining normality is 0.76(0.33) and null hypothesis (i.e. normality of distribution) is accepted. Results of Ramsey RESET test shows that form of function has not a specification problem and F statistic of the test is equal 0.74(0.39) and the null hypothesis is not rejected. Also, Model has not a conditional variance; because according to ARCH test, F statistic of the test is equal to 1.23(0.27) and null hypothesis of conditional variance is not rejected.

Having ensured that there is a long-term relation, this long-term relation can be interpreted. Results of long-term relation related to above ARDL model with determined lag by Schwarz Bayesian criterion is as follows:

Results of long-term relation are shown in table (4).

Table 4: Results of long-term relation (Dependent Variable: Economic growth rate)

Variable	Coefficient	T Statistic	P-value
INPT	-6.13	-2.67	0.002
GDP	0.09	4.92	0.000
COC	-0.07	-4.19	0.003
PUB	-0.27	-2.81	0.003
DCP	0.03	2.11	0.000
RLR	0.63	5.24	0.000
D57	0.29	-3.26	0.000

Resource: Research findings

As observed in long-term relation (4), all coefficients are significant at 90 percent confidence level. The coefficient of GDP in the long-run is equal to 0.09 which shows GDP has a positive and significant effect on private sector investment, That means if GDP increases one percent, private sector investment, presuming all other variables fixed, increases 0.09 percent. This confirms neoclassic theory of investment. Increase of GDP enhances the production process in the country through which firms will be more willing to invest. Coefficient of the real cost of capital utilization in long-term relation is negative and equal to 0.07; That means private sector investment increase one percent, the coefficient of the cost of capital utilization decline 0.07 percent. High inflation rate is known as an indicator of economic instability which shows the economy incapable of controlling economic policies. This means when the economy is in a state where does not take advantage of its potential production completely, private sector investment is reduced with rising inflation and the cost of capital utilization. This evidence is consistent with the neoclassical theory of investment and Ang's study (2010).

Public sector investment has a significant and negative impact on private sector investment. This mainly indicates that our economy is faced with two major problems, one is high share of government in expenditures and investment and the other is very limited financial resources. Iran's economy is suffering from both problems simultaneously and severely, oil-rich resources made state extremely large and bulky and economic sanctions and restrictions extremely limited access to international financial resources. This made increase in private investment impossible without public investment reduction in terms of limited currency and exchange resources. Thus, this is the way financial sectors policies has a positive and significant impact on private sector investment.

The coefficient of DCP in the long-run is equal to 0.03 which shows DCP has a positive and significant effect on private sector investment, That means if Bank credit allocated to the private sector increases one percent, private sector investment, presuming all other variables fixed, increases 0.03 percent. Available estimates indicate that shifting resources towards production activities has increased private sector investment. Thus, these financial sector's policies also has a significant and positive effect on private sector investment.

The coefficient of RLR in the long-run is equal to 0.63 which shows RLR has a positive and significant effect on private sector investment; That means if Commercial bank's liquidity reserves increases one percent,

private sector investment, presuming all other variables fixed, increases 0.63 percent. Increase in commercial banks' liquidity reserves foster public confidence on banks and increase of deposits; consequently it will increase investment. The sign of variable in the above equation is positive which indicates the Islamic Revolution have had a positive and significant impact on private sector investment in the country.

This discussion goes on examining the adjustment of the short-term imbalances in economic growth to the long-term equilibrium by ECM model. The Coefficient of ECM indicates that in each period a few percents of short-term imbalance of private sector investment is adjusted to reach long-term equilibrium; in other words, this coefficient indicates that it lasts some periods for private sector investment to return long-term situation. Estimation results of Error Correction Model is presented in table (5).

Table 5: Results of Error Correction Model(Dependent Variable: Economic growth rate)

Variable	Coefficient	T Statistic	P-value
<i>dINPT</i>	-3.88	-2.69	0.004
<i>dGDP</i>	0.06	3.83	0.000
<i>dCOC</i>	-0.06	-2.19	0.001
<i>dPU</i>	-0.08	-2.85	0.003
<i>dDCP</i>	0.02	2.17	0.003
<i>dRLR</i>	0.40	4.24	0.001
<i>dD57</i>	1.87	-4.64	0.004
<i>Ecm(-1)</i>	-0.63	-4.82	0.000

Resource: Research findings

According to results of Table (5), Error Correction Model which links short-term changes to long-term equilibrium is as follows:

$$dI_t = -3.88dINPT + 1.87d57 + 0.40dRRLR + 0.02dCP - 0.08dPUB - 0.06dCOC + 0.06dGDP - 0.63ecm(-1) \quad (6)$$

In the error correction model, the coefficients of all variables in the short-term relation are statistically significant at the 95% confidence level.

The coefficient of Error Correction phrase in this model is 0.63 and statistically significant. therefore, the short-term and long-term models are related and 63 percent of imbalance is adjusted in the next period.

Conclusions and implications:

Examining the role of financial markets in general, including the topics of investment and economic growth, has always been considered in the formulation of policies and economic theories. Dire need of considerable investment is also predicted for the economy of Iran in the development plans. Financing is essential to ensure this and one way is to provide bank credits. So the purpose of this study was to evaluate the financial sectors impact on private investment in the economy of Iran. In this regard, a review of relevant researches, theoretical backgrounds, modeling and model estimation were examined. It must be noted that this study has been done taking advantage of annual time series data over 1971-2011 period, using Autoregressive Distributed Lag Model (ARDL).

