Venture Capitalists Under-perform in HK IPO market

Carol Wong, PHD Candidate, Department of Economics and Finance, City University of Hong Kong

Tel: 24254805

Email: 50002787@plink.cityu.edu.hk

Address: Room 802, Chun Kwai House, Kwai Chung Estate, N,T.

December 20, 2004

Abstract

The study empirically investigates the effects of venture capitalist (VC) firms on listed companies in Hong Kong. Although a number of studies about US market have shown the VC value-added in lower underpricing and better post-IPO operational performance of VC-backed IPOs, we find the effects of VCs' participations in Hong Kong are different. We found that VC-backed IPOs underperform non VC-backed IPOs. VC-backed ventures are not benefit from VC's value-adding assistance. The pricing of VC-backed IPOs cannot be reduced. The market performance and the operational performance of IPOs concerned are not better compared with non VC-backed IPOs.

Introduction

A number of studies generally agreed that venture capitalist (VC) is an intermediate external source of financing for small and medium-sized enterprises (SMEs). VC firms not only contribute funding but also provide value-added services to their portfolio companies. VCs also risk their capital and spend time in nurturing young and growing companies. While the initial public offering (IPO) marks the beginning of an association with the firm for the investing public, the event often shows the venture capitalists' calumniation of a successful effort. For example, venture capitalists who backed Apple and Genentech going public in 1980, they earned returns 170 to 1 and 164 to 1, respectively.

1.1 Significance of the Study

Moreover, most venture capital firms are privately owned and there are under no obligation for them to disclose information. Hence it is very difficult to evaluate VCs' value-added contributions and monitoring functions to their portfolio companies. IPOs of venture-backed firms give us a window to examine and test value-adding functions of venture capitalist to their ventures. In this study, we focus on the effects of venture capitalists' participation in IPO companies in an emerging market like Hong Kong and provide a more realistic view through an empirical testing of models on VC effects in listed companies.

Most of literatures on VC-backed companies generally support the value-added functions of VC especially its certification/monitoring role in the IPO process. That is,

VC firms add value to companies in which they invest by certifying them as the most promising ones, and monitoring through the whole process of company growth. Sahlman (1990) found that the reputation factor could control possible false certification by venture capitalists. Barry et al (1990) discovered that the presence of experienced venture capitalists on the board could lower IPO underpricing. Megginson and Weiss (1991) report the certification role of VC firms in the IPO process based on data of the US market. Lerner (1994) reports the better timing of VC firms in the IPO of their portfolio companies while Lin (1996) finds a negative correlation between the shareholding of leading VC firms and their initial returns. Jain and Kini (1995) observe that VC-backed companies exhibit superior post-IPO operating performance compared to non-VC-backed IPO companies, and Brav and Gompers (1997) discover higher long-term returns for VC-backed companies. These studies indicate that VC firms add value to the IPO process and post-IPO operating performance of issuing companies, as well as their long-term market performance.

While previous VC studies are focused on developed countries (e.g., US and Europe), a few studies are concerned Asian rising markets like Hong Kong. There is none that explicitly considers the venture capitalists as an agent in the IPO process although there are theories to explain IPO. Also, there are a few studies on how issues of information asymmetry and adverse selection significantly bring negative effects on the VC investment.

The finance literature on venture capital in Asia is scant for various reasons. Not only do venture capital investments in aggregate are small compared to investments in the equity of publicly traded form, venture capital also has a brief history. Furthermore,

there is the lack of data with which to assess the activities of venture capitalists, as most funds are exempt from the usual financial reporting requirements of pubic companies.

2. Literature Review

There are three major theories to explain the effects of venture capitalists on IPOs. They are Dynamic strategies model, Certification/Monitoring model and adverse selection model.

In the1980s, Dynamic strategies model emerged from Allen, Faulhaber (1988), Chemmanur (1988), Grinblatt and Hwang (1988), Welch (1988) consider the dynamic possibilities in the actions of the insiders like venture capitalists of the firm at the IPO. The insiders would find a more liquid aftermarket for their shares with more underpricing and greater interest generated. Hence, the dynamic strategy model postulates that a firm with good prospects would underprice more at the IPO to create a favourable aftermarket for its seasoned offerings. If venture capitalists add value, venture-backed firm can be considered as firms with better prospects compared with non venture-backed firms. Therefore, venture-backed issues would associate with a higher degree of underpricing.

