

Venture Capitalists, Business Angels, and Performance of Entrepreneurial IPOs in the UK and France

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Abstract

Using a unique sample of 444 entrepreneurial IPOs in the UK and France, this paper analyses investment patterns and the stock-market performance effects of two types of early stage investors: venture capitalists (VCs) and business angels (BAs). Extending existing research we identify important endogeneity and institutional effects. Our findings indicate that UK IPOs have a higher retained ownership by BAs, but a lower retained ownership by VCs than in France. BA and VC investments are substitutes, and they are endogenously determined by a number of founder-related factors, such as ownership and external board “interlocks”. UK VCs are effective third-party certifying agents who reduce underpricing in UK IPOs, whereas they increase it in French IPOs. This certification effect is more significant in UK IPOs involving both high VC and BA ownership.

I- Introduction

While most European countries, like France and Germany, have developed a banking “loan culture” with relatively poor legal investor protection, the UK has active direct financing networks allowing young businesses to benefit from financial and managerial supports provided by “formal” (venture capitalists or VCs) and “informal” (business angels or BAs) early-stage investors. This paper focuses on the role played by BAs and VCs in entrepreneurial Initial Public Offerings (IPOs) in the UK and France. We define entrepreneurial IPOs as those stock market flotations in which the original founders retain equity stakes and board positions. Although previous studies acknowledge possible monitoring and certification roles of early stage investors (e.g., Barry et al., 1990; Megginson, et al., 1991; Lerner, 1995), there is little research on the links between risk capital providers’ investment patterns and the risk factors associated with the venture and its founders. As issuing firms are known to suffer from high asymmetric information, this paper explores the effect of both VCs and BAs involvement on initial underpricing (i.e., the difference between offer and first day of trading price) in different country settings.

An important but neglected issue is that pre-IPO financing of private firms may involve a number of heterogeneous providers. In particular, risk financing may be provided by formal venture capitalists (VCs) and informal venture capitalists (BAs). VCs and BAs may play roles that are complementary or substitutable. On the one hand, BAs may provide funds at an earlier stage in the investment life-cycle of a firm at a time when the venture is too small and too risky for a VC (Lerner, 1998; Prowse, 1998). On the other hand, differences in the relative importance of market and agency risk (Fiet, 1995) may lead to differences in the monitoring mechanisms adopted by BAs and VCs (Prowse, 1998; van Osnabrugge, 1998; Wong, 2002).

Kaplan and Stromberg (2003) find that VCs' agreements include complex control rights to allow for extensive monitoring and advisory systems¹. Larger and more experienced VCs in Europe are significantly more likely to implement U.S. style contractual terms including liquidation preferences, anti-dilution protections, vesting provisions and redemption rights (Kaplan et al., 2004).

In contrast to BAs, there is an extensive literature on the role of VCs at the time of IPO. Barry et al. (1990), for example, suggest that VCs provide monitoring and control before and after the IPO. They may signal and certify the quality of a private company (Gompers and Lerner, 1999; Lerner, 1994, 1995; Gompers, 1995). VCs also play a role in CEO turnover (Hellmann and Puri, 2002), and founders are less likely to remain CEOs in IPOs with more reputable VCs (Baker and Gompers, 2003). Hochberg (2003) uses both binary treatment models and an instrumental variables framework to control for the endogeneity of venture financing. Hochberg's results suggest that VCs select firms which are less likely to be well governed if left to their own devices. However, prior empirical evidence about the effect of VCs on the extent of underpricing remains mixed. On the one hand, Megginson and Weiss (1991) argue that VCs act as a third party certifying agent and find VC-backed IPOs to have a lower underpricing than non-VC backed IPOs. More recently, using US data, Gompers (1996) and Lee and Wahal (2003) argue that VCs, particularly younger ones, may grandstand and take their portfolio companies public earlier than expected in counterpart of a higher underpricing. They find higher underpricing for VC-backed IPOs. Loughran and Ritter (2004) argue that some VCs collaborate with underwriters

¹ Kaplan and Stromberg (2003) explain that VCs value-added services increase in their cash flow rights, but are not related to VC board control. VCs may also use anti-takeover provisions to preserve their control benefits. In fact, Klausner and Daines (2001) find that anti-takeover provisions are common in IPO-stage charters, and allow to save the private benefits of control. These provisions are even stronger when oversight from non-managerial shareholders is weak (Field and Karpoff, 2002).

and deliberately accept underpricing in exchange for larger shares allocation in other underpriced IPOs. Most of this research is based on single-country, typically US, studies and very little is known about country-specific differences in the behaviour of risk financiers. In addition, previous research mainly considers VC investment as an exogenous factor that determines the IPO's governance and performance characteristics.

This paper suggests that retained ownership in IPO firms by the providers of risk capital may represent an endogenous choice by informal and formal venture capitalists, depending on their overall evaluation of the “attractiveness” of a venture to external investors. As a result, founders’ characteristics may have a significant impact on investors’ decisions to retain ownership in a venture, and the “certification” hypothesis should be augmented accordingly. Moreover, in line with prior governance research by La Porta et al. (1997) and venture capital research by Cumming (2003) and Cumming et al. (2004; 2005), the paper argues that the behaviour of investors and risk financiers may be influenced by institutional and legal differences. Armour and Cumming (2005), who specifically consider venture capital market development, show that while a nation’s level of entrepreneurial activity and idea generation are important determinants of VC development, the legal environment is as important as the stock market. In addition, government involvement can hinder the growth of private equity and specific bankruptcy laws stimulate entrepreneurial demand for venture capital. Even within broadly similar institutional regimes, there may be important differences in the development of venture capital markets so that results from the US context may not be generalisable elsewhere. For example, although both the US and the UK have common law legal codes, there are important differences in the extent to which their venture capital markets focus on early stage investments

(Lockett, et al., 2002). Hence, this study compares UK and French IPOs to offer a unique opportunity to understand the difference between English common law countries and French civil law countries in relation to venture capital backed IPOs. These differences between countries may give rise to differences in findings concerning the role of VCs and BAs in IPOs that are as yet little understood. Taken together, these dimensions may provide new insights into the extent of underpricing in IPOs.

Using a unique dataset of 444 entrepreneurial IPOs in the UK and France during the period 1996-2002, our empirical findings indicate a higher retained BA ownership in UK IPOs, but a lower retained VC ownership than in France. Empirical investigations indicate a negative and significant relationship between BA retained share ownership and underpricing, and fail to show any significant effect of VC ownership. Interestingly, controlling for the endogeneous choice of risk financiers' ownership indicates that VCs play a significant role in reducing underpricing in UK IPOs, whereas they increase it in French IPOs. This suggests that VCs in the more mature UK market benefit issuing firms by providing certification and monitoring, whereas VCs in the younger French market are more likely to grandstand and cause higher underpricing, hence emphasizing the importance of considering different institutional contexts. These results are even more significant when we focus on IPOs involving both high VC and BA ownership.

This paper provides a novel extension to previous work on governance, private equity investors and IPOs. First, it is one of the first to extend examination of IPOs beyond the involvement of VCs to include BAs. Second, we suggest that BA and VC backing of an IPO depends not only on a firm's demographic factors (e.g., age, size, industry affiliation, etc), but is also associated with founders' characteristics such as

the intensity of their extra-organizational ties, e.g., external board memberships. Third, our empirical investigations take advantage of IPO data available in the UK and France, two countries that account for 50% of the European VC investment in 2002 (EVCA, 2003), since this allows us to explore possible institutional effects associated with the IPO markets and corporate governance trends in these countries.

