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Nobuhiko Hibara
University of Saskatchewan

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Grandstanding and Venture Capital Firms in Newly Established IPO Markets

Nobuhiko Hibara^{*}
University of Saskatchewan

and

Prem G. Mathew^{}**
Oregon State University

The grandstanding theory posits that young venture capital firms (VCs) will seek to build their reputations by taking ventures public early. In this study, we examine this theory in the Japanese IPO market. With the introduction of MOTHERS and NASDAQ Japan in 1999 and 2000, respectively, with the explicit intent of catering to smaller and younger companies, we are able to examine the influence of these new markets on grandstanding and the IPO process. We find that young lead VC-backed ventures go public at a younger age than mature lead VC-backed ventures and that young lead VC-backed ventures are more underpriced. However, we do not find that young lead VCs have relatively lower equity stakes at IPO. This latter finding is most likely a result of the introduction of the new markets.

I. Introduction

A reputation builds credibility and credibility is what builds a business. This phrase is particularly appropriate in describing the venture capital industry. In order for a venture capital firm (VC) to be successful, they must develop a reputation that indicates that they have the ability to monitor and guide a venture from the time financing is initially provided through

^{*} Nobuhiko Hibara is an Associate Professor of Finance at University of Saskatchewan, Canada. He specializes in financial intermediation and corporate finance. In particular, his research focuses on venture capital firms and banking. He received his PhD from Columbia University in 2002.

^{**} Prem G. Mathew is an Assistant Professor of Finance at Oregon State University. His research interests include new security offerings, financial intermediation, securities regulation and corporate governance. He received his PhD from the University of Missouri in 1999.

to successful exit. Regardless of the monitoring skills of the VC, the visible signal of a successful venture is when the VC exits its investment by taking the firm¹ public. As a particular VC takes an increasing number of firms public, it will develop reputational capital, indicating to entrepreneurs and capital providers that the VC's involvement in a venture serves as a credible signal of the quality of the venture. This, in turn, allows the VC to raise capital for future ventures and additional stages of financing for current ventures, thus building their business.

VCs that are not well-established, therefore, have a strong incentive to take firms in which they have invested public as soon as possible, thus building their reputational capital. This theory, developed by Gompers (1996), is referred to as the grandstanding theory. Mature or well-established VCs do not have this incentive as we presume that they have already developed a reputation. The primary implication of this theory is that firms in which the lead VC is young (i.e., not well-established) will go public sooner than similar firms in which the lead VC is mature.

Gompers (1996) argues that there are costs associated with taking a firm to IPO too soon. First, the level of underpricing associated with a firm that goes public at an earlier age will be greater. Ritter (1987) posits that a firm that goes IPO earlier has greater uncertainty surrounding the quality of the firm. Therefore, in order for investors to be compensated for this greater level of risk, the new issue must be more underpriced. This argument is also consistent with Rock's (1986) asymmetric information model. Second, Gompers (1996) argues that for taking the company public early, young VCs will receive a smaller equity stake in the venture at IPO.

The grandstanding theory has been empirically examined in the U.S. by Gompers (1996), among others. He finds that ventures in which a young VC is lead are taken public earlier than ventures backed by mature lead VCs. Additionally, young lead VC-backed firms are more underpriced at IPO and the VC equity stake is significantly smaller than for mature lead VC-backed firms. These findings are consistent with the grandstanding theory. Barnes and McCarthy (2004) examine this theory for VC-backed IPOs in the UK. Although they find that the firm age at IPO is less for young lead VC-backed firms, they do not find that the costs to the VC for taking the firm public is greater, i.e., no significant difference in underpricing or VC equity stake.

In this study, we examine the grandstanding theory in the Japanese capital markets. Until recently, the Japanese venture capital (VC) market could be described as unreceptive because of the restrictions on the initial public offering (IPO) process and the lack of attractive avenues of exit. Additionally, because of the prominent role that banks play in the establishment of new firms, the need for venture capital at earlier stages was less than in stock-market centered economies such as the U.S.

Prior to 1999, for an entrepreneur seeking to take his company public, the over-the-counter (OTC) market was one viable option.² This market was founded by the Japan Securities Dealers Association (JSDA) in 1963 and is also commonly referred to as JASDAQ. Included in the OTC's listing requirements are at least one year of profitability, and an asset

¹ In this and subsequent discussion, "firm" represents the entrepreneurial firm in which the VC has invested.

