Liftoff: when strong growth is predicted by angels and fuelled by professional venture funds

Christophe Bonnet, Peter Wirtz, Christophe Haon

Éditions Académie de l’Entrepreneuriat et de l’Innovation

ISSN 1766-2524
ISBN 9782804189068
DOI 10.3917/entre.124.0059

Article disponible en ligne à l’adresse
https://www.cairn.info/revue-de-l-entrepreneuriat-2013-4-page-59.htm

Découvrir le sommaire de ce numéro, suivre la revue par email, s’abonner...
Flashez ce QR Code pour accéder à la page de ce numéro sur Cairn.info.

La reproduction ou représentation de cet article, notamment par photocopie, n’est autorisée que dans les limites des conditions générales d’utilisation du site ou, le cas échéant, des conditions générales de la licence souscrite par votre établissement. Toute autre reproduction ou représentation, en tout ou partie, sous quelque forme et de quelque manière que ce soit, est interdite sauf accord préalable et écrit de l’éditeur, en dehors des cas prévus par la législation en vigueur en France. Il est précisé que son stockage dans une base de données est également interdit.
Liftoff: when strong growth is predicted by angels and fuelled by professional venture funds

Christophe BONNET
Grenoble École de Management,
Grenoble, France

Peter WIRTZ
Université Jean Moulin Lyon 3,
Lyon, France

Christophe HAON
Grenoble École de Management,
Grenoble, France

The present research links knowledge about business angels’ individual cognitive and behavioral features and about their co-investment practice with professional venture funds in explaining differential rates of growth. We conducted a survey by questionnaire and were able to gather a unique dataset concerning the characteristics, investment practice and growth performance of a sample of 124 business angels having made a total of 222 investments in the south eastern region of France surrounding Grenoble. Our contribution to the literature is twofold: first, to our knowledge, the present study is the first systematic exploration of the investment practice of business angels in the French market for entrepreneurial finance, and thus helps extend our knowledge of angel investing beyond the limits of North America and the United Kingdom. Second, we make a specific contribution to a better understanding of the determinants of growth in ventures funded by business angels. It appears that especially strong growth rates are significantly supported when business angels and professional venture capitalists co-invest simultaneously due to a certain cognitive closeness.

Keywords: business angels, venture capitalists, cognition, growth.

1. Corresponding author: Christophe Bonnet, Grenoble École de Management, 12 rue Pierre Sémart, 38000 Grenoble,
France. E-mail: christophe.bonnet@grenoble-em.com.
Research on the economic contribution of business angels is still young, although it has been the object of increasing interest over the past decade. Such growing interest can be explained by the significant economic role of angels (also referred to as informal venture capitalists) who have been reported to contribute funding in 20 times the number of new ventures in the US market in comparison to professional (or formal) venture capitalists (Wiltbank, Read, Dew and Sarasvathy, 2009). In the light of its economic significance, the relative deficit of academic research on the angel segment in entrepreneurial finance may strike as surprising. It is mostly due to the difficulty of precisely identifying the population of angel investors, who are wealthy individuals investing their personal assets (Freear, Sohl and Wetzel, 1992). Accessing data on their personal characteristics, investment procedures, and performance is thus a highly complicated endeavor. Early studies of business angels were essentially conducted in North America and the United Kingdom. They have allowed for a description of the typical profile (Morrissette, 2007) of this specific investor category in an Anglo-Saxon setting, in terms of its demographics, distinctive cognitive features and investment behavior. Later research has aimed to go beyond the mere description of angel characteristics and has called for a better understanding of the workings of the market for entrepreneurial finance at large, where business angels form only one, albeit important, group of investors. Hence, the question has arisen of what specific role angels play in relation to more professional venture funds (Harrison and Mason, 2000) and what may be the impact of their specific cognitive characteristics on venture performance (Wiltbank, Read, Dew and Sarasvathy, 2009).

From a policy perspective, sources of efficient venture finance are of major concern, in as far as they may support strong economic growth. In this vein, it has been shown that business angels make significant contributions to closing a funding gap (Harrison and Mason, 1999; Freear, Sohl, and Wetzel, 2002) for young technology ventures with potentially high growth prospects. They invest smaller amounts than would be rational for professional venture funds, partly because they can operate at a lower cost (less extensive due diligence and other dead-weight costs, geographical proximity with investee companies, no management fees), and are capable of intervening in highly uncertain (as opposed to risky) environments. Hence, it has been shown that angel investors and professional venture capitalists play complementary roles in funding the growth of young ventures. Business angels can provide early start-up finance at a low cost, due to their often more intuitive approach to investing in uncertain environments, entrepreneurial background and knowledge of the sector. This early intervention by business angels helps launch young ventures and bring them on a growth track. Professional venture funds can follow when angel investors have previously assisted the venture acquire a track record. Professional funds are in a position to provide significant amounts of growth capital when the needs of strong development outgrow the possible contribution of angels. Angels and professional venture capitalists are thus likely to co-invest sequentially (Harrison and Mason, 2000). These observations of time-contingent complementarities, however, do not provide a sufficient explanation for differential venture success and growth rates. Independently of studies concerning co-investment with formal venture capitalists, a recent attempt has been made to explain venture success through the individual cognitive and behavioral features of the participating business angels (e.g. Wiltbank, Read, Dew and Sarasvathy, 2009). Certain cognitive features are shown to have an impact on venture success. It is however likely that individual investors’ cognition alone is only part of the explanation of differential

2. For a discussion of the relationship between concepts of “business angels” and “informal venture capitalists” showing a significant overlap, one may refer to Avdeitchikova (2009), especially section 2.
3. See Landström (1993: 527-529) for a summary of these early Anglo-Saxon studies.
success and growth rates, for an individual investor’s influence on a venture’s strategy and
growth is highly dependent on the behavioral dynamics of other contributing investors. Along
this line of reasoning, some authors have examined the dynamic interaction between investor
types in a multi-investor setting as a possible lever of strong growth (Bonnet and Wirtz, 2012).
The latter contribution, however, is based on a single case study. The present research is an
attempt to link knowledge about business angels’ individual cognitive and behavioral features
and about their co-investment practice with professional venture funds in explaining differential
rates of growth on a larger scale.