The remainder of this paper is structured as follows. The next section outlines the institutional features of the BA and VC industries in France and the UK. Section III includes the conceptual framework and research hypotheses. This is followed by a description of the data sources, variable definitions and research methodology in Section IV. Section V presents the results, and conclusions are drawn in section VI.

II- Institutional Framework

There are important differences in the legal and institutional systems between the UK and France which may have led to differences in terms of risk financiers' involvement in small and growing ventures and stock price performance at the time of IPO. The UK has a common law code and highly developed stock markets while France has a civil law code and less developed stock markets. La Porta et al. (1997) argue that protection for minority shareholders is greater in the UK than in France. Moreover, in France, corporate governance has been associated more with the network tradition of insiders and quasi-insiders². This is mainly due to concentrated ownership and large private benefits of control (Johnson et al., 2000). More

²Franks and Mayer (1992) present an extensive analysis of ownership functions and decision making across countries. They explain the existence of two opposite systems where the first, an Anglo-Saxon system is a market-oriented using external control mechanisms, whereas the second, a relationship-based system (i.e., European-Japanese system) uses internal mechanisms, i.e. boards and committees. While the market-oriented system follows a shareholder-oriented approach and has laws aiming to strongly protect shareholders, the internal-committees system is a societal-oriented approach which gives more attention to the protection of interest of different stakeholders, and privileges communication as a disciplinary method. In this system, there is a more concentrated ownership which allows large block-holders to have a higher internal control using the board system.

specifically, there is evidence of differences in the behavior of risk finance providers between the two countries. For example, UK BA and VC markets are significantly more developed and larger than French markets (EVCA, 2005). While the value of VC investments in the UK in 2004 was the equivalent to 1.103% of GDP, the comparative figure in France was only 0.363%. The share of the VC market accounted for by early and expansion stage investments in France in 2004, at 30.1%, is considerably larger than that of the UK at 18.9%. Correspondingly, LBOs are relatively more important in the UK. While there is little difference in the proportion of exits accounted for by IPOs in the two countries (12.4% in UK, 11.2% in France), the share of exits accounted for by secondary sales to VCs and buy-backs by management was 24.6% in 2004 in France as against 13.7% in the UK (EVCA, 2003).

Although there is no clear statistic about differences between the UK and France with respect to BAs, a recent European Commission study explained that UK BAs represent half of the European BAs industry (Aernoudt, 2001). There are 45 active BA networks in the UK with more than 400 annual alliances (“matchings”) against 50 annual matchings in the remaining European countries. European companies benefit from more active private investments without intermediaries. In contrast to the active UK BAs networks, French BAs are mainly young wealthy managers looking to diversify independently their assets by investing in innovative projects³. Most French BAs (65%) choose their investments based on their personal network, whereas just one quarter belongs to a professional network in the BA’s industry. However, they do not provide businesses with sufficient investment⁴, which

³ A recent survey in France shows that 46.8% of French BAs are 40 to 55 years old investors with an 80,000 to 160,000€ annual revenue on average (L’Enquête Business Angels 2001). They come from the industry, and look to invest in non listed industrial and internet businesses.

⁴ A large number of BAs in France (66.6%) invest less than 80,000€pa, and are not active investors (41.3% of BAs invested less than 3 times in non-listed businesses). In contrast, van Osnabrugge (1998) finds that 35% of his sample of BAs had made less than three non-listed investments.

causes firms to look for complementary financing sources from more professional risk financiers such as VCs.

Within this framework, prior research suggests significant differences in VCs' investment styles between the UK and France. Sapienza, Manigart and Vermeir (1996) find that VCs in the UK expend more effort in monitoring and value adding activities than those in France. Manigart et al. (2000) find differences between the UK and France with respect to the way VCs deal with asymmetric information and risk. Kaplan et al (2004) find a higher sophistication of VCs' U.S. contracts style than non-US style. Their analysis of VC contract characteristics across legal regimes shows that common law countries VCs use more convertible preferred shares, anti-dilution protection and redemption rights than French VCs. As a result, the roles of BAs and VCs in providing monitoring and reducing adverse selection in France and UK may be influenced by the institutional market context. There is a need, therefore, for empirical investigations to consider the differential effect of VCs and BAs on IPOs.

III- Conceptual Framework and Hypotheses

Research on information asymmetries as a cause of underpricing focuses on the differences in information between the various parties to the listing process, including the IPO firm, banks-underwriters, entrepreneur, and external investors.

Previous research has recognized that early stage investors' involvement in a venture may send a strong signal with regard to the potential quality of the IPO firm, and therefore allows more accurate pricing, i.e. lower underpricing. Principal among outside investors are external risk capital investors who are the second most important group of shareholders, after founders, in an entrepreneurial venture (Lerner, 1998). Agency research and the related "certification" framework (e.g., Barry et al., 1990; Black &

Gilson, 1998; Lerner, 1995) would suggest that an entrepreneurial venture can send a signal of expected value by who has invested in the firm. However, outside investors may consider risk capital investors as either substitutes or complements at the time of IPOs. Hereafter, we discuss our hypotheses related to the role of both BAs and VCs.

Underpricing, Certification and Divergence of Interests

Early prior U.S. research suggests that VCs play a certification role at the time of IPOs. VCs act as third-party certifying agents reducing initial underpricing. Megginson and Weiss (1991) find lower initial returns for venture backed IPOs⁵. However, recent IPO literature suggests that potential conflicts of interest among pre-IPO investors may lead to higher underpricing. On the one hand, Gompers (1996) argues that less experienced VCs may grandstand, i.e. take firms public earlier than more established firms, in order to raise their profile in the market and attract capital in future rounds. On the other hand, Loughran and Ritter (2004) propose a “corruption hypothesis” where they argue that some pre-IPO investors (e.g. VCs) may look to extract rents through deliberate underpricing, in exchange for preferential share allocation in further underpriced IPOs. Within this framework, Francis and Hasan (2000) and Lee and Wahal (2002) show that in recent years, U.S. venture capital backed IPOs experience larger first-day returns than comparable non-venture backed IPOs. This suggests the existence of a potential conflict of interests between VC firms and the IPO firm. A priori, it is difficult to select between these theoretical arguments, hence recognising this debate we propose:

⁵ Megginson and Weiss (1991) compare VC backed IPOs to non-VC backed IPOs from 1983 to 1987. Matched by industry and offering size, they find that the initial underpricing of VC backed IPOs is significantly lower than for non-VC backed IPOs. Barry et al. (1990) analyse the monitoring role of VCs in IPOs from 1978 to 1987. They find that the number of VCs invested in the issuing firm is negatively related to initial underpricing.

Hypothesis 1a: In line with the certification hypothesis, initial underpricing is negatively related to VC ownership.

Hypothesis 1b: In line with the divergence of interest hypothesis, initial underpricing is positively related to VC ownership.

BAs may also have a significant role in signalling high quality firms. Indeed, firms using BAs are expected to generate higher wealth as they benefit from their experience and skills. One of the principal differences is that the VC invests mainly for others and partly for themselves, interests being aligned through the use of carried interest for VC executives and sometimes the scope for direct co-investment. In contrast, business angels invest totally for themselves. As a result of this different funding there is also a difference in agency risk (Fiet, 1995) which may lead to differences in the monitoring mechanisms adopted by VCs and BAs (Prowse, 1998; Osnabrugge, 1998). BAs may be more selective regarding the entrepreneurs in whom they invest and engage in more active monitoring since it is their personal funds involved and they are less able to make use of formal contractual devices, unlike VCs (Fiet, 1995). Finally, BAs may be less concerned about developing reputational capital since unlike VCs they do not need to seek external funding in subsequent rounds and hence are less likely to engage in grandstanding. However, the higher the post-IPO BAs' ownership, the higher the expected loss for both BAs and issuing firms in case of false signalling.