² Tokyo Stock Exchange Sections 1 and 2 as well as regional exchanges could be alternative options for listing but young firms generally do not meet the listing criteria.

base of at least Yen 200 million.³ The average age of the firm at IPO is about 23 years on this exchange. This is substantially greater than in the U.S. Gompers (1996) finds that the average firm age at IPO of VC-backed U.S. firms is between 4.5 and 8 years depending on whether a young or mature VC is lead.

The introduction of the market for high-growth and emerging stocks as a new section of Tokyo Stock Exchange (called “MOTHERS”) in 1999 and NASDAQ Japan⁴ in 2000 provided VC firms with a more efficient means of exiting their investments as listing requirements on these exchanges are much less stringent than the OTC market. NASDAQ Japan allows firms to list using either the growth criteria or the standard criteria. The growth criteria requirements tend to be less stringent than the standard criteria and the two criteria are designed to cater to different sets of clients.

These new exchanges, therefore, provide opportunities, which were previously unavailable or limited, to small firms and entrepreneurs to raise money through equity offerings. Black and Gilson (1998) suggest that the introduction of new markets in an economy can lead to an influx of VCs as exit through IPO is made substantially easier. The view is supported in Japan as the number of VCs has increased over the past few years. Additionally, as we will present later, the mean firm age at IPO has also dropped significantly.

In this study, we contribute to the literature in the following ways. First, we examine the grandstanding theory developed by Gompers (1996) in Japan. To our knowledge, we are the first to do so. Second, we examine the influence of the introduction of new exchanges on the benefits and costs of grandstanding.

We find that firms that have lead VCs that were established during or after 1990, which we classify as young VCs, tend to go public at a relatively younger age when compared to firms that have lead VCs that were established prior to 1990. We classify the latter type of VC as a mature VC. This finding provides support to the grandstanding theory.

We also find that young lead VC-backed firms are more underpriced than mature lead VC-backed firms. This suggests that young VCs are willing to incur the costs of greater wealth transfer from themselves (as well as other pre-IPO shareholders) to post-IPO shareholders for taking the firm public thus allowing the young VCs to build their reputation. Ritter (1987) finds that firms that go public at an earlier age are required by investors to be more underpriced because of the greater uncertainty about the quality of these firms at IPO. Our finding is consistent with Ritter’s (1987) contention and findings. However, we do not find significant differences in the VC equity stake of young and mature lead VCs at IPO.

The remainder of the paper is organized as follows. In section II, we describe our data and provide comparative and descriptive statistics of our sample. In section III, we present our hypotheses and findings and in section IV we provide our concluding remarks.

I. Data

We obtain our data from the annual issues of the *White Papers of Initial Public Offerings* in Japan. Table 1 provides the summary statistics for our sample as well as a breakdown of our sample based on lead VC age. We classify mature VCs as those that were

³ Special rules listing requirements for the OTC are less stringent, but very few companies have been listed following the special rules.

⁴ In 2003, NASDAQ broke its ties the Osaka Stock Exchange, the sponsoring exchange for NASDAQ Japan. The exchange has since been renamed Hercules and has been remodelled.

established prior to 1990 and young VCs as those that were established during or subsequent to 1990. Of the 318 IPOs that went to market between 2000 and 2002 in Japan, 207 had mature lead VCs and 111 had young lead VCs. The average firm age at the time of IPOs with a mature lead VC is 21.6 years. With a young lead VC, the average firm age at IPO is 12.3 years. This difference of 8.3 years is significant at the 0.1% level. Although other firm characteristics presented in Panel A of Table 1, such as sales, assets and book value, are greater for firms where there is a mature lead VC, none of the differences are significant.

In Panel B of Table 1 we provide offering characteristics of our sample. We find that the average gross proceeds when the lead VC is mature (young) is 1,986 (3,046) million Yen. This difference is not significant at the 10% level. However, we find that issues that are taken public by young lead VCs have, on average, a greater first day return (i.e., underpricing) of 28.9% than those taken public by mature lead VCs. This difference is significant at the 1% level. We also find that the total equity share of all VCs involved and the equity share of the lead VC in an offering is greater when the lead VC is young. Both these differences are significant at the 1% level.

