Original Article

Offering Stock and Private Investment in Iran Economy (Concentrated on Stock Price)

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ABSTRACT

The goal of this study is to investigate the effect of stock offering (concentrated on stock price) on private investment during 1989-2012. The differentiation of the present study to other studies is using the total stock price index in exchange to assess stock offering and the volume of transactions in exchange. To do this, we have used self explanatory econometrics model with widespread intervals (ADRL) to evaluate the relations among variables. The results showed that stock offering has a negative significant effect on the private investment which is inconsistent with theoretical issues, as the stock price (value) increases, high liquidity lead to inappropriate allocation and sources loss in negative NPV projects, capital waste and ultimately decrease private enterprising. Moreover, a large volume of transactions in exchange market relate to firms and enterprising funds which are not secured through public savings , directly monitor stock activities, although they appear private, but investigating in their nature shows that they are public enterprises. Though, retail or public stockholders are much, but have low transactions volume and fewer maneuvers. Therefore, exclusiveness and publicity of stock firms, limited activity in exchange market as well are regarded other reasons of this variable negative effect on the private investment.

Key words: Stock offering, Total stock price index, Private investment, ARDL.

Introduction

Though, some economical analysts believed that stock exchange market in developing countries do not have such a positive effect on economic growth; the conducted studies demonstrate the stock exchange and capital market profound effect on the economical growth and development through increasing and correcting investment. World economy in recent decades have experienced the emergence of capital markets and developing the role and growth of markets composed of capital including developing countries stock exchange such as republic of Korea, Malaysia, Thailand as well as Turkey. It is mentioned that the total value of stock transactions in new, developing markets which were less than 3% of the whole world transactions in 1985, has been increased to 17% in 1995 (Zoghi, 1997). Skim over developed, industrial countries experiences show that

incrementing financial sector to collect the community liquidities so that providing the short and long term capital required in technological innovations as a economic growth motivation and profitable enterprising , have enabled the enterprisers (investors), in addition to providing some salient portions of required sources of manufacturing and economical enterprises from capital market.

Hence, it must be undoubtedly accepted that developing capital market and variation of financial tools (means) in our country like others, are also the requirement of enhancing enterprising and creating manufacturing units. Then, the present study, along with the importance of capital market effects on entrepreneurs' capabilities, tried to investigate the relation between distribution and offering the stocks of accepted firms in Tehran stock exchange to private investing during 1989-2012.

Theoretical basis

The findings show that the public sector due to independency of profit incentive is more inefficient than the private sector, but the private sector has influenced, through decreasing expenses, more suitably in the total economy and government performance. As Dollarr, David and Wei, Shangjin (2006) results in China show the China investment ratio to its GDP in 2005 reached to 40% which is almost high comparing to the world 17.8 % mean and even much higher than other East Asian countries. This country, in the last three decades, had experienced a successful surrendering strategy in public companies toward to economical improvements (reformations). According to this study, investment yield in public firms was far less than similar private and foreign companies. Schumpeter (1996)

believed that financial extension (development) is directly related to enterprising and economical growth. Numerous researchers following him in case studies method have presented some instances of more capital aggregations and higher growth rates in countries with more developed financial systems. Stein (1996) demonstrated that when stock prices are up the principal rate, the firm logical management prefers offering stock. In contrast, when the stock price is less than principal's values prices, the managements of firms associated with stockholders would not invest since investment requires stock issues with a much lower price; at this time the company management can redemption the rights of stockholders which is estimated less than the real value. Baker *et al.*, (2003) and Jensen, (2005) directly testing Stein hypothesizes (1996) found that reduction of stock market price rate would influence the corporations investments through stockholders' rights issuance canal. Also, some researchers in studying the real effects of ineffective capital market on corporation investing policies, have investigated whether the stock market variables own the ability to predict investments (studies conducted by Barro, Robert (1990); Morck, Shleifer, and Vishny (1990) and Blanchard and Summers (1993)). Kaplan & Zingales (1997) presented stock investing indices; they tried to find investment tendencies whenever there are non principal activities in stock prices. The firms require foreign bonds and stock issuances to realize the final (ultimate) investment. Those studies indicated a positive, direct relation between firms' investments and stock markets, as the stock price logically reflects the capital final production. This interpretation often explains the relation of Q two bin theories and investment

