

Venture capital investment practices in Europe and the United States

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Abstract This article focuses on the investment practices and contract behavior of venture capitalists in relation to their portfolio companies. Using a unique self-collected data set, we provide new evidence on the venture capital industry in Europe and the United States. Important differences are identified between the two, particularly with respect to the use of convertible securities, replacement of former management, stage financing, deal syndication, and duration of exit stage. The most striking difference involves the use of convertible securities, which are used far less often in Europe than in the United States. These differences suggest that European venture capitalists engage in less monitoring and thus adopt a more hands-off approach to their portfolio companies as compared to US venture capitalists.

Keywords Venture capital · Convertible securities · Stage financing · Syndication · Start-up

JEL Classification F36 · G15 · G24 · G32 · G34

1 Introduction

Venture capital has become an important source of funding for a significant number of innovative companies, not only in the United States, but also increasingly around the world (Jeng and Wells 2000; Lerner and Schoar 2005; Cumming 2005; Megginson

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2004; Mayer et al. 2005). It allows entrepreneurs to invest in new markets, often well before they form and in a way that is not possible with other types of financing (see, e.g., Denis 2004, for an overview of current issues related to venture-backed entrepreneurial firms).

For the venture capitalist (VC), the investment is a long-term one and quite illiquid for many years. While holding such shares, VCs use various monitoring and advisory services to increase the value of the venture. Various factors affect the extent to which VCs provide these services. Although the competencies required are an obvious prerequisite, a direct link can be made to contract issues that inevitably create the incentives needed and the power to advise (and oversee) the management of investee companies.

In this study, we investigate the contract behavior of VCs that is likely to affect their value-adding activity and hands-on approach. In particular, we address a number of issues pertaining to the active involvement of VCs in their portfolio companies. A unique data set was assembled by way of sending questionnaires to VCs in the United States and various European countries. We focus on particularities of the European venture capital market compared to the more established US market. It is often claimed that European VCs are less active and limit their value-adding behavior to “making deals” (financial engineering). Their US colleagues are expected to add further value by more actively monitoring and advising their portfolio companies. By providing new evidence on European venture capital firms, we aim to provide a more accurate picture of some European specificities. This comparison is made possible by sending the same questionnaire to VCs on both sides of the Atlantic. We also address the question of whether VCs who entered the European market during the 5 years just prior to the survey more closely resemble their US colleagues than those VC firms that have been in business longer or whether some of these specificities still remain.

This study provides new data on the European venture capital market, which is characterized by the use of similarly sophisticated monitoring devices as in the United States, but to a much lesser extent. Although there are numerous similarities between the United States and Europe (e.g., some aspects of monitoring intensity), there are also important differences, in particular with respect to the use of convertible securities, replacement of former management, stage financing, exit stage duration, and deal syndication. The most striking difference involves the use of convertible securities, which are used three times less often by European VCs compared to their US colleagues.¹ In the multivariate setting, our results indicate that European VC funds use convertible securities in 66.8% fewer deals than do their US counterparts.

Overall, these results indicate that there are significant differences between US and European VCs, especially in terms of contract and monitoring behavior. Interestingly, we also document that younger European and US VC firms are less different from each other than are their older counterparts, suggesting a convergence of European and US markets. Since differences between younger and older VCs are most pronounced in Europe, this further suggests that most of the changes occurred primarily in Europe. Differences with respect to the use of convertible securities are still

¹ Similar results are reported by Kaplan et al. (2007), Cumming (2006), and Bascha and Walz (2002), albeit only for specific European countries. Our study provides Europe-wide evidence in direct comparison to the United States.

striking, not only between Europe and the United States, but also with respect to the age of the VC firm. On both sides of the Atlantic, younger VC firms used convertible securities significantly less often than did more established firms. However, it seems likely that this difference can be attributed (at least in part) to the particular market conditions of the Internet bubble. In the multivariate setting, the result for convertible securities is only weakly significant. Nevertheless, the remaining differences between younger and more established VC firms are in line with the notion that the former provide fewer value-generating activities, possibly owing to lack of expertise.

This article is novel in many respects. Other studies typically focused on project characteristics and financial instruments (e.g., Gompers 1997 and Kaplan and Strömberg 2003, on contract design). To the best of our knowledge, this is one of the very few studies focusing on Europe as a young market for venture capital. Furthermore, since the same questionnaire was used for both US and European firms, it is the first really consistent cross-continental empirical study on venture capital, thus making direct comparisons possible. The study complements related empirical cross-continental investigations on initial public offering (IPO) listings and contract practices (e.g., Ritter 2003; Cumming and Johan 2006).

Our study is also related to a number of articles on venture capital investment and value-added advice. For instance, Casamatta (2003) presents a theoretical analysis of advice provided by VCs. A further theoretical analysis of monitoring and advising is offered by Schindele (2006), for which empirical support is provided by Cumming and Johan (2007). Gygax and Griffiths (2007) extend the range of determinants by considering social and economic factors, for which they provide empirical evidence. Further empirical evidence for Germany is provided by Tykvová (2006), who distinguishes between independent and captive funds. Brander et al. (2002) empirically examine the value-adding activity of VCs. Cumming et al. (2006b) provide evidence for the Japanese venture capital market by distinguishing between owner-manager funds and intermediated funds. Manigart et al. (2006), Wright and Lockett (2003), and Sapienza et al. (1996) focus on the effect of syndication and governance, whereas De Clercq and Sapienza (2006) consider the effect of relational capital on investee performance. Further determinants of venture capital investments are presented in Manigart et al. (2002). Keuschnigg and Kannianen (2003) report on a theoretical approach to the tradeoff between VC portfolio size and the degree of monitoring and advice; Cumming (2006) provides empirical evidence on this link. The impact of taxation on the supply of venture capital is studied by Keuschnigg (2004). A more detailed literature survey is provided in the next section, in which we also derive our research hypotheses. We contribute to this literature by providing new measures of active involvement in the context of European and US differences.

The remainder of the article is organized as follows. Section 2 presents our empirical strategy and develops the hypotheses that are tested in this study. In Sect. 3, we describe the data collection and provide descriptive statistics of the data. Section 4 highlights a number of European specificities. In Sect. 5, we focus on the determinants of different dimensions of monitoring and active involvement by VCs. We conclude in Sect. 6.

2 Research hypotheses

In this section, we consider potential links between financial contracts and close monitoring by VCs in several contexts: stage financing, reporting and board oversight, use of convertible securities, replacement of founders, and deal syndication. Our identification strategy is as follows. First, we derive empirical predictions for the type of financial contract structure and monitoring behavior expected from more proactive (hands-on) VCs. Second, we transpose these predictions to the comparison between European and U.S. VCs under the assumption that the former are less active. Whether this is indeed true is, of course, an empirical question, and one that we examine in Sect. 5. To make inferences regarding this hypothesis, we add a EUROPE dummy to the regression analysis when testing determinants of various contract and monitoring behaviors. This allows investigation of whether European VCs are indeed less active (and along which dimensions). However, our results do not allow any inferences regarding why European VCs are less active.

