

## **THE RELATIONSHIP BETWEEN VENTURE CAPITAL AND INITIAL PUBLIC OFFERING IN COMPANIES LISTED IN OTC OF IRAN**

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### **ABSTRACT**

In today's world more than ever that the global economic system is going to invested tool that plays a significant role in the economic development. Venture capital is one of the most important modern financial tools which operate by collecting and conducting wandering capitals to new born firms, thereby flourishing potential ideas in technological and technology-driven industries. Using a unique sample of 34 initial public offerings (IPO) firm listed in over the counter of Iran (OTC) between 2009 and 2013, this paper analyses the relationship between venture capital and initial public offerings (IPOs) to the return accruing to venture capitalists (VCs) from investments in portfolio companies. Our findings show that there is no significant relationship between venture capital and investment returns from the IPO's issued by them. We have found that the initial public offerings, is not a good method for venture capitalist (as exit strategy) to obtain their investment returns.

**Keywords:** *Venture Capital, Initial Public Offerings, Venture Capitalist, Returns.*

### **INTRODUCTION**

The formation and growth of small and medium sized enterprises (SMEs) is recognized as one of the most important factors for economic growth (Storey1994, Davidson et. al 1996). Access to risk capital (equity capital) is often emphasized as critical conditions for SMEs and new venture start-ups to be able to pursue growth opportunities (Ds 1994:52; SOU 1996:69; SOU 1993:70; European Commission, 1998). Because of a limited life history and a lack of steady cash flows, young firm that are in the beginning of a growth phase often have problems accessing traditional debt capital. Financing the firm with the capital of the entrepreneur is generally not an alternative because these resources are usually either already used or too small (Bygrave and Timmons, 1992). Furthermore, fast developing new firms can seldom compound the capital needed for fast development themselves (Brophy, 1996). Finally, equity financing is a more suitable way of financing growing young firms' investments and expansions than is debt, because the latter has the disadvantage of increasing a firms' financial risk(mainly due to amortizations and interest rates) (Cornell and Shapiro, 1988). The difficulties of finding (or inadequate supply of) growth capital for entrepreneurial firms are often referred to as the equity gap (Wetzel, 1983).

The venture capital industry claims it simulates innovation and economic growth. Venture capital (VC) generally refers to medium- and long-term capital that is invested in unlisted enterprises and that gains investment returns through IPOs, mergers, acquisitions, liquidations and transferring the equity of portfolio firms. When the venture capitalist exit the investment marks the ending of the venture capital process. This exit can be done in several different ways, for instance by an initial public offering, acquisition, buyback or, in a worst-case scenario, by a write off (Cumming and Macintosh, 2002). The potential for exiting from a prospective investment is crucial for a venture capitalist's investment decision. IPOs are the most popular exit strategy because they bring the highest returns on VC investments. Thus, venture capitalists (VCs) are the main participants in IPO activities and the ir behavior has a significant influence on the operation of the capital market (Hu et al, 2012). In an IPO, the firm sells shares to members of the public for the first time. The venture capitalist will typically not sell its shares into the public market at 61 the date of the public offering. Rather, securities will be sold into the market

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over a period of months or even years following the public offering. Alternatively, after the offering the venture capitalist may dispose of its investment by making a dividend of investee firm shares to the venture capitalists owner (subscribers to the fund - investors).

Venture capitalists are similar to leveraged-buyout (LBO) specialists, who seem to contribute to significant improvements in performance in corporations that go private. Like LBO specialists, venture-capital providers are involved in financing and monitoring their portfolio companies. LBO specialists and venture capitalists invest in different kinds of firms, however: LBO promoters usually invest in mature companies with predictable cash flows, whereas venture capitalists focus on young and high-risk entrepreneurial ventures. The venture-capital market therefore provides a useful alternative setting in which to explore the role of active investors with concentrated ownership claims (Filipov, 2011).

First, this paper contributes to our understanding of the impact of venture capitalists participation in initial public offerings. Section 2 examines the theoretical justification presented in the literature for the relation between VC and IPO.

### **Objective**

The overall purpose for undertaking this study is to increase the understanding of the venture capital process with an emphasis on the relationship between venture capital and initial public offering, hence the following objectives have been proposed;

1. Study the feasibility of venture capital in Iran.
2. Reviewing infrastructure and create substrates (rules and regulations).
3. Reviewing the rules and regulations developed by the Securities and Exchange organization in the country.
4. Recognition and study of venture capital.