(Jafarii samimi Khansari and Yahyazade far, 2004). Polk and Sapienza (2009) reported that those corporations with abundant liquidities or borrowing capacity, probably, encounter increasing stock price markets as a result of incorrect evaluation, would have improper allocation incentive and resources loss in negative NPV projects, but whenever , the stock price decreases, may disregard positive investment opportunities. In accordance with aforementioned, it can be said that there are totally three strong theoretic bases considering stock offering and private enterprising. The Q two-bin theory about investment and private sector investor decision in investing through the properties' expected future value in comparison to investing costs is regarded as one of these theoretical basics. The other basis is that stock offering is effected by stock price variations and consequently changing the investment. Therefore, it is important to assess that whether corporations, change their investment policies based upon stock price or not. Financing the private investment regarded as the third theoretical basic, in which capital market effective system can cause better source allocations and finally increasing investment and economical growth through getting information about enterprise opportunities, savings aggregation, supervised investments and applying corporate governance, risk management and distribution. So, transactions volume, the amount of shares of offerings and total income, returns as well must reflect totally the country's economical state.Today, with this hypothesis, there may appear an obvious inconsistency and conflict among exchange statistics and transactions volume with country's economical potential capacities particularly the private sector investment. Thus, it is not possible to predict the stock

offering relation with the private sector investment. As, if stock exchange is performed based on public banks activities, the procedure of private investing, as increasing stock offering, would be ambiguous which may increase or decrease. Therefore, estimating the amount of stock offering effect on the private sector investment has a critical importance
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Experimental studies

Henry and Peter Blair (2000) in a study named releasing stock market, economic innovations and emerging balanced prices in market, conducted in 11 developed countries, concluded that continuous movements in those countries stock market through various ways toward releasing stock market occurred following after revising the principles of macro economy to attain economic improvement. Statistical investigation presented the impressive growth and progression of total return index in those 11 countries.

Kim and Singal (2000), BEKAERT and Harvey, (2000) in studies "Stock market release: the experience of just released countries" and "Foreign speculators and markets balance", respectively, arrived at similar impacts in consistent with Henry. Some of them by assessing the aforesaid countries (except Taiwan, as the lack of private investing data) and analyzing value data and cost of capital have proved that stock market release may increase stock risk. Chirinko and Schaller (2001) presented that gap (bubble) in Japan equity market during 1987-1989 has maximized business fixed investment around 6- 9 %. Panageas *et al.*, (2005) found some indications that showed investment sensitivity to stock devaluations (price variations). Keshavarzian Payvastei (2002) approximated the private sector

investment function in Iran's industry, during 1971- 1998 in a co integration study. The results indicate the positive influence of industrial added value variables and the grants, and the negative effect of revolution and public investment on the private sector investing in Iran's industry; Government, to eliminate this condition can think of complementally investment in this sector.

The applied pattern is as follows:

PII = f (VI, SI I, BC, DM)
Where
SII: public investment in industrialize sector with a fixed price in 1982
DM: Dummy variable for the revolution critical years (1977-1979)
PII: private sector in Iran industry with a fixed price in 1982
VI: industry sector added value with a fixed price of 1982
BG: remaining bank grants to industry sector with fixed price
Jafarii Samimi *et al.*, (2004) investigated the relation between stock offering and private investment in Tehran Stock exchange in 1989- 2001. Estimating the regression patterns by the least squares method is as follows:

$$L_n IC_t = B_\circ + B_1 LN \quad SC_{t-1} + B_2 LNIC_{t-1} + U_t$$
$$L_n IC_t = B_\circ + B_1 LnSC_t + B_2 LnSC_{t-1} + U_t$$
$$LnIC_t = B_\circ + B_1 Lnsc_{t-1} + U_t$$