2.1 Stage financing

A method commonly used by VCs to retain some options to stop financing a venture prematurely involves staging the financing in successive rounds (Bergemann and Hege 1998; Cornelli and Yosha 2003; Gompers 1995; Witt and Brachtendorf 2006). In each round, the entrepreneur is provided with just enough financial resources to achieve the next development stage. This provides the VC with the option of abandoning the venture. Although the option value derived from stage financing does not directly stem from active VC involvement, the value created: (i) is the implied real option value that is highest when the risk of default is significant; and (ii) arises from the additional incentives provided to management to guarantee continuation of the project. Stage financing increases the expected value of the venture because fewer financial resources are wasted (the “real option” argument). Without stage financing, continuation is guaranteed for longer, which reduces incentives for the entrepreneur to work hard in the early stages.

Since efficient stage financing requires regular involvement and collection of information so that the VC can make optimal decisions on whether to continue the venture, we expect stage financing to be used more often by hands-on investors. This in turn yields financing rounds of shorter duration.

2.2 Reporting requirements and presence on the board of directors

Information can be collected by requiring entrepreneurs to report their activities and financial situation on a regular basis, which can be done either formally (written reports and official board meetings) or informally (e.g., at lunch meetings). The presence of the VC on the board of directors requires greater involvement. Both approaches, that is, being on the board or simply having meetings, are time-consuming, but provide ways for the VC to more closely monitor the entrepreneur on a timely basis. If the entrepreneur is monitored, the VC can further use his or her control rights to limit the impact of private benefits on the entrepreneur’s decision making.

Moreover, by being actively involved on the board of directors and routinely verifying reports, the VC may very well add value by providing essential advice and guidance to the entrepreneur. Since this increases firm value, it has a further positive effect on the entrepreneur's motivation to work hard. Hands-on investors will therefore more often seek a seat on the board of directors and a high level of reporting.

2.3 Use of convertible securities

Several studies provide empirical evidence on the use of convertible securities (CS) in VC contracts (Gompers 1997; Bascha and Walz 2002; Kaplan and Strömberg 2003; Cumming 2005). A number of theoretical studies examine why venture capitalists extensively use CS (e.g., Berglöf 1994; Hellmann, 2003, 2006; Schmidt 2003; Casamatta 2003). From a general perspective, the use of CS stems from the existence of potential conflicts of interest between the VC and the entrepreneur. CS use allows for more *ex post* flexibility in the (re)allocation of control rights and the right to decide on exit. Furthermore, it provides protection against the downside risk of investment for CS holders (either convertible debt or convertible preferred stock) by providing seniority rights over straight equity. This implies that the entrepreneur will take on more risk compared to straight equity financing, thus inducing greater effort. It also allows the entrepreneur to retain more common shares than without CS, since VCs will require at best no more common shares after conversion than under financing without CS (given the implied protection against downside risk before conversion). Thus, the entrepreneur may expect to retain more of the final value of the firm in the case of great success.

From a more theoretical perspective, CS represents a way to give control to the party that obtains private benefits from a particular exit route. Berglöf (1994) shows that CS use is more likely when one party faces the threat of expropriation of private benefits. In this case, giving more control to this party ensures that it will be compensated accordingly in a trade sale. Other theoretical links between exit and CS are provided by Hellmann (2003, 2006) and Schmidt (2003). Hellmann (2006) examines the effect of automatic conversion under an IPO, whereas Schmidt (2003) shows the optimality of CS over debt-equity financing when the entrepreneur and VC both need to add value. This, in turn, provides a rationale for why the use of CS makes sense only when VCs are active investors. We, therefore, expect active VCs to use CS more often, and thus expect to see financing via CS more often in the United States. Note that CS may also be used by passive investors as a way to protect their investment by shifting risk to the entrepreneur (as mentioned above). Overall, however, CS use by active investors is expected more often, since they have more need of it than do passive investors. Protection against downside risk can be achieved through other means, such as liquidation preferences at a prespecified multiple or some debt-equity mix (which is more common in continental Europe; see (Bienz and Walz 2005), for empirical evidence on Germany).

2.4 Replacement of management

Hellmann (1998) examines why, and under what circumstances, entrepreneurs voluntarily give up control of their firm. He argues that this provides the correct incentives

for VCs to search for a superior management team. When VCs retain the option to replace the entrepreneur, they expend greater effort in finding professional managers, which increases the value of the company. Along these lines, the entrepreneur's trade-off is to give VCs either more favorable financial terms (by giving up more equity) or more control (increasing the likelihood of being replaced).² Since replacement of founders by an external CEO requires active involvement by investors, who need to secure a timely replacement, we expect hands-on investors to be actively engaged in these strategies.

2.5 Syndication

There are several reasons why syndication may occur: (1) for risk diversification; (2) to increase value-adding activity and improve screening (Bruining et al. 2005; Wright and Lockett 2003; Sapienza et al. 1996) by investing in a company only if another VC ends with a positive due diligence process (Brander et al. 2002); (3) to obtain a commitment from a corporate investor (this can be important in avoiding hold-up problems; cf. Hellmann 2002; Riyanto and Schwienbacher 2006) to secure a distribution channel or a potentially important customer pool, e.g., to speed up the introduction of the technology as a market standard; or (4) to obtain certification and reputation effects through syndication with more experienced VCs (Gompers and Lerner 1999). The first two reasons are more applicable to first-round syndication; the latter two more frequent in later-round syndication. An additional reason for which VCs might want to syndicate their deals is to add value, e.g., through sharing information and pooling contacts to better identify strategic buyers.

The overall prediction with respect to type of investor most likely to syndicate is unclear. An important tradeoff in syndication is the choice between specialization and diversification. Passive investors may prefer syndication, since it increases diversification, and thus is a hedge against significant idiosyncratic risks. Active investors, on the other hand, may hold larger shares in a smaller number of companies, which limits diversification and reduces the opportunities for syndication. At the same time, active investors who specialize in certain stages of a company's development are more prone to and capable of bringing in other active investors, thus possibly leading to greater syndication among hands-on investors. Therefore, the overall effect of active involvement on the degree of syndication is unclear. We leave this as an empirical issue.