Table II provides a breakdown of our sample based on the IPO listing exchange. The majority of firms (73%, 151 of 207) where the lead VC is mature list on the over-the-counter (OTC) market, whereas when the lead VC is young, 55% (61 of 111) of the firms list on one of the two new exchanges (MOTHERS or NASDAQ Japan). We also find a greater predominance of VC-backed IPOs listed on MOTHERS and NASDAQ Japan where more than 80% of the IPOs are VC-backed, whereas only 77% of the firms listing on the OTC are VC-backed. The OTC, however, continues to be the major market for new listings.

Panel B of Table II provides a breakdown of our sample by exchange and by year. We find that mature lead VC-backed firms are increasingly using the OTC as the listing exchange. In 2000, 67% (59 of 88) of the firms taken public were listed on the OTC. By 2002, the percentage had risen to 77% (36 of 47). We observe the opposite trend when the lead VC is young. In 2000, 53% (20 of 38) of the firms taken public with a young lead VC listed on the OTC. By 2002, only 39% (12 of 31) of these firms listed on the OTC.

III. Hypotheses and Empirical Findings

A. Firm age

Gompers (1996) argues that a VC's ability to bring a firm to IPO is a signal that the VC is of quality. Therefore, for VCs that are not well-established, there is an incentive to take firms public as quickly as possible. Essentially, each IPO that the VC takes public builds reputational capital for the VC. Less consideration is given as to whether the timing of the IPO is optimal from the firm's perspective. Conversely, mature VCs do not have the same incentive to take firms public early as they have a developed reputation. Gompers (1996) findings are consistent with this contention. The above rationale leads us to the following hypothesis:

H1: Firm age at IPO is greater when the lead VC is mature

Table III presents the results of our examination of *H1*. We consider all VCs that were established prior to 1990 as mature VCs and those that were established during or

subsequent to 1990 as young VCs.⁵ In the two Ordinary Least Squares (OLS) regression models presented in this table, firm age is the dependent variable and we assign a value of 1 for the VC age dummy if it was established during or subsequent to 1990, and 0 otherwise. Similar to the findings of Gompers (1996) and supportive of *H1*, we find that the VC age dummy is negative and significant at the 0.1% level which means that young (mature) VCs are associated with younger (older) firms. In other words, firms backed by young VCs are taken public sooner than firms backed by older firms.

Gifford (1997) offers an alternative explanation for this finding. She argues that a young VC may bring a firm to IPO earlier because the VC may have a smaller investment portfolio thus allowing the VC to devote more time to a particular venture. Based on the number of successful ventures⁶ (i.e., firms taken to IPO) completed by the VCs in our sample, the contention that mature VCs have larger portfolios than smaller VCs is supported. We find that the average number of successful investments for mature lead VCs is 21.3 whereas the average number of successful investments for young lead VCs is only 5.0. The difference is significant at the 1% level.⁷ However, to claim that this leads to less monitoring and attention paid to the ventures by mature VCs implicitly assumes that the resources available to young and mature VCs, in terms of portfolio management and monitoring of firms, are equal. This seems unlikely. For example, as of March 2003, JAFSCO, a mature VC established in 1973, had 110 venture capitalists working for the company, whereas NTVP, a young VC established in 1998, only had 10 venture capitalists. Therefore, we discount this theory as a possible explanation for our findings and suggest that it is supportive of Gompers' (1996) grandstanding theory. Additionally, inclusion of investment portfolio size as an explanatory variable in our models results in insignificant coefficients and no change in the significance of the remaining variables.

Some of the other results that we find in these regressions are worth noting. First, in Model (1), we include dummies for the exchange on which the firm lists. As there are essentially three choices, we include dummies for two exchanges only, MOTHERS and NASDAQ Japan. We find that both these exchange dummies are negative and significant at least at the 1% level. This suggests that young firms (and consequently young VCs) prefer to list on these two markets rather than the over-the-counter (OTC) market. This result is also consistent with our exchange market statistics in Table II. There we showed that in 55% (61 of 111) of the IPOs in which a young VC is the lead, either MOTHERS or NASDAQ Japan was chosen as the listing exchange. When a mature VC is the lead, firms list on one of these two exchanges only 27% (56 of 207) of the time.