Where

IC_t : invested amount in the current period

SC_{t-1} : Previous period stock offering

IC_{t-1} : The amount of previous investment

SC_t : stock offering in the current period

The results demonstrate a significant, positive relation between stock offering and private investment. Moreover, stock offering effect in the current and previous periods (with an interval) on private investing in current period, in addition to the previous private investment have caused enhancing current private investment in country. Moreover, the findings indicated that the significance of the previous stock offering as compared to the previous private investment has more influence on current investment.Takroosta *et al.*, (2008) investigated stock issuance and institutional factors (like lack of security, ownership, the numbers of rules and regulations and others effect on the private sector investment during 1974-2004). It has been evaluated the long term relation between studied variables and its short term relation using variance analysis techniques and error correction mechanism. The findings indicated the negative effects of institutional factors and positive effect of stock issuance on the procedure of private investing, however, the negative influence is much higher than positive effect of stock issuance. Government investing expenditures also influence the private sector investment, negatively; but gross domestic product (GDP) has a positive effect on this variable. On the other hand, the low value of error correction coefficient indicated the convergence low speed toward ong term balance.

The experimental results

Variables persistency test

In the present study, before model estimation, we carried out the variables persistency test which all used variables are not in model I (1). Thus, to avoid spurious regression as a result of non persistency in time series, we have used

the ARDL technique, since this method disregards variables co aggregation degree, and obtains the consistency long term coefficients by sufficient intervals. In the following, we study the variables static by using stationary test and unit root test including expanded Diki- Fuller (ADF) test, which is shown in picture 1.

Regarding picture (1) based on ADF test (in data level); all variables except RBC are not persistent. IP and SS variables are also persistent after one differentiation and RE variable after two times differentiations. Therefore, all model variables are non persistent except RBC variable; IP and SS variables are collective degree one I (1) and RE collective degree two I (2).

Estimating Dynamic model

The present study had applied the self explanatory method with wide intervals (ARDL) which makes possible the economic analyses in two short and long term period without considering the variables dependence level. The ARDL model is a model consisting of one or more interval elements of dependent variables as explanatory variables in addition to explanatory variables of previous (passed) and current values. The dynamic model findings are summarized in picture 2. Showartz – Bizinne (SBS) is the interval

choosing criterion reported in MICROFIT software output. The method is that initially, the maximum interval length is determined which is often 2 for yearly time series data. Then, multiple intervals are regarded for model, choosing that interval combination with least Shwartz-Bizinne statistics. The results presented that variables can explain 97% of private investment changes R^2=0.97) and $\overline{R^2}$ is also 93 percent. F statistic probability value in this pattern also shows that the effects of applied variables on private investment in a more than 99% probability level are statistically significant.

Results

Last period private investment in this pattern considering picture (2), has a significant, positive influence on current investment, which is in consistent with this fact that the history of each variable is the best descriptive of that variable. Such coefficient economically shows that whenever encountering progress or downturn in investment and subsequently in production in Iran, this phenomenon is followed next year by almost 1.4 coefficients in accordance with investment acceleration principle.