Hence, we extend “certification” research by suggesting that BA involvement may serve as a signal of high quality firms that other, poor quality firms are not able to imitate. Therefore, we suggest:

Hypothesis 2: Initial underpricing is negatively related to BA ownership.

Differences in the developed nature of BA and VC markets between the UK and France may also be associated with differences in the interaction between BA and VC ownership and the degree of underpricing of IPO firms. On average, VCs in the UK are more actively involved in their investees than those in France (Sapienza, Manigart and Vermeir (1996). Also, VCs in the UK on average participate in IPOs where founders have lower control of the board than those in France (Kaplan et al., 2004), suggesting a greater monitoring role by risk financiers. Limited evidence suggests that while VC-backed firms in the UK report lower initial returns (Espenlaub, et al., 1999), this is less evident for France (Rinderman, 2003). Chahine and Filatotchev (2005) explore the signalling and monitoring effects of venture capital (VC) backing on performance of IPOs in France. They document a lower underpricing for VCs affiliated with lead underwriters than both non affiliated VC-backed IPOs and non-VC backed IPOs. They show an inverted U-shape relationship between VCs' retained equity and underpricing. This suggests that UK VCs will provide a greater certification role than VCs in France. Similarly, BAs in the UK appear to be more active in their involvement with investees than are their counterparts in France (van Osnabrugge, 1998; Aernoudt, 2001). Hence:

Hypothesis 3: Underpricing is more likely to decrease with BA and VC ownership in the UK than in France.

Substitution versus Complementarity Effects between BAs and VCs

The “certification” hypothesis does not differentiate between the two types of early stage investors, neither does it recognize the potential for institutional, country effects that may mediate the relationship between investors’ retained ownership and underpricing. However, different sources of risk finance can be complements or substitutes, with consequent different implications for addressing risk. A very early stage venture may be small and undeveloped such that BAs are the only feasible source of risk finance. As the firm develops, it may become attractive to a VC that can provide the significant increase in funding required to enable growth and which may also have specialist market-based and monitoring skills. BAs may remain with the venture where their specialized skills complement those of the entrepreneur and the VC. These arguments suggest a degree of complementarity between the different providers of finance in terms of their expertise that helps to reduce risk (Lerner, 1994).

Alternatively, BAs and VCs may be substitutes (Wright and Robbie, 1998). As noted above, early stage VCs may be more adept than BAs at addressing agency risk through the use of formal contracting (Fiet, 1995) and play a greater role in monitoring investees (Ehrlich, et al., 1994). VCs may be reluctant to invest alongside BAs who may have wider non-economic motives for investment, especially where they see the venture as having strong prospects for an eventual IPO. Where a BA has invested prior to the entry of the VC, the VC may seek to buy-out or at least significantly dilute the BAs involvement both to increase the VC’s return as well as to avoid complex negotiations over control, for example where the BA may otherwise be able to form a coalition with management. While there is some ambiguity in the direction of the arguments, we adopt the substitution perspective. Hence:

Hypothesis 4: VC ownership is negatively related to the ownership of BAs.

In testing the above relationships, our empirical investigations control for a set of variables typically used in the IPO literature such as firms' characteristics (age, market capitalization and industry membership) and pre-IPO market conditions (market return and volatility).

IV- METHODS

To construct a sample of entrepreneurial IPOs, a multi-stage data collection procedure has been used. Our primary list of IPOs was obtained from the *London Stock Exchange New Issues* files in UK and the *Parisbourse SA* in France. Further information was provided by the *AIM Market Statistics* publications for UK IPOs and the *Autorités de Marchés Financiers* (AMF) publications for French IPOs. From the original list of 966 IPOs over the period of 1996-2002 we excluded re-admissions and transfers from the main market to AIM. We also excluded IPOs of unit and investment trusts, since they have very specific governance characteristics. At the second stage, we excluded all IPOs that represented de-mergers, equity carve-outs, reverse take-overs and equity reorganizations. Investment and acquisition vehicles were also excluded since their governance systems are extremely simplified, and their boards resemble investment committees of private equity firms. We included in the final sample spin-offs from existing entrepreneurial firms, but only if the founders of the parent company were also the founders of the IPO firm. After these selection steps, the final sample included 303 and 141 entrepreneurial IPOs in the UK and France, respectively. For each firm we were able to identify the original founders. Our main variables of interest were obtained from information provided in the IPO listing prospectuses, which contain detailed information

on the career histories and pre- and post-IPO ownership of managing officers and other board members.

UK VC firms were identified from the *British Venture Capital Association 2000/2001 Directory*, *2000 Pratt's Guide to Venture Capital Sources*, and *2000/2001 Venture Capital Report Guide to Venture Capital in the UK* (see Lerner, 1994, for a discussion of sources of information on VCs). We also included Venture Capital Trusts (VCTs) that are managed by established VC firms. VCTs are smaller, specialist funds that are normally set up for tax purposes by the larger players in the UK venture industry. French Venture Capital firms were identified from the *Association Française des Investisseurs en Capital (AFIC) Directory*. The business angels were identified through the prospectus as individuals that had invested in the venture as private individuals who are not associated with founders, other board members, senior managers, and venture capital investors.

To measure the IPO's underpricing we adopt the generally used percentage difference between the offer price and the price at the end of the first day of trading adjusted for market movements (e.g., Barry et al., 1990).

To address the possibility of the effects of institutional differences between the UK and French corporations in the sample, we use a dummy variable that was equal 1 for UK IPO.

The IPO's size was measured in terms of the logarithm of the firm's capitalization at the offer price in pounds, (*LogSize*) and *Age* was measured by the number of years between the firm's founding date and its IPO date.

Finally, a dummy variable (*Hi-tech dummy*) equal to 1 if a high technology business, zero otherwise was used to control for possible industry effects.

In addition, the underpricing regressions include the market momentum variables: *Market Volatility* and *Market Return*. The “Market volatility” variable was calculated as the standard deviation of the one-month returns of the AIM index in the UK (the SBF 250 in France) in the immediate month before the IPO first-trade date. The “Market return” variable was calculated as a weighted average of the buy-and-hold returns of Market indexes in three months before the IPO date. The weights were equal to 3 for the first month, 2 for the second month and 1 for the third month before the offering, and the weighted sum was divided by 6.

Modeling the relationships between risk financiers ownership and underpricing has generally been approached through standard econometric techniques, such as regression analysis. We used the following regression to test our research hypotheses.

$$\begin{aligned} \text{Underpricing} = & \text{UK dummy} + \text{VC Ownership} + \text{BA Ownership} \\ & + \text{LogSize} + \text{Age} + \text{Hi-tech dummy} + \text{Market Volatility} + \text{Market Return} \end{aligned} \quad (1)$$

The involvement of different financiers in entrepreneurial firms, however, is contingent on the risk characteristics of the venture (Gorman and Sahlman, 1989). Among many factors, these characteristics are associated with founders’ ownership, experience as well as the existence of other risk financiers. These investor-, venture- and founder-related factors act in concert to determine investors’ perceptions of the quality of an IPO firm, which, in turn, translates into the level of underpricing.

For example, a reduction in founders’ share ownership subsequent to flotation may reduce their incentives to learn and apply their knowledge to the benefit of the newly-created public firm and its external shareholders (Jain and Kini, 1999). BAs and VCs would therefore maintain higher ownership to preserve minimum monitoring

and control roles. On the contrary, higher involvement of founders in the aftermarket should allow both BAs and VCs to have lower involvement at the time of IPO.⁶

Moreover, entrepreneurs in higher risk ventures and/or those with less experience are likely to find greater need for risk financiers' involvement (Certo et al. 2001). On the one hand, BAs, as informal VCs, may have specific knowledge of the sector in which the venture operates since they may have previously owned a business or worked in that sector (Fiet, 1995). On the other hand, VCs are likely to possess the skills to add value to riskier ventures where internal resources (both in terms of human capital of the entrepreneur and financial resources) are inadequate to take advantage of growth opportunities (Lockett et al. 2002). Also, founding board members may need to be supplemented by professional managers and external directors (Zahra and Filatotchev, 2004). Risk financiers may be important in filling these gaps as well as in providing finance, particularly if they are ex-entrepreneurs or have worked in the particular sector (Prowse, 1998).