In the 1990s, another well-accepted model concerning the role of VC firm is the certification/monitoring model from Barry et al (1990), Sahlman (1990) and Jain and Kini, (1995). In the IPO process, this model suggests that VC firms could certify the IPO issuing. Most of literatures on VC-backed companies generally support the VC

certification/monitoring model. That is, VC firms add value to companies in which they invest by certifying them as the most promising ones, and monitoring through the whole process of company growth.

For example, Lam (1991) uses a conceptual model to demonstrate the sources of value added by venture capitalists to their portfolios. Megginson and Weiss (1991) report the certification role of VC firms in the IPO process based on data of the US market. Lerner (1994) reports the better timing of VC firms in the IPO of their portfolio companies while Lin (1996) finds a negative correlation between the shareholding of leading VC firms and their initial returns. Jain and Kini (1995) observe that VC-backed companies exhibit superior post-IPO operating performance compared to non-VC-backed IPO companies, and Brav and Gompers (1997) discover higher long-term returns for VC-backed companies. These studies indicate that VC firms add value to the IPO process and post-IPO operating performance of issuing companies, as well as their long-term market performance.

Akerlof (1970) found that the IPO process is characterized by information asymmetry, i.e., insiders of an issuing firm possess superior information relative to outside investors. To avoid market breakdown resulting from the information asymmetry, third-party certification is introduced to ensure the success of an IPO. Underwriters and auditors as well as stock exchanges contribute to IPO certification process as third parties. According to the certification/monitoring model, the certification role can be better performed by venture capitalists because of two reasons. First, venture capitalists are much more knowledgeable on the issuing firm due to their equity holdings, often holding board seats, and enjoying longer and closer working

relationship with the management team compared with other financial intermediaries. Second, Sahlman (1990) found that the reputation factor could control possible false certification by venture capitalists. Most VC firms raise funds in limited partnerships with finite lifetimes. Hence, the past performance and reputation of VC firms are of utmost importance if they are to successfully raise new funds in the future for survival.

Besides the certification role in the IPO process, this model also accounts for the monitoring role of venture capitalists in the companies they invest in. From the agency approach, VC firms should use various means to monitor their portfolio companies to control the opportunistic behaviors of the entrepreneurs. This could often take the form of stage financing (Gompers, 1995), board membership ([Lerner, 1995]), and detailed legal contracts (Gompers and Lerner, 1996). Besides the controlling effect, VC firms can also add value to their portfolios. Venture capitalists are experienced in steering start-ups along the development path. Even after the IPO, since most venture capitalists may continue to hold significant equity stakes and board seats for one to two years, they could still actively advise their portfolio companies and help their further growth.

This model is empirically supported by several studies in the US. Barry et al (1990) discovered that the presence of experienced venture capitalists on the board could lower IPO underpricing. Megginson and Weiss (1991) reported that VC-backed companies enjoy lowered initial returns, higher net proceeds and higher institutional holding. VC-backed IPOs are also associated with higher quality underwriters and auditors. Jain and Kini (1995) reported worse operating performance of VC-backed companies in the IPO year compared with non-VC ones since the VC certification reduced the need for excellent operating performance to impress public investors.

Furthermore, they confirm the monitoring role of VC firms after the IPO to post-IPO operating performance. They found that VC-backed companies perform better in the post-IPO period although the difference declined gradually with firm aging.

The third well-known model regarding the negative effect of VC in IPO is adverse selection/grandstanding model. It is firstly proposed by Gompers in 1996, which predicted that new venture capitalists had incentives to signal their ability to potential investors by bringing investees to the public sooner than veteran venture capitalists. As the lifetime of VC funds was typically ten years, venture capitalists must therefore periodically raised follow-on funds to keep active in the VC market. For new VC firms without much reputation, the performance of their first funds became essential to the success of their subsequent fundraising. They need good track records such as IPOs to improve their public image in the capital market and to increase the likelihood of new fundraising success. Thus, their portfolio companies might go public prematurely and end up performing poorly. The inexperience of young VC firms, and thus less value-added support, might further contribute to the poor performance of their IPO portfolios.

