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Journal of Business Venturing 17 (2002) 211–236

JOURNAL
of BUSINESS
VENTURING

Is it worth it? The rates of return from informal venture capital investments

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Received 1 April 1999; accepted 1 August 2000

Abstract

Despite growing interest in venture capital, there is a paucity of information on the rate of return to these investments and the limited research that is available refers almost entirely to portfolio returns for venture capital funds. The investment returns to business angels have been virtually ignored. This paper provides the first attempt to analyse the returns to informal venture capital investment using data on 128 exited investments from a survey of 127 business angel investors in the UK. The paper finds that the distribution of returns is highly skewed, with 34% of exits at a total loss, 13% at a partial loss or break-even, but with 23% showing an IRR of 50% or above. Trade sales are the main way in which business angels harvest their investments. The median time to exit for successful investments was 4 years. Large investments, large deal sizes involving multiple coinvestors, and management buyouts (MBOs) were most likely to be high-performing investments. © 2001 Elsevier Science Inc. All rights reserved.

Keywords: Venture capital; Business angels; Investment performance; Harvest; Capital gains tax; Business failure

1. Executive summary

There is a paucity of reliable information on the returns from venture capital investing. The available evidence on the investment performance of venture capital firms is limited to a

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small number of studies and some highly aggregated figures produced by national venture capital associations. Information is even more limited in the case of the informal venture capital market. The objective of this paper is to fill this significant gap by examining the returns achieved by business angels, the ways in which they harvested their investments and the length of the holding period.

The most appropriate benchmark against which to compare the performance of investments by business angels is with the returns achieved by venture capital fund managers. However, this is extremely problematic. The standard measure of performance in the venture capital industry is the internal rate of return (IRR) of the fund. This takes account of cash-on-cash returns from the sale of shares and disbursements (e.g., dividend payments) plus the share of the residual value of the fund's holding in cash and investments in portfolio companies that have not been realised, net of management fees. However, business angels do not invest by means of a dedicated fund and tend to think about investment performance in terms of capital gains multiples on each investment that they make. The most appropriate basis for evaluating the investment performance of business angels, and for comparing the investment performance of business angels and venture capital funds, is therefore on a deal-by-deal basis, with the returns measured simply in terms of the multiple achieved and the length of the holding period.

Information on the investment performance of business angels is derived from 127 usable responses from a mail survey of business angels in the UK. Only 51 of the 101 respondents who had made investments had actually exited from any of these investments. In total, these investors had exited from 128 investments. It is these investments that are the focus of this paper. The calculation of the investment performance did not take account of any income that the investors might have received from dividends or fees. As a consequence, this may inflate the proportion of exits that are recorded as losing money and reduce the proportion that broke even or generated positive returns. Comparative data on the investment performance of venture capital funds was obtained from Murray (1999). This provides deal-specific investment performance data for three early-stage technology specialist UK venture capital funds. Such a comparison is far from ideal, and any conclusions should therefore be regarded as tentative. However, the availability of comparative information is severely restricted as venture capital funds are normally unwilling to release information on the performance of their individual investments.

Business angels and venture capital funds differ in a host of ways, including investment experience, resources, governance, investment philosophy and objectives, and the approach to investment decision-making. This, in turn, provides the basis for anticipating clear differences in the investment performance of business angels and venture capital funds. However, the nature of these differences is open to competing interpretations.

This paper tests three hypotheses.

Hypothesis 1: Business angels will have a poorer investment performance than venture capital fund managers.

This hypothesis is based on the greater investment experience of venture capital fund managers, the noneconomic considerations that business angels take into account when

making investment decisions, differences between business angels and venture capital funds in terms of approaches to investment appraisal, due diligence and contracting, and the deeper pockets of venture capital funds.

Hypothesis 2: Business angels will have a systematically superior investment performance to that of venture capital fund managers.

This hypothesis is underpinned by three factors. First, one of the key differences between business angels and venture capital funds is that fund managers have an obligation to invest whereas business angels, who are investing their own money, do not. Investing under time pressure is likely to lead to suboptimal investment decisions that can be expected to result in some bad investments. Business angels can be more selective because they do not have to invest. Second, business angels can devote more time to supporting their investee companies and their entrepreneurial background enables them to make a more effective contribution. Third, because of adverse selection problems, the aggressive valuation stance adopted by venture capital funds results in inferior deals.

Hypothesis 3: Business angels and venture capital funds will have different returns profiles because of differences in their approaches to managing risk.

The returns profile of business angels will approximate a normal distribution. Because most business angels make only a small number of investments, they have limited ability to reduce their risk through diversification. Business angels therefore concentrate on avoiding bad investments rather than seeking winners and aim to make a return on every investment they make.

The returns to informal venture capital in the UK are negatively skewed: 34% of exits took place with a total loss of the investment and a further 13% generated either a partial loss or broke even in nominal terms; only 10% generated IRRs in excess of 100%. This investment performance is significantly different from that of venture capital funds. Hypothesis 1 cannot be supported. Business angels have a lower proportion of investments in which they lose money, which is consistent with Hypothesis 2, but this hypothesis cannot be fully supported because business angels and venture capital fund managers have similar proportions of high-performing investments. Hypothesis 3 receives the strongest support. Although negatively skewed, the returns to informal venture capital deals are less skewed than those of early-stage venture capital deals. Business angels have fewer investments in which they lose money but a significantly higher proportion of their investments either break-even or generate only modest returns. This is consistent with the argument that business angels will be more concerned to avoid bad investments than to find winners. However, Hypothesis 3 cannot be fully supported as the proportion of very successful investments (IRRs of 100% and over) made by business angels is similar to that of venture capital funds.

Trade sales are the main way in which business angels harvest their investments. These were used for successful investments as well as some that only broke even. IPOs accounted for only a small minority of exits. Exits from 'living dead' investments have been primarily through sales to other shareholders or new third party shareholders.

The median holding period was 4 years. However, this varied by investment performance. For investments that generated a satisfactory or exceptional return the median holding period was 4 years. However, the median holding period was 2 years for loss-making and break-even investments and 6 years for investments that generated low positive returns.

Management buyouts (MBOs), large deals involving multiple coinvestors, and deals involving large amounts of follow-on investment are the most likely to generate very high returns (IRR of 50% and above). However, by no means did every high-performing investment have these characteristics.

The findings have important implications for policy-makers. The need to improve the availability of early-stage venture capital has been recognised by national governments and the European Commission. The key conclusion for UK policy-makers is that the findings support the recent introduction of a capital gains tax (CGT) taper for investors in unlisted companies, the effect of which is to reduce the amount of capital gains that is charged to tax on the disposal of business assets. This taper was originally set at 10 years when introduced in 1998, which was out of line with the time horizon over which business angels typically invest, but was reduced to 4 years in the 2000 Budget. More significantly, the evidence presented in this paper — that the risks outweigh the rewards for business angels, with the proportion of investments generating zero or negative returns exceeding those that return a significant multiple on the original investment — suggests that stimulating the supply of informal venture capital may need a richer cocktail of tax incentives than merely a reduction in CGT, including front-end tax reliefs and even venture capital guarantees.