As a result, a problem revolves around the issue of endogeneity of risk financiers' investments and the effects of both type of risk finance provider on underpricing. While BAs may invest more easily in firms with more experienced founders, VCs investments might be driven by both founders' characteristics and the presence of BAs who already provided the new venture with both financing sources and managerial skills. Hence, underpricing is a function of simultaneously related ownership variables where a simple ordinary least square regression may overestimate their explanatory roles.

⁶ This argument may be rather tautological since the total equity in the IPO firm is constrained by 100%, and more retained ownership by BAs and VCs should automatically lead to a smaller stake retained by founders. However, our analysis shows that in addition to the general public, IPO firms have a broad range of investors, including non-founding directors, industry partners, and later stage private equity investors such as investment banks. Therefore, there is a wide spectrum of possible combinations between equity stakes held by founders, BAs and VCs.

To overcome this problem we used a two-stage least squares (2SLS) regression analysis with predicted values for endogenous variables being generated at the first stage. At the second stage, these predicted variables were used as instrument variables in ordinary least squares (OLS) regressions to verify the hypothesized relationships. Within our framework, predicted variables are no longer correlated with the disturbance term of the endogenous variables, and the recursivity assumption of an OLS regression is not violated. As the explanation of initial underpricing reflects a path model with multiple endogenous variables, we first implemented one regression for each endogenous variable (BA Ownership and VC Ownership), and then we used their substitute variables to explain initial underpricing.

V- RESULTS

Descriptive Statistics

Table 1 provides the descriptive statistics for the total sample as well as for the country sub-samples. It shows that the average underpricing in the whole sample was 18.7 percent, with UK IPOs having relatively lower underpricing compared to French IPOs (17.9 and 20.5 percent respectively). These results are in line with prior research in France and UK (Chahine 2006, Espenlaub et al. 1999).

Table 1 shows that, on average, BAs and VCs owned 6.68 percent and 4.27 percent of total equity in the IPO firm respectively. Interestingly, French founders prefer the expertise provided by VCs, and have significantly higher involvements of VCs than in the UK (11.79 percent in France versus 4.28 percent in the UK). On the contrary, UK IPOs have significantly higher ownership of BAs than French IPOs (at the 1% level).

Table 1 near here

Founders represented on average 32.3 percent of board members at the time of IPOs. This is significantly higher in France where the average percentage of founders on the board was equal to 36.5 percent (versus 30.3 percent in the UK). Founder's post-IPO ownership is equal to 35.92 percent on average, and it is significantly higher for French IPOs ($p=1\%$). The average intensity of founders' "external interlocks" was almost 5 external directorships per founder. However, it was significantly higher in UK IPOs compared to the French sub-sample (1.36 in France versus 6.06 in the UK). This may reflect that UK entrepreneurs benefit from more intensive networking ties than French entrepreneurs, who may have higher needs for the expertise and connections of risk financiers. This is consistent with results concerning the total number of significant block holders in the shareholding structure at the time of IPOs as reported in the listing prospectus. In fact, French IPOs involve a significantly (at the 5% level) larger number of these investors than UK IPOs (5.369 versus 4.63 on average).

In term of control variables, the average firm size and age of IPO firms in the whole sample were £79.04 million and 9.09 years respectively. UK IPOs were relatively bigger and younger than French IPOs. French IPOs were more likely to be from hi-tech industries.

Table 2 provides univariate analyses of the relationship between underpricing and the three forms of risk capital financing: VC investments in Panel A, BA investments in Panel B and, joint VC and BA investments in Panel C. Each panel includes a two-by-two table which demonstrates the average underpricing, standard

deviation between parentheses, in the relationships between country dummy and risk capital financing.

Table 2 near here

Panel A shows that underpricing of VC-backed IPOs is significantly higher in France than in the UK ($p=5\%$). However, there is no significant difference in underpricing between VC versus non-VC-backed IPOs in either the UK or France. Panel B shows that underpricing of BA-backed IPOs is significantly higher in France than in the UK ($p=5\%$). It also shows that BA-backed IPOs have significantly lower underpricing than non-BA backed IPOs in the UK, whereas there is no significant difference in France. Panel C examines the effects of interactions between BA ownership and VC ownership. This panel shows that underpricing of IPOs with both BA and VC backing is significantly higher in France than in the UK ($p=5\%$). Overall, risk financiers appear to manage more underpriced issued in France, whereas BAs play a significant role in reducing underpricing in the UK.

The results of formal tests of hypotheses are provided in Tables 3, 4 and 5, where we respectively (1) present the results of the OLS regressions of underpricing, (2) examine the determinants of both BA and VC ownership and finally, (3) control for the effect of the endogenous choice of risk financiers ownership on underpricing.

Underpricing and Risk Financiers in France and UK

Model (1) in Table 3 includes the results of the OLS regression which, in contrast with hypotheses 1a, 1b and 2, shows no significant association between underpricing on the one hand, and BA and VC retained ownership on the other. Initial

underpricing is lower for larger and older IPOs, and it is positively associated with both *Market Volatility* and *Market Return* variables.

Table 3 near here

Model (2) verifies whether BA and VC equity stakes moderate each other in terms of their effects on underpricing, and controls for the interaction effect of both VC and BA ownership. Consistent with hypothesis 2, Model (2) shows a negative and significant effect BA ownership on underpricing ($p=1\%$), whereas VCs do not affect the underpricing level. This suggests that a 10 percent increase in BAs retained share ownership in non-VC backed IPOs decreases underpricing by 7 percent.

Model (3) controls for the moderating country effects in the relationships between BA and VC ownership and underpricing. This indicates that underpricing decreases in UK IPOs with a higher percentage of both *VC Ownership* and *BA Ownership* ($p=10\%$). On the contrary, underpricing increases in French IPOs with a higher percentage of both *VC Ownership* and *BA Ownership* ($p=5\%$). In line with hypothesis 3, our empirical results suggest that BAs and VCs certify the quality of IPO in the UK, whereas they are more likely to “grandstand” or to collaborate with underwriters in France.

The Endogenous Choice of Risk Financiers' Retained Ownership

While previous studies have acknowledged the possible monitoring and certification roles of early stage investors, (e.g., Barry et al., 1990; Megginson, et al., 1991), they usually consider venture capital investors as exogenous factors associated

with the venture. Table 4 controls for the endogenous shares retention by risk financiers.

We suggest that the choice of retained share ownership by BAs and VCs depends on founders' characteristics which include: (1) *Founder Percent*, the percentage of board members who were founders at the flotation stage, (2) *Founder Intensity*, the intensity of founders' external ties that is equal to the total number of directorships held by founders outside a focal firm over the last five years divided by the number of founders, and (3) *Founder Ownership*, the equity stake of the founders at the time of the IPO (Filatotchev et al., 2006). Finally, while hypothesis 4 suggests that there may be a substitution effect between BA and VC retained equity stakes, the IPO firm may also have other types of private equity investors, including trade partners and later stage financial investors (passive equity funds, investment banks, etc). As a result, the equity stake of BAs would relate to the number of other block holders in the IPO's shareholding structure: being relatively longer-term investors compared to VCs, BAs would retain a larger percentage of shares when their rights are diluted among a larger number of block holders.