Wiltbank, Read, Dew and Sarasvathy (2006, 2009) have identified two fundamental cog-
nitive and behavioral dimensions, along which business angels may differ, and which appear as
particularly relevant in an entrepreneurial setting due to its high degree of uncertainty: predic-
tion and control. Prediction and control are not opposites on a single scale, but two separate
dimensions which may influence investment-making decisions. Taking Wiltbank and colleagues’
reasoning a step further, we contend that those cognitive and behavioral features may not only
impact an angel’s perception of and direct individual contribution to a venture’s growth prospect,
but also his capacity to efficiently interact with other investor-types, such as formal venture cap-
italists, hence providing an additional lever of growth. We thus extend work by Wiltbank, Read,
Dew and Sarasvathy (2009) to a multi-investor setting.

Our central assumption is that business angels who have a predictive approach when
they make investment decisions are likely to solicit professional venture funds at rather early
stages in the investment process, when they perceive high potential for future development.
This is because their predictive approach can be supposed to enable them to translate per-
ceived growth prospects to professional investors at a low cognitive cost. This makes simulta-
neous co-investment with formal venture capitalists (vs. sequential co-investment) a viable solu-
tion. Such a configuration can be considered to be particularly conducive to strong growth, as
opposed to moderate growth rates.

To test this assumption, we conducted a survey by questionnaire and were able to
gather a unique dataset concerning the characteristics, investment practice and growth per-
formance of a sample of 124 business angels having made a total of 222 investments in the
south eastern region of France surrounding Grenoble. This region is known for its dynamism
and intense entrepreneurial activity and hosts some of the larger and more dynamic angel net-
works in France.

The French angel investor market is still young, although some informal investment activ-
ity has existed for decades, but is growing. The first organized angel networks appeared at the
end of the 1990s and “France Angels”, the main national angel association, was created in 2001.
It played a major role in the expansion, the increased visibility and the professionalization of the
business angels movement in France. Governmental initiatives aiming at stimulating risk capital
markets are believed to foster the growth of these markets (Collewael, Manigart and Aernoudt,
2010; Cowling, Bates, Jagger and Murray, 2008). This was actually the case in France where the
introduction of tax reliefs for individuals investing in the equity of non listed SMEs in 1994 (known
as “Madelin” income tax incentive) contributed to attract new investors. Many business angels
began or increased their activity in 2007, when the wealth tax (“ISF”) shield for individuals was
significantly increased to 75% of the equity directly invested in private companies, with a yearly
cap of €50,000 (Sarkozy’s ISF TEPA incentive). However wealth tax, compared to income tax,
only concerns a small proportion of taxpayers. In addition, tax incentives have been significantly
reduced in recent years and this instability, which generates uncertainty for potential investors,
presently limits the growth of the French angel investor market (Le Moign and Passet, 2011). The “France Angels” national network reports 3,950 members in 2011 (a 36% growth compared to 2009), and total annual investments of €44.5 million in 327 companies. This compares to investments of £42.3 million in Great Britain for the tax year 2009/10, where the British Business Angels Association counts 4,555 members. It is to be noted, however, that organized networks provide data on the visible part of the angel market only, as many angels do not belong to networks or, even if they do, may sometimes invest independently. Using extrapolation techniques, Mason and Harrison (2011) estimate the total angel market in Great Britain at £266.5 million for the tax year 2009/10. According to Sohl (2012), the total US market is much larger, with more than 318,000 active angel investors and total investments in 2011 estimated at $22.5 billion (such extrapolation tools are not presently available in France).

Our contribution to the literature is twofold: first, to our knowledge, the present study is the first systematic exploration of the investment practice of business angels in the French market for entrepreneurial finance, and thus helps extend our knowledge of angel investing beyond the limits of North America and the United Kingdom. Descriptive results of the characteristics of French business angels in terms of motivation, experience and cognitive features are consistent with earlier results from American studies. A fundamental difference, however, concerns investment practice, where the average amount of capital invested by the typical French business angel appears to be significantly smaller than in the American studies. Second, we make a specific contribution to a better understanding of the determinants of growth in ventures funded by business angels. It appears that especially strong growth rates are significantly supported when business angels and professional venture capitalists co-invest simultaneously. This empirical result is consistent with earlier theoretical work by Bonnet and Wirtz (2011) and confirms certain tentative results derived from a single-case study by Bonnet and Wirtz (2012) on a larger scale.

The remainder of the article is structured as follows. The first section sketches out the conceptual framework, linking angels’ cognitive features and co-investing behavior to venture growth. Section two contains a presentation of the methodology and the major descriptive statistics. The final section presents and discusses the results of the empirical tests of the hypotheses concerning co-investing and growth.

1. A conceptual framework of co-investment and hyper growth

Initially, explanations of entrepreneurial finance were dominated by agency theory (Wiltbank, 2005: 344). According to this theoretical frame, the main determinant of a venture’s growth rate is its access to funding, which will determine the “expansion path”, as it is labeled in Jensen and Meckling’s (1976) seminal work. In this framework, investment opportunities are implicitly assumed to be exogenous — they somehow exist in the environment. Good strategy then consists of selecting the best pre-existing projects, and this can be achieved by gathering all relevant objective information on their behalf. According to this line of reasoning, for a

---

4. The wealth tax relief percentage and its yearly cap were respectively lowered to 50% and to €45,000 in 2011. An income tax relief for equity investments in private companies also exists in France. It is applicable to many more households than the wealth tax relief, but its ceiling has been historically low (€20,000 per annum) and was even lowered recently. By comparison, the British EIS (Enterprise Investment Scheme) allows a maximum income tax relief of £300,000 per annum (30% of a maximum investment of £1,000,000 per annum) since 2011 and a total exemption of capital gains after three years (HM Revenue and Customs, www.hmrc.gov.uk/eis).
venture with access to highly promising investment projects, strong growth rates can essentially be explained by its capacity to raise significant amounts of external funding. The only hurdle to growth identified by agency theory is agency conflict which may render the access to external growth capital excessively costly, thus curbing the potential “expansion path” downward. Extensive funding, and thus strong growth, can then be facilitated by putting in place the right control and incentive mechanisms, independently of the potential investors’ specific demographic and cognitive background.