In Model (2), we include dummy variables for NASDAQ Standard and Growth criteria. We find that the dummy for standard criteria is negative and significant at the 0.1% level. This suggests that younger firms that list on NASDAQ Japan tend to do so using the standard criteria. This finding is somewhat counter-intuitive as we would have expected

⁵ For robustness, we also use 1991 and 1992 as cut-off years for establishing VC reputation in this and all subsequent tests. The results, not tabulated, are qualitatively similar.

⁶ To accurately measure VC investment portfolio size, we need the number of firms that the VC has taken public as well as firms that the VC is in the process of developing. Unfortunately, we do not have access to the latter data to empirically verify or discount Gifford's (1997) theory. We provide differences in successful investments only.

⁷ These results are not tabulated.

younger firms to use the growth criteria for listing as the listing requirements are easier to meet.

We also find that the quality of the underwriter associated with the IPO is positive and significant at the 10% level. We measure underwriter quality by the percentage of all IPOs during 1998 to 2002 in which the underwriter was the lead. So, for example, if there were 10 IPOs during the period and an underwriter that served as the lead in two IPOs (20%) during that period would be considered of higher quality than an underwriter that served as a lead for just one IPO (10%). This measure is also used by Megginson and Weiss (1990) in determining underwriter reputation. Our findings suggest that more reputable underwriters are associated with older firms. This is consistent with Carter and Manaster's (1990) theory that more prestigious underwriters will choose to underwrite lower risk firms in order to maintain their reputations. Since older firms are generally considered to be less risky, the positive association that we find between firm age and underwriter quality is expected. In both of the models in this table we include controls for firm size and IPO proceeds as Gompers (1996) does.

B. Underpricing

If taking a firm public early had no associated costs, then it is likely that even mature VCs would continue to do so as it will further build their reputational capital. However, there are explicit costs to the VC for doing so. One of these costs is associated with the underpricing of the issue. This underpricing refers specifically to the returns generated on the first day that the new issue is listed. Ritter (1987) argues that the greater the uncertainty associated with an issue, the greater the level of underpricing required by investors. As younger firms have less information available to assess the quality and prospects of the firm, investors will require issues by these firms to be more underpriced. This argument is consistent with Rock's (1986) information asymmetry model and empirical findings of Barry, Muscarella, Peavy, and Vetsuypens (1990). As the VC holds a stake in these firms, the greater the level of underpricing, the greater is the level of wealth transfer from the VC (pre-IPO shareholder) to new shareholders. Since we find that young lead VCs take firms to IPO at an earlier age, the increased underpricing of the issue represents an explicit cost to the young lead VC. Additionally, Barry, Muscarella, Peavy, and Vetsuypens (1990) find that, in the U.S., IPOs with mature lead VCs are less underpriced as they are able better able to certify firm quality at IPO. Related to these arguments, our second hypothesis is as follows:

H2: Firms backed by young VCs are more underpriced at IPO

Table IV presents the results of our examination of *H2*. We present three OLS models where underpricing is the dependent variable and is measured as the percentage return on the first day of listing of the new issue. Models (1) and (2) are similar in construct to the two models presented in Table III. Model (3) includes a control for the age of the firm. We find that the VC age dummy is negative and significant at the 5% level even after controlling for firm age. This suggests that a greater level of underpricing is associated with IPOs in which young VCs are the lead. These findings are consistent with Gompers (1996) and supportive of *H2*.

We also find that our exchange dummies are insignificant which implies that the level of underpricing is essentially the same regardless of which exchange the firm chooses to list. Similarly, the underpricing of the issue is insignificantly different for firms that use the NASDAQ Japan standard criteria and for firms that use the NASDAQ Japan growth criteria. Finally, we find that underwriter quality does not significantly affect the level of underpricing. This finding is consistent with Hibara and Mathew (2004) who suggest that there is generally not much choice in the selection of underwriter as this is often dictated by the choice of VC in Japan since this latter decision is made well before the former. Underpricing, therefore, is related to the choice of VC and not the choice of underwriter.

C. VC's equity stake

A second explicit cost to the VC for taking a firm public earlier is a relatively lower equity stake in the IPO. Gompers (1996) argues that young lead VCs could have less opportunity to increase their equity stake in the venture because the relationships with firms are shorter as a consequence of taking them public sooner. Therefore, percentage VC equity stake should be significantly lower than for firms with mature lead VCs. Related to this argument, our third hypothesis is as follows:

H3: Firms backed by young lead VCs have lower VC equity stakes.