Therefore, our regressions of BA and VC retained share ownership are as follows:

$$\begin{aligned}
 BA\ Ownership = & UK\ dummy + Founder\ Percent + Founder's\ Intensity \\
 & + Founder's\ Ownership + Number\ of\ Investors \\
 & + LogSize + Age + Hi-tech\ dummy
 \end{aligned}
 \tag{2}$$

$$\begin{aligned}
 VC\ Ownership = & + UK\ dummy + BA\ Ownership \\
 & + Founder\ Percent + Founder's\ Intensity + Founder's\ Ownership + \\
 & + LogSize + Age + Hi-tech\ dummy
 \end{aligned}
 \tag{3}$$

Models (4) and (5) in Table 4 report the first stage results of OLS regressions that were used to examine the relationship between founders' characteristics and

ownership by BAs and VC firms, whereas Model (6) control for the endogenous effect of BA retained ownership on VC retained ownership.

Consistent with the more developed BA industry in the UK, the involvement of BAs in UK IPOs is significantly higher than in French IPOs ($p=0.1\%$). Moreover, the regression results in Model (4) indicate negative and significant associations between BA ownership on the one hand and founders' characteristics on the other. Model (4) shows BA ownership is higher in IPOs with a lower percentage of founders on the board ($p=5\%$), and where founders have lower intensity of external board ties ($p=5\%$). This suggests that companies with less experienced founders are more likely to attract BAs in order to benefit from their financial and strategic support. In line with our expectations, BA ownership is positively related to the total number of types of shareholders ($p=0.1\%$). A greater dilution of shareholders causes wealthy individual investors to retain a larger percentage of shares to protect their voting rights. Finally, BAs participate mainly in smaller sized IPOs, and in those within the hi-tech industry.

Table 4 near here

Model (5) includes the results of the determinants of VC ownership. It shows a negative and significant relationship between VC ownership and BA ownership ($p=5\%$). This finding supports hypothesis 4 and suggests a substitution role played by VCs and BAs.

In contrast to the results in Model (4) where there is a higher BA ownership in UK IPOs, Model (5) indicates a higher VC ownership in French IPOs ($p=0.1\%$). One explanation is that while UK BAs provide professional support thus reducing the need

for VC investment, French BAs do not provide firms with satisfactory support thus increasing the need for VCs. This is consistent with the significant and negative association between founder intensity and BA Ownership ($p=5\%$). In fact, this confirms a higher involvement of BAs in IPOs where founders do not have the required network and experience to support their businesses.

Furthermore, Model (5) indicates a negative and significant relationship between VC ownership and founder ownership ($p=0.1\%$). In line with results in Model (4), VC involvement is higher in IPOs where founders have a lower intensity ($p=1\%$). This reflects the incremental role played by the exchange of experience, interlocks and network in building the ownership structure during the preliminary stages of an IPO financing. A central feature of VCs' investment decisions concerns the quality and completeness of the management team (MacMillan, et al., 1985; Birley and Stockley, 2000). Finally, while BAs are more involved in smaller sized businesses, Model (5) indicates that VCs have a higher ownership in larger sized IPOs ($p=5\%$).

However, the results in Model (5) do not control for the simultaneous effect of founders' and firms' characteristics on BA ownership. As the Hausman test confirms the existence of an endogenous relationship between *BA Ownership* and *VC Ownership* at the 5% level, Model (6) presents the results of the 2SLS regression of VC ownership and shows consistent results with Model (5). Moreover, it shows an improvement in the relationship between BA Ownership and VC Ownership ($p=1\%$).

Underpricing and the Endogenous Choice of Retained shares ownership by both BAs and VCs

Due to empirical evidence about the endogenous choice of retained ownership by risk financiers, Table 5 presents the 2SLS regressions results for underpricing using instrumental variables calculated in Table 4. Model (7) provides the results of the 2SLS regression using Model (6) as a first stage and controlling for the endogenous choice of VC ownership. Contrary to results in Model (1) in Table 3, Model (7) shows a positive and weakly significant effect of VC ownership on underpricing ($p=10\%$). This is consistent with hypothesis 1b about the existence of a divergence of interest between VCs and issuing firms, where a 10 percent increase in VC retained share ownership increases underpricing by 3 percent. Moreover, there is a negative and weakly significant association between underpricing and BA retained ownership ($p=10\%$), which is consistent with hypothesis 2. This suggests that a 10 percent increase in BA retained shares ownership reduces underpricing by 6 percent.

Model (8) verifies whether BA and VC equity stakes moderate each other in terms of their effects on underpricing. Controlling for the interaction effect of both VC and BA ownerships, Model (8) indicates that VC and BA ownership have opposite effects on underpricing, again supporting hypotheses 1b and 2. These results complement the results in Model (7) and suggest that a 10% increase in VCs retained share ownership in non-BA backed IPOs increases underpricing by 3 percent. Whereas, a 10 percent increase in BAs retained share ownership in non-VC backed IPOs reduces underpricing by 4 percent.

Model (9) controls for the differential effect of the country dummy on the role played by risk financiers. Interestingly, it shows that underpricing decreases weakly significantly in UK with an increase in the *VC Ownership* variable ($p=10\%$), but increases significantly in France with an increase in *VC Ownership* variable ($p=5\%$). In line with our predictions in hypothesis 3, it appears that more mature UK VCs

bring benefit to issuing firms in terms of certification and monitoring (see hypothesis 1a), whereas French VCs are more likely to “grandstand” or to “collaborate with underwriters”, and cause higher underpricing (see hypothesis 1b). This is even more significant for IPOs with a higher percentage of ownership by both VCs and BAs where underpricing decreases in UK IPOs with a higher percentage of both *VC Ownership* and *BA Ownership* ($p=1\%$). On the contrary, underpricing increases in French IPOs with a higher percentage of both *VC Ownership* and *BA Ownership* ($p=1\%$). This suggests that the higher retained ownership of both BAs and VCs, the higher their ability to either certify in the UK or to “grandstand” or to collaborate with underwriters in France.

Finally, controlling for the endogenous choice of risk financiers’ ownership in the 2SLS regressions in Table 5 provides more significant results than in the OLS regressions in Table 3. This confirms the need to address the determinants of BAs and VCs choices at the time of IPOs. In terms of the control variables, initial underpricing is lower for older IPOs, and it is positively associated with both *Market Volatility* and *Market Return* variables.

Table 5 near here

As a robustness test, we examined whether our findings were affected by attempts by risk financiers to use internal governance mechanisms to mitigate agency costs with entrepreneurs associated with VC and BA involvement in IPO firms. Further investigations controlling for the substitution effect between both BAs’ and VCs’ retained ownership on the one hand, and board independence on the other, were

carried out. Although not reported here, this analysis did not show any significant change in our results.

VI- Discussion and Conclusions

Using a unique sample of 444 entrepreneurial IPOs in the UK and France, this paper makes a number of important contributions to venture capital research in the context of IPOs. By focusing on French and UK IPOs, we provide an analysis of the role played by BAs and VCs in reducing asymmetric information and thus underpricing in different settings.

Our study makes a novel contribution to IPO underpricing research by providing evidence of the endogeneity of VCs' and BAs' decisions with regard to their equity stakes at the time of IPO. This analysis has two main implications. First, there is a negative and significant association between BAs' and VCs' ownership at the time of the IPO. This is consistent with the assumption that VC investments, and thus their role in providing screening and certification at the time of IPOs, substitute for the involvement of existing shareholders.