The results of this study showed that interest rates as one of the policies of financial sector has no significant effect on private sector investment in the economy of Iran. Private sector investment in the economy of Iran is affected by other variables. In other words, changes in interest rates on deposits have no significant effects on private sector investment. The coefficient of GDP in the long-run is equal to 0.09 which shows GDP has a positive and significant effect on private sector investment, That means if GDP increases one percent, private sector investment, presuming all other variables fixed, increases 0.09 percent. This confirms neoclassic theory of investment. Increase of GDP enhances the production process in the country through which firms will be more willing to invest. Coefficient of the cost of capital utilization in long-term relation is negative and equal to 0.07; That means private sector investment decline 0.07 percent when the coefficient of the cost of capital utilization increase one percent. Public sector investment has a significant and negative impact on private sector investment. The coefficient of DCP in the long-run is equal to 0.03 which shows DCP has a positive and significant effect on private sector investment, That means if Bank credit allocated to the private sector increases one percent, private sector investment, presuming all other variables fixed, increases 0.03 percent. The coefficient of RLR in the long-run is equal to 0.63 which shows RLR has a positive and significant effect on

private sector investment; That means if Commercial bank's liquidity reserves increases one percent, private sector investment, presuming all other variables fixed, increases 0.63 percent. The sign of this variable is positive which indicates the Islamic Revolution of Iran have had a positive and significant impact on private sector investment in the country. The coefficient of Error Correction phrase in this model is 0.63 and statistically significant. therefore, the short-term and long-term models are related and 63 percent of imbalance is adjusted in the next period.

In the end, the results of this study suggest that politicians and administrators to reduce the cost of capital utilization through reducing inflation rate and increasing confidence in the community so that investment will increase in society. On the other hand, some means of financial sector policies such as the interest rate has no effect on private sector investment, but some other means such as the optimal allocation of bank credits to the private sector and policies of public sector are absolutely effective. Due to the negative effect of public investment, the government should reduce its intervention in the economy through public investment to increase the private sector's willingness for investing more in the economy. The liquidity balance of commercial banks has also positive and significant effect. So one way to increase the liquidity of commercial banks is that savings in commercial banks tend to be more popular. This *get also* banks to allocate more credits to firms. On the other hand, The government can increase liquidity of the banks through allocating credits to banks in a lower interest rate. Although according to the findings of this study, bank credits influences the private sector investment in the sectors of industry, agriculture and services in the economy of Iran and this relation can be used in economic policy making and planning; However, this impact indeed informs the turmoil in the money and capital market, because in developed countries where active financial, monetary and stock markets are extensive and coherent, bank loans and credits are not considered an effective variable in the function of private sector investment, But this is the case in many developing countries.

REFERENCES

- Abbasnejad, H. and H. Yari, 2007. The Impact of Interest Rate of Bank Deposits on Private Sector Investment in Long-Term Perspective of Iran, *Economic Research quarterly*, 81: 139-158.
- Ahmed, H., and S.M., Miller, 2000. Crowding-out and Crowding-in Effects of the Components of Government Expenditure, *Contemporary Economic Policy*, 18: 124-133.
- Ang, J., 2009. Private Investment and Financial Sector Policies in India and Malaysia, *World Development*, 37(7): 1261-1273.
- Branson, W., 2003. *Theories and Policies of Macroeconomics*, Translated by Abbas Shakeri, Ney Publication, Tehran.
- Dehn, J., 2000. Private Investment in Developing Countries: The Effect of Commodity Shocks and Uncertainty, Center for the Study of African Economies Working Paper Series, WPS/2000/11.
- Dickey, D and W.A., Fuller, 1979. Distribution of the Estimates for Autoregressive Time Series with Unit Root, *Journal of the American Statistical Association*, 74: 427-31.
- Haghighat, J., 2005. The Impacts of Financial Conditions on Saving, Investment and Economic Growth, *Economic Research Quarterly*, Fifth year, No. 3.
- Hojati, Z. and A. Eghbali, 2005. Consequences of Fiscal Policies on Private Sector Investment: A Case Study of Iran, *Economic Research Quarterly*, 22: 133-155.
- Hermes, N. and R. Lensink, 2001. Fiscal Policy and Private Investment in Less Developed Countries, Institute for Development Economic Research, United Nations University, July, Discussion., pp: 32.
- Huang, Y., 2006. Private Investment and Financial Development in a Globalized World, Discussion Paper.
- Jalai, A. and M. Sabagh, 2005. The Impact of Direct Foreign Investment on Economic Growth of Iran Through Financial Markets, *Economic Bulletin*, 33: 171-188.
- Keshavarzian, A and A. Azimi, 2005. The Estimation of the Impact of Interest Rate Liberalization on Investment and Iran's Economic Growth, *Planning and Fund Quarterly*, 6: 3-33.
- Khatai, M and R. Seyfipour, 2005. Two-Parted Financial Market and Its Impact on Investment in the Economy of Iran, *Economic Research Quarterly*, Seventh year, 24: 53-76.
- Kiani, H. and M. Alizadeh, 2000. Effective Factors on Private Sector Investment in Iran's Agriculture Sector Using Non-Linear Least Squares, *Development and Agriculture Quarterly*, 29: 45-74.
- Pesaran, M.H., Y. Shin and R.J. Smith, 2001. Bounds Testing Approaches to the Analysis of Level Relationships, *Journal of Applied Econometrics (Special Issue) in Honor of J D Sargan on the Theme, Studies in Empirical Macro Econometrics*, (eds) D.F. Hendry and M. H pesaran, 16: 289-326.
- Sancak, C., 2002. Financial Liberalization and Real Investment: Evidence from Turkish Firms. IMF Working, pp: 1-35.