Table V presents the results of this analysis. The three OLS models presented are similar in construct to those presented in the previous section. In these models, the dependent variable is the percentage VC equity stake at IPO. We find that the VC age dummy is insignificant in all three models, which means that there is no relationship between the VC equity stake and the age of the VC. Additionally, there are no significant differences in percentage VC equity stake across exchanges as all exchange dummies are insignificant. Therefore, our results are inconsistent with Gompers (1996), consistent with Barnes and McCarthy (2002) and allow us to reject *H3*. It also suggests that in a setting where new markets are introduced to facilitate firms going public, VCs that take firms public early do not face the explicit costs of relatively lower equity stakes associated with the IPO process.

III. Conclusion

With the introduction of new outlets for going public, such as MOTHERS and NASDAQ Japan, with relatively less stringent listing requirements than on existing exchanges, venture capitalists in Japan now have a greater incentive to operate in this market as exiting from their venture investments has become easier. As young VCs enter this market, the need to build and develop a reputation is essential. The grandstanding theory suggests that young VCs build their reputation by taking firms public, therefore, the more firms a VC takes to IPO, the better. The theory predicts that young VCs have an incentive to take firms to IPO quickly so as to provide a signal to entrepreneurs and capital providers that they have the ability to successfully complete their venture investments. In this study we examine the grandstanding theory in Japan. We use data for IPOs from 2000 to 2002 as these years represent the period immediately after the introduction of the new exchanges. As such, we are able to examine the effect of these new exchanges on the costs of grandstanding.

We find that young lead VC-backed firms tend to go public at a relatively younger age when compared to firms that have lead VCs that are well-established. This is consistent with the grandstanding theory. We also find that young lead VC-backed firms are more underpriced than mature lead VC-backed firms. This suggests that young VCs are willing to incur the costs of greater wealth transfer from themselves to new shareholders for taking the firm public early. Although we do not empirically examine the optimality of IPO timing in this study, we believe it is an interesting avenue for future research. However, we find that the VC equity stake at the time of IPO is not significantly different for young and mature lead VCs.

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Table I
Comparative Statistics of Japanese IPOs from 2000 – 2002

This table provides characteristics of the IPO firm and offering for Japanese IPOs from 2000 – 2002. Statistical differences in characteristics between IPOs in which there was a mature lead VC and a young lead VC are provided in the final two columns. A mature (young) lead VC is defined as one that was established prior to 1990 (subsequent to or during 1990). Bold-faced p-valued represent differences between mature lead VC and young lead VC that are significant at the 5% level or greater.

| | Total Sample (318 IPOs) | | Mature lead VC(207 IPOs) | | Young lead VC (111 IPOs) | | Mean Comparison | |
|---|-------------------------|--------|--------------------------|--------|--------------------------|--------|-----------------|--------------|
| | mean | s.d. | Mean | s.d. | mean | s.d. | t-value | p-value |
| Panel A: IPO firm characteristics | | | | | | | | |
| Age at IPO (in year) | 18.4 | 14.3 | 21.6 | 14.6 | 12.3 | 11.6 | 5.823 | 0.000 |
| Sales (in million yen) | 10,880 | 16,428 | 11,575 | 15,834 | 9,584 | 17,482 | 1.030 | 0.304 |
| Total assets (in million yen) | 8,404 | 15,372 | 9,020 | 14,924 | 7,255 | 16,181 | 0.976 | 0.330 |
| Book value of net worth (in million yen) | 2,390 | 2,947 | 2,572 | 3,050 | 2,050 | 2,727 | 1.506 | 0.133 |
| Panel B: Offering characteristics | | | | | | | | |
| Gross proceeds (in million yen) | 2,356 | 5,608 | 1,986 | 4,326 | 3,046 | 7,406 | 1.611 | 0.108 |
| Underpricing (first day return) | 0.348 | 0.759 | 0.247 | 0.601 | 0.536 | 0.964 | 3.291 | 0.001 |
| Total equity share of VCs involved (in %) | 10.6 | 10.8 | 9.2 | 8.9 | 13.1 | 13.2 | 3.083 | 0.002 |
| Equity share of a lead VC (in %) | 4.1 | 3.4 | 3.3 | 4.29 | 5.4 | 7.4 | 3.197 | 0.002 |