Second, the 2SLS regression analysis of underpricing, controlling for the endogenous choice of VC ownership, indicates that underpricing decreases in UK VC-backed IPOs, whereas it increases in French VC-backed IPOs. One explanation is that more mature UK VCs provide issuing firms with certification and monitoring, whereas younger French VCs are more likely to grandstand or collaborate with underwriters and cause higher underpricing. The interaction variable between VC and BA ownership exhibits more significant results in different settings. The significantly lower underpricing of UK IPOs suggests that issuing firms benefit more from a

complementary role played by both risk financiers, whereas French IPOs are more significantly underpriced.

These findings represent one of the first comparative studies of the role played by BAs and VCs in different national environments. Our results suggest that institutional factors, such as the depth and breadth of the private equity industry and corporate governance-related regulatory initiatives, may affect the IPO investment process both in terms of the extent of underpricing and the role of different types of financier. There is growing recognition that governance and the operation of VC firms may depend on the institutional environment (Jeng and Wells, 2000; Black and Gilson, 1998). Further research might usefully extend our analysis of the role of risk financiers to other institutional contexts, such as countries associated with network-based corporate governance systems (La Porta et al. 1997). For example, it is clear that the extent of syndication is significantly greater in the US venture capital industry compared with that in Europe (Wright and Lockett, 2003). Future analysis may also shed light on the main drivers of the syndicated investments as well as their organizational outcomes.

References

- Aernoudt, R. (2001), 'Public and Private Initiatives', Council of the European Union, Business Angels Magazine
- Amit R, L. Glosten and E. Muller (1990), 'Entrepreneurial Ability, Venture Investments, and Risk Sharing', *Management Sciences*, Vol. 36, No.10, pp.1232-1245.
- Armour, J. and D. Cumming (2005), 'The Legislative Road to Silicon Valley', *Oxford Economic Papers*, forthcoming.
- Baker, M. and P.A. Gompers (2003), 'The Determinants of Board Structure and the Initial Public Offering', *Journal of Law and Economics*, Vol.46, No.6, pp.1097-1130.
- Barry, C., C. Muscarella, J. Peavy and M. Vetsuypens (1990), 'The Role of Venture Capitalists in the Creation of a Public Company', *Journal of Financial Economics*, Vol. 27, No.2, pp.447-471.
- Berry, T.K., L. Fields and M.S. Wilkins (2005), 'The Interaction Among Multiple Governance Mechanisms in Young Newly Public Firms', *Journal of Corporate Finance*, forthcoming.
- Birley, S. and S. Stockley (2000), 'Entrepreneurial Teams and Venture Growth. In Sexton, D. and Landstrom, H. (eds). *The Blackwell Handbook of Entrepreneurship*. (Oxford: Blackwell)
- Black, B. and R. Gilson (1998), 'Venture Capital and the Structure of Capital Markets: Banks versus Stock Markets', *Journal of Financial Economics*. Vol.47, No.3, pp.243-278.
- Brav, A. and P. Gompers (1997), 'Myth or reality? The Long-run Underperformance of IPOs: Evidence from Venture and Non-venture Capital Backed Companies', *Journal of Finance*, Vol.52, No.4, pp.1791-1821.
- « L'Enquête Business Angels 2001 », NVD Consultants France – France Angels.
- Certo T.S., J. Covin, C. Daily and D. Dalton (2001), 'Wealth and the Effects of Founder Management Among IPO-stage New Ventures', *Strategic Management Journal*, Vol.22, No.6-7, pp.641-658.
- Chahine, S. (2006), 'Investor Interest, Trading Volume, and the Choice of IPO Mechanism in France', *The International Review of Financial Analysis*, forthcoming.
- Chahine, S. and I. Filatotchev (2005), 'Do Venture Capitalists Certify and Monitor New Issues?', Working Paper, King's College London.
- Cumming, D.J. (2003), 'Contracts and Exits in Venture Capital Finance', University of Alberta WP.

- Cumming, D.J., D. Schmidt, and U. Walz (2004), 'Legality and Venture Governance Around the World', RPI Working Paper.
- Cumming, D.J., G. Fleming and A.Schwienbacher (2005), 'Legality and Venture Capital Exits', *Journal of Corporate Finance*, forthcoming.
- Espenlaub, S., I. Garrett and W. Mun (1999), 'Conflicts of Interest and the Performance of Venture-capital-backed IPOs: A Preliminary Look at the UK', *Venture Capital: An International Journal of Entrepreneurial Finance*, Vol.1, No.4, pp.325-350.
- EVCA. (2003), *EVCA Yearbook 2003*. European Venture Capital Association, Zaventem.
- Field, L. and J. Karpoff (2002), 'Takeover Defenses of IPO Firms', *Journal of Finance*, Vol.57, No.5, pp.1857-1889.
- Fiet, J. (1995), 'Risk Avoidance Strategies in Venture Capital Markets', *Journal of Management Studies*, Vol.32, No.4, pp.551-74.
- Filatotchev I. and K. Bishop (2002), 'Board Composition, Share Ownership and "Underpricing" of UK IPO firms', *Strategic Management Journal*, Vol 28, No. 7, pp.941-955.
- Filatotchev, I., Wright, M., and Arberk, M. (2006) 'Venture capitalists, syndication and governance in Initial Public Offerings', *Small Business Economics*, forthcoming.
- Filatotchev, I. and M. Wright (2005), *The Life-cycle of Corporate Governance*. Cheltenham: Edward Elgar.
- Franks, J. and C. Mayer (1992), 'Corporate Control: A Synthesis of the International Evidence', IFA Working Paper 165-92, LBS.
- Freear, J., J. Sohl and W.Wetzel (1994), 'Angels and Non-angels: Are There Differences?', *Journal of Business Venturing*, Vol.9, No.2, pp.109-123.
- Gompers, P. (1995), 'Optimal Investment, Monitoring, and the Staging of Venture Capital', *Journal of Finance*, Vol.50, No.5, pp.1461-89.
- Gompers, P. (1996), 'Grandstanding in the Venture Capital Industry', *Journal of Financial Economics*, Vol.42, No.1, pp.133-156.
- Gompers, P. and J. Lerner (1999), *The Venture Capital Cycle*. Wiley, New York.
- Gorman, M., and W. Sahlman (1989), 'What Do Venture Capitalists Do?' *Journal of Business Venturing*, Vol.4, No.4, pp.231-248.
- Hellmann, T. and M. Puri (2002), 'Venture Capital and the Professionalization of Start-up Firms: Empirical Evidence', *Journal of Finance*, Vol.57, No.1, pp.169-197.