Such agency-based explanations, however, lack explanatory power in highly uncertain environments, where the precise meaning of any given piece of information is ambiguous and depends on the cognitive apparatus through which it is processed. In fact, Wiltbank (2005: 344) considers that “in very early stage ventures, where the majority of angel investing takes place, these principles (agency conflict, information asymmetry) may or may not be driving factors. Anticipating agency risks or overcoming contractual hazards due to opportunism, for example, may not be the primary challenge”. This is because, in uncertain environments, the perception (and construction) of growth opportunities is not simply a matter of accessing objective information, but also of interpreting the latter in a world of sometimes substantial causal ambiguity. In the process, new vision and knowledge may emerge, sustaining the potential of future growth. In her theory of the growth of the firm, Penrose (1959) already explained that specific cognitive resources are crucial in explaining the rhythm of and potential limits to growth.

Recent cognitive approaches to entrepreneurial finance (Bonnet and Wirtz, 2012; Wirtz, 2011; Yazdipour, 2011) show that specific investors’ cognitive base (personal experience and knowledge) and process (decision making process/style) should be considered as a crucial ingredient of venture growth and success. In fact, accounting for cognitive differences leads to richer explanations of the interaction between different investor types and entrepreneurs and their impact on growth dynamics. This is because cognitive differences (or gaps) between entrepreneurs, business angels and professional venture capitalists may cause cognitive conflict. The latter is of a different nature than agency conflict. Agency conflict is always an obstacle to value creating growth and efforts to reduce it through the right incentives and monitoring increase value. Agency cost is based on objectively conflicting interests, and formal incentives and monitoring may be the appropriate response. Not so for cognitive conflicts. The latter have their roots in the mutual misunderstanding between different individuals (say an entrepreneur, a business angel and a venture capitalist) based on differences in cognitive base and process. If the initial cognitive gap is not too wide, cognitive conflict can be overcome through mutual learning, but for learning to occur, monitoring and incentives will not suffice. Initial knowledge and specific skills will matter. Learning is more or less costly (time spent and efforts made to reach mutual understanding), but is also a potential source of value, to the extent that it may widen the strategic perspective and contribute to create new knowledge about future growth prospects. Hence, certain external investors are likely to be more capable of making a contribution to venture growth than others due to their specific cognitive profile.

The empirical literature on business angels reports certain cognitive features and behavioral characteristics and hence allows us to trace a stylized profile of this investor category. Establishing such a profile can be instrumental in making comparisons with formal venture capitalists and entrepreneurs and, consequently, derive predictions about the expected cognitive distance between angels, formal venture capitalists and entrepreneurs. Based on a review of the literature, Bonnet and Wirtz (2011) establish a stylized cognitive profile of the three main actors in the field of entrepreneurial equity finance (table 1). It is interesting to note that, according to this
profile, business angels typically share some characteristics with each of the other two groups. They are thus located somewhere between “two worlds”: the finance profession and entrepreneurship. Reflecting on this profile, the cognitive distance appears greatest between entrepreneurs and formal venture capitalists, whereas angels are located somewhere in between, which can potentially make them play an instrumental role in helping formal venture capitalists and entrepreneurs communicate at a low cognitive cost.

Tableau 1. Stylized characteristics of first-time entrepreneurs, business angels and venture capitalists

<table>
<thead>
<tr>
<th></th>
<th>Entrepreneurs</th>
<th>Business angels</th>
<th>Venture capitalists</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knowledge base</td>
<td>Technological, specific industrial sector and client market</td>
<td>Technological, specific industrial sector and client market</td>
<td>Financial, various industrial sectors (to a lesser extent)</td>
</tr>
<tr>
<td>Experience</td>
<td>Former employee, Entrepreneurial (recent)</td>
<td>Entrepreneurial (strong)</td>
<td>As a professional VC, sometimes with consulting or entrepreneurial experience</td>
</tr>
<tr>
<td>Cognitive process</td>
<td>Intuitive, innovative, proactive, control-oriented</td>
<td>Intuitive, innovative, proactive, control-oriented, predictive or non predictive (depends on BA)</td>
<td>Quasi-rational, predictive (professional investment style)</td>
</tr>
</tbody>
</table>

Source: adapted from Bonnet and Wirtz (2011).

In terms of professional experience, business angels are often former or actual entrepreneurs themselves, hence sharing a common understanding of the challenges and operating mode of young business ventures. As Politis and Landström (2002: 83) put it: “informal investors seem to have an entrepreneurial background that impacts on their preparedness to take advantages of the strategic windows that appear when making their informal investments.” Due to their career track, angels’ knowledge base is mostly linked to specific business sectors, with a good understanding of the related customer market dynamics and technological know-how. Wittbank (2005: 348) characterizes the typical business angel’s entrepreneurial profile in the following way: “Their first-hand experience in building a new venture can greatly enhance their ability to add value to the ventures in which they invest. Prior entrepreneurial experience is also likely to enhance their ability to influence the entrepreneurs in which they invest, given their specific and valuable expertise in the field. Politis and Landström (2002) go so far as to suggest that a more accurate understanding of angel investors needs to deal with them as entrepreneurs even as they are in the midst of investing.” The typical knowledge and skill base of formal venture capitalists is different, in that they have acquired a culture strongly related to the standard approach of financial management, due to their specific educational background and professional

---

6. Where cognitive cost is defined as the resources spent (time, effort…) to bridge a cognitive gap in order to reach a shared understanding about the intrinsic value and growth potential of investment opportunities. By analogy, learning a foreign language is costly (time, effort, teachers’ remuneration…), and an interpreter may make communicate two individuals speaking a different language each at a relatively low cost (time of translation, effort…), due to his immediate access to both languages and cultures. For a discussion of the concept of cognitive cost in entrepreneurial finance, the interested reader may refer to Wirtz (2011).