The main objective of the present study, the effect of the venture capital on initial public offering of listed companies in OTC company Iran (IPO as exit strategy), which can play an important role in attracting venture capitalist on investment process firms, this is essentially an important factor that helps the survival of such venture capitalist, this equally contributes to the country's economic development as well.

## **MATERIALS AND METHODS**

### **Statistical sample and population of research**

The population of this research includes all the companies quote in “over the counter company” in Iran. In 2009-2013 Through screening method, only the companies which have all the following qualifications have been selected as statistical samples and others were deleted:

1. Due to their different nature in activities, investing companies, insurance companies, leasing companies and banks were deleted and manufacturing companies were chosen.
2. To choose active companies, their transactions should not have been stopped during the years between 2009 and 2013. In other words, the stocks of these companies should have been active during the years mentioned and their stop should not last more than 6 months.
3. It must be mentioned that information from the year 2008, has also been used to calculate some of the variables.
4. Shares of the company during the period of the study have been the first offered OTC market of Iran.

By applying the conditions above, the number of the sample selected from the above statistical population was 34 companies and 136 (years- firm).

### **Hypotheses Development**

The following hypotheses have been proposed according to the research objectives;

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“There is a significant relationship between venture capital (There is an investing that pre-initial offering in OTC) and investment return and investment return from an IPO offering in the OTC market of Iran”.

**Measurement of the Dependent and Independent Variables**

Table 1 shows the definitions of the variables used in this paper:

**Table 1: description of variables**

Variable name	Definition
<b>Dependent variable</b>	
R <sub>i</sub>	Return investment, average offer prices minus discovery price average offer prices of an IPO and the discovery price at the first trading day.
<b>Independent variable</b>	
VC	Venture Capital, total average investment of operating assets in 3 years ago of IPO divided by total average assets in 3years ago of IPO
<b>Control variables</b>	
Size	Firm size, equal to ln(total assets) in year t.
Growth	Growth rate, calculated as the change in sales between year t and year t -1.
Leverage	Asset-liability ratio, calculated as total liabilities divided by total assets in year t.
Quick ratio	Quick ratio, calculated as quick assets divided by current liabilities in year t.

**Research method and data collection**

In this respect, research is trying to determine the factors which affect the venture capitalist returns in initial public offering companies, it is a solidarity research, and since determination of the mentioned relationship can be used by those who use financial information of companies, it is an applied research. It must be mentioned that, after event approach is used to implement the research.

The data used in this study comes from several databases. We obtained the list of initial public offerings of equity from 2009 to 2013. Data and variables are extracted through financial statements, explanatory notes of sample companies, and weekly and monthly reports of stock exchange and by using Rahavard Novin software.

**Data analysis method and testing the hypotheses**

In this study:

- T test is used to test the hypotheses, and for determination of factors which affect the Venture capitalist returns and the change in the level return in IPO Company, if the following equation be true:  
 $(T > t_{\alpha/2, N-K})$   
 In Confidence levels of 99%, Zero hypothesis rejected, which shows a correlation between the independent variables and dependent variable.
- F test is used to test the significance of the model, if the following equation is to be true:  
 $F > F_{\alpha, (K-1, N-K)}$   
 In the error level of 1%, Zero hypothesis is rejected and the model is significant generally in 99 % levels.
- D-W test is used to test the lack of solidarity between regression coefficient:  
 If Durbin-Watson near to 2 or between 1.5 to 2.5, it can be said that independence of the regression coefficient has to be explained.

In all statistical techniques EXCEL and Eviews7 software are used. Cross-section regression analysis was used in the form of below regression model:

$$R_{it} = \alpha_0 + \alpha_1 VC_t + \alpha_2 Growth_t + \alpha_3 Quick_t + \alpha_4 Size_t + \alpha_5 Lev_t + \epsilon_t$$

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**RESULTS**

**Reviewing the descriptive statistics of research variables**

The descriptive statistics of research variables are presented in table 2. by comparing the changes (obtained through dividing standard deviation to average) in the independent and dependent variables we conclude that there is a moderate dispersion in all variables and that this issue can be deduced from the standard deviation, we could also conclude from the distance of the mean and median, whether variables are Symmetry or not Symmetry.