- Hochberg, Y.V. (2003), 'Venture Capital and Corporate Governance in the Newly Public Firm', Working Paper, Cornell University.
- Jain B.A. and O.Kini (1999), 'The Life-Cycle of IPO Firms', *Journal of Business Finance and Accounting*, Vol. 26, pp.1281-1307.
- Jain, B.A. (2001), 'Predictors of Performance of Venture Capital-backed Organizations', *Journal of Business Research*, Vol.52, No.3, pp.223-233.
- Jelic, R., B. Saadouni and M. Wright (2005), 'Performance of Private to Public MBOs: The Role of Venture Capital', *Journal of Business Finance and Accounting*, Vol. 32(3&4), pp. 643-682.
- Jeng, L., and P. Wells (2000), 'The Determinants of Venture Capital Funding: Evidence Across Countries', *Journal of Corporate Finance*, Vol.6, pp.241-289.
- Jensen, M.C., and W. Meckling (1976), 'The Theory of the Firm: Managerial Behavior, Agency Costs and Ownership Structure', *Journal of Financial Economics*, Vol.3, No.4, pp.305-360.
- Johnson, S.R., R. La Porta, F. Lopez-de-Silanes and A. Shleifer (2000), 'Tunneling', *American Economic Review*, Vol.90, pp.22-27.
- Kaplan, S. and P. Stromberg (2003), 'Financial Contracting Theory Meets the Real World: An Empirical Analysis of Venture Capital Contracts', *Review of Economic Studies*, Vol.70, No.2, pp.281-316.
- Kaplan, S., F. Martel and P. Stromberg (2004), 'How Do Legal Differences and Learning Affect Financial Contracts?', Working Paper, University of Chicago.
- Klausner, M. and R. Daines (2001), 'Do IPO Charters Maximize Firm Value? Anti-Takeover Protection in IPOs', *Journal of Law, Economics and Organization*, Vol.17, No.1, pp.83-120.
- La Porta, R., F. Lopez-De-Silanes, A. Shleifer and R. Vishny (1997), 'Legal Determinants of External Finance', *Journal of Finance*, Vol. 52, No. 3, pp. 1131-1150.
- Lee, P.M., and S. Wahal (2003), 'Grandstanding, Certification and the Underpricing of Venture Capital Backed IPOs', Paper presented at the Academy of Management Annual Conference, Seattle, USA.
- Lerner, J. (1994), 'The Syndication of Venture Capital Investments', *Financial Management*, Vol.23, No.3, pp.16-27.
- Lerner, J. (1995), 'Venture Capitalists and the Oversight of Private Firms', *Journal of Finance*, Vol.50, No.5, pp.301-318.
- Lerner, J (1998), 'Angel Financing and Public Policy: an Overview', *Journal of Banking and Finance*, Vol.22, No.6-8, pp.773-783.

Lockett, A., G. Murray and M. Wright (2002), 'Do Venture Capital Firms in the UK Still Have a Bias against Technology Ventures?' *Research Policy*, Vol.31, No.6, pp.1009-1030.

Lockett, A. and M. Wright (2001), 'The Syndication of Venture Capital Investments', *OMEGA*, Vol.29, No.4, pp.375-390.

MacMillan, I., R. Siegel, and P. Narasimha (1985), 'Criteria Used by Venture Capitalists to Evaluate New Ventures', *Journal of Business Venturing*, Vol.1, No.1, pp.119-128.

Manigart, S., K. De Waele, M. Wright, K. Robbie, P. Desbrieres, H. Sapienza, and A. Beekman (2000), 'Venture Capitalists, Investment Appraisal and Accounting Information: A Comparative Study of the US, UK, France, Belgium and Holland', *European Financial Management*, Vol.6, No.3, pp.389-404.

Meggison, W., and K. Weiss (1991), 'Venture Capitalist Certification in IPOs', *Journal of Finance*, Vol.96, No.3, pp.879-903.

Mello, A.S., and J. Parsons (1998), 'Going Public and the Ownership Structure of the Firm', *Journal of Financial Economics*, Vol.49, No.1, pp.79-109.

Pagano, M., and A. Röell (1998), 'The Choice of Stock Ownership Structure: Agency Costs, Monitoring, and the Decision to Go Public', *Quarterly Journal of Economics*, Vol.113, No.1, pp.187-225.

Prowse, S. (1998), 'Angel Investors and the Market for Angel Investments', *Journal of Banking and Finance*, Vol.22, No.6-8, pp.785-792.

Reid, G. (1998), *Venture Capital Investment: An Agency Analysis of Practice* (London: Routledge).

Rinderman, G. (2003), *Venture Capitalist Participation and the Performance of IPO Firms. Empirical Evidence from France, Germany and the UK*. Frankfurt: Peter Lang.

Sahlman, W. A. (1990), 'The Structure and Governance of Venture Capital Organizations', *Journal of Financial Economics*, Vol.27, No.2, pp.473-521.

Sapienza H.J., and A. Gupta (1994), 'Impact of Agency Risks and Task Uncertainty on Venture Capitalist-CEO Interaction', *Academy of Management Journal*, Vol.37, No.4, pp.1618-1632.

Sapienza, H., S. Manigart and W. Vermeir (1996), 'Venture Capitalist Governance and Value Added in Four Countries', *Journal of Business Venturing*, Vol.11, No.6, pp.439-469.

Shleifer A, and R. Vishny (1997), 'A Survey of Corporate Governance', *Journal of Finance*, Vol.52, No.2, pp.737-783.

Steier L., and R. Greenwood (2000), 'Entrepreneurship and the Evolution of Angel Financial Networks', *Organization Studies*, Vol.21, No.1, pp.163-192.

Van Osnabrugge, M. (1998), 'Do Serial and Non-serial Investors Behave Differently? An Empirical and Theoretical Analysis', *Entrepreneurship Theory and Practice*, Vol.22, No.4, pp.23-42.

Wong, A. (2002), 'Angel finance: the Other Venture Capital'. University of Chicago WP.

Wright, M. and K. Robbie (1998), 'Venture Capital and Private Equity: A Review and Synthesis', *Journal of Business Finance and Accounting*, Vol. 25, Nos. 5 & 6, pp. 521-570.

Wright, M., and A. Lockett (2003), 'The Structure and Management of Alliances: Syndication in the Venture Capital Industry', *Journal of Management Studies*, Vol.40, No. 8, pp.2073-2104.

Zahra, S.A., and I. Filatotchev (2004), 'Governance of the Entrepreneurial Threshold Firm: A Knowledge-based Perspective', *Journal of Management Studies*, Vol.41, No. 5, pp.883-895.

Table 1
Descriptive Statistics

The sample includes 444 UK and French IPOs during the period of 1996-2002. Descriptive statistics are presented for the full sample as well as on a country basis. *Underpricing* is equal to the first day initial return. *VC Ownership* and *BA Ownership* are respectively the percentage ownership of Venture Capitalists and Business Angels. *Founder Percent* is the percentage of board members who are founders. *Founder Ownership* is the retained ownership by founders at the time of IPOs, and *Founder Intensity* is the number of founders' extra-professional ties. *Number of Investors* is the total number of significant block holders in the shareholding structure at the time of IPOs as reported in the listing prospectus. *Size* is equal to market capitalization in UK pounds (it is calculated at the current foreign exchange rate at the time of IPOs for French firms). *Age* is the number of years between the establishment of the firm and flotation date. *Hi-Tech Dummy*, equals 1 if the IPO firm is from hi-tech sector and zero otherwise. *Market Volatility* and *Market Return* are respectively the standard deviation of the one-month returns of the AIM index in the UK (the SBF 250 in France) in the immediate month before the IPO first-trade date, and the weighted average buy-and-hold returns of Market indexes in three months before the IPO date. The weights were equal to 3 for the first month, 2 for the second month and 1 for the third month before the offering, and the weighted sum was divided by 6.