2. Introduction

There is a paucity of reliable information about the returns from venture capital investing. Institutional venture capital firms do not generally make public any information about their actual returns and hence most of the research has been restricted to the performance of the small minority of venture capital firms that are publicly quoted (e.g., Kleiman and Shulman, 1992; Manigart et al., 1992). In one of the very few in-depth studies of the performance of limited partnerships — the most common organisational form adopted by venture capital firms — Bygrave et al. (1989) found that for funds formed in the period 1969 to 1985 the mean IRR peaked in 1982 at 27%, but overall returns were typically below 20%. This confirms earlier, less detailed, studies that found that “rather than the folklore figure of 30% to 50%, actual venture capital returns have most often been in the teens, with occasional periods in the 20% to 30% range and rare spikes above 30%” (Bygrave and Timmons, 1992, p. 153). In Europe, because of the sensitivity of returns information, analyses have been conducted by national venture capital associations and the European Venture Capital Association (EVCA). These studies lack transparency in the process of analysis (Wright and Robbie, 1998). A recent EVCA study of the overall returns on mature venture capital funds across Europe found that buyout funds generated the highest returns with a median IRR from inception to the end of 1996 of 15.5%. This figure

is three times that earned by funds specialising in early- and development-stage investments (4.5% and 5.5%, respectively). The superior performance of funds specialising in MBOs and MBIs is confirmed by studies of the UK, French, Dutch, and Italian venture capital industries (Wright et al., 1998; Burgel, 2000).

Relatively few investments in the portfolios of venture capital funds produce large gains. Thus, the overall performance of a fund is crucially dependent on the presence of a small number of very successful investments. These investments are the ones that are generally harvested by means of an IPO (Bygrave and Timmons, 1992). An analysis by Venture Economics of 383 investments harvested by 13 venture capital funds in the period 1969 to 1985, reported by Bygrave and Timmons (1992), noted that just 6.8% of investments returned 10 times or more on the invested capital whereas over 60% lost money or failed to exceed the savings account rate. Almost 50% of the final total value of the funds came from just 6.7% of investments. This study also noted that early-stage investments produced proportionately more winners (a return of five times or more on the original investment) and more outright losers than investments in expansions or LBOs/acquisitions. This negatively skewed pattern of returns is also found in a study of the portfolios of three early-stage UK venture capital funds (Murray, 1999).

There is virtually no information on investment performance in the informal venture capital market — which is the main source of risk finance for businesses at their seed, start-up, and early growth stages, particularly where small amounts of finance are sought (under £250,000/US\$500,000) (Freear and Wetzel, 1990; Freear et al., 1995; Mason and Harrison, 1994; Sohl, 1999). Although some studies have identified the *expectations* of business angels, in terms of their exit horizon, method of exit, the rate of return, and proportion of ‘winners’ and ‘losers’ (Wetzel, 1981; Tymes and Krasner, 1983; Mason and Harrison, 1994), there has been just one study of the actual returns achieved by business angels. This study, based on responses from 39 active business angels in Finland who had made a total of 49 exits, found that 20% of investments had made a significant return (IRR in excess of 20%), 13% had made moderate returns, 13% broke-even, and the remainder (56%) lost money (Lumme et al., 1996, 1998). The investment performance of business angels therefore remains an issue where Wetzel’s (1986, p. 131) call for research that can “put boundaries on our ignorance” remains appropriate.

The objective of this paper is to fill this significant void in our knowledge of the informal venture capital market by examining the returns achieved by business angels, the ways in which they harvested their investments, and the timing of their harvest. The paper is based on deal-specific information rather than on the portfolio measures of performance used in previous venture capital studies. It seeks to answer four basic questions about the informal venture capital market that, because of difficulties in assembling the necessary data, have not previously been answered.

- What returns do business angels achieve from their investments and how do these returns compare with the performance of ‘professional’ venture capital investors?
- How long do business angels wait before harvesting their investments?
- How do business angels harvest their investments?
- What are the characteristics of the best performing investments?

The next section of the paper considers the methodological issues involved in measuring the performance of venture capital investments and in comparing the investment returns of business angels and venture capital funds, and describes the data sources used. This is followed by a consideration of how the performance of business angels might compare with that of venture capital fund managers. Later sections present information on investment performance in aggregate and by type of investment, the methods used by business angels to harvest their investments, the timing of the harvest and the characteristics of high-performance investments.

3. Methodological issues and data sources

The standard measure to assess performance in the venture capital industry is the IRR of the fund. This takes account of cash-on-cash returns from the sale of shares and disbursements (e.g., dividend payments), plus the share of the residual value of the fund's holdings in cash and investments in portfolio companies that have no publicly traded shares, net of management fees (Bygrave and Timmons, 1992; Burgel, 2000).² This is an inappropriate method for assessing the performance of investments in the informal venture capital market because business angels do not invest by means of a dedicated fund and so do not have 'idle cash', as venture capital funds have. Rather, they think about their investment performance in terms of capital gains multiples on each investment they make (Wetzel, 1994). The implication is that the evaluation of the investment performance of business angels must be undertaken on a deal-by-deal basis, with the returns measured very simply in terms of the multiple achieved and the length of time taken to realise the return. This, in turn, means that the only basis for comparing the investment performance of business angels and venture capital fund managers is also on a deal-specific basis. However, appropriate data are rarely available to permit such a comparison to be made. Venture capital funds do not normally make information available on the performance of individual investments in their portfolio and where such information is available it is difficult to make a like-for-like comparison with the investment performance of business angels because of the specialised investment focus of most venture capital funds. This paper has been able to assemble data on the performance of investments by business angels and has used information from Murray (1999) on the performance of investments made by three UK early-stage venture capital funds to make what is inevitably a tentative comparison.

Research on the informal venture capital market is hampered by the difficulties involved in identifying business angels. There are no directories of business angels, their investments are

² Calculation of the definitive IRR of a fund requires a final and definitive valuation of the residual asset value, that is, those investments that have not been realised and that have value. This can only occur when the fund is wound up. Although limited partnerships have an agreed fixed life span of 10 years, most funds show a residual asset value for some considerable time beyond 10 years before being finally wound up. Thus, most calculations of fund performance are measuring interim returns. However, IRRs tend to approach their final IRRs the longer the time period under consideration; by year 10 there is a close convergence between interim and final returns (Burgel, 2000).

not publicly recorded and most strive to preserve their anonymity, hence, researchers have typically had to rely upon samples of convenience. The information on the investment performance of business angels is derived from 127 usable responses from a postal survey of over 1000 business angels who were registered with business angel networks (BANs) in the UK. These organisations operate like ‘dating agencies’, providing a communication channel that enables business angels to review investment opportunities while preserving their anonymity and allows entrepreneurs seeking finance to present their investment opportunity to a large number of potential investors (Harrison and Mason, 1996; Van Osnabrugge and Robinson, 2000). The managers of 19 BANs agreed to distribute questionnaires to investors registered with their service.³ In addition, some questionnaires were sent to investors who were identified through recommendations and informal contacts. It was not possible to calculate a meaningful response rate because it is not known how many investors are members of more than one network nor the number of investors registered with BANs who are not business angels.⁴

This methodology is open to three potential sources of bias. First, although many thousands of active and potential business angels are registered with the 48 BANs that are currently in operation in the UK (BVCA, 1999), these investors may not be typical of the overall population of business angels. Van Osnabrugge (1998) suggests that there are few differences between business angels who are members of BANs and those who are not. However, any attempt to test the representativeness of a sample of business angels runs up against the problem that the population of business angels is unknown and probably unknowable (Wetzel, 1983). To counteract the bias inherent in drawing samples from just one BAN (Mason and Harrison, 1997) the sample has been drawn from a number of different types of networks (large and small, local, and regional, private, and public) in various parts of the country. Second, there may be a problem with response bias. However, this could not be tested because no information was available on the characteristics on nonrespondents. An alternative method of testing for nonresponse bias is to compare early and late respondents (Freear et al., 1994). This was not possible either because the various BANs sent out the questionnaires at different times. Third, there are inevitable questions concerning the reliability of self-report data. The main concern is with the ability of respondents to accurately recall the financial details of their investments. Another possibility is that respondents will exaggerate their successes and downplay their failures, although there are no *a priori* reasons for believing that this will have occurred.