Amit et al (1990) theoretically propose the adverse selection problem when venture capitalists search for start-ups to invest in. Associated with asymmetric information, adverse selection means less capable entrepreneurs will choose to involve venture capitalists to share the risk while more capable entrepreneurs will manage their ventures without seeking for external participation. The conflict of interests between venture capitalists and entrepreneurs will also have post hoc effects. Gompers (1996) hypothesizes the "grandstanding" of young VC firms, as they are more likely to conduct IPOs prematurely to falsely signal their reputation and performance. Hamao

et al (2000) report a similar conflict of interests in a study on VC-backed IPOs in the Japanese market. They find deep underpricing of securities-affiliated VC-backed IPOs when the leading venture capitalist is also the leading underwriter.

The three models give different empirical predictions in both VC-backed IPO and post-IPO performance. In the IPO process, the dynamic strategy model postulates that venture-backed issues would associate with a higher degree of underpricing. The certification/monitoring model predicts lower underpricing and lower IPO cost for VC-backed IPOs while the adverse selection/grandstanding model predicts higher IPO cost and higher underpricing due to the high risk associated with VC-backed IPOs.

The above studies are mainly fallen into the period of 1980s and 1990s. To some extent, there are a lot of changes in economic development and financial system of most countries. These studies could not be applicable in the current situation especially in Asian emerging markets. The scopes of studies are not comprehensive enough to examine the VC performance in IPO. Some of important factors are not investigated such as industries involved and offering size in IPOs. Worse of all, the studies are involved in geographical bias. Most of them are mainly focused on the US and European markets. The findings could not totally relevant in the Asian market because of difference in financial system and economical policy between Asian markets and foreign markets.

In this study, we add value to the above studies and tend to solve their drawbacks. Hence, we can provide a clear picture of the effects of VC participation in IPO companies in an emerging Asian market – Hong Kong. We also investigate how

issues of information asymmetry and adverse selection damage VC's monitoring role in IPO process. Our study provides a more realistic view through an empirical testing of is one of the few empirical VC studies in the Asian emerging markets.

We choose the Hong Kong VC market as the sample in this study because of its relatively large size and industry breadth among emerging markets. In terms of size, Hong Kong VC pool is the second largest in Asia, next only to Japan. In terms of industry breadth, the industry distribution of VC-backed companies in Hong Kong is broader with a higher concentration in high-technology sectors e.g., IT, electronics. Investigation in this emerging market can add insights to the understanding of VC mechanism, especially in environments outside of the United States. In Hong Kong, over 80% of companies are small-medium enterprises (SME), which are major forces to push economic growth. Most of such small-medium enterprises are facing difficulties to obtain banking loan. Venture capital financing support and value-added services to SME become more and more important.

3. Hypotheses to be Investigated

In the study, we will investigate the IPO and post-IPO performance difference between VC-backed and non VC-backed IPOs. Below are five hypotheses to be tested:

To compare the difference between IPO performance, so

1. The first hypothesis states that the level of underpricing of IPO will be the same for VC-backed IPOs and non-VC backed IPOs on average.
2. The second hypothesis asserts that a significant relationship between initial return and IPO characteristics (VC dummy, age of ventures, industry, issue proceeds, asset, sales, market cap).
3. The third hypothesis states that the P/E ratio will be the same for VC-backed IPOs and non-VC backed IPOs on average.

To compare post-IPO market performance and operational performance, so

4. The fourth hypothesis that VC-backed firms do the same as non VC-backed firms in terms of 1-week aftermarket excess returns 1-month aftermarket excess returns and 1-year aftermarket excess returns.

5. The fifth hypothesis that VC-backed firms do the same as non VC-backed firms in terms of earning per share, operating return on asset, operating return on equity, and operating profit margin

4. Data and Sample

In order to test the VC value-adding impacts on IPO performance in the Hong Kong, we collected a sample size of 67 VC-backed IPOs with 291 non VC-backed IPOs from 1999 to 2003. The offerings are made by domestic issuers. This avoids difficulty in comparing information about foreign firms and domestics firms because of difference in accounting policy, political risks and operational environments etc. These domestic firms did not issue concurrent debt or attached warrants. This selection criteria avoids differences in initial performance attributable to the presence of the debt issue and keep away from the complexity in valuation due to the presence of warrants. The details of each IPO have been collected from different sources e.g. Journal of Asian Venture Capital, websites of the Stock Exchange of Hong Kong, the Growth Enterprise Market and DataStream database.