3 Data collection and descriptive statistics

3.1 Data collection

To collect information on VC investments and their underlying contract characteristics, we conducted a survey in both Europe and the United States. Questionnaires

²Lerner (1995) provides evidence that VCs are actively involved during the replacement of CEOs, and Hellmann and Puri (2002) find that the impact of venture capital on the professionalization of start-ups is significant.

were sent to VCs in 6 European countries (Belgium, France, Germany, the Netherlands, Sweden and the United Kingdom) during June and July 2001. The VC sample was drawn from the European Venture Capital Association (EVCA) and national VC member lists for the 6 countries. In total, approximately 600 VCs were contacted. Preliminary testing of the questionnaire was carried out before the final version was sent out. During October and November 2001, the same questionnaire was sent to approximately 600 VCs in the United States selected from the National Venture Capital Association (NVCA) member list and *Pratt's Guide to Venture Capital Sources* (2001 edition). In both cases, respondents were asked to report data (aggregated at VC firm level) on realized investments and about themselves. A complete list of questions included in the questionnaire is provided in the [Appendix](#).

One-hundred-four questionnaires (some only partially completed) were returned from Europe and 67 from the United States, making a total of 171 observations. In the European sample, 19 VCs responded from Belgium and the Netherlands, 29 from Germany, 13 from France, 20 from Sweden, and 23 from the United Kingdom. The response rate for the survey was approximately 18% for Europe and 11% for the United States, resulting in a total sample size similar to that of many other studies on venture capital using hand-collected data (Kaplan et al. 2007; Kaplan and Strömberg 2003; Cumming 2006; Bascha and Walz 2002).

All the variables used in this study are defined in Table 1.

3.2 Sample issues

The data collected are aggregated at the VC firm level, which limits controls for industry specificities; on the other hand, we can take into account VC-specific characteristics in the analysis. The study is thus a complement to previous studies that focus on individual investments but neglect VC firm characteristics.

One potential problem is that the European venture capital market is still young, so that many respondents have not yet experienced any exit. In addition, many of the US respondents have entered the market only recently even though the US market is already quite developed. Unfortunately, this limits the use of the completed questionnaires and in turn reduces the number of observations when applying regression analysis (Sect. 5). This may induce some small-sample bias that is difficult to control for in a fully appropriate way. Nothing is known about the VC firms that did not respond. It is possible that younger VCs are somewhat overrepresented in both samples. On the other hand, this allows us to compare younger VCs with those that are more established (Sect. 4).

Sample comparison tests were performed with the widely used VentureXpert database (from Thomson Financial), which has the largest data set available. Although many variables could not be compared directly given differences in definitions and the fact that our data are aggregated at the VC level, those examined indicate little sample bias, in particular with respect to VC firm characteristics. The only significant exception is the slight overrepresentation of less-established US firms in our survey.³

³In what follows, we transform VC firm age into a dummy for younger versus older VCs. With respect to this transformation, the difference between our survey data and VentureXpert database becomes non-significant.

Table 1 Definition of variables*VC firm characteristics*

AGE: age of the VC firm (i.e., 2001-“years established” (or “year of first fund”))

YOUNG: dummy equal to 1 if the VC firm was established after 1996

OLD: dummy equal to 1 if the VC firm was established before 1997; i.e., $OLD = 1 - YOUNG$

EUROPE: dummy equal to 1 if the VC firm is located in Europe (0 otherwise)

AFFILIATION: dummy variable equal to 1 if the VC has an affiliation to a financial or nonfinancial corporation (0 otherwise)

CLOSED_END: dummy variable equal to 1 if the VC fund is a closed-end fund (and 0 otherwise)

REGIONAL: dummy variable equal to 1 if the VC firm invests in its own country (or state for US respondents) and proximity (0 otherwise)

COMPANIES: number of companies currently in the VC portfolio

SIZE: average size of investment in past ventures (in million EUR (for European respondents) or million USD (for US respondents))

Portfolio composition of VC firms in percentage of ventures financed

EARLY_STAGE: investments made in seed and start-up stages

LATER_STAGE: investments made in development/expansion stages and replacement/refinancing stages

BUYOUT: investments made in buyout stage

VC involvement in ventures

BOARD: percentage of ventures in which the VC has been present on the board of directors

REPORTS: average number of reports requested from ventures per year

ROUNDS: average number of investment rounds until exit (for already achieved exits)

CONVERTIBLES: percentage of past ventures in which convertible securities were used

REPLACE: percentage of companies in which the former entrepreneur was replaced before VC exit

VC track record in terms of exit (for exited ventures)

INV_YEARS: average investment duration in years (from entry to full exit)

EXIT_STAGE: average duration of exit stage in months (starting when VC begins preparing his exit)

EXIT_TS: average time the VC spent looking for a buyer when exit occurred through a trade sale (in months)

EXIT_IPO: average time VC remained in the venture after an IPO in months (including the usual lock-up period)

EXIT_LIQU: average duration of liquidation process in months (only for investments in own continent)

SYNDICATION: percentage of past deals syndicated with at least one other VC

In terms of the proportion of exits by VC firms (our main dependent variable for testing the empirical predictions), our respondents were involved in proportionately fewer IPOs than the VC firms supplying data to VentureXpert. Moreover, US respondents had higher rates of liquidations and trade sales than the VC firms included in VentureXpert. In the latter case, this may be due to the overrepresentation of less established VC firms in our US sample. Overall, although there are some differences, the comparison does not reveal that our respondents provided data only about their best investments or that participating VC firms are only those with the best performance.

3.3 Descriptive statistics

Table 2 summarizes characteristics of the average VC firms in Europe and the United States. Means and medians are based on all the available information. Since we occasionally observe some extreme values, we also report the median. The latter is more reliable for the variables AGE, COMPANIES, SIZE, and REPORTS.⁴ The final

Table 2 Average characteristics of the responding venture capitalists

| Variable | Europe | | United States | | Diff. mean | Diff. median |
|---|--------|--------|---------------|--------|------------|--------------|
| | mean | median | mean | median | p-value | p-value |
| <i>VC Firm Characteristics</i> | | | | | | |
| AGE (years) | 7.6 | 4 | 7.1 | 4 | 0.50 | 0.90 |
| AFFILIATION | 26% | – | 15% | – | 0.03 | – |
| CLOSED_END | 61% | – | 67% | – | 0.22 | – |
| COMPANIES (# ventures) | 39 | 14 | 24 | 15 | 0.10 | 0.84 |
| REGIONAL | 53% | – | 43% | – | 0.11 | 0.29 |
| <i>Portfolio Composition of VC Firm</i> | | | | | | |
| EARLY_STAGE | 38% | 30% | 50% | 55% | 0.01 | 0.08 |
| LATER_STAGE | 45% | 46% | 45% | 40% | 0.44 | 0.73 |
| BUYOUT | 17% | 0% | 5% | 0% | 0.00 | 0.03 |
| <i>Contract Characteristics</i> | | | | | | |
| ROUNDS (# rounds) | 2.3 | 2 | 2.4 | 2 | 0.43 | 0.16 |
| REPORTS (# per year) | 9.5 | 12 | 9.3 | 12 | 0.43 | 0.96 |
| CONVERTIBLES | 20% | 10% | 59% | 68% | 0.00 | 0.00 |
| BOARD | 69% | 94% | 66% | 80% | 0.35 | 0.46 |
| REPLACE | 22% | 10% | 34% | 33% | 0.02 | 0.08 |
| <i>Investment Characteristics</i> | | | | | | |
| SIZE (mio EUR or mio USD) | 7.0 | 2.0 | 4.4 | 3.0 | 0.08 | 0.15 |
| SYNDICATION | 54% | 60% | 80% | 95% | 0.00 | 0.00 |
| INV_YEARS (years) | 3.7 | 3.5 | 3.0 | 3 | 0.02 | 0.22 |
| EXIT_STAGE (months) | 8.5 | 6 | 7.4 | 6 | 0.10 | 0.89 |
| EXIT_IPO (months) | 13.3 | 12 | 13.9 | 12 | 0.40 | 0.94 |
| EXIT_TS (months) | 7.2 | 6 | 5.1 | 5 | 0.09 | 0.60 |
| EXIT_LIQU (months) | 7.3 | 6 | 5.3 | 4.5 | 0.03 | 0.14 |