7. The standard approach to financial economics relies on reasoning in a risky (as opposed to a radically uncertain) business environment and promotes the rational use of formalized predictive tools for investment decision making (formalized business plans, NPV, IRR…).
As a result of past investments, they may have developed some expertise on specific industries, but their industrial knowledge is likely to be more superficial than the specific insider know how possessed by former or actual entrepreneurs.

Apart from their initial knowledge and skill base, different investor categories are also likely to differ in terms of cognitive process, that is to say their way of reasoning and decision making. For instance, empirical data from Lindsay (2004) suggest that business angels – independently of any actual entrepreneurial experience – are mostly characterized by an approach to decision-making qualified as “entrepreneurial orientation”, and the latter appears to be related to venture performance. According to Lumpkin and Dess (1996: 136), entrepreneurial orientation concerns “methods, practices, and decision-making styles managers use to act entrepreneurially.” Important dimensions of entrepreneurial orientation include innovativeness and pro-activeness, with a propensity towards risk taking. Another approach of measuring dimensions of cognitive process featured by business angels has been applied by Wiltbank, Read, Dew and Sarasvathy (2009). The latter suggest that two dimensions of angels’ cognitive and behavioral orientation are especially relevant in explaining venture performance. (1) A strong orientation towards control bears resemblance to the pro-activeness construct of entrepreneurial orientation, since control seeks to enact the environment. Applied to the specific context of business angel investment decision making, the control concept would mean that, to reach a decision, angels imagine how they can contribute to a venture’s strategy and what added value they can potentially contribute. (2) A predictive approach to decision making is in line with quasi-rational decision-making styles, seeking to optimize expected utility ex ante.

The entrepreneurial finance literature reports that formal venture capitalists are heavily influenced by the standard finance paradigm (e.g. Wiltbank, 2005), which induces them to adopt strongly quasi-rational decision-making styles. Before an investment decision is made, extensive predictions of future prospects are generally required (detailed formal business plans, projection of IRR …). A predictive approach thus requires an extensive analysis of competitors’ strategies and the retrieval of expert market forecasts, which are instrumental in projecting a venture’s future cash flows and NPV. Contrary to formal venture capitalists, business angels may show more variance on the prediction scale, being at variable distance from predictive decision making styles. We hypothesize that for angels who score high on the prediction scale, it is easier to communicate with formal venture capitalists than for angels at the bottom of the prediction scale.

It should of course be kept in mind that stylized portraits only represent ideal types and that real populations show variance inside each investor category. This naturally applies to the informal investors who are the focus of the present study. Looking at business angels individually, it appears that they do not share all the exact same cognitive features. In terms of the knowledge- and skill base, our questionnaire captures differences between business angels in terms of their industry background and entrepreneurial experience. In terms of cognitive process, we measure differences in the approach of a potential investment on two dimensions: control and decision making.

8. This is of course a matter of degree. Also, it is not because professional investors typically have a stronger financial background and mindset than the stereotypical business angel or entrepreneurs, that they take all their decisions in a strongly rational manner. Cognitive bias is not absent from VC decision-making, as shown by Zacharakis and Shepherd (2001). However, our core argument is in terms of cognitive distance and the capability of entrepreneurs, BAs and VCs to communicate with each other. In that respect, professional VCs typically require that information be presented according to certain financial standards, even if the final decision may also depend on elements of irrational behavior.

9. We may reasonably suppose that there is less variance in the population of professional venture capitalists, to the extent that professional standards establish a certain number of formal procedures when approaching potential investments and also influence recruitment profiles.
prediction. Scaling high on the former makes the business angel’s attitude close to entrepre-
neurs, scaling high on the latter makes them likely to translate entrepreneurial intuition to formal
venture funds at a relatively low cognitive cost (cf. note 3).

The preceding discussions underscore a model (figure 1), which explains the occurrence
of simultaneous co-investment of business angels and venture capitalists in terms of relative cog-
nitive proximity, while linking such co-investment and angels’ specific cognitive and behavioral
features to venture growth.

The phenomenon of venture capitalists and business angels investing simultaneously
is somewhat of a puzzle if approached from the perspective of traditional financial micro-econ-
omics alone. Why should professional venture capitalists share the benefits of strong growth
prospects, recognized as such, with informal investors? One argument could be related to risk
sharing, but angels’ financial contribution is often relatively small in comparison to professional
venture funds, and the latter can, and often do, syndicate with peers to share risk. Another
argument could be related to the management of information asymmetry and agency risks,
assuming that angels possess specific monitoring skills (ex ante and ex post). However, estab-
lished formal venture capitalists have generally developed extensive professional monitoring
and control mechanisms (due diligence, board representation, periodic reporting…) and reg-
ularly put in place strong incentive contracts. It is hence doubtful if controlling agency conflict
is the primary role assumed by business angels when they invest alongside professional ven-
ture funds. The central problem of many young growth ventures is not so much the revelation
of all objective information, but the precise meaning of the available pieces of information and
their interpretation in terms of potential future growth. This is to say that potential investors in
young growing ventures do not only face situations of risk but rather those of radical uncer-
tainty (Knight, 1921), where the means-ends relations between certain strategic choices and
venture performance are sometimes characterized by strong causal ambiguity. In such a con-
text, we may reasonably suppose that specific cognitive skills and an entrepreneurial mind-
set are required to intuitively grasp the prospects of certain investment opportunities. Certain
business angels possess such skills and entrepreneurial experience. Consequently, in uncer-
tain environments and in cases where much of the relevant knowledge about a specific ven-
ture’s strategy is tacit, BAs may be the first to recognize highly valuable investment opportuni-
ties. However, future growth may require more funding than they can possibly deliver. Formal
venture capitalists may help here, but they need to be convinced of the projects’ intrinsic qual-
ity. It is precisely at this point where cognitive proximity between angels and professional ven-
ture capitalists appears to be helpful. If business angels share certain features of cognitive pro-
cess required in venture capitalists’ formalized (quasi-rational) investment procedures, they
may be supposed to translate the intuitively perceived growth prospects rapidly into the lan-
guage of more formal financial predictions. Formal predictions include a systematic analysis of
expert opinions on market dynamics, competitors’ strategic positioning, and financial forecasts
(business plan, NPV, IRR…). Those angels who have a predictive approach to investment-deci-
sion making can thus be supposed to translate their perception of intuitively perceived growth
opportunities easily into the language of professional venture capitalists. Thus being able to
convince the latter to join the funding syndicate, highly predictive BAs should be expected to
positively influence simultaneous co-investment.