The questionnaire asked investors to report on all the investments that they had made in unquoted companies. Investors were asked to give details of the year that the investment was made, company characteristics (industry, technology, stage of business development, location), investment characteristics (amount invested, presence and type of any coinvestors, follow-on investment), and exit information (year of exit, method of exit, return multiple on a

³ In order to keep the names and addresses of their investors confidential, these BANs were supplied with stamped envelopes containing the questionnaire, covering letter, and FREEPOST reply envelope that they addressed and posted to their investors.

⁴ Those registered with BANs also include financial institutions, companies, and intermediaries (registering on behalf of clients).

cash-on-cash basis). Where an investment was still held, investors were asked to indicate the anticipated performance.

The vast majority (87%) of the respondents had made at least one investment. In aggregate, the respondents to this survey had made a total of 372 investments. The sample is quite well balanced between those who have made just one or two investments (37%) and more experienced investors who have made four or more investments (33%) (Table 1). However, only 51 of the 101 respondents (51%) who had made investments had actually exited from any of their investments. In total, these investors had exited from 128 investments. It is these investments that are the focus of the paper. These 51 business angels have been the more active investors in the sample: although accounting for just over half of all respondents who have made investments (51%) they have made two-thirds all investments (67%).

Furthermore, the most active investors have made the most exits. Those who have made four or more investments, who account for one-third of investors in the study, have made almost three-quarters of all exits (Table 1). The likely explanation is that the more active investors have been investing for longer and so have had more time in which to make exits.

In view of the link between investment characteristics and performance (Bygrave and Timmons, 1992), it is appropriate at this point to briefly note the main features of the sample of 128 investments that are the subject of this paper. In terms of vintage, the dates of the investments range from 1961 to 1996, but most were made in the 1990s (38%) or 1980s (48%). The earliest exit was made in 1966, but 90% occurred after 1985 (77% since 1990). The investments were made in a wide range of different industries: 44% were in manufacturing with a further 16% in finance and business services, 13% in other services, 9% in retail and wholesale, and 7% in consumer services. There is no particular concentration in terms of stage of investment: 23% of investments were at start-up, a further 23% at the early stage, 21% were in established businesses, and 16% at the seed stage. The remaining 17% of investments were in MBOs/MBIs. Finally, 60% of investments were in London, the South East and the Eastern region, the most economically prosperous regions of the UK.

For the purpose of this study, the IRR for each business angel investment was computed very simply, using an Excel spreadsheet, as an annualised figure derived from the multiple on the original investment and the length of time that the investment was held (i.e., the time

Table 1
Investment activity of respondents

Number of investments	Investors		Number of investments		Number of exits	
	Number	%	Number	%	Number	%
None	16	12.6	0	—	—	—
1	31	24.4	31	8.3	11	8.6
2	17	13.4	34	9.1	10	7.8
3	20	15.7	60	16.1	12	9.4
4–5	29	22.8	128	34.4	37	28.9
6–9	10	7.9	71	19.1	31	24.2
10+	4	3.1	48	12.9	27	21.1
Total	127	100	372	100	128	100

value of money).⁵ It should be noted that this calculation of IRRs did not take into account any income that investors might have received from dividends, or fees paid for performing a nonexecutive chairman or director role or for consultancy services. In some cases, these running returns may accumulate over time to match or even exceed the amount initially invested (Mason and Harrison, 1996; Lengyel and Gulliford, 1997). The effect of excluding this information may therefore be to inflate the proportion of exits that are recorded as total or partial losses and reduce the proportion that broke even or generated positive returns. The exclusion of running returns will also tend to depress the positive IRRs recorded for successful exits. Accordingly, the results provided in the remainder of this paper are likely to underestimate the rates of return from informal venture capital investing in the UK.

Comparative data on the investment performance of venture capital funds was obtained from Murray (1999). This provides deal-specific investment performance data, calculated as IRRs, for three UK early-stage specialist venture capital funds. It should be obvious from the earlier discussion that any conclusions drawn from such a comparison must be extremely tentative and hedged with caveats. However, the returns profile of the funds in Murray's sample are consistent with those reported by Bygrave and Timmons (1992) and Benjamin and Margulis (1996).

4. The investment performance of business angels and venture capital fund managers: alternative hypotheses

Business angels and venture capital fund managers differ in a host of ways, including investment experience, resources, governance, investment philosophy and objectives, and the approach to investment decision-making. This, in turn, provides the basis for anticipating clear differences in the investment performance of business angels and venture capital fund managers. However, the nature of these differences is open to competing interpretations.

The first hypothesis is that *business angels will have a poorer investment performance than venture capital fund managers*. Specifically, the upside returns from their investments will be limited compared to those of venture capital fund managers. Hypothesis 1 is supported by the following arguments.

First, venture capital fund managers are much more experienced investors than business angels. In a comparison of the two types of investors, Van Osnabrugge (1998) reports that venture capitalist fund managers have made an average of 23 investments compared with 4 by business angels, and on average manage a portfolio of 10.3 investments compared with 2 by business angels. Other studies confirm that the majority of business angels have made three or fewer investments (Mason and Harrison, 1994; Coveney and Moore, 1998). However, business angels have significantly more entrepreneurial experience than venture capital fund managers (Van Osnabrugge, 1998), although this experience is likely to be confined to a particular industry or market segment. Fiet (1995) suggests that this detailed

⁵ The effect of the holding period on the return is shown in the following example: a three times multiple harvested in 3 years generates a 44% return on investment, but this drops to 38% if the exit occurs after 5 years.

industry/market knowledge enables business angels to reduce their exposure to market risk. In practice, business angels often do not make use of this advantage, frequently investing in sectors where they do not have direct experience (Kelly and Hay, 1996; Van Osnabrugge, 1998).

Second, venture capital fund managers raise their finance predominately from large financial institutions such as pension funds, banks, and insurance companies, and have a duty of care when investing this money. Their investment decisions are therefore based on purely economic considerations. Business angels, in contrast, are investing their own money and so are not responsible to anyone else for how it is invested and for what reasons. The return on investment is a major motivation for business angels but it is not the sole motivation (Wetzel, 1981; Mason and Harrison, 1994; Lumme et al., 1998). They also want to have fun while making money (Benjamin and Margulis, 1996). Wetzel (1981) reports that some business angels are influenced by 'hot buttons' and both Wetzel (1981) and Sullivan (1994) note that some business angels are willing to make a trade-off between financial and nonfinancial returns. Their investments may also have spillovers to their other activities. In other words, the financial return on any particular investment made by a business angel does not necessarily capture their full return.