Note: The variables are defined in Table 1. Mean refers to the unweighted arithmetic mean of responses based on all available information. The last two columns test the difference in means and medians between Europe and the United States. For differences in mean of the variable SIZE, we used 1 EUR = 0.9 USD as the exchange rate. The difference in medians test uses the Wilcoxon rank-sum test

⁴One reason the average age is greater for Europe is the presence of some well-established buyout firms in the European sample. On exclusion of these firms (cf. Table 7), the difference in age vanishes. Note, however, that the difference in AGE in Table 2 is not significant (p-value is 0.50).

two columns compare the difference in means and medians between Europe and the United States in terms of p-values.

Table 2 shows that 53% of European respondents have a geographic preference for investing on a regional basis only (REGIONAL). For the United States, the corresponding value is 43% of investments. An interesting difference between the United States and Europe is the importance of affiliations. In Europe, VCs are significantly more often affiliated with either a financial or nonfinancial corporation (in 26% of the cases in the sample compared to 15% in the United States). US VC investment in the early stage is also significantly greater than that of their European counterparts. The opposite is true for buyout. This difference may be explained by differences in the definition of venture capital (this is dealt with in more detail in the next subsection by excluding VC firms that have a substantial proportion of their investments in buyouts).

Although there are numerous similarities between the United States and Europe (e.g., in some aspects of monitoring intensity), there are also important differences, in particular with respect to exit stage duration, CS use, replacement of former management, and syndication. Most of these differences can be explained by the fact that European VCs face less liquid markets than is the case in the United States, in terms of the human resources that enter into ventures and the exit market. This situation forces European VCs to shop around for longer periods when trying to sell their shares and makes replacement of key employees more difficult. The greater propensity for more regional investment by European VCs may stem from tax and legal issues, which may differ significantly from one country to another. This is also reflected in the last four variables in Table 2 that represent different average exit durations (as well as differences in INV_YEARS), which is related to the liquidity of exit markets. The only exception is EXIT_IPO (for which the difference is not significant), which mainly represents the duration of lock-up periods and is largely dependent on stock market requirements. In contrast, for a trade sale, we should expect greater variability in the expected duration of the exit stage, since no particular (regulatory or market) constraints bind shareholders when looking for potential buyers, except for the liquidity of the corporate (mergers and acquisitions) market. This is partially reflected in the fact that the mean values are significantly different (at 9% level) from each other, but the median values are not (p-value 0.94), possibly owing to the presence of outliers. Finally, liquidations seem to take longer in Europe and are thus more costly, since entrepreneurs waste money for a longer period of time; the liquidation value is therefore lower.

There are some interesting similarities worth noting. With respect to monitoring intensity, monthly reporting of financial activities by the investee seems to be a general rule. The average number of financing rounds (ROUNDS) until exit is also very similar in Europe and the United States, at 2.3 and 2.4, respectively. This is slightly lower than the result of 3.2 reported by Lerner (1995), but his results pertain to the biotech industry only and to companies that eventually went public.

Perhaps the most striking difference is with respect to CS use, which is three times more common in the United States than it is in Europe.⁵ This is a very surprising

⁵In the US database of Kaplan and Strömberg (2003), almost 80% of the financing rounds in their sample included CS, whereas here the figure is only 60%. This difference can be explained by the fact that Kaplan

Table 3 Frequency of different exit routes (average track record)

| Exit route | Exits already accomplished (up to 2001) | |
|------------------------------|---|---------------|
| | Europe | United States |
| IPO | 25.3% | 29.9% |
| Trade Sale / Acquisition | 38.4% | 30.3% |
| Management Buyout | 6.3% | 2.0% |
| Secondary Sale / Refinancing | 9.2% | 5.0% |
| Liquidation (Write-Off) | 20.8% | 32.8% |

Note: Data listed are the frequency of exit routes aggregated on the VC fund level for Europe and the United States separately

result, since one of the few general beliefs in the literature is that there is widespread use of such securities by VCs.

One possible reason for this difference could be based in a lack of contract sophistication in that the European (and Canadian) venture capital market is much younger on average, an argument empirically supported by Kaplan et al. (2007). An alternative explanation, suggested by Gilson and Schizer (2002), is the tax advantages obtained by entrepreneurs in the United States. Additionally, part of this difference might be due to the different types of organizational structure used by VC firms in Europe and the United States. Different types of organizational structure may have different objectives. For instance, VCs affiliated with a corporate group may prefer common shares over preferred shares if control issues are of greater importance than exit requirements. This argument is bolstered by our finding that there is a higher proportion of affiliated VC firms observed in our European sample as compared with the US sample.

Finally, the average track record in terms of exit for the surveyed VCs is provided in Table 3.⁶ On average over the last 5 years, EVCA (2001) reports for their members (albeit in terms of amount divested, and not in number of ventures as in Table 3) 17.6% public offerings (IPO + sale of quoted equity), 42.7% trade sales, 8.2% write-offs, and 31.9% divestments by other means. It should be noted, however, that the EVCA calculates its statistics differently from those employed in this study. The EVCA statistics report the percentage of exits for the industry as a whole, while this survey treats every responding VC equally (i.e., younger VCs with fewer exits are given the same weight as well-established VCs), so that Table 3 provides a picture of average exits for a VC, irrespective of investment size. This represents the average track record of VCs in the sample.

and Strömberg only have data for well-established VCs. In Panel 2 of Table 5, we report the average characteristics of well-established VCs and show that for these firms the use of CS is 72%, which is closer to the result reported by Kaplan and Strömberg.