H1: Business angels featuring a low cognitive gap with formal venture capitalists (high on
prediction) have a high probability to co-invest simultaneously.
The contribution of formal venture capitalists can be considered as a significant ingredient of especially strong growth for at least two reasons. (1) Venture capitalists are able to inject relatively large amounts of capital and, hence, loosen the budget constraint on a venture’s expansion path (Jensen and Meckling, 1976). They can thus rapidly extend the financial capacity of young ventures beyond the relatively restricted possibilities of informal private investors. (2) Professional venture capitalists have also been shown to contribute specific managerial skills and know-how which are crucial to sustain strong growth dynamics (e.g. Hellmann and Puri, 2002). In fact, strong growth puts strain on the entrepreneurial team, and calls for the development of specific organizational and managerial capabilities (Hambrick and Crozier, 1985). Hellmann and Puri show that professional VCs are instrumental in providing such capabilities. The above arguments state that VCs contribute two types of critical resources to fuel strong growth. But they need to discover ventures with potentially strong growth prospects, and BAs, who share cognitive features with both, entrepreneurs and VCs, may help translate the existence of such prospects into the “language” of professional investors very early. Consequently, if venture capitalists and angels co-invest simultaneously rather than sequentially, this is likely to accelerate growth dynamics at the early stages of venture development.

**H2**: When business angels and venture capitalists invest simultaneously, this should have a positive impact on ventures’ growth rates.
Entrepreneurs have been shown to feature pro activity and a control-oriented approach to decision making. If business angels share such behavioral features with entrepreneurs, they may perceive ways in which they could contribute to future growth of still emerging ventures in uncertain environments. They are thus likely to co-construct a strong future growth potential, which would otherwise be inexistent, and this from the very moment they decide to invest. Strongly control-oriented business angels may, in fact, base their investment decision on their perception of potential personal contributions to the venture’s strategy and/or operations and entrepreneurial process. It is reasonable to suppose that angels with a strong control orientation are able to seize strong growth opportunities in cases where they perceive the opportunity to co-construct growth, hence H3(a). The detection of growth opportunities and of the possibility to make a contribution is likely to be facilitated by shared knowledge and experience (cognitive proximity) between BAs and entrepreneurs. If a BA has entrepreneurial experience, this may allow him to identify ventures where his contribution is potentially valuable more easily than someone who lacks a similar experience (H3b). A shared understanding of market dynamics may also be conducive to the detection of growth opportunities to which the BA can make a contribution (H3c). We must however admit that cognitive proximity between angels and entrepreneurs, be it in terms of (a) control orientation, (b) entrepreneurial experience or (c) market knowledge, is not a sufficient condition for strong growth rates to occur. As a matter of fact, not all entrepreneurs strongly value high growth as a priority, and control may be oriented towards other goals than growth in those cases (personal autonomy and independence, self-fulfillment…) (Morrison, Breen and Shameem, 2003).

H3: Business angels who feature cognitive proximity with entrepreneurs (high on control (a), entrepreneurial experience (b), same sector experience (c)) perceive and seize the strongest growth opportunities.

Growth dynamics are a complex phenomenon. When considering the potential influence of informal investors, it is not necessarily restricted to their initial perception of growth opportunities and their capacity to translate them into the language of formal venture capitalists. Sustaining growth also requires the development of specific (cognitive) resources at the level of the entrepreneurial team as the result of an ongoing collective learning process (Penrose, 1959). Business angels’ active post-deal involvement may be highly supportive in the acquisition of such resources and skills, through the active mentoring of entrepreneurs, establishing contacts, bringing in specific market- and technological knowledge, etc. Business angels’ post deal involvement may thus act as a cognitive lever on growth.

H4: Strong post-deal involvement by BAs should be expected to have a positive effect on venture growth.

2. Methodology and descriptive statistics

In this section we present the sampling method, the survey questionnaire and the descriptive statistics for the business angels surveyed.

2.1. Sampling method and questionnaire

2.1.1. Population and sample

Previous research suggests that the business angel population is not evenly distributed geographically. It tends to be concentrated in areas with a strong entrepreneurial activity
and high income and wealth (Harrison, Mason and Robson, 2010) as well as a sin metropolitan areas and university cities (Avdeitchikova, 2009). In order to test our model of the cognitive and behavioral determinants of the growth of angel-backed ventures, we conducted a survey on a sample of business angels from the Grenoble area in the French Alps. Grenoble is a major high technology cluster in the fields of micro- and nano-technologies and embedded software. It benefits from a substantial industrial and entrepreneurial tradition, from the presence of large R&D centers, both private (Hewlett-Packard, Xerox, Schneider Electric, STMicroelectronics) and public (CEA, CNRS) and from dynamic universities in technology and management. Grenoble also hosts Minalogic, a state-funded network whose aim is to foster alliances between research, education and industry and to secure the city's position as a leading global actor in embedded systems on microchips. The Grenoble area is considered as offering a very favorable ecosystem for industrial innovation and the emergence and growth of high-technology companies, thanks to its networks of incubators, business angels and venture capitalists. Grenoble is located in the Rhône-Alpes region, which boasts France's second-largest regional economy (after Paris-Île-de-France) with per capita gross domestic product 6% above E.U. average.