5. Methodology and variables used

To test our hypotheses, we regress initial return on control variables and a dummy variable accounting for difference in initial return between VC-backed and non VC-backed IPOs. Besides, we estimated the impact of VC on IPO valuation, aftermarket excess return and post-IPO operational performance. The regression equation estimating the determinants of underpricing, includes 7 variables which are a dummy variable indicating VC-backed or not, age of ventures, industrial classification of ventures, natural logarithm of offer proceeds, natural logarithm of market capitalization, total assets and total sales. Among the seven variables, age of ventures

and offering proceeds are the most commonly used proxies for ex ante uncertainty. We also employ industry classification to test the industrial effect of ventures on the underpricing.

6. Empirical evidence

Table one shows a summary statistics of the samples by year and by VC-backing. It shows an increasing trend of VC-backed IPOs from the period of 1999 to 2003. Among 358 IPOs, VC-backed IPOs account for approximately one-sixth of total issues.

Table 1: Distribution of IPOs by year, venture backing and non venture backing

Year	Venture Capital	% of all IPOs in the year	Non Venture Capital	% of all IPOs in the year	Total
1999	3	7%	38	93%	41
2000	14	19%	59	81%	73
2001	15	20%	59	80%	74
2002	17	20%	70	80%	87
2003	18	22%	65	78%	83
Total	67	19%	291	81%	358

6.1 Comparison of initial returns of all IPOs

Table 2 shows that all 358 IPOs is significantly underpriced by an amount of 0.06% on average. VC-backed IPOs are more underpriced than non VC-backed IPOs by 8% and there is a statistical significance (t-statistics 2.308). Hence, we could reject the

first hypothesis that the level of underpricing of IPO is the same for VC-backed IPOs and non-VC backed IPOs on average. The finding also supports the Dynamic strategies model postulate that VCs tend to underprice at the IPO to create a favorable aftermarket for its seasoned offerings. Due to time and resource constraints, we cannot further investigate seasoned offerings of the VC-back companies. However, one possible for the result is the difference in the IPO characteristics of the VC-backed and non VC-backed IPOs.

Table 2: Comparison of the mean initial returns of all IPO from 1998 to 2003

IPO cases	Number	Mean initial return	Test of difference from zero of mean initial returns t-statistics
All IPOs	358	0.06%	0.054
Venture backed IPOs	67	8%	1.556
Non venture backed IPOs	291	0.03%	0.054

Remarks: t-test of difference between mean initial returns of venture-backed and non venture-backed IPOs: t-value 2.308

6.2 Comparison of IPO characteristics

Difference in the IPO features of the venture capital and non venture capital samples will be reasons to worsen the issues of information asymmetry and weaken the monitoring function of VC. For example, younger ventures have higher degree of information asymmetry than older ones. Table 3 presents a summary statistics that shows a detailed picture at the differences of IPO characteristics. For example, venture-backed firms have shorter operating histories, smaller market capitalization and lower offer size. Table 4 also shows distribution of IPOs by industries and it that most of VC-backed firms are involved in IT-related industries such as

telecommunications and computer related industries. However, most of non VC-backed firms are in traditional industries such as business service.

Table 3: IPO characteristics – Comparison of means venture-backed versus non venture-backed

Characteristic	All IPOs	Venture-backed IPOs	Non Venture-backed IPOs	Difference between means venture-backed versus non venture-backed t-values
Years since incorporation	10	6	11	6.84*
Asset (HK$, 000)	5,072,063	238,239	6,159,255	2.32*
Offer price (HK$)	2.1	1.97	2.1	1.68
Sales (HK$, 000)	2,634,464	171,761	3,188,359	2.89*
Market capital (HK$, 000)	1,840,000	338,000	2,187,000	1.96*
Offering size (HK$, 000)	992,998	754,329	1,048,139	2.08*

* Significant at 5 %

Table 4: Descriptive statistics of IPOs by Industries

Venture-backed IPOs

Industry	Count	Mean	Min	Max	Std Dev
Business services	11	-7.52	-45.30	18.80	16.76
Chemicals services and chemical products	4	0.93	0.00	3.70	1.85
Computer, computer peripherals and software packages, computer service	21	-2.88	-31.80	10.10	8.70
Manufacturing (include clothing related, electronic, food, paper)	7	1.23	-10.80	23.00	10.58
Retail	4	-1.03	-3.80	1.40	2.24
Telecommunications	20	-0.37	-30.20	10.80	8.14