⁶Five different exit routes were considered: (1) IPO (the company seeks a stock market listing); (2) trade sale (sale of the venture to an existing firm); (3) management buyout/repurchase (sale of VC shares back to the entrepreneur); (4) secondary sale/refinancing (purchase of VC stocks by another institutional investor (e.g., another VC)); and (5) liquidation (the company goes bankrupt).

Table 4 Summary statistics for syndication of past deals

| Variable | Europe | | United States | | Diff. mean | Diff. median |
|-------------------------------|--------|--------|---------------|--------|------------|--------------|
| | mean | median | mean | median | p-value | p-value |
| SYNDICATION | 54% | 60% | 80% | 95% | 0.00 | 0.00 |
| # syndicate partners | 2.7 | 3 | 4.5 | 4 | 0.00 | 0.00 |
| Own country (or State) only | 58% | 60% | 41% | 50% | 0.01 | 0.16 |
| Outside Europe (or US) only | 25% | 10% | 18% | 10% | 0.13 | 0.98 |
| Governmental partner included | 12% | 0% | 2% | 0% | 0.00 | 0.10 |

Table 4 provides summary statistics for syndication practices in both the United States and Europe. The first variable (SYNDICATION) represents the percentage of VC deals syndicated. The second variable (# syndicate partners) is the average syndicate size in which VCs were involved (including the respondent himself or herself). The third (fourth) variable is the percentage of syndications that included only partners from the same country (only from outside Europe). Finally, the fifth variable gives the percentage of past syndications that involved at least one partner from the governmental sector.

The results provide clear evidence that not only is syndication more frequent in the United States, but also that the average size of syndicates is larger in that country than in Europe. On the other hand, syndication with regional colleagues occurs significantly more often in Europe; this also holds for syndication with governmental partners. This is again in line with the notion that markets are less liquid and less developed in Europe. Moreover, the fact that deal syndication occurs less often in Europe, whereas EXIT_TS is greater, is consistent with the possible existence of positive network externalities: syndication increases the pool of contacts available when looking for a potential buyer.

4 Younger vs. older (and regional vs. global) VCs

One interesting distinction that can be made among VC firms has to do with their age. In particular, we distinguish between “younger” VCs (those established between 1997–2001) and “older” VCs (those established before 1997). Although the threshold year of 1997 may seem somewhat arbitrary, it represents an important benchmark for the European VC industry, since this is when capital inflows increased significantly. The annual amount raised by EVCA members (EVCA 2001) was on average 5.1 billion EUR per year from 1991 to 1996, but then increased to four times this level in 1997 and continued to increase steadily until 2000 (48.0 billion EUR). A similar pattern is observed in the United States for approximately the same period.

Table 5 illustrates the age-related differences, some of which are not only Europe-specific, but also hold for the United States. Compared to older firms, younger VCs manage fewer portfolio companies (COMPANIES); invest more regionally (REGIONAL); invest more in seed and start-up stages than in buyout (only signifi-

Table 5 Characteristics of “younger” vs. “older” venture capitalists

| Variable | Europe | | United States | | Diff. mean p-value |
|---|-----------------|-------------|----------------|-------------|-----------------------|
| | mean | median | mean | median | |
| Panel 1: VCs established in 1997–2001 (“Younger” VCs) | | | | | |
| INV_YEARS | 1.9 years | 2 years | 2.1 years | 2 years | 0.22 |
| ROUNDS | 2.8 rounds | 2 rounds | 2.0 rounds | 2 rounds | 0.21 |
| COMPANIES | 14 ventures | 9 ventures | 21 ventures | 10 ventures | 0.13 |
| SIZE | 6.9 mio EUR | 2 mio EUR | 3.5 mio USD | 2.5 mio USD | 0.14 |
| REPORTS | 10.2 per year | 12 per year | 9.2 per year | 10 per year | 0.25 |
| CONVERTIBLES | 14% | 0% | 50% | 33% | 0.00 |
| BOARD | 61% | 73% | 57% | 75% | 0.38 |
| REPLACE | 15% | 0% | 26% | 10% | 0.10 |
| REGIONAL | 61% | – | 45% | – | 0.06 |
| SYNDICATION | 44% | 37% | 79% | 98% | 0.00 |
| EARLY_STAGE | 45% | 50% | 53% | 60% | 0.15 |
| LATER_STAGE | 47% | 50% | 46% | 40% | 0.46 |
| BUYOUT | 9% | 0% | 1% | 0% | 0.01 |
| Panel 2: VCs established before 1997 (“Older” VCs) | | | | | |
| INV_YEARS | 4.6 years *** | 4 years | 3.9 years *** | 4 years | 0.03 |
| ROUNDS | 2.0 rounds | 2 rounds | 2.8 rounds *** | 3 rounds | 0.00 |
| COMPANIES | 70 ventures *** | 32 ventures | 27 ventures | 25 ventures | 0.05 |
| SIZE | 7.3 mio EUR | 3 mio EUR | 5.5 mio USD | 3.5 mio USD | 0.34 |
| REPORTS | 8.7 per year * | 11 per year | 9.4 per year | 12 per year | 0.21 |
| CONVERTIBLES | 27% *** | 20% | 72% *** | 95% | 0.00 |
| BOARD | 74% * | 95% | 75% ** | 85% | 0.42 |
| REPLACE | 27% ** | 23% | 41% * | 40% | 0.02 |
| REGIONAL | 42% ** | – | 41% | – | 0.47 |
| SYNDICATION | 59% * | 66% | 81% | 95% | 0.00 |
| EARLY_STAGE | 31% ** | 20% | 48% | 50% | 0.01 |
| LATER_STAGE | 42% | 40% | 43% | 40% | 0.47 |
| BUYOUT | 27% *** | 0% | 9% ** | 0% | 0.01 |

Note: The variables are defined in Table 1. For Europe, results reported in Panel 1 are based on 45 VCs, and those in Panel 2 on 57 VCs. For the United States, results reported in Panel 1 are based on 36 VCs, and those in Panel 2 on 26 VCs. The last two columns test the difference in means and medians between the European and US subsamples. Significance levels (p-value) between both panels (* 10%, ** 5%, or *** 1%) are only provided in Panel 2 and test the difference compared to the “younger” counterpart in Panel 1 (European “younger” vs. “older” VCs and US “younger” vs. “older” VCs). To compare differences in the variable SIZE, 1 EUR = 0.9 USD was used as the exchange rate

cant for the European sample); use CS less often; invest their funds for a shorter period in the ventures they have already exited (INV_YEARS);⁷ had shorter exit

⁷The shorter investment duration for young VCs most probably stems from the bias due to the fact that we only observe exits of young VCs for their short-term investments.

stages (EXIT_STAGE), in particular for trade sales (EXIT_TS) and liquidations (EXIT_LIQU);⁸ replace former entrepreneurs less often (REPLACE), which might be due to lack of experience in recruiting top executives; had fewer syndication partners (SYNDICATION); and syndicated less often (possibly because of a lack of experience and contacts among their peers).