Contrary to formal venture capitalists, business angels are difficult to identify. Thus, in line with previous studies (Mason and Harrison, 2002; Wiltbank, Read, Dew and Sarasvathy, 2009), we sought for the support of local angel networks in order to gain access to the population of business angels. The business angel movement in France has developed and organized itself later than in the US and the UK. Most French networks are members of the France Angels national association which was created in 2001 and claims membership of approximately 4 000 angels regrouped in 82 local networks10. Grenoble Angels is one of the largest and most dynamic angel networks in France with 170 members. With the help of Grenoble Angels, we were able to access seven local angel networks operating in the greater Grenoble area, representing a total population of approximately 470 business angels11.

The survey was made on the internet with Qualtrics survey software. An email co-signed by the president of the relevant network and ourselves was sent individually to each business angel. The email explained the context of the study and included the internet link to access the survey. As the questions covered potentially sensitive issues, such as individual amounts invested and the financial outcome of the investments, we assured confidentiality, in order to increase the response rate. Thus we mentioned that the survey’s individual results would remain confidential, and we did not ask for the names of the respondents, nor those of the investee companies. For those respondents who wished so, we also proposed to communicate the study’s key descriptive findings. The survey was launched in mid-December 2011. After two reminders, it was closed at the end of February 2012. We finally received exploitable answers from 124 respondents (sample 1), a response rate close to 26%. 31 respondents were recent network members who had not performed any deal yet, and who only documented their individual characteristics. Among the 93 remaining respondents, 75 angels (sample 2) accepted to communicate detailed data on individual investments (a response rate of 16%). Those 75 angels communicated exploitable data on a total of 222 investments, an average of 3 investments per angel. Our response rates are consistent with prior studies investigating business angels in the US and the UK, and even strong when compared to studies asking for financial performance data (Kelly and Hay, 2003; Mason and Harrison, 2002; Wiltbank, Read, Dew and Sarasvathy, 2009).

11. This figure, obtained as the sum of individual networks’ members, is approximate, as a limited – but unspecified – number of investors may be members of several networks covered by the survey.
This sampling method presents several potential sources of bias. First, we cannot be certain that business angels belonging to organized networks have the same characteristics as the business angels operating on a stand-alone basis, because the total population of angels is probably impossible to identify and to survey. This is a limitation of many business angel surveys\(^\text{12}\). Second, the networks of the greater Grenoble area may not be representative of the population of the other networks in France, and third, there may be a response bias among the members of the surveyed networks. These two biases are difficult to ascertain because the descriptive data directly available from different angel networks concerning their members are partial and not always accurate. Nonetheless, when compared to aggregate data provided by the France Angels association on a national level, our sample appears to be very similar to the average member of the France Angels network with regard to variables such as age, gender, education, and professional and investment experience. In addition, we presented and discussed our descriptive results at several business angels meetings at the local and national levels, and all the feedback received seems to confirm that our sample characteristics do not materially differ from the France Angels network’s overall population. A fourth possible bias lies in the fact that data are self reported and may therefore not be accurate, particularly concerning financial data. However, there is no evidence of such bias when we compare our descriptive results to other sources (see section 2.2)\(^\text{13}\). We tried to avoid survivorship bias by asking the angels to report data on their investments whether exited or not. A cross tabulation analysis of growth rates and exit at the date of the survey shows that 38 investments (on a total of 217) are reported as exited, of which 13 experienced a negative growth between the first angel investment and the exit. The latter most likely correspond to failed ventures. We therefore think, although we cannot be certain, that survivorship bias is not a serious issue.

2.1.2. Survey instrument

The survey instrument covers three types of data: the individual characteristics of business angels (gender, age, education, experience, reasons for being an angel), their overall investment practice (number and size of investments, deal sources, due diligence and deal selection criteria, cognitive orientation as an investor – i.e. prediction and control, post-deal involvement), and individual data on the respondents’ ten most recent investments (sector, stage, number of rounds, co-investment with formal venture capitalists, sales growth and employment growth since investment, financial outcome in case of exit…). It was pre-tested by following two consecutive steps: first we had in depth discussions with the presidents of two local angel networks, in order to make sure the questions and the vocabulary used were understandable by business angels and matched their investment practice, then we asked three angels to fill in the survey on-line. This process resulted in material improvements concerning the clarity and completeness of the survey instrument.

2.1.3. Measures

The measures needed to test our hypotheses are derived from the answers to the survey. The dependent variable (“growth”) is measured by asking business angels to report the

\(^\text{12}\) Apart from access through organized networks, which is a widely used method (e.g. Mason and Harrison, 2002), an alternative strategy called “snowballing” consists of identifying angels by using concentric personal networks (asking an entrepreneur, angel or VC which business angels he or she knows, asking these angels which other angels they know, etc…). Snowballing has also important limitations as one cannot be certain that the angels identified and willing to participate in a given survey have the same characteristics as the entire population.

\(^\text{13}\) Common method bias is common to almost any survey-based data collection. A careful reading of Podsakoff, MacKenzie, Lee and Podsakoff (2003) did not help us find a way to statistically test for such bias.
The average annual growth rate in sales of the investee company since they invested, according to four categories: (1) negative or no growth, (2) below 20%, (3) 20% to 100%, and (4) over 100%.