Table II
Summary Statistics of Exchange Listing of Japanese IPOs from 2000-2002

This table provides the number of instances in which a Japanese IPO chose to list on one of the available exchanges in Japan. The table also provides a breakdown of exchange listing by IPOs that are backed by mature lead VCs and young lead VCs. A mature (young) lead VC is defined as one that was established prior to 1990 (subsequent to or during 1990).

| Exchanges | | OTC | TSE (MOTHERS) | Nasdaq-Japan Standard Growth | | Total |
|---------------------------|------|------|------------------|--------------------------------------|------|-------|
| Panel A: All years | | | | | | |
| Mature lead VC | | 151 | 20 | 24 | 12 | 207 |
| Young lead VC | | 50 | 15 | 24 | 22 | 111 |
| Total VC-backed IPOs | | 201 | 35 | 48 | 34 | 318 |
| All IPOs | | 262 | 42 | 60 | 40 | 404 |
| % of VC-backed IPOs | | 76.7 | 83.3 | 80.0 | 85.0 | 78.7 |
| Panel B: Listings by year | | | | | | |
| Mature lead VC | 2000 | 59 | 14 | 13 | 2 | 88 |
| | 2001 | 56 | 3 | 8 | 5 | 72 |
| | 2002 | 36 | 3 | 3 | 5 | 47 |
| Young lead VC | 2000 | 20 | 9 | 6 | 3 | 38 |
| | 2001 | 18 | 1 | 14 | 9 | 42 |
| | 2002 | 12 | 5 | 4 | 10 | 31 |

Table III
Influence of VC Reputation on IPO Timing

This table provides two OLS regression models where the dependent variable is the log of IPO firm age. VC age dummy takes a value of 1 if the lead VC was established during or subsequent to 1990 (young lead VC), or zero otherwise. The quality of underwriter is measured as the percentage share of all IPOs during 1998-2002 in which a particular underwriter was the lead. In model 1, exchange dummies (for MOTHERS and NASDAQ Japan) are also included as independent variables. MOTHERS (NASDAQ Japan) takes a value of 1 if the IPO firm lists on MOTHERS (NASDAQ Japan) and zero otherwise. In model 2, NASDAQ Japan listing criteria dummies are included. IPO firms can list on this exchange using either the Standard criteria or the Growth criteria. The significance and the standard errors (in parentheses) of the independent variables are also reported.

| Dependent variable: log of IPO firm age | | | | |
|--|-------------------|------|-------------------|------|
| Estimation method | OLS | | | |
| | (1) | | (2) | |
| Independent variables | | | | |
| VC age dummy | -0.363 (0.087) | **** | -0.369 (0.086) | **** |
| quality of underwriter | 0.007 (0.004) | * | 0.007 (0.004) | * |
| ln(sales) | 0.358 (0.033) | **** | 0.378 (0.035) | **** |
| ln(gross proceeds) | -0.161 (0.039) | **** | -0.154 (0.040) | **** |
| dummy for MOTHERS | -0.442 (0.151) | *** | -0.408 (0.151) | *** |
| dummy for NASDAQ Japan | -0.362 (0.104) | **** | | |
| dummy for NASDAQ Japan (standard criteria) | | | -0.461 (0.118) | **** |
| dummy for NASDAQ Japan (growth criteria) | | | -0.160 (0.154) | |
| year dummy | yes | | yes | |
| Adjusted R-square | 0.511 | | 0.514 | |
| F-statistic | 42.35 | **** | 38.25 | **** |
| Observations | 318 | | 318 | |

*, **, ***, and **** indicate significance at 10%, 5%, 1%, and 0.1% level or better respectively.

Table IV
Influence of VC Reputation on Underpricing

This table provides three OLS regression models where the dependent variable is the level of underpricing of the IPO, where underpricing is measured as the first day return of the newly listed firm. VC age dummy takes a value of 1 if the lead VC was established during or subsequent to 1990 (young lead VC), or zero otherwise. The quality of underwriter is measured as the percentage share of all IPOs during 1998-2002 in which a particular underwriter was the lead. In model 1, exchange dummies (for MOTHERS and NASDAQ Japan) are also included as independent variables. MOTHERS (NASDAQ Japan) takes a value of 1 if the IPO firm lists on MOTHERS (NASDAQ Japan) and zero otherwise. In model 2, NASDAQ Japan listing criteria dummies are included. IPO firms can list on this exchange using either the Standard criteria or the Growth criteria. In model 3, we include the log of firm age as an additional independent variable. The significance and the standard errors (in parentheses) of the independent variables are also reported.