Furthermore, it is interesting that the differences between European and US VC firms identified in Table 5 are greater for well established (Panel 2) than for younger firms (Panel 1); most p-values are smaller in Panel 2, meaning that differences are greater (although not all are statistically significant). This observation suggests a possible convergence of the European and US VC industries. There are also more statistical differences between both panels for the European sample than for the US sample, suggesting that most of the changes primarily occurred in Europe.

The difference with respect to CS use is again interesting. The patterns of its use differ not only between Europe and the United States, but also according to the age of the VC firm. At first glance, this seems puzzling, since younger VCs also invest more in seed and early stages, for which risk is highest and, therefore, the need for downside protection is strongest. However, the finding is in line with the expectations of some practitioners who reported that during the boom, many VCs, especially younger ones, agreed to join syndicates at less favorable terms than more established VCs, namely, by accepting common shares instead of convertible preferred stock. Furthermore, it is in line with the widely believed notion that a large amount of money was chasing only a very few good deals at that time (Gompers and Lerner 2000). Greater competition among VCs forced them to finance deals on less favorable terms than in times before the boom, when there was less competition for good projects. This in turn translates into lower CS use, particularly for younger VCs. However, results provided in Sect. 5 demonstrates that this result is only weakly robust to multivariate analysis that controls for several other factors simultaneously.

In Tables 6 and 7, we compare different subsamples. Table 6 shows differences between VCs investing regionally (REGIONAL = 1) and VCs investing globally (REGIONAL = 0). The results strengthen the intuition that local VCs invest proportionally more in seed and start-up stages (EARLY_STAGE), whereas buyout funds are more globally oriented. This may also explain why average investment amounts (SIZE) are significantly greater in the second case.

Finally, Table 7 reduces the samples by excluding VCs that had at least one-third of their investments in buyout deals. Since some European VCs invest a significant proportion of their funds in buyouts (recall that the distinction between VC and buyout is not as sharp in Europe as it is in the United States), we believe that the remaining subsample allows for a more accurate comparison with the US sample. In fact, some of the differences vanish, notably for the variables AGE and EARLY_STAGE. Nevertheless, differences between Europe and the United States remain with respect to syndication, CS use, replacement of management, and geographical investment preferences (REGIONAL).

⁸Further analysis indicates that this result most likely stems from the bias for 1998–2000.

Table 6 VC characteristics according to geographical investment preferences

| Variable | Europe | | United States | | Diff. mean p-value |
|--|------------------|-------------|-----------------|-------------|-----------------------|
| | mean | median | mean | median | |
| Panel 1: VCs Preferring Investments in their Own Country (or State) Only (+ Proximity) | | | | | |
| INV_YEARS | 3.7 years | 3.0 years | 2.9 years | 2.5 years | 0.05 |
| ROUNDS | 2.0 rounds | 2 rounds | 2.5 rounds | 3 rounds | 0.04 |
| COMPANIES | 21 ventures | 11 ventures | 23 ventures | 10 ventures | 0.47 |
| SIZE | 2.5 mio EUR | 1 mio EUR | 2.3 mio USD | 1.5 mio USD | 0.43 |
| REPORTS | 9.6 per year | 12 per year | 9.3 per year | 12 per year | 0.39 |
| CONVERTIBLES | 18% | 10% | 63% | 80% | 0.00 |
| BOARD | 63% | 93% | 62% | 85% | 0.44 |
| REPLACE | 22% | 5% | 39% | 40% | 0.02 |
| SYNDICATION | 45% | 40% | 86% | 100% | 0.00 |
| EARLY_STAGE | 44% | 50% | 69% | 70% | 0.00 |
| LATER_STAGE | 48% | 50% | 31% | 30% | 0.01 |
| BUYOUT | 8% | 0% | 0% | 0% | 0.00 |
| Panel 2: VCs Investing European-wide (or US-wide) and Worldwide | | | | | |
| INV_YEARS | 3.6 years | 3.5 years | 3.0 years | 3 years | 0.10 |
| ROUNDS | 2.5 rounds | 1.75 rounds | 2.3 rounds | 2 rounds | 0.38 |
| COMPANIES | 60 ventures * | 21 ventures | 25 ventures | 22 ventures | 0.08 |
| SIZE | 12.1 mio EUR *** | 4 mio EUR | 6.0 mio USD *** | 4 mio USD | 0.05 |
| REPORTS | 9.2 per year | 12 per year | 9.3 per year | 12 per year | 0.47 |
| CONVERTIBLES | 22% | 10% | 57% | 60% | 0.00 |
| BOARD | 75% * | 94% | 70% | 78% | 0.28 |
| REPLACE | 21% | 20% | 28% * | 25% | 0.15 |
| SYNDICATION | 63% *** | 70% | 74% * | 85% | 0.10 |
| EARLY_STAGE | 32% ** | 20% | 36% *** | 35% | 0.28 |
| LATER_STAGE | 42% | 40% | 55% *** | 60% | 0.04 |
| BUYOUT | 26% *** | 0% | 9% ** | 0% | 0.00 |

Note: The variables are defined in Table 1. For Europe, results reported in Panel 1 are based on 55 VCs, and those in Panel 2 on 49 VCs. For the United States, results reported in Panel 1 are based on 28 VCs, and those in Panel 2 on 34 VCs. The final column tests the difference in mean between the European and U.S. sub-samples. Significance levels (p-value) between both panels (* 10%, ** 5%, or *** 1%) are only provided in Panel 2 and test the difference compared to the “regionally investing” counterpart in Panel 1 (European “regional” vs. “global” VCs and US “regional” vs. “global” VCs). To compare differences in the variable SIZE, 1 EUR = 0.9 USD was used as the exchange rate

5 Active VC involvement

In Sect. 2, we derived empirical predictions with respect to the active involvement of VC firms in their portfolio companies. In this section, we empirically examine their determinants and whether European VCs are less active. To make any inference from the results, we add a EUROPE dummy to the regression analysis when testing determinants of various contract and monitoring behaviors. This allows an examination