“Simultaneous co-investment with venture capitalists” is coded (1 = yes / 0 = no) based on the business angels’ answers. So are angels’ “entrepreneurial experience” (1 = some prior experience as an entrepreneur / 0 = no experience as an entrepreneur) and “same sector” (1 = the investment belongs to an industry sector in which the angel has some prior experience / 0 = otherwise). Year of investment as well as a 3-category measure of the company’s development stage (1 = early stage; 2 = growth; 3 = maturity) are used as controls.

The only multi-item scales we use are for prediction (4 items), control (2 items) and post-deal involvement (6 items). They are formative in nature (Diamantopoulos, Riefler and Ross, 2008). Items were developed based on the literature (e.g. Wiltbank, Read, Dew and Sarasvathy, 2009) and selected to fully capture each concept. Table 2 presents these items. They are measured using 7-point Likert scales and items’ scores are averaged to calculate each construct’s score, after careful examination of potential multicollinearity, which was found not to be an issue (Max VIF for prediction items = 1.068; Max VIF for control items = 1.566; Max VIF for post-deal investment items = 3.303).

Table 2. Items used to measure prediction, control and post deal involvement

<table>
<thead>
<tr>
<th>Prediction</th>
</tr>
</thead>
<tbody>
<tr>
<td>- When you gather information on the project, you study expert forecasts</td>
</tr>
<tr>
<td>- When you look at the forecasts for the project, you use them to establish the net present value of the company (discounted cash flows).</td>
</tr>
<tr>
<td>- When you evaluate the venture’s strategy, you study the strategy of competitors</td>
</tr>
<tr>
<td>- You base your decision to invest on the internal rate of return (IRR) of the project</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Control</th>
</tr>
</thead>
<tbody>
<tr>
<td>- When assessing the venture’s strategy, you think about the way you can contribute to it.</td>
</tr>
<tr>
<td>- You base your decision to invest in the project on the value added that you are able to deliver through your post deal involvement</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Post deal involvement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Please indicate your degree of contribution in the investee companies to each of the following activities:</td>
</tr>
<tr>
<td>- Bringing contacts</td>
</tr>
<tr>
<td>- Bringing knowledge about the markets and technologies</td>
</tr>
<tr>
<td>- Mentoring the venture’s managers</td>
</tr>
<tr>
<td>- Recruitment</td>
</tr>
<tr>
<td>- Financial management</td>
</tr>
<tr>
<td>- Operational support</td>
</tr>
</tbody>
</table>

Prediction and control are rather new concepts in entrepreneurial finance and their measurement is not clear-cut. In order to estimate them, Wiltbank, Read, Dew and Sarasvathy (2009) designed a multi-item survey built around an entrepreneurial scenario. In their questionnaire, the business angel was asked to project himself into the role of an entrepreneur willing to develop an opportunity based on an innovative computer program, and was then confronted with questions aiming at measuring how he would use prediction and control when considering the future development of this business opportunity. When building our survey instrument, however, we considered that what should be measured to meet our purpose is the actual

14. We use the same sector list when asking for angel experience and deal sector.
mindset and behavior of the business angel when he acts as an investor (i.e. studies an investment opportunity), by preference to his hypothetical mindset assuming he was acting as an entrepreneur considering a business opportunity, as in Wiltbank, Read, Dew and Sarasvathy. Assuming an angel’s specific role as a private investor is especially important for the purpose of our study, because we focus on co-investment practice with other investor-types (formal venture capitalists) based on the complementarity of their respective attributes. We hope therefore to be able to obtain a more precise measure of cognitive process (prediction and control) for informal venture investors when they act as a potential driving force in making co-investment a reality.

Following a formative approach, we derived items to measure prediction and control from theory. The introductory sentence of this part of the survey places unambiguously the respondent in an investor (vs. an entrepreneur) position (“Assume now that you have the opportunity to invest in a venture alongside (an) entrepreneur(s)”). The respondents were asked to indicate whether they agreed or not with the six propositions presented in table 2 (4 for prediction, 2 for control), using a 7-point Likert scale. In the actual survey, in order to avoid response biases, these items were presented in a different order and were mixed with seven other items relating to other cognitive dimensions of the investment decision.

2.2. Descriptive statistics

This study being the first rigorous academic survey of business angels in France, we first provide a description of the major personal characteristics of all sample 1 angels (124 respondents) and a comparison with the existing academic data, which mostly concern the US and the UK. In a second step, we expose the descriptive statistics of the variables included in the model to be tested on sample 2 (75 angels having made a total of 222 investments).

2.2.1. Personal characteristics of French business angels

Our data confirm the observation that the investment experience of French angels is rather recent: 75% of the 124 respondents have at least made one investment, 73% of which started to invest after 2006. They also suggest a lower average investment size than in the US and the UK. The cumulated investment per active angel in our sample (total since he/she started to invest) is below €50,000 for 60% of respondents; 17% indicate investing between €50,000 and 100,000, and only 6% above €500,000. This compares to an average investment per year of $71,000 in the US (Sohl, 2012) and £85,000 in the UK (Mason and Harrison, 2011).

Apart from investment size, our respondents’ characteristics are close to those reported in earlier studies in the US and the UK. They have an average age of 56. They are mostly men (94%) and 72% have a master’s degree. As previously reported in the US and UK, most business angels have an entrepreneurial background. Indeed, a majority of our respondents (52%) are entrepreneurs or former entrepreneurs and 69% have an experience as a CEO. Their professional background is mostly in industry: 58% indicate an experience in high tech industries, 40% in service and administration, 25% in low tech industries, and 18% in consumer goods and distribution. Asked on why they are business angels, they cite as primary motives “Helping young entrepreneurs to succeed” (average 6.0 on a 7 levels scale), “sharing my experience” (5.7) “for

15. Sohl (2012) reports that women represent 12% of business angels in the US.
17. Multiple answers were possible to this question.
the pleasure” (5.6) and “to learn” (5.2). Tax reduction and making money, although present, are granted less importance (4.1 and 4 respectively). This is consistent with the previous literature indicating that angels’ motivations are not merely financial and are more diverse than in the case of formal venture capitalists (e.g., Van Osnabrugge, 2000). However this result should be considered with caution as some responding angels may want to show (self-perceived) “noble” intentions rather than merely financial ones when responding to a survey. As we mentioned above in the introductory part, previous studies show that tax incentives do have an impact on the angel capital market.