Non Venture-backed IPOs

Industry	Count	Mean	Min	Max	Std Dev
Agriculture and Fishing, Mining and Quarrying	3	3.87	0.00	7.90	3.95
Business services	22	1.79	-16.90	24.20	8.46
Chemicals services and chemical products	34	-1.81	-28.60	26.70	8.44
Computer, computer peripherals and software packages, computer service	43	0.96	-17.30	36.70	8.86
Construction	9	-0.18	-10.80	6.00	5.40
Electricity, Gas and Water	11	2.09	-7.10	15.70	5.53

Finance, insurance and investment companies	25	-2.96	-20.00	31.20	9.53
Manufacturing (include clothing related, electronic, food, paper)	73	-0.36	-22.10	26.60	8.19
Mining and Quarrying	1	4.40	4.40	4.40	
Others	4	-0.65	-11.30	8.70	8.20
Real estate	7	-2.16	-16.90	7.10	7.95
Retail	13	2.48	-6.40	17.50	7.32
Telecommunications	39	-2.89	-20.60	16.00	10.02
Transport	7	-2.16	-12.20	3.20	5.21

6.3 Determinants of Underpricing

Table 5 shows the detail result in which dummy variable, natural log of gross proceeds and market capitalization are found significant positive. It indicates that VC-backed IPOs exhibit an increase in underpricing relative to non VC-backed IPOs. On average, the rise in underpricing is nearly 3% on average (t-statistics 2.64). The result presents that VC certification though pre-IPO investment appears to be limited to Hong Kong ventures and the existence of VC on the board could not lower IPO underpricing. The finding is contrary to a number of studies shown VC value-added in lower underpricing e.g. Barry et al (1990) and Megginson and Weiss (1991). It is said that information asymmetry and adverse selection significant damage VC's value-added function. We try to divide the sample into a number of subgroups by industry, by year and by to control their effects on the result but the result is consistent.

Table 5: OLS regressions of initial return against whether or not the issue is VC backed up (dummy), year from incorporation date to offer date (age), log of proceeding year's revenue (LOG_PROC), log of market capitalization (LOG_MC), log of asset (LOG_ASSE), log of sale (LOG_SALE), and industrial classification (IND)

	Coefficients	t- statistics value
(Constant)	0.09	2.828
VCDUMMY	0.0282	2.636***
AGE	-0.0003	-.306
LOG_PROC	-2.659	-71.881***
LOG_MC	2.656	71.730***
LOG_ASSE	0.0042	.475
LOG_SALE	-0.0129	-1.679
IND	-0.0007	-.771

Remarks: Adjusted R Square = 0.939 and F-statistics = 770

6.4 IPO Valuation

We also study how VC affects the level of the pricing of IPOs in Hong Kong relative to non VC-backed IPO. In the table 6, there are means of P/E ratios of VC-backed IPOs and Non VC- backed IPOs as well as t-statistics value for the difference. VC-backed IPOs have a mean of 62.7 which is higher than that of 33 for non VC-backed IPOs. However, we cannot reject the third hypothesis that the P/E ratio is the same for VC-backed IPOs and non-VC backed IPOs on average because the statistical significance of the difference is not significant (t-statistics 1.297).

Table 6: Comparison of the mean P/E ratio of all IPO from 1998 to 2003

IPO cases	VC-backed IPOs	Non VC- backed IPOs	T- statistics value
Mean P/E ratio	62.7	33.1	1.297

6.5 Market Performance of the IPO

Table 7 reports no long-term significant return difference between VC-back IPOs and non VC-back IPOs but a significant one-week excess return. It is inconclusive to reject or accept the fourth hypothesis that VC-backed firms do the same as non VC-backed firms in terms of 1-week aftermarket excess returns 1-month aftermarket excess returns and 1-year aftermarket excess returns. However, the finding shows a better performance of VC-backed IPOs in a short-term period. The result is different from Brav and Gampers (1997), which present a better market performance of VC-backed IPOs. The worse long-term performance of VC-backed IPOs is attributed of the fact that the positive effect of VC value adding function is offset in long term by adverse selection effects.