Table 7 Average characteristics of venture capitalists for BUYOUT < 1/3

| Variable | Europe (85 obs. out of 104) | | U.S. (63 obs. out of 67) | | Diff. mean p-value | Diff. median p-value |
|--------------|-----------------------------|-------------|--------------------------|-------------|-----------------------|-------------------------|
| | mean | median | mean | median | | |
| AGE | 6.8 years | 3 years | 6.5 years | 4 years | 0.40 | 0.98 |
| INV_YEARS | 3.6 years | 3 years | 2.9 years | 2.5 years | 0.02 | 0.84 |
| ROUNDS | 2.6 rounds | 2 rounds | 2.4 rounds | 2 rounds | 0.29 | 0.88 |
| COMPANIES | 27 ventures | 15 ventures | 23 ventures | 15 ventures | 0.24 | 0.86 |
| SIZE | 3.5 mio EUR | 2.0 mio EUR | 3.4 mio USD | 3.0 mio USD | 0.41 | 0.10 |
| REPORTS | 9.5 per year | 12 per year | 8.8 per year | 12 per year | 0.20 | 0.33 |
| CONVERTIBLES | 17% | 10% | 59% | 68% | 0.00 | 0.00 |
| BOARD | 67% | 80% | 65% | 75% | 0.40 | 0.83 |
| REPLACE | 19% | 8% | 34% | 38% | 0.00 | 0.08 |
| REGIONAL | 60% | – | 46% | – | 0.05 | – |
| SYNDICATION | 56% | 60% | 81% | 100% | 0.00 | 0.04 |
| EARLY_STAGE | 45% | 50% | 53% | 60% | 0.08 | 0.18 |
| LATER_STAGE | 52% | 50% | 46% | 40% | 0.12 | 0.51 |
| BUYOUT | 3% | 0% | 1% | 0% | 0.10 | – |

Note: The variables are defined in Table 1. Means and medians are based on all available information and are unweighted response values. Since we occasionally observe some extreme values, we also report the medians. The last two columns test the difference in means and medians between Europe and the United States. To test mean values of the SIZE variable, European values have been converted to USD using 1 EUR = 0.9 USD as the exchange rate

of whether European VCs are indeed less active (and along which dimensions). As pointed out earlier, our analysis can determine whether European VCs are indeed less active, but not why, a question left for future research.

We proxy VC involvement (monitoring) using the following variables: REPORTS for the role of information collection (reporting requirements), BOARD and REPLACE for active VC involvement in strategic decision making of the venture, CONVERTIBLES for the use of “more complex” financial securities intended to improve management incentives, and AVGDURATION for stage financing and defined as the ratio of INV_YEARS to ROUNDS.⁹ Sample averages for the first five variables appear in Table 1 and represent different aspects of VC monitoring and active involvement. Based on findings reported in Sect. 4, we choose to include the following VC characteristics: YOUNG, CLOSED_END, and AFFILIATION. Finally, we also include the variables EARLY_STAGE, BUYOUT, REGIONAL, and SIZE to control for potential differences in investment characteristics (project heterogeneity).

We first determine the extent to which the different dimensions of active involvement are affected by specific VC characteristics. The results are presented in Table 8.

⁹Here, use of the variable AVGDURATION is more appropriate than ROUNDS, since it scales for investment durations.

Table 8 Effects of firm characteristics on VC involvement

| Explanatory variables | Dependent variable | | | | | |
|--------------------------|--------------------------|--------------|----------------|-------------------------|-------------------------|----------------|
| | (1) CONVER- TIBLES | (2) BOARD | (3) REPLACE | (4) SYNDI- CATION | (5) AVGDU- RATION | (6) REPORTS |
| VC Firm Characteristics: | | | | | | |
| EUROPE | -66.80*** | 1.38 | -22.82 | -15.27* | 0.72*** | 1.26 |
| YOUNG | -24.34* | -18.06 | -39.80** | 3.57 | -1.15*** | 1.05 |
| CLOSED_END | 27.73* | 4.93 | -21.20 | 35.72*** | -0.40 | -2.06 |
| AFFILIATION | -32.15 | -34.31* | -185.98 | 25.91* | 0.43 | -7.83 |
| Control Variables: | | | | | | |
| EARLY_STAGE | -0.22** | 0.14 | -0.62 | -0.02 | -0.01 | 0.01 |
| BUYOUT | -0.55 | 0.25 | -0.58 | -0.53 | 0.01** | 0.01 |
| REGIONAL | -18.19 | 0.64 | 38.26 | 3.78 | 0.25 | 1.80 |
| SIZE | 66.90 | 0.17 | 1.13 | 1.19 | 0.03 | -0.08 |
| Number of Observ. | 77 | 77 | 77 | 77 | 77 | 77 |
| Wald Chi-squared | 46.38*** | 17.56* | 15.80* | 18.77** | 25.60*** | 3.51 |

Note: The variables are defined in Table 1. For all regressions, we use a truncated normal distribution. Standard errors for the coefficients are computed using a bootstrap technique (500 repetitions). A constant term is included in all the regressions. Significance levels are * 10%, ** 5%, or *** 1%

We use only those observations for which we have full information across all the variables used in the regression specifications. This leaves us with 77 observations.¹⁰

Since our dependent variables are either percentages (Regressions (1)–(4)) or can only take positive values (Regressions (5) and (6)), we use truncated (Tobit) regression estimations. However, since our results may be prone to a small-sample bias and a lack of normality (see summary statistics showing differences between means and medians for several variables), we use a bootstrap technique with 500 repetitions to estimate standard deviations.¹¹

There are a number of interesting results, confirming many of the results obtained in Sect. 4. First, European VCs are less active in many respects: they use CS less often, syndicate their deals less often, and have longer round durations. Other results

¹⁰The number of observations in the regressions is lower than the number of questionnaires received because not all questionnaires were fully completed. In addition, since some VCs were quite young at the time the data were collected, a few respondents have not yet experienced any exit, so they cannot be taken into account in these regressions.

¹¹The use of beta and gamma distributions was considered as a way to control for the lack of normality in the residuals, as suggested by one referee. It turned out that this was not enough to solve for the underlying skewness. Several other alternatives were considered. For instance, all the dependent variables that are defined as percentages were transformed using the transformation $Y/(100 - Y)$ in order to obtain untruncated variables. In general, this transformation generated distributions of residuals that were still not normally distributed. Taking a log-normal distribution on top of this first transformation did not improve results. Finally, the best approach turned out to be OLS while using a bootstrap method to estimate more efficient standard deviations (as well as mitigating the potential small-sample bias).

(e.g., with respect to replacement of former management) show similar trends, but are not statistically significant in the multivariate setting. This is very much in line with the notion of less liquid markets and a lack of hands-on investors in Europe, as discussed in Sect. 3.3. The less-active behavior is also economically significant: European VC funds use CS in 66.8% fewer deals, syndicate 15.27% fewer investments, and their average round duration is 8.6 months (i.e., 0.72 years) shorter.

Second, younger VCs (YOUNG) differ from more established firms in several ways. Part of these differences can be explained by the potential selection bias in their exits, which are limited to those they exited quickly (given their short history). It may further be explained by their lack of experience and specific market conditions. This is likely to affect, among other things, CS use, duration of financing rounds, and replacement of former management. In particular, the latter requires a significant track record and sufficient contacts to make managerial replacement feasible. As for the use of CS, it was argued in Sect. 4 that this may be due to the weaker bargaining power of newcomers compared to more established VCs; only the latter could require CS, whereas young VCs relied on common stock. However, the results are not as strongly significant as in the univariate analysis of Sect. 4. Again, the economic significance is meaningful. More strikingly, younger VC firms replace former management 39.8% less often, but have investment rounds that are on average 13.8 months (1.15 years) shorter.