**Table 2: descriptive statistics of research variables**

Variables	Growth	Lev	Quick	Return	Size	VC
Mean	0.425	0.530	1.153	0.030	7.893	0.107
Median	0.352	0.502	0.931	0.00	7.005	0.049
Maximum	1.37	0.987	2.718	0.330	13.042	0.523
Minimum	-0.548	0.071	0.217	-0.006	0.732	6.40E
Std. Dev	0.454	0.228	0.727	0.083	2.917	0.123
Skewness	0.490	-0.053	0.979	2.915	0.0633	1.428
Kurtosis	2.983	2.442	3.167	10.410	2.4977	5.026
Observations	34	34	34	34	34	34

Source: Calculations research

**Reviewing the solidarity between research variables**

The results of solidarity test between variables in research period indicate that there is a negative and significant solidarity between leverage and growth, and that there isn't a correlation among other variables. When the correlation coefficient is considered, there isn't very high correlation coefficient or very low (near to +1 & -1), it must be mentioned that there isn't multi co linearity between variables in this study, which affects the results of the regression analysis.

Significant results of solidarity in table 3, are shown by \* sign.

**Table 3: solidarity between research variables**

Variables	Growth	Lev	Quick	Return	Size	VC
Growth	1					
Lev	-0.142*	1				
Quick	0.421**		1			
Return	0.257	-0.189		1		
Size	0.141	0.283			1	
VC	0.241	0.196	0.130			1
	0.169	0.265	0.463			
	-0.360	-0.340	0.045	-0.263		
	0.036	0.049	0.797	0.131		
	-0.189	0.036	-0.111	-0.176	-0.036	
	0.283	0.836	0.528	0.318	0.837	

Source: Calculations research

**Testing the Hypotheses**

Cross-section model of factors which affect the change in return on investment of venture capitalist in IPO companies in table 3 indicates, venture capital has no significant effect on return investment of

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venture capitalist in IPO companies. As can be seen in the table according to the F test (61.28) in the error level (0.000), Can be say that, the model at the confidence level %99 is significant generally, and the results relating to of Durbin Watson statistics is between 1.5 to 2.5 it has not solidarity(2.285). Moreover, the results relating to the adjusted determination coefficient indicate that, in total research period 0.589 amount of venture capital have been affected by research variables. Below adjusted determination coefficient indicate that considered factors of this research can explain the 59. % of venture capital by return investment in IPO companies.

**Table 4: Estimation results of the model**

$R_{it} = \alpha_0 + \alpha_1 VC_t + \alpha_2 Growth_t + \alpha_3 Quick_t + \alpha_4 Size_t + \alpha_5 Lev_t + \varepsilon_t$					
Variables	Coefficient	Std. Error	t-Statistic	Prob	
C	0.476	0.111	4.288	0.0002	
Growth	-0.044	0.016	-2.643	0.0133	
Lev	-0.055	0.083	-0.668	0.5091	
Quick	0.135	0.017	7.706	0.0000	
Size	-0.058	0.009	-6.073	0.0000	
VC	-0.017	0.410	-0.043	0.9657	
R-squared	0.590				
Adjusted R-squared	0.589				
F-statistic	61.28				
Probe(F-statistic)	0.000				
Durbin-Watson stat	2.285				

Source: Calculations research

Value (P-Value) t statistics related to the venture capital is the greater than % 1, so we can say that there is not significant correlation between venture capital and venture capitalist returns in IPOs Company at confidence level %99. Thus Regarding P-Value gained for the zero hypotheses considering the width equal from the focal points is accepted.

**DISCUSSION**

The purpose of this research is to review the factors which affect the return on investment of venture capitalist in IPO companies quoted in “over the counter” (OTC) company of Iran. In this research a number of 34 companies were reviewed in 2009-2013 time period. To test the research assumption, t test and Cross-sectional regression models were used during research period. The results indicate that there isn’t a significant between venture capital and return on investment of the IPO’s issued by these companies. Hence by increasing and decreasing the venture capital, the return on investment for venture capitalist does not show much change. Findings in this paper show that the IPO method is not a very attractive way for venture capitalist to acquire returns on investment. Thus the below can be understood;

1. Venture capitalists in order to achieve return on investment can use other ways except for the method of Initial public offering.
  - Acquisition (or trade sale): The whole venture is sold to another company.
  - Secondary sale: The venture capital firm’s sell their part of the venture’s shares only.
  - Buyback or MBO: Either the entrepreneur or the management of the firm buys back the venture capital company's shares of the firm.
  - Reconstruction, liquidation or bankruptcy: If the project fails the venture capital firm’s last resort is to restructure or close down the venture (Isakson, 2006).