Third, there are also differences between business angels and venture capital fund managers in terms of approaches to investment appraisal, due diligence, and contracting (Van Osnabrugge, 1998). Many of these arise because business angels, unlike venture capital fund managers, decide on the worth of a potential investment as principals, rather than as agents and/or employees (Feeney et al., 1999; Prasad et al., 2000). Business angels are less concerned with financial projections and are less likely to calculate rates of return. They do less detailed due diligence, have fewer meetings with entrepreneurs, are less likely to take up references on the entrepreneur and are less likely to consult other people about the investment. Conversely, business angels are more likely to invest on 'gut feeling'. On average, business angels also spend less time negotiating. Venture capital fund contracts are more comprehensive and more likely to include restrictive covenants. Business angels are less concerned about exit routes at the investment stage, whereas this is a much higher priority for venture capital fund managers (Table 2). These differences would again seem to be directly attributable to the fact that business angels are investing their own money whereas venture capital fund managers are investing funds that have been provided by financial institutions and so have a duty of care.

Finally, a further important distinction between business angels and venture capital fund managers is in terms of their investment capacity. In most cases business angels will not have pockets as deep as those of venture capital fund managers. As a consequence, business angels may be unable or unwilling to provide investee businesses with the further rounds of funding necessary for growth. This has two potential implications for the performance of their investments. First, if they are not in a position to provide follow-on finance to an investee business that needs a further round of investment this will put them in a weak negotiating position vis-à-vis an incoming investor regarding the valuation of their equity stake and may result in a significant dilution of their initial investment. Second, if the investee business is unable to raise additional finance it may become undercapitalised, with adverse consequences for its growth prospects and, in turn, the returns to their investor.

Table 2

Differences between business angels and venture capital fund managers in due diligence measures

	Business angels	Venture capital fund managers
Experience in sector funded	minimal	some
Times met entrepreneur before investing	5.4	9.5
Amount of sector research conducted	some/minimal	extensive/some
Number of independent references taken on the entrepreneur	0.96	4.2
Calculated rates of return before investing (% saying yes)	32	90
Number of people consulted before decision to invest	3	4.4

Source: Van Osnabrugge (1998).

All differences are statistically significant. Based on survey of 143 business angels and 119 venture capital fund managers who provided information on their most recent early-stage investment.

However, there is a further body of literature that would support a contrary hypothesis, namely that *business angels will have a systematically superior investment performance to that of venture capital fund managers*. This hypothesis is based on the following reasoning.

First, one of the most important differences between business angels and venture capital funds is that fund managers have an obligation to their investors to invest their money under management. They also need to demonstrate an investment track record to be able to raise further funds. Benjamin and Margulis (1996, p. 216) make this distinction clear: “Professional venture capitalists are essentially portfolio managers with a unique set of pressures. They have to raise their next fund; they have to invest the money under their management; they are responsible to overseers. None of this applies to the private investor.” As a consequence, venture capital fund managers are under a time pressure to invest their money under management. This is likely to result in suboptimal investment decisions and lead to some bad investments. Business angels, on the other hand, are not responsible to anyone else. They are investing their own money and so are under no pressure to invest. Indeed, they need not make any investments at all. Because business angels do not have to invest they can be more selective. This is likely to result in fewer bad investments (Benjamin and Margulis, 1996).

Second, businesses at their start-up and early growth stages typically require considerable support. Business angels are actively involved in the businesses in which they invest (Mason and Harrison, 1996; Lengyel and Gulliford, 1997). Their involvement is greater than that of venture capital fund managers (Van Osnabrugge, 1998). This is partly related to differences in investment motivation: business angels invest, in part, because they want to be involved with entrepreneurial ventures (Mason and Harrison, 1994). In addition, they are able to devote more time to their investments than venture capital fund managers because their portfolios of investee companies is smaller. Furthermore, the economics of business angel investing are different from those of venture capital fund managers. The cost of their time encourages venture capital fund managers to economise on the time that they give to their investee businesses in favour of seeking out and appraising new investment opportunities (Gifford, 1997) whereas business angels might be expected to give greater attention to their investee businesses because they do not cost their time in the same way. Additionally, there is

considerable evidence that the value-added contribution that business angels make to their investee businesses through their hands-on involvement is greater than that of venture capital fund managers (Harrison and Mason, 1992; Ehrlich et al., 1994).

Third, venture capital fund managers adopt an aggressive valuation stance that results in inferior deals (Amit et al., 1990). Because of problems with adverse selection, venture capital fund managers cannot accurately assess the skill level of entrepreneurs. Most able entrepreneurs will not find the price offered by the venture capital fund manager to be sufficiently attractive and so they will choose to develop their projects without venture capital participation. The firms that venture capital fund managers back will therefore be those founded by less capable entrepreneurs, and thus more prone to fail. Business angels, in contrast, can be expected to offer less onerous investment terms to entrepreneurs because they have less power than venture capital fund managers to impose terms and conditions and so may be less likely to encounter adverse selection problems. Consequently, business angels will be expected to show a lower incidence of total or partial loss from their exited investments than will venture capital fund managers.

The third hypothesis is that *business angels and venture fund managers will have different returns profiles* because of their different approaches to managing risk. We have already noted that business angels are less likely than venture capital funds to invest on a portfolio basis. Indeed, business angels typically make only a handful of investments. This reflects two factors. First, business angels are investing only a relatively small proportion of their wealth — typically less than 15% — in unquoted companies and thus the amounts that they have available to invest are relatively small compared to the size of a typical early-stage venture capital fund. Second, and more significant in most cases, business angels are unlikely to have sufficient time to play an active role in more than a few early-stage investee businesses. The consequence is that business angels have limited ability to reduce their level of risk through diversification. “Unlike a venture capital firm, which makes perhaps 15 investments in a year and can absorb a direct hit, the . . . private investor must take great care with each investment” (Benjamin and Margulis, 1996, p. 82). Business angels therefore concentrate on avoiding bad investments and seek a return on every investment that they make. Indeed, it is “much more important [for a business angel] to avoid a bad investment than to try to hit a home run” (Benjamin and Margulis, 1996, p. 221). This contrasts with the approach of venture capital fund managers, which is to try “to hit a home run, not merely . . . maintain a good batting average” (Quindlan, 2000, p. xix). This suggests that the returns profile of venture capital funds will be negatively skewed, but with a long positive tail, reflecting a high proportion of loss-making investments but also a small number of very successful investments, whereas that of the business angel will be closer to a normal distribution, with relatively few unsuccessful investments, few very successful investments, and a high number of investments that generate positive, if modest, returns.