	Total Sample (N=444)		UK IPOs (N=303)		French IPOs (N=141)		T-Diff
	Mean (Std-dev)	Median	Mean (Std-dev)	Median	Mean (Std-dev)	Median	
Underpricing	0.187 (0.525)	0.057	0.179 (0.579)	0.051	0.205 (0.394)	0.090	-----
VC Ownership	6.676 (12.667)	0.000	4.278 (10.103)	0.000	11.796 (15.744)	3.990	***
BA Ownership	4.268 (8.105)	0.000	5.539 (8.802)	0.000	1.554 (5.476)	0.000	***
Founder Percent	32.255 (21.089)	25.000	30.288 (15.791)	25.000	36.481 (29.036)	25.000	**
Founder Ownership	35.915 (24.192)	33.795	31.733 (21.184)	30.270	44.783 (27.631)	53.980	***
Founder Intensity	4.896 (5.869)	3.000	6.062 (6.208)	4.000	1.362 (2.351)	0.667	***
Number of Investors	4.865 (3.639)	4.000	4.630 (2.373)	4.000	5.369 (5.421)	4.000	*
Size	79.036 (367.535)	20.893	102.089 (442.779)	20.893	29.661 (36.842)	19.953	†
Age	9.090 (12.002)	5.000	6.719 (8.052)	4.000	14.184 (16.662)	10.000	***
Hi-tech dummy	0.464 (0.499)	0.000	0.380 (0.486)	0.000	0.645 (0.480)	1.000	***
Market Volatility	0.011 (0.007)	0.009	0.010 (0.008)	0.007	0.013 (0.004)	0.012	***
Market Return	-0.007 (0.070)	-0.007	-0.022 (0.077)	-0.025	0.024 (0.032)	0.024	***

***, **, *, †: significant at the 0.1%, 1%, 5% and 10% levels respectively.

Table 2

Univariate Analysis : Underpricing and Risk Financiers

This table shows different levels of underpricing in terms of each form of risk finance both within countries and between countries. The first figure in each row is the mean underpricing, and the second figure in parentheses is the standard deviation. Tests are conducted horizontally to compare the difference between IPOs without or with the risk finance backing within each country and vertically to compare the difference between IPOs between countries. Panel A compares underpricing for VC-backed and non-VC-backed IPOs. Panel B compares underpricing for BA-Backed and non-BA-backed IPOs. Panel C compares underpricing for IPOs with and without both VC and BA backing

Panel A – VC Investment and Underpricing within/between Countries			
VC Ownership	No	Yes	T-Diff (Significance)
France	0.181 (0.243)	0.216 (0.415)	----
UK	0.135 (0.566)	0.114 (0.507)	----
T-Diff (Significance)	----	*	
Panel B - BA Investment and Underpricing within/between Countries			
BA Ownership	No	Yes	T-Diff (Significance)
France	0.193 (0.341)	0.239 (0.395)	----
UK	0.186 (0.671)	0.074 (0.247)	*
T-Diff (Significance)	----	*	
Panel C – Joint BA and VC Investments and Underpricing within/between Countries			
BA Ownership x VC Ownership	No	Yes	T-Diff (Significance)
France	0.197 (0.338)	0.221 (0.425)	----
UK	0.142 (0.536)	0.046 (0.425)	----
T-Diff (Significance)	----	*	

***, **, *, =: respectively significant at the 0.1%, 1%, 5% and 10% levels.

Table 3
The Effects of Risk Financiers on Underpricing

The sample includes 444 UK and French IPOs during the period of 1996-2002 (303 UK IPOs and 141 French IPOs). Underpricing is the initial return over the first day of trading.

	Underpricing		
	OLS (1)	OLS (2)	OLS (3)
Constant	0.127 (0.074)	0.123† (0.073)	0.114† (0.068)
UK dummy	0.061 (0.056)	0.077 (0.057)	0.087 (0.066)
VC Ownership	0.002 (0.002)	0.000 (0.001)	0.001 (0.002)
VC Ownership x UK dummy			-0.001 (0.003)
BA Ownership	-0.003 (0.002)	-0.007** (0.003)	-0.017 (0.011)
BA Ownership x UK dummy			0.011 (0.000)
VC Ownership x BA Ownership		0.001 (0.000)	0.001* (0.000)
VC Ownership x BA Ownership x UK dummy			-0.001† (0.000)
LogSize	-0.068 (0.048)	-0.070 (0.048)	-0.066 (0.048)
Age	-0.002* (0.001)	-0.001† (0.001)	-0.001† (0.001)
Hi-tech dummy	0.000 (0.039)	0.008 (0.039)	0.006 (0.039)
Market Volatility	10.381** (4.010)	10.517** (4.073)	10.373** (4.019)
Market Return	1.802*** (0.477)	1.807*** (0.476)	1.792*** (0.477)
Adjusted R-squared	0.102	0.112	0.121
F-statistic	6.078	5.978	4.856
Prob(F-statistic)	0.000	0.000	0.000

White Heteroskedasticity-Consistent Standard Errors & Covariance

***, **, *, †: significant at the 0.1%, 1%, 5% and 10% levels respectively.

Table 4
Business Angel and Venture Capitalist Ownership

The sample includes 444 UK and French IPOs during the period of 1996-2002 (303 UK IPOs and 141 French IPOs). Models (4) and (5) include the OLS regressions for BA and VC ownerships, whereas Model (6) is the 2SLS regression which controls for the endogeneity of VC ownership by using the results in Model (4) as a first stage.

	BA Ownership		VC Ownership	
	OLS (4)	OLS (5)	2SLS (6)	(1) first stage
Constant	1.149 (1.740)	14.823*** (3.086)	14.146*** (3.077)	
UK dummy	5.354*** (1.081)	-7.372*** (1.849)	-8.256*** (1.688)	
BA Ownership		-0.170* (0.083)	-0.308** (0.097)	
Founder Percent	-4.332* (1.779)	4.596 (3.011)	4.745 (2.949)	
Founder Ownership	-0.027 (0.018)	-0.201*** (0.027)	-0.189*** (0.026)	
Founder Intensity	-0.109* (0.048)	-0.206** (0.065)	-0.185** (0.063)	
Number of Investors	0.672*** (0.168)			
LogSize	-1.808** (0.614)	2.513* (1.047)	2.748** (1.034)	
Age	0.097 (0.091)	0.032 (0.058)	0.012 (0.052)	
Hi-tech dummy	1.538† (0.921)	0.878 (1.113)	0.575 (1.080)	
Adjusted R-squared	0.156	0.205	0.230	
F-statistic	9.997	13.515	15.504	
Prob(F-statistic)	0.000	0.000	0.000	

White Heteroskedasticity-Consistent Standard Errors & Covariance

***, **, *, †: significant at the 0.1%, 1%, 5% and 10% levels respectively.

Table 5

Underpricing and the Endogenous Choice of Retained Share Ownership by Risk Financiers

The sample includes 444 UK and French IPOs during the period of 1996-2002 (303 UK IPOs and 141 French IPOs). Underpricing is the initial return over the first day of trading. Models (5) to (7) include the 2SLS regressions for underpricing using results in Model (6) as a first stage.

	Underpricing		
	2SLS (7)	2SLS (8)	2SLS (9)
	(6) first stage		
Constant	0.190*	0.187*	0.202**
	(0.084)	(0.083)	(0.083)
UK dummy	-0.011	-0.013	-0.026
	(0.058)	(0.057)	(0.058)
VC Ownership	0.003†	0.003†	0.007*
	(0.002)	(0.002)	(0.003)
VC Ownership x UK dummy			-0.006†
			(0.003)
BA Ownership	-0.004†	-0.006*	-0.002
	(0.002)	(0.003)	(0.009)
BA Ownership x UK dummy			-0.004
			(0.010)
VC Ownership x BA Ownership		0.000	0.002**
		(0.000)	(0.001)
VC Ownership x BA Ownership x UK dummy			-0.002**
			(0.001)
LogSize	-0.068	-0.067	-0.069
	(0.051)	(0.051)	(0.051)
Age	-0.002†	-0.002	-0.002
	(0.001)	(0.001)	(0.001)
Hi-tech dummy	-0.031	-0.031	-0.031
	(0.046)	(0.047)	(0.047)
Market Volatility	11.372**	11.485**	11.352**
	(4.359)	(4.367)	(4.390)
Market Return	1.836***	1.839***	1.813***
	(0.487)	(0.487)	(0.487)
Adjusted R-squared	0.113	0.117	0.132
F-statistic	6.032	5.509	4.719
Prob(F-statistic)	0.000	0.000	0.000

White Heteroskedasticity-Consistent Standard Errors & Covariance

***, **, *, †: significant at the 0.1%, 1%, 5% and 10% levels respectively.