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2. Established Intellectual property market and venture capital fund by Securities and Exchange Organization.
3. Transfers of ownership and economic control of the government sector to the private sector and to reduce the tenure of the government and State monopolies by making the government pay attention to the small industries.

The role of venture capital investment on initial public offerings has been extensively discussed in the literature. Megginson and Weiss (1991) and Barry, Muscarella, Peavy, and Vetsuypens (1990) as one of the first to examine more deeply the topic. Megginson and Weiss (1991) suggest that because of the venture capital “certification”, IPOs of companies that are venture-backed are less under priced than non-venture backed IPOs. The term venture capital certification represents the belief that venture capitalist are concerned about their reputation, because of their repeat actions on the IPOs market. Therefore they would value the IPOs of the firms they back more realistically and closer to the true intrinsic value of the firm. Matched by industry and offering size, indicates that VC backed firms are significantly younger, have greater median book values of assets, and a larger percentage of equity in the capital structure than their non-VC backed counterparts. In addition, VC backed firms are able to attract higher quality underwriters than non-VC backed IPOs. Barry et al (1990) also imply that same observations that venture-backed IPOs are less under priced compared to non-venture backed IPOs. Although, they argue that the difference in the pricing of IPOs is due to the fact that the capital market is aware of IPOs with better monitors. More precisely, venture capitalist fund only the top part of the firms in the market, therefore a better quality from these firms is expected. According to Bharat A. Jain and Omesh Kini (1995) the market appears to recognize the importance of monitoring by venture capitalists and the followed higher valuations at the time of the IPO. They examine the proposition by comparing the post-issue operating performance of venture backed IPOs with a matched sample of non-venture backed IPOs. The results show that the involvement of VCs speeds up the process of development and allows the company to go public earlier than it would be otherwise possible. The companies also go public with a higher valuation than would be possible otherwise, providing issuers with additional capital at the IPO. Further, in the initial stages of a public corporation, VC monitoring adds value as evidenced for improved corporate performance. From the investors’ point of view, VC participation signals quality. This should lead to increased interest in VC-backed IPOs compared to similar non-VC-backed issues. However, in more recent papers the country results have been documented. Lee and Wahal (2000) suggest that for the period between 1980 and 2000, venture backed companies have actually been more under price than non-venture backed. Results show that VC backed IPOs exhibit greater underpriced than non-VC backed IPOs. The return differential ranges %0.5 to %10.3 over the entire sample period. During the internet bubble period of 1999-2000, the differential is significantly larger. The authors interpret these results with the grandstanding hypothesis which in other words indicate a negative correlation between venture firm reputations and underpriced. Since establishing reputation is so important for future fund raising, venture capital firms are willing to bear the cost of underpriced because taking a company public signals quality. Reopening the debate about the role of VC in IPOs Thomas J. Chemmanur and Elena Loutskina (2006) approach the debate from a different perspective and use a different hypothesis. What they suggest is to distinguish between the hypotheses about venture funding mentioned above and include a third probable hypothesis that they refer to as “market power”. It reflects the possibility that venture capitalist can use their powerful positions on the market due to the strong relationships they build with the participants in the market. These long-term connections allow them to pull a higher participation by underwriters, institutional investors or analysts and acquire higher prices for the IPOs of their firms. Venture capitalists may be motivated to achieve higher valuations for the IPOs of firms backed by them, due to concern for reputation with their own venture fund investors and entrepreneurs. This reputation is essential for venture capitalists’ ability to raise financing for future venture funds. Results reject the certification hypothesis and provide significant support for the market power hypothesis. We find that

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venture backed IPOs are much more overvalued than non-venture backed IPOs and that high-reputation VC backed IPOs are more overvalued than low-reputation VC backed IPOs, both at the bid price and at the closing of the first trading day. The difference in valuation between venture backed and non-venture backed IPOs (and between high-reputation and poor reputation VC backed IPOs) becomes larger at the start of trading in the secondary market, but dissipates over time, almost disappearing at the end of the third year after the IPO.

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