5. The returns to informal venture capital

It is clear from Fig. 1 that the returns to informal venture capital in the UK are negatively skewed: 34% of exits took place with the total loss of the investment, and a further 13%

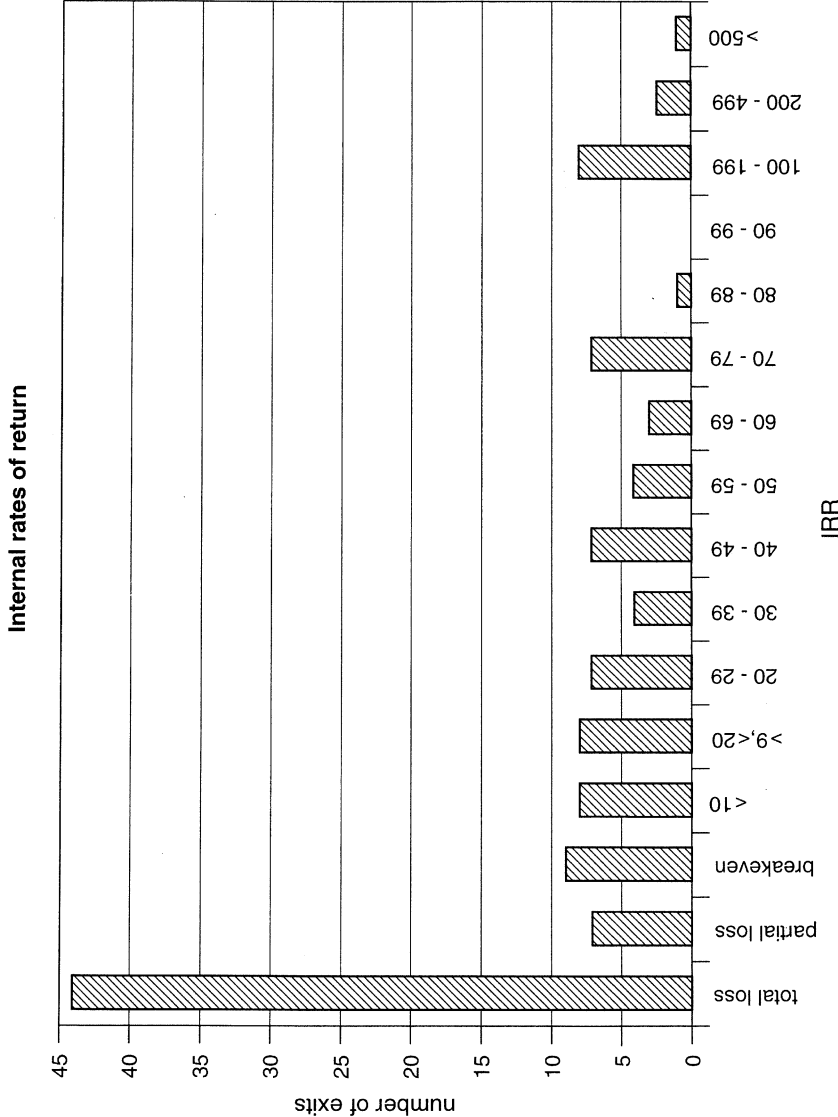


Fig. 1. Internal rates of return.

Table 3

Comparison of the returns to informal venture capital and venture capital fund investments

IRR (%)	Venture capital fund investments (%)	Informal venture capital investments (%)
Negative	64.2	39.8
0–24	7.1	23.8
25–49	7.1	12.7
50–99	9.5	13.3
100+	12.0	10.2

$\chi^2 = 9.22$, $df = 2$. Significant at the .01 level. The 0–24% and 25–49% categories were combined to perform the chi-square test.

Sources: Murray (1999) and authors' survey.

generated either a partial loss or broke even in nominal terms; only 10% generated IRRs in excess of 100%. This returns profile is not significantly different from that of Finnish business angels (Lumme et al., 1996; 1998). However, it is significantly different to the returns on investment that Benjamin and Margulis (1996) suggest is typical in the USA.⁶ Table 3 compares the returns profile of business angels with that of venture capital funds, using Murray's (1999) data for comparison. This indicates that the investment performance of business angels is significantly different to that of venture capital funds. Specifically, angels have significantly fewer investments that generate negative returns and a significantly higher proportion that break-even or generate moderate returns (0–49% IRR).⁷

In the light of this evidence, it is difficult to sustain Hypothesis 1 that stated that business angels will have a poorer investment performance than venture capital fund managers, and specifically that the upside potential of business angel investments will be more limited than for venture capital fund managers. The evidence that business angels have a lower proportion of investments in which they lose money is consistent with Hypothesis 2 that stated that business angels will have a systematically superior investment performance to that of venture capital fund managers. However, as business angels and venture capital funds have similar proportions of high-performing investments Hypothesis 2 cannot be fully supported.

Hypothesis 3 receives the strongest support. Although negatively skewed, the returns to informal venture capital deals are less skewed than those of early-stage venture capital deals. Business angels have fewer investments in which they lose money, but a significantly higher proportion of their investments either break-even or generate only modest returns. This is consistent with the argument of Benjamin and Margulis (1996) that business angels will be more concerned to avoid bad investments than to find winners. It may also reflect differences between business angels and venture capitalists in terms of their attitude to 'living dead'

⁶ Benjamin and Margulis (1996, pp. 219–220) suggest that 60–65% of investments either lose money or break even.

⁷ As noted earlier, this is not an exactly equivalent comparison. The funds in Murray's study 'specialise' in early-stage investments whereas the sample of investments made by business angels includes investments at all investment stages, with only 62% comprising early-stage investments.

investments. Business angels cannot replace the management of such businesses as easily as venture capitalists, and may also be more patient and more willing to contribute hands on support in an effort to improve performance. In contrast, venture capital fund managers are under external pressure to achieve a high IRR for their fund and so can be expected to adopt a more 'ruthless' attitude in divesting from underperforming investments. They also have greater capability than angels in achieving divestments (e.g., by merger) (Runka et al., 1992). Removing underperforming investments in order to spend more time supporting good performing investments is also likely to be an optimum use of the venture capitalist's time (Gifford, 1997).

However, Hypothesis 3, which stated that business angels, in avoiding the risk of bad investments, will demonstrate a return profile closer to a normal distribution, cannot be fully supported. Certainly, business angels have a higher proportion of investments that break-even or generate a modest return (IRR of 0–24%) but, as already noted, their proportion of very successful investments (IRRs of 100% and over) is similar to that of venture capital funds. In other words, there is evidence from this study to suggest that business angels are capable of realising exceptional gains from their investments. The characteristics of these 'high performing' investments are considered in Section 8 of the paper.

6. Method of exit

In most cases, a trade sale will be the only exit option available to business angels wishing to harvest a successful investment. Initial public offerings (IPOs) are restricted to the 'cream of the crop' (Bygrave and Timmons, 1992). Moreover, because of the high fixed costs involved in organising an IPO they are only practicable for larger companies that are able to justify a significant market capitalisation. Conversely, it is much easier to find a company that is willing to purchase — sometimes at a high price — smaller businesses for strategic reasons. In some circumstances trade buyers can be found for more modest performing investments and even distress sales. Bruno et al. (1992) have noted in the case of new technology ventures in Silicon Valley that unsuccessful firms can be attractive acquisitions for other companies because of their expertise and product lines. A trade sale also has an important advantage over an IPO, in that investors will normally be able to sell all of their shares (indeed, the buyer may insist upon 100% control) whereas in an IPO the market may construe an investor selling some or all of his/her shares as a negative signal (and indeed in many cases 'lock-in' agreements may be required to preclude exit by the existing shareholders within a specified period of time).