Table 7: Comparison of aftermarket excess return of 358 IPOs

	VC-backed IPOs	Non VC- backed IPOs	Test of difference venture-backed versus non venture-backed t-values
1-week	4.4%	-2.45%	2.56*
1-month	7.2%	-1.4%	1.8
1-year	2.5	2.1	1.3

Significant at 5% level
The excess return is the buy-and-hold return adjusted by Hang Ssng index

6.6 Operational Performance After the IPO

In the section, we report the operational performance of two groups after IPO. We employ a number of financial ratios to measure the operational performance. The ratios include earning per share (EPS), operating return on asset (ROA), operating

return on equity (ROE), operating profit margin (margin). The result presents that IPOs back-up by VC tend to perform worse than non VC-backed IPOs. In the second year after IPO, EPS for VC-backed IPOs are lower than non VC-backed IPOs by 8%. Although ROA of VC-backed IPOs increases from 13.65% to 16.18%, it is still lower than non VC-backed IPOs by more than 50%. VC-backed ventures are still in significant loss in the first and second year. The finding is contract to the certification model that VC firms add value to companies in which they invest by certifying them as the most promising ones, and monitor the whole process of company growth.

The result only reflects a significant difference in operating profit margin, so we cannot reject the fifth hypothesis that VC-backed firms do the same as non VC-backed firms in terms of earning per share, operating return on asset, operating return on equity, and operating profit margin

Table 8: Comparison of the operational performance in the first year after IPO

IPO cases	VC-backed IPOs	Non VC- backed IPOs	T- statistics value
EPS	0.1127	0.1599	0-.980
ROA	13.6513	33.5340	-1.427
ROE	30.0371	49.9132	-0.636
Margin	-69.4191	11.7577	-2.608***

Significant at 1% level

Comparison of the operational performance in the second year after IPO

IPO cases	VC-backed IPOs	Non VC- backed IPOs	T- statistics value
EPS	0.1144	0.03134	1.316
ROA	16.1825	35.2712	-1.427
ROE	31.1283	42.1932	-0.636
Margin	-52.1291	12.3512	-2.168***

Significant at 1% level

7. Implications and Discussion

There is a significance difference in VC-backed and non VC-backed IPO performance. Most of important, our finding are different from a number of studies which support the VC's value-adding and certification role to ventures in which they invest by certifying them as the most promising ones, and monitoring through the whole process of company growth. Our findings also prove that the previous studies are involved in geographical bias. Although VC value-adding function works in the USA or European markets, it cannot be totally applied in Asian rising markets. Venture capitalists in Hong Kong could not efficiently function their monitoring / certification role due to different issues such as adverse selection or other problems concerned.

In the study, we found that VC-backed IPOs are involved in higher underpricing than non VC-backed IPOs. There is a-week excess return, too. It is doubtful whether VCs certify the right issuing or they want to create a more liquid aftermarket for their shares with more underpricing and greater interest generated

Due to resource constraint and data not availability, a number of interesting topics cannot be covered in the study. For example, do venture-backed ventures underprice more at the IPO to create a favorable aftermarket for its seasoned offerings? Is there any relationship between the working experience of VC and VC-backed IPO performance? Do venture capitalists help venture receive better credit rating through their connections with bankers? Due to a shortage of data, we could not study the investment stage at which they invested and whether this has an impact on the IPOs.

Reference

1. Amit R., Glosten, L., Muller E., 1990. Entrepreneurial ability, venture investments and risk sharing. Management Science 36, 1232–1245.

2. Barry, C.B., Muscarella, C.J., Peavy III, J.W., Vetsuypens, M.R., 1990. The role of venture capital in the creation of public companies. Journal of Financial Economics 27, 447–471.

3. Brav, A., Gompers, P.A., 1997. Myth or reality? The long-run under performance of initial public offerings: Evidence from venture and non-venture capital-baked companies. Journal of Finance 52, 1791-1821.

4. Gompers,. P.A., 1996. Grandstanding in the venture capital industry. Journal of Financial Economics 42, 133–156

5. Jain, B., Kini, O., 1995. Venture capitalist participation and the post-issue operating performance of IPO firms. Managerial and Decision Economics 16, 593–606.

6. Lerner, J., 1994. Venture capitalists and the decision to go public. Journal of Financial Economics 35, 293–316

7. Lin, T.H. 1996. The certification role of large block shareholders in initial public offerings: The case of ventures capitalists. Quarterly Journal of Business and Economics 35, 55-65.

8. Megginson W., Weiss, K., 1991. Venture capitalist certification in initial public offerings. Journal of Finance 46, 879–903.

9. Miller, R.E. and Reilly, F.K., 1987. An examination of mispricing, returns and uncertainty for initial public offerings. Financial Management 46, 33-38

10. Ritter, J., 1984. The ‘hot issue’ market of 1980. Journal of Business 57, 215-240