Table 1. ADF Test results for Data

ADF test results for the first data differences					ADF test results for Data level			
Calculated statistics	Critical values in level 5%	Critical values in level 10%	variable	Test result	Calculated statistics	Critical values in level 5%	Critical values in level 10%	variable
- 5/72	- 3/05	-2/66	IP	Passed H0	-1/6	- 3/04	-2/66	IP
- 3/25	- 3/05	-2/66	SS	Passed H0	-1/16	- 3/04	-2/66	SS
-	-	-	RBC	Rejected H0	- 6/10	- 3/05	-2/66	RBC
- 2/92	- 3/05	-2/66	RE	PassedH0	- 0/45	- 3/05	-2/66	RE

Source: studying findings based on EVIEWS Estimation

Stock issuance with a one period interval has had a negative, significant effect on private investment not compatible with theoretic expectations and show that short term stock issuance increasing had not enhanced the private investment. The reason is probably that as the stock price increases, firms' high liquidity cause wrong and improper allocation and source loss in negative NPV projects and waste the capital, in conclusion reduces private investment. It is necessary to mentioned that a large volume of transactions associated with firms and investing funds which are not secured by public savings (table 4 in attachment shows the activity level of state organizations in stock market), usually related to non private organizations directly control exchange activities; tough private in surface, are public in nature which are the other reason for reduction of private sector investment. Hence, though, retail or public stockholders are much, but have low transactions volume and fewer maneuvers. (Almost 50.5% of the total stock value of exchange firms belongs to 13 corporations that are the largest exchange shareholders. Social security group, poor organization, Sanat o Madan Bank, Meli Bank, others. Oil pension fund is a semi governmental institute in the exclusiveness of Oil Company which is not clear whether it is public or state). Exchange rate growth may have a significant, positive influence on private investment which can be stated that the effect of exchange rate increase through enhancing national production and private investment due to more export and less import of similar foreign goods is more than investment reduction through increasing the imported ingredients costs (the effect of import reduction is predominant to import ingredients costs increase). Delayed bank loans to nongovernmental sector had a negative, significant impact on the private investment, i, e, just granting to private sector would not guarantee enhancing investment but also how to spend this monetary help is also critical in economic development. The main role of a bank system is to be a financial mediator creating a relation between deposits, facilities and loans, but these are not sufficient and the bank sector must sufficiently control and monitor bank facilities and resources in the effectiveness of investment, capital creation and economic growth. Spending the monetary budget in non productive activities in various forms would transform the capital and weaken the industry indicating bank system inadequacy and monitor deficiency ultimately increases outstanding. Dynamic equation estimation is followed by a test to assure the existence of a long term relation. There are 2 statistics to carry out the mentioned test, one "Bonarji, Dolado, and Mr" statistics, and the other "Boys and et al" statistics presented in 1996 (Teshkini, 2005). In this study considering the long term balanced relation investigation by the second method and the critical values table it can be summarized that F statistics of significance test with interval variables equal 13.92 which is higher than the critical value in 99% significance level (5.61 and 4.38), it means making a decisive decision about the existence of a long term relation with no need to know whether the variables are I(0) or I(1) (Zero hypothesis is rejected based on the lack of a long term relation).

Estimating ECM Model

The ECM model is used to investigate how to adjust sort term imbalances in private investment toward long term balance, which is shown in Table (3). Variable

coefficient ECM (-1) show that how much percent of dependent variable short term imbalance, in each period, is adjusted to long term balance. Error correction term coefficient is (-0.96); which means that 96% imbalances in private investment is adjusted in each period reaching to long term approach. The results of error correction provide that per 1% increase in private investment with one year delay, the dependent variable increases 1.36%. Private investment is intensified 2.52% by increasing stock offering per each year private investing. Dependent variable by increasing the remaining bank loans in each year would slightly decrease. Yearly private investment is improved by 5.66% by increasing exchange rate.