| Dependent variable: underpricing | | | | | | |
|--|------------------------|--|------------------------|--|------------------------|--|
| Estimation method | OLS | | | | | |
| | (1) | | (2) | | (3) | |
| Independent variables | | | | | | |
| VC age dummy | 0.184 ** (0.088) | | 0.183 ** (0.086) | | 0.195 ** (0.091) | |
| quality of underwriter | 0.006 (0.004) | | 0.006 (0.004) | | 0.006 (0.004) | |
| ln(sales) | -0.142 **** (0.034) | | -0.139 **** (0.036) | | -0.152 **** (0.042) | |
| ln(gross proceeds) | -0.057 (0.040) | | -0.056 (0.040) | | -0.051 (0.041) | |
| log (IPO firm age) | | | | | 0.033 (0.058) | |
| dummy for MOTHERS | -0.238 (0.153) | | -0.233 (0.154) | | -0.220 (0.156) | |
| dummy for NASDAQ Japan | 0.064 (0.106) | | | | | |
| dummy for NASDAQ Japan (standard criteria) | | | 0.050 (0.120) | | 0.065 (0.123) | |
| dummy for NASDAQ Japan (growth criteria) | | | 0.091 (0.157) | | 0.096 (0.158) | |
| year dummy | yes | | yes | | yes | |
| Adjusted R-square | 0.129 | | 0.127 | | 0.125 | |
| F-statistic | 6.88 **** | | 6.10 **** | | 5.51 **** | |
| observations | 318 | | 318 | | 318 | |

*, **, ***, and **** indicate significance at 10%, 5%, 1%, and 0,1% level or better respectively.

Table V
Influence of VC Reputation on VC Equity Stake

This table provides three OLS regression models where the dependent variable VC's equity stake in the IPO. VC age dummy takes a value of 1 if the lead VC was established during or subsequent to 1990 (young lead VC), or zero otherwise. The quality of underwriter is measured as the percentage share of all IPOs during 1998-2002 in which a particular underwriter was the lead. In model 1, exchange dummies (for MOTHERS and NASDAQ Japan) are also included as independent variables. MOTHERS (NASDAQ Japan) takes a value of 1 if the IPO firm lists on MOTHERS (NASDAQ Japan) and zero otherwise. In model 2, NASDAQ Japan listing criteria dummies are included. IPO firms can list on this exchange using either the Standard criteria or the Growth criteria. In model 3, we include the log of firm age as an additional independent variable. The significance and the standard errors (in parentheses) of the independent variables are also reported.

| Dependent variable: total equity share of VCs | | | | | | |
|---|-------------------|------|-------------------|------|-------------------|------|
| Estimation method | OLS | | | | | |
| | (1) | | (2) | | (3) | |
| Independent variables | | | | | | |
| VC age dummy | 1.665 (1.246) | | 1.655 (1.249) | | 1.684 (1.288) | |
| quality of underwriter | 0.017 (0.063) | | 0.017 (0.063) | | 0.016 (0.064) | |
| ln(sales) | -1.949 (0.477) | **** | -1.916 (0.504) | **** | -1.945 (0.594) | **** |
| ln(gross proceeds) | 1.269 (0.569) | ** | 1.282 (0.573) | ** | 1.294 (0.587) | ** |
| Log (IPO firm age) | | | | | 0.079 (0.826) | |
| dummy for MOTHERS | 0.685 (2.169) | | 0.743 (2.190) | | 0.775 (2.220) | |
| dummy for NASDAQ Japan | 2.219 (1.502) | | | | | |
| dummy for NASDAQ Japan (standard criteria) | | | 2.052 (1.710) | | 2.088 (1.755) | |
| dummy for NASDAQ Japan (growth criteria) | | | 2.557 (2.235) | | 2.569 (2.242) | |
| year dummy | yes | | yes | | yes | |
| Adjusted R-square | 0.125 | | 0.122 | | 0.119 | |
| F-statistic | 6.64 | **** | 5.89 | **** | 5.28 | **** |
| observations | 318 | | 318 | | 318 | |

*, **, ***, and **** indicate significance at 10%, 5%, 1%, and 0.1% level or better respectively.