The dominance of trade sales as the main way in which business angels harvest their investments is confirmed in this study. For those investments in which the shares had some value and so could be sold, the main exit routes were trade sales (31 exits) and sale to existing shareholders (19 exits) (Table 4). There were nine public listings. Nearly 4 out of 10 investments were written-off as having no value. This comprised almost all of the unsuccessful investments, suggesting that there is unlikely to be a market for shares in poorly performing small businesses. However, some business angels were able to exit from investments that were only breaking even.

Table 4
Methods of exit and investment performance

Exit route	Return/IRR						Total	
	Negative	Break even	1–19	20–49	50–99	100+	Number	%
Flotation	–	–	1	1	5	2	9	7.6
Trade sale (i.e., sale to another company)	–	3	4	7	8	9	31	26.1
Sale of shares to existing shareholders	1	3	8	5	2	–	19	16.0
Sale of shares to new (third party) investor	1	1	4	5	1	–	12	10.1
Asset break-up	1	–	–	–	–	–	1	0.8
Written-off	45	2	–	–	–	–	47	39.5
Total							119	100
No information	3	1	1	1	1	2	(9)	–

The type of exit route is closely related to the performance of the investment. The best performing investments (IRR of 50% and more) were dominated by trade sales (17 out of 27 investments with an IRR of 50% or more). However, trade sales were also used for investments with lower IRRs and even for investments that broke even. IPOs accounted for most of the remaining high-performance investments. Unlike trade sales, IPOs were almost exclusively restricted to high-performance investments. Sales to other shareholders or new third party investors have been predominantly used by investors to exit from poor and moderately performing — or ‘living dead’ — investments.

7. Length of holding period

The median holding period of the investments was 4 years. This is identical to the holding period reported by Bygrave and Timmons (1992) in their study of US venture capital funds. However, the length of the holding period varies according to the performance of the investment (Fig. 2). The median holding period for investments that generated satisfactory (IRR = 25–49%) or exceptional (IRR = 50%+) returns was 4 years whereas it was just 2 years for loss-making and break-even investments, where the exit generally took the form of the failure of the investee business (see Table 4). This provides confirmation of the venture capital adage that ‘lemons ripen before plums’.

Investments that generate a low return (IRR = 1–24%) have the longest holding period (median of 6 years). Because such investments are performing poorly or moderately, business angels have limited prospects for achieving an exit and thus face an illiquidity risk. Consequently, investors are forced to hold on to such investments in the hope that either the performance will improve sufficiently for a successful exit to be made or someone willing to buy the shares emerges. As noted above, such investments are often ultimately sold to the existing shareholders in the business.

8. The characteristics of high-performing investments

From the preceding analysis it would appear that business angel investments are more commonly found in the high-performing categories (IRR of 50% and over) than would be expected on the basis of any of the hypotheses proposed. This section investigates the extent to which these investments are distinctive. From the data it is possible to examine four aspects of high-performing informal investments in the UK: stage of business development, technology, investment size (both original and follow-up), and coinvestor type. Attention here is focused on those investments harvested with an IRR of 50% or more. These investments comprise 23% of all exits. This threshold was chosen because it is typically the upper limit of the target rate of return sought by business angels (Wetzel, 1981, 1994; Mason and Harrison, 1994). However, in view of the small sample size ($n=30$), and the

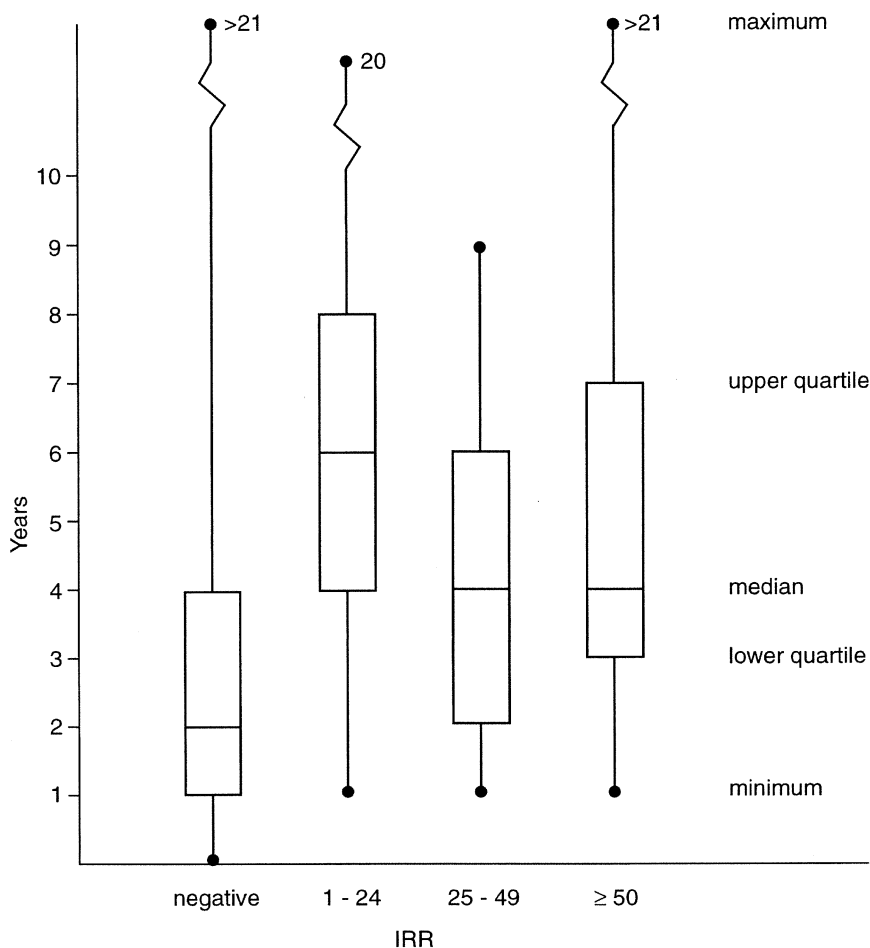


Fig. 2. Relationship between holding period and internal rates of return.

consequent effect of this on the ability to test for statistical significance, the findings should be regarded as being tentative.

The relationship between stage of investment and investment performance is complex. On the one hand, investment in later-stage deals is likely to involve lower risk of loss. Indeed, business angels anticipate a higher loss rate amongst seed and start-up investments (Mason and Harrison, 1994). On the other hand, investments in seed and start-up businesses offer the greatest potential for spectacular investment returns. Bygrave and Timmons (1992) have found that early-stage investments yield proportionately more big winners than later-stage investments. Our first hypothesis is therefore that *early-stage investments will account for the greatest proportion of high-performing investments*. However, the magnitude of variations in the number of seed, start-up, early stage, and established investments that are high-performance investments is quite small and the differences are not significant. Nevertheless, it is worth noting from Table 5 that investments in MBOs were the most likely to produce high-performing investments. This matches the experience of institutional investors in the UK where MBO-specialist funds have achieved the highest returns (Burgel, 2000). However, relatively few business angels invest in MBOs: these investments accounted for just 9% of the exits examined in this study.

Second, *we hypothesise that investments in technology-based firms will be associated with superior performance*. This is because of the capability for such firms to create new markets with significant growth potential. In the case of business angels, this study finds that technology investments do not significantly out-perform other investments (Table 6). Technology sectors account for 43% of high-performing investments compared with 36% of all exits, and almost 28% of technology exits were high performing, only marginally higher than the proportion for all investments. Indeed, there is no significant difference in the overall performance of technology and nontechnology investments (Mason and Harrison, 1999a). This demonstrates that good investment opportunities are not restricted to technology sectors.