Table 2. Dynamic equation results (IP dependent variables)

t statistics	Coefficient	Variable
10/68	1/4061	IP(-1)
0/94	2/5227	SS
-4/56	-13/6387	SS(-1)
-3/05	- 0/0076944	RBC
-2/65	-0/0055203	RBC(-1)
-1/32	-0/0022477	RBC(-2)
3/25	5/6617	RE
-0/33	−0/96858	RE(-1)
5/07	15/1608	RE(-2)
4/33	60011/3	C
-	0/97	Determination coefficient
-	25/89	F statistics

Table 3. The results of error correction equation (IP dependent variable)

Variable	coefficients	t statistics
DIP1	1/36	6/57
DSS	2/52	0/94
DRBC	-0/007	-3/05
DRBC1	0/002	1/32
RE	5/66	3/25
RE1	-15/16	-5/07
ECM(-1)	-0/96	-5/18

Model stability test

The model stability and studying the lack of structural failure were tested by CUSUM and CUSMSQ methods. If the considered diagrams crossed the confidence interval (confidence level of 95%), the model would have a structural failure, if the diagrams were in the confidence interval, the model is stabilized. The turning remained diagram is in the confidence interval as follows, hence there is no structural failure and the model is stabilized.

The purpose of the present study was to investigate stock offering relation with private investing in Iran's economy, conducted in an ARDL method during 1989- 2012. The results demonstrated the significant, direct effect of the previous investment on current investment. Stock

offering had a significant, negative effect on private investment which is inconsistent with the theoretic discussions as a result of the exclusiveness and the publicity of stock firms and limited activities. Also, it can be stated that where firms' stock price is higher than principal rate, the investment is directly influenced. Bank loan remaining have a negative, significant relation on the private investment as a result of spending on non productive activities, consequently transferring the capital to this sector and diminishing the industry sector; which indicated the inefficiency and lack of bank governance in resource management and bank grants in the efficiency of investment, capital formation, and economic growth. Rate of exchange has a positive, significant effect on private investment which shows the predominant positive effect through reducing foreign goods import resulted in higher domestic production, to the negative effect of increased production costs of goods manufactured by the foreign ingredients.
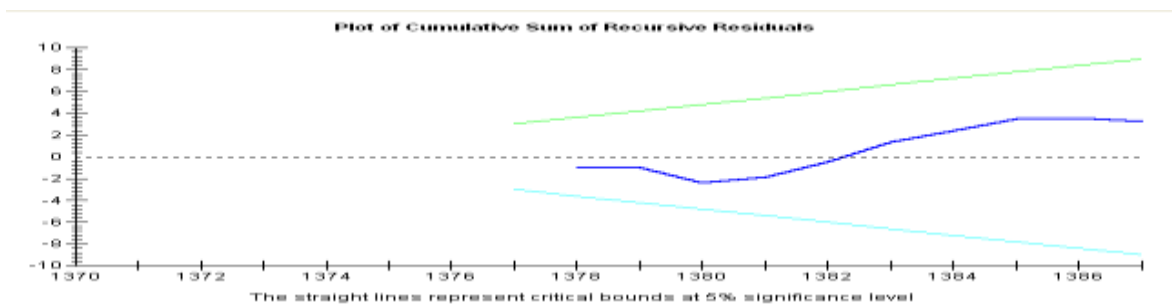

Figure 1. The straight line reoresent critical bounds

Table 4. Stock Large shareholders from the total stock value

Total percent	Status	Group/company	Rank
14/2	Public, administered by Health administration	Social security group	1
9/4	Pubic	Development organization	2
4/3	Nongovernmental	Poor foundation	3
4	Nongovernmental, cooperation in exchange	Meli Bank Investment	4
3/4	Public	Sanaat' o' Madan Bank (Industry and Mine Bank)	5
2/7	Nongovernmental, cooperation	Ghadir enterprise	6
2/5	Nongovernmental, Oil company exclusive	Oil pension funds	7
2/4	Nongovernmental, private held co	Meli Bank investment management	8
2/1	Public	Meli Bank	9
1/7	Nongovernmental, Cooperation	Iran National investment	10
1/3	Nongovernmental, cooperation	Sanaat' o' Madan investment (Industry and Mine investment)	11
1/15	Supervised by association	Behshar industrial development	12
0/9	Public	Pension Fund	13
49/95	-	Others	14

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