Interestingly, affiliated VCs (either to a financial or a nonfinancial corporation) tend to be represented on boards 34.31% less often. They also participate 25.91% more often in syndicates, perhaps because they become involved in later rounds. Although the coefficients are not significant for the other dependent variables analyzed, they all show the same trend, indicating that affiliated VCs are less active in their portfolio companies than are independent VCs. In contrast, closed-end funds differ from other VC fund structures only in terms of greater syndication (35.72% more often), possibly because of their enhanced network or their greater focus on profitability, which requires more complementary skills brought in over time. Closed-end funds are also more likely to use CS, suggesting that such VCs are more actively involved in the value-adding process for start-ups. In 27.73% of the deals done, they use CS less often. VCs with a regional focus do not seem to behave differently than internationally oriented funds (after controlling for all the other characteristics considered). Finally, and not surprisingly, buyout investments are less likely to be stage-financed, a finding that is consistent with the notion that buyout transactions involve replacement capital, whereas the purpose of venture capital is to finance growth. A fund that invests solely in buyouts has investment rounds of one year longer than a fund that does not invest in buyout deals.

6 Conclusion

This study provides new evidence on the young European VC market, including a number of important similarities and differences with the VC market in the United States. Some of these differences support the notion that financial and labor markets are less developed in Europe than they are in the United States. Most importantly,

however, the findings indicate that European VCs are less active investors than their U.S. counterparts. Interestingly, these differences tend to be smaller between younger VC firms than between more established VC firms, suggesting convergence along a number of dimensions. Whether this finding can be used to develop a global model of VC finance remains to be explored in future research.

These findings have important implications in terms of the extent to which European VCs add value, given their lack of active involvement, a situation that could yield lower returns for European portfolio companies. Whether this is due to lack of ability or to a preference for a hands-off approach (and possibly lower risk) still needs to be explored. This lack of involvement will most likely result in fewer IPOs and more trade sales, as IPOs are typically reserved for the most promising ventures.

Our results raise a number of questions, one of which has to do with the supply of venture capital as opposed to buyout. Is the lack of active investors a possible reason why Europe's private equity market is more heavily involved in buyout transactions than in early-stage and expansion-stage investments (and thus venture capital), since value from financial engineering can be achieved in buyout transactions? Moreover, does the hands-off approach of many European VCs explain the low performance of early-stage investments? It is often stated that the quality of European entrepreneurial projects is poor, but it is not clear whether part of this poor performance can be attributed to the investors themselves. Finally, a crucial follow-up question that remains unanswered is how to foster a more vibrant VC market in Europe. Although some studies point toward the importance in this regard of an active stock market (Black and Gilson 1998; Da Rin et al. 2006), it is unclear whether this is the single most important issue. For instance, recent studies provide evidence of the crucial role of law in the development of VC markets (Armour and Cumming 2006; Cumming et al. 2006a), which in turn is likely to impact investment and contract practices. It is possible that a combination of different factors influence the European VC market. Our analysis indicates that further research is warranted to assess the impact of contract behavior on such a mix of factors.

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Appendix: The Questionnaire

Complete list of questions addressed to European venture capitalists in the survey for the present study (Questions 12–25 are related to answers to Question 11; Questions 26–28 are of a more general nature):

1. Type of business (Independent VC – Subsidiary of financial corporation – Subsidiary of nonfinancial corporation – Government-international organization related – Other (what type?))
2. Do you manage closed-end funds? (Yes – No – No opinion)
3. Year of establishment of the venture capital firm (or year of first fund)
4. Geographical preference (Own country (+ proximity) – Europe – World (at least 2 continents) [for European questionnaire]; Own State (+ proximity) – United States – World (at least 2 continents) [for US questionnaire])
5. Percentage of ventures (not amount invested) in your portfolio that are currently (% seed and start-up –% development and expansion –% replacement/refinancing –% buyout)
6. How often do you use convertible securities? (in% of ventures financed)
7. Proportion of your funds that are provided or guaranteed by the governmental sector (in%)
8. How many companies are currently in your portfolio (number of companies)
9. Average size of investments in investee firms (in million EURO [for European questionnaire] or USD [for US questionnaire])
10. How frequently do your investee firms report their activities and financial situation? (average number of reports per year)
11. Track record in terms of exit in absolute number of exits or percentage (for exits already accomplished and planned exits (i.e., expected within 2 years))
12. In how many of the companies from which you have exited have you been present on the board of directors/representatives? (in%)
13. During your past exits, to what extent were your preferences on exit aligned with those of the management team (a) prior to the first financing round, (b) during the exit process? (in% of time)
14. To what extent did the goals and aspirations of management affect the final choice of exit? (in% of companies)
15. In your past exits, how often did former entrepreneurs express a wish to remain in the firm after your exit? (in% of time)
16. In your past exits, how often did you replace the former entrepreneur prior to your exit? (% of companies)
17. In your past exits, on average how long did your venture capital investment last in general? (from entry to full exit – answer in terms of years and number of financing rounds)
18. In your past exits, how long did the exit stage last? (in months – starting from when you began preparing your exit)
19. What was the approximate time that you spent looking for a buyer when exit occurred through a trade sale? (in months)
20. After an IPO (if appropriate), how many months did you remain in the venture? (including the usual lock-up period)

21. In your past liquidations, how many months did the liquidation process last? (please answer only for investments in Europe [for European questionnaire]; in the US [for US questionnaire])
22. In your past exits, percentage of past deals/companies that have been syndicated
23. What is the average size of syndicate that you have been in? (answer in terms of number of partners involved, including yourself)
24. In your past exits, percentage of your syndications that only included partners (a) from your own country, (b) from outside Europe [for European questionnaire]; (a) from your own State, (b) from outside the US [for US questionnaire]
25. In your past exits, percentage of your syndications that involved at least one partner from the governmental sector
26. In general, to what extent do the following factors affect the choice of exit route (assume in this question that you had the choice between a trade sale and an IPO)? For each factor, please indicate its relevance by a number between 1 and 5, where 1 stands for “not important at all” and 5 for “extremely important”; please leave blank or mark 0 for no opinion (the complete list of factors is available upon request)
27. In general, what is your preferred exit route to which you usually tend toward a priori? (please mark your answer(s)): IPO – TS – Secondary sale/Refinancing – MBO – No preferred route – No opinion
28. To what extent do you expect positive reputation benefits from a successful IPO? ((Almost) Always – About 75% of the time – About half of the time – About 25% of the time – (Almost) Never – No opinion)

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