Third, *we hypothesise that high-performing investments will be larger investments*. A number of studies identify a link between size of initial funding and business success (e.g., Cooper et al., 1994; Roberts, 1991). Larger investments allow more opportunities for an

Table 5
The performance of investments by stage of investment

Stage	High-performing exits		All exits		High-performing exits as a % of all exits in the category
	Number	%	Number	%	
Seed	4	13.3	20	15.6	20.0
Start-up	6	20.0	30	23.4	20.0
Early stage	4	13.3	29	22.7	13.8
Established firms	6	20.0	27	21.1	22.2
MBOs	8	26.7	11	8.6	72.7
MBIs	2	6.7	11	8.6	22.2
All exits	30	100	128	100	23.4

Chi-square test to compare number of high performing and other investments in each category is not significant ($\chi^2 = 8.51$).

Table 6

The performance of technology-based investments

	High-performing exits		All exits		High-performing exits as a % of all exits in the category
	Number	%	Number	%	
Nontechnology	17	57	98	64	21.0
Technology-based	13	43	30	36	27.7
All exits	30	100	128	100	23.4

Chi-square test to compare number of high performing and other investments in each category is not significant ($\chi^2 = 3.84$).

investor to stage the investment. This enables an investor both to reduce their downside risk in the event that the business performs poorly and also to increase their investment if the business performs well (Sahlman, 1988). In addition, as noted earlier, an investor who makes a small investment runs the risk that the rest of the funding package will not be raised or that their investment will be diluted as follow-on investors invest on more favourable terms (Murray, 1994; 1999).

The relationship between investment size and high-performance investment is explored in three ways. First, there is no significant relationship between the amount invested by the business angel and the return on that investment, as indicated by exceptional performance (Table 7). The very largest investments (over £100,000 invested by the business angel) are more likely to be associated with high performance, and the very smallest investments (under £10,000) are less likely to be high performers; however, the relationship is uneven across size categories, with investments in the size range £50,000 to £99,000 the least likely of all to be high performing.

The second measure of investment size is the total deal size. This takes into account both the amount invested by the respondents and also the investment of any coinvestors. Coinvestment is the norm: more than three-quarters (77%) of the exits had other investors, and in 17% of these cases there was more than one coinvestor. Other business angels, investing either as part of a syndicate or independently of the respondent, were the most common type of coinvestor, involved in two-thirds of investments with coinvestors. Venture capital funds invested alongside respondents in 28% of investments

Table 7

The performance of investments by size of initial investment by the business angel

Amount (£000)	High-performing exits		All exits		High-performing exits as a % of all exits in the category
	Number	%	Number	%	
Less than 10	10	33.3	48	37.5	20.8
10–24.9	7	23.3	26	20.3	26.9
25–49.9	5	16.7	21	16.4	23.8
50–99.9	4	13.3	23	18.0	17.4
100+	4	13.3	10	7.8	40.0
All exits	30	100	128	100	23.4

Chi-square test to compare number of high performing and other investments in each category is not significant ($\chi^2 = 0.27$).

Table 8

The performance of investments by overall deal size (respondents and coinvestors)

Amount (£000)	High-performing exits		All exits		High-performing exits as a % of all exits in the category
	Number	%	Number	%	
Less than 10	1	3.3	16	12.5	6.2
10–24.9	4	13.3	12	9.4	33.3
25–49.9	4	13.3	15	11.7	26.7
50–99.9	3	10.0	20	15.6	15.0
100–249	6	20.0	27	21.1	22.2
250–499	2	6.7	11	8.6	18.2
500–999	5	16.7	8	6.2	62.5
1000–4999	4	13.3	11	8.6	57.1
5000+	1	3.3	8	6.2	14.3
All exits	30	100	128	100	23.4

Chi-square test to compare number of high performing and other investments in each category is not significant ($\chi^2 = 2.8$).

with coinvestors. The amounts involved were often substantial, particularly when several coinvestors were involved. The business angels who responded to the survey invested a total of £4.2 million in the 128 investments under consideration, while coinvestors invested £195 million.

Here, again there is no significant relationship between deal size and high-performing investments when total deal size is considered (Table 8). Although deals of between £500,000 and £4.9 million are more likely to be associated with high-performing investments, with over half of the investments in this size class generating high returns, the association between large deal size and high performance does not extend to investments of £5 million and over. Moreover, smaller deals, involving investments of between £10,000 and £49,000 also have an above average share of high-performing investments.

Larger deals are more likely to involve one or more coinvestors. Although there is no relationship between total deal size and high-performing investments (Table 8) the effects of syndication need to be explored further. Syndication might be expected to reduce risk on account of the greater capacity for due diligence, and range of expertise amongst the coinvestors might be expected to result in a superior added value from their individual and joint hands on contributions. However, there is no significant difference between investments that involve a business angel investing alongside coinvestors and those that do not in terms of the number of high-performing investments ($\chi^2 = 0.75$).

Identifying a relationship between high-performing investments and type of coinvestor is complicated because a number of investments have several coinvestors. Nevertheless, there is a significant difference between the type of coinvestor and the number of high-performing investments (Table 9). Three conclusions can be drawn. First, high-performing investments are associated with deals involving multiple investors (mainly involving coinvestment with both other business angels and other sources of finance, such as venture capital or banks). These are typically larger deals of £500,000 and over. This, in turn,

Table 9

The performance of investments by coinvestor type

Coinvestor	High-performing exits		All exits		High-performing exits as a % of all exits in the category
	Number	%	Number	%	
None	5	16.6	29	22.7	17.2
Other private investors in syndicate	5	16.6	29	22.7	17.2
Other private investors-independent	3	10.0	27	21.1	11.1
Venture capital funds	4	13.3	15	11.7	26.7
Other (banks, public sector)	2	6.7	10	8.6	20.0
Multiple coinvestors	11	36.7	18	11.7	61.1
All exits	30	100	128	100	23.4

Chi-square test to compare number of high performing and other investments in each category is significant at $P = .01$ ($\chi^2 = 17.68$).

suggests that the issue of the complementarity between informal venture capital and institutional venture capital⁸ warrants further detailed study to uncover the performance dynamics of the relationship. Second, investments that only involve business angels (either investing on their own, as part of a syndicate or with other independent angels) have a significantly lower proportion of high-performance investments than those where business angels invested alongside institutional investors (e.g., venture capital funds, banks, public sector) ($\chi^2 = 8.25$, significant at $P < .01$). Third, investments in which business angels have invested on their own performed no worse, in terms of the proportion of high-performance investments, than those in which they have invested with other business angels. This suggests that, contrary to most assumptions (e.g., Kelly and Hay, 1996), syndication is not in itself likely to improve the prospects of securing exceptional returns, and there is therefore no evidence from this study that syndication with other business angels improves the ability of the business angel investor to make better decisions and compensate for lack of sectoral or functional knowledge and expertise.

