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Venture capital affiliation with underwriters and the underpricing of initial public offerings in Japan☆

Yasuhiro Arikawa[a,*], Gael Imad'eddine[b,c]

[a] Graduate School of Finance, Accounting and Law, Waseda University, 1-4-1, Nihombashi, Chuo-ku, Tokyo 1030027, Japan
[b] Louvain School of Management, Place des Doyens 1, Louvain La Neuve, Belgium
[c] European Center for Corporate Control Studies, Universite de Lille Nord de France, 2 rue de Mulhouse, 59800 Lille, France

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This paper presents evidence using Japanese data that shows that the principal–agent problem between underwriter and issuing firms is the cause of the underpricing of initial public offerings. We find that the initial return is lower when the venture capital is a subsidiary of the lead underwriter and directly invested into the issuing firm rather than via a limited partnership fund. We also find that the initial return is larger when one of the top three security firms is the underwriter. This means that underpricing is more serious when the bargaining power of the underwriter is large. Together, these findings support the hypothesis that an equity investment in issuing firms by the underwriter improves the alignment between the underwriter and the issuing firm, and thus helps to increase the offer price. The principal–agent problem between the underwriter and issuers is one of the reasons for the underpricing.

1. Introduction

Initial public offerings (IPOs) are usually associated with underpricing. This "money left on the table" often represents a sizeable amount. For example, the IPO of Jimos Co. in March 2004 left three

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* Corresponding author.
E-mail addresses: arikawa@waseda.jp (Y. Arikawa), gael.imadeddine@uclouvain.be (G. Imad'eddine).

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million euros on the table and the share price had appreciated by 35% by the end of the first trading day. Similarly, the share price of MP Technologies appreciated by 100% relative to the first day's closing price. This meant that MP Technologies left almost the same amount on the table (some nine million euros) as the IPO itself raised. The underpricing puzzle has therefore drawn much attention, and various theories have attempted to explain its presence.[1]

In this paper, we focus on the principal–agent problem between underwriters and issuing firms in terms of the setting of offer prices in the IPO process. As Baron (1982) and Baron and Holmstrom (1980) model, underwriters have an informational advantage over issuing firms in setting prices, and gain at the expense of issuing firms by deliberately allocating underpriced IPOs to favored customers in the hope of winning their future underwriting business. This is a different approach compared with models where it is assumed that price fixing is in the hands of the issuing firm.

The negative effect of the underwriter's advantage can be mitigated by an alignment of interests. Based on the assumption that the underwriter's prior equity investment in issuers can align the interests of underwriters with issuing firms, Ljungqvist and Wilhelm (2003) show that the first-day underpricing returns are lower when the investment bank's equity holdings in issuers are larger using US IPO data. Li and Masulis (2004) find that initial returns decrease with the size of the investment bank's pre-IPO equity holdings, and that this effect is much larger for lead underwriters than for other syndicate members. These results indicate that equity investments in issuing firms improve the alignment of underwriter and issuer interests, and thus cause underwriters to set higher offer prices.

This paper contributes to the literature by analyzing the underpricing problem, focusing on the relationship between underwriter and venture capital using Japanese data. A remarkable feature of the Japanese underwriting industry is that it is highly concentrated. According to the Thomson SDC league tables, the top three underwriters accounted for about 70% of all IPOs in Japan from 1998 to 2004 (both in number and value). About 18 smaller security firms compete for the remaining IPOs. The top three rankings have been stable during the sample period. Thus, Japan has an oligopolistic underwriting market dominated by three major actors.

Moreover, even if the auction method is allowed, all IPOs in Japan use the full-commitment book-building method following its introduction in 1997. As Loughran and Ritter (2004) point out, this system yields stronger bargaining power that can be used to reward underwriters' customers through the allocation of hot issues. Japan indeed provides an interesting ground to test the principal–agent problem where the underwriter has strong bargaining power because of the IPO method under oligopolistic market structure.

The venture capital (VC) industry in Japan is also highly concentrated. According to the Nikkei Survey 2003, the top four VC firms manage half of the capital under investment, and back one-third of all VC-backed IPOs. What is important for this paper is that the two largest VCs are the respective subsidiaries of two of the largest securities companies. Furthermore, a VC in Japan could choose between direct investment in the firm and investment through a limited partnership fund. While the VC is usually an intermediary using the money of other investors, part of VC investments in Japan have come from internal funds. This unique feature of the Japanese IPO market gives us the opportunity to investigate more clearly the principal–agent problem between underwriters and the issuing firms as an explanatory factor of the underpricing problem in ideal conditions.

We first find that initial returns are larger when one of the top three security firms is the underwriter. This means the IPO underpricing problem is far more serious when the IPO is lead by an underwriter with strong bargaining power. We also find that the initial return is lower when the VC subsidiary of one of the three largest underwriters backs the IPO and directly invests into the issuing firm using their own money rather than via a limited partnership fund. These findings provide strong support for the hypothesis that equity investment in issuing firms by the underwriter improves the alignment between the underwriter and issuing firms, and thus helps to increase the IPO's offer price. Thus, the principal–agent problem between the underwriter and issuers is one of the main reasons for IPO underpricing.

[1] Ritter and Welch (2002) and Ljungqvist (2007) provide an extensive review of IPO underpricing.