The third measure of investment size takes account of follow-on investment provided by the original investor (Table 10). The evidence is mixed. On the one hand, the number of high-performance investments is unrelated to the presence or absence of follow-on finance ($\chi^2 = 0.0003$). However, the number of high-performance investments is significantly associated with the amount of follow-on investment. Investments involving follow-on investment of £100,000 or more are more likely to be high performing than investments involving small amounts of follow-on finance, and investments with no follow-on financing. There are a number of ways in which this finding can be interpreted. First, it could be taken as

⁸ The issue of business angel-venture capital fund complementarity was originally highlighted by Freear and Wetzel (1990) but in the context of types of investment (size and stage) and sequential funding, rather than coinvesting. Harrison and Mason (2000) have explored a wider range of complementary relationships between business angels and venture capital firms.

Table 10

Investment performance and follow-on finance

Follow-on finance (£000)	High-performing exits		All exits		High-performing exits as a % of all exits in the category
	Number	%	Number	%	
None	22	73.3	94	73.4	23.4
Less than 10	0	–	7	5.5	0
10–49.9	1	3.3	5	3.9	20.0
50–99.9	0	–	8	6.2	0
100–249.9	1	3.3	2	1.6	50.0
250–499.9	0	–	0	–	–
500–999.9	5	16.7	8	6.2	62.5
1000 and over	1	3.3	4	3.1	25.0
All exits	30	100	128	100	23.4

Chi-square test to compare number of high performing and other investments in each category is significant at $P = .05$ ($\chi^2 = 8.5$).

confirming Murray's (1994, 1999) argument regarding the possible adverse performance implications in situations where investors are unable to provide additional finance to investee businesses after initial funding has been exhausted. Thus, the relation between follow-on finance and investment performance might be taken as confirming a point that was made in developing Hypothesis 1, that investment performance will be better where the investor has sufficiently 'deep pockets' to provide follow-on finance to support the growth and development of the investee business. Second, it could indicate that high-performing investments 'pull in' additional funding from initial investors because the prospects of a good performance encourages further investment. Third, the relationship between high-performing investments and follow-on finance may reflect a risk-minimising investment style of business angels, involving an initial small investment, or the staging of a larger investment.

9. Conclusion

The performance of venture capital investments represents an underresearched aspect of the venture capital process. In particular, there is virtually no evidence available on the outcomes of investments made by business angels who play a key role in financing the start-up and early growth stages of entrepreneurial businesses. This represents a significant gap in our knowledge and understanding of this important segment of the venture capital market.

However, in interpreting the findings, there are two important qualifications to make that suggest that it would be prudent to regard the findings reported here as being tentative until further studies become available. First, there are inherent difficulties in identifying business angels and in obtaining responses to surveys and it is impossible to test samples for their representativeness. Second, the results are based on an analysis of one national business angel market, and it is not clear whether the findings will hold in other countries. Nevertheless, the significance of this paper in "putting boundaries on our ignorance" (Wetzel, 1986, p. 131) should not be downplayed.

The paper makes four important points about the performance of informal venture capital investments. First, the returns from such investments are negatively skewed. Almost half lost money or broke even in nominal terms and only 10% generated IRRs in excess of 100%. Comparison with the returns profile of early-stage venture capital funds suggests that business angels have fewer investments that lose money, a higher proportion of poor or moderately performing investments and a similar proportion of high-performance investments. This is consistent with the view of Benjamin and Margulis (1996, p. 221) that business angels are more concerned with avoiding bad investments than “hitting a home run” because of their limited ability to diversify. Nevertheless, business angels are capable of generating exceptional gains from their investments. This may reflect their superior ability in selecting and evaluating deals compared with venture capital fund managers, or it may be attributable to the greater ability of business angels to make value-added contributions to the development of their investee businesses. Second, trade sales are the main way in which business angels harvest their investments. Trade sales are used for both high-performing investments as well as those that have performed less well or only break even. IPOs are a much less common means of exit, and are confined to harvesting high-performance investments. Third, most angels hold on to their investments for a relatively short time period, with a median length of holding for successful investments of just 4 years. Finally, although the study is unable to provide a recipe for successful investing, it does suggest that MBOs, large deals involving multiple coinvestors and deals involving large amounts of follow-on investment are the most likely to generate very high returns (IRR of 50% and above). However, by no means did every high-performing investment have these characteristics.

These findings have important implications for policy-makers. The need to improve the availability of risk capital in Europe has been recognised by national governments and at the European level (Commission, 1997; Aernoudt, 1999): evidence on risk and reward can inform judgements on the necessity and form of supply-side measures such as tax reliefs and equity guarantee schemes as means of boosting the supply of informal venture capital. The significance of the study for UK policy-makers is that the findings support the recent moves to reduce the rate of CGT for investors in unlisted companies. In an attempt to encourage investment by business angels in unquoted companies, the 1998 Finance Act introduced a CGT taper on business assets that reduced the amount of capital gain that is charged to tax on the disposal of an asset over a 10-year period. The effect was to reduce the taxable gain from 100% if the asset had been held for less than 1 year to 25% if held for 10 years, effectively reducing the rate of tax for a higher rate taxpayer from 40% to 10%. On the evidence of this study, which found a 4-year average holding period for successful investments, few business angels would be likely to benefit significantly from this change. Moreover, in order to benefit from the taper outside investors were required to own at least 25% of the voting rights, which is out of line with the typical shareholding structure of a business angel investment (Mason and Harrison, 1999c).⁹ This requirement also hinders

⁹ Our survey of investors registered with the UK National Business Angel Network found that in 54% of cases business angels take an equity share that is less than 25% and in a further 11% of investments the investor's equity share is exactly 25% (Mason and Harrison, 1999b).

business angel syndicates that operate on the basis of the members of the syndicate investing on an individual basis. However, following a consultation exercise (Inland Revenue, 2000), the Chancellor of the Exchequer announced in the March 2000 Budget changes to make the CGT taper for business assets more generous. First, the taper will be reduced from 10 to 4 years, the effect of which is that higher rate tax payers will pay tax at 20% after 3 years and 10% after 4 years. Second, the 25% threshold will be eliminated. These changes are much more consistent with both the time horizon over which business angels typically invest and the typical size of their shareholding.

Although these changes to CGT are undoubtedly positive, and will be welcomed by the business angel community, it is clear from the evidence presented here that the risks outweigh the rewards for business angels. The proportion of investments generating zero or negative returns exceeds those which return a significant multiple on the original investment, hence many business angels will not benefit from the CGT taper because their investments have not produced a capital gain. This suggests that stimulating the supply of informal venture capital may need a richer cocktail of tax incentives than merely a reduction in CGT, including front-end tax reliefs¹⁰ (Mason and Harrison, 2000) and even venture capital guarantees (Gavron et al., 1998; Lumme et al., 1998).

Acknowledgments

We are pleased to acknowledge the support of the Small Firms Policy Branch of the UK's Department of Trade and Industry in funding the survey of business angels upon which this paper is based. However, they are not responsible for the views or opinions expressed in this paper. We are also grateful to Mike Wright (University of Nottingham) for his comments on an earlier version of this paper. An earlier version of this paper was presented at the Babson College-Kauffman Foundation Entrepreneurship Research Conference at the University of South Carolina in May 1999.

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¹⁰ Business angels can obtain front-end tax reliefs if they use the Enterprise Investment Scheme. However, the complex rules regarding the types of investments that qualify under the scheme confuses investors and discourages usage (BDO Stoy Hayward, 1999; Mason and Harrison, 2000).

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