As mentioned in table 1, the literature indicates that business angels are frequently control-oriented. They are described as interacting closely with investee companies, mentoring the entrepreneurs, acting as a “sounding board”, providing advice and contacts, and sometimes playing a significant role in strategic decision making (e.g. Harrison and Mason, 1999; Kelly and Hay, 2003; Wiltbank, Read, Dew and Sarasvathy, 2009). Asked on their post-deal involvement, our respondents cite as their main contributions to investee companies “mentoring management”, followed by “providing contacts” and “providing knowledge on markets and technologies”. However, their involvement level is diverse, given the specificities of network investing. When several of its members co-invest in a venture, which is the case in 87% of the deals in our sample, the network delegates one or two angels as “referent” in charge of monitoring the company. A third of the active angels in our sample declare being “referent”. In this case, they are very active, being generally board members and dedicating on average one day per month to monitor each investment.

2.2.2. Descriptive statistics for variables included in the model to be tested

The model is tested on sample 2 (75 angels from which we received exploitable answers on 222 investments). Four variables are related to angels.

- Entrepreneurial experience:
  - 42 angels (56%) declare having an entrepreneurial experience (N = 75).

- Prediction, control and post-deal involvement:
  - The descriptive statistics for these variables are presented in table 3.

Tableau 3. Descriptive statistics for prediction, control and post deal involvement (measures use 7 levels Likert scales)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Minimum</th>
<th>Maximum</th>
<th>Average</th>
<th>Standard deviation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prediction</td>
<td>72</td>
<td>1.25</td>
<td>6.50</td>
<td>5.01</td>
<td>0.89</td>
</tr>
<tr>
<td>Control</td>
<td>70</td>
<td>2.00</td>
<td>7.00</td>
<td>4.89</td>
<td>1.22</td>
</tr>
<tr>
<td>Post deal involvement</td>
<td>71</td>
<td>1.00</td>
<td>6.00</td>
<td>3.61</td>
<td>1.42</td>
</tr>
</tbody>
</table>

The three other variables are investment related.

- Same sector:
  - The angel had a previous experience in the same industry as the investee company in 74 investments (33.3%, N = 222).
Simultaneous co-investment with venture capitalists:

Simultaneous co-investment with one or several venture capitalists occurred for 33 deals (15.9%, $N = 207$).18

Growth:

The average annual growth rate in sales since the investment was performed is indicated in Table 4.

### Table 4. Average annual growth rate in sales

<table>
<thead>
<tr>
<th></th>
<th>Number of investments</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Negative or no growth</td>
<td>55</td>
<td>25.3%</td>
</tr>
<tr>
<td>Below 20%</td>
<td>96</td>
<td>44.2%</td>
</tr>
<tr>
<td>20%-100%</td>
<td>55</td>
<td>25.3%</td>
</tr>
<tr>
<td>Over 100%</td>
<td>11</td>
<td>5.1%</td>
</tr>
</tbody>
</table>

3. **Simultaneous co-investment as a lever of strong growth:** discussing the empirical results

In this section, we report the statistical analysis of our dataset. Our testing strategy relies on binary and ordinal logistic regression models, depending on the outcome variable. In the next paragraphs, we report our results and discuss the conclusions regarding our hypotheses.

We first hypothesized that business angels who share cognitive features with venture capitalists – i.e. who are high on the prediction scale – should be more likely to co-invest simultaneously with venture capitalists. To test this hypothesis, we perform a binary logistic regression modeling the effect of the level of prediction on co-investment with venture capitalists. We find this effect to be positive and significant ($B = .638; p = .024$). H1 is thus supported.

In our second hypothesis, we state that simultaneous co-investment by business angels and venture capitalists is expected to be associated with higher growth rates. The third hypothesis states that the cognitive proximity of business angels with entrepreneurs should be associated with higher growth rates. Cognitive proximity is supposed to be grounded in business angels’ control scores (H3a), entrepreneurial experience (H3b) or experience in the same sector as the one of the investee company (H3c). In order to test H2, H3a, H3b and H3c simultaneously, we estimate an ordinal logistic regression with (i) our 4-level ordinal measure of growth as the dependent variable, (ii) co-investment with venture capitalists, entrepreneurial experience and experience in the same sector as binary factors, and (iii) control as covariate. The year when the investment was made and the company’s development stage at the time of investment are also introduced in the model to control for any potential effect growth. Table 5 shows the results of the parameter estimates and associated significance tests.

---

18. A non-simultaneous co-investment with venture capitalists is reported for 29 deals.
Tableau 5. Results of the ordinal logistic regression model estimation

<table>
<thead>
<tr>
<th></th>
<th>Estimate</th>
<th>Std. Error</th>
<th>Wald</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-investment with venture capitalists = 0</td>
<td>-.776</td>
<td>.360</td>
<td>4.645</td>
<td>1</td>
<td>.031</td>
</tr>
<tr>
<td>Control</td>
<td>.123</td>
<td>.121</td>
<td>1.035</td>
<td>1</td>
<td>.309</td>
</tr>
<tr>
<td>Entrepreneurial experience = 0</td>
<td>.096</td>
<td>.287</td>
<td>.113</td>
<td>1</td>
<td>.737</td>
</tr>
<tr>
<td>Same sector = 0</td>
<td>.262</td>
<td>.288</td>
<td>.827</td>
<td>1</td>
<td>.363</td>
</tr>
</tbody>
</table>

NB: Year and company's development stage (controls) are not significant (p-values > .662)

Results show that deals with no co-investment with venture capitalists result in a significantly lower growth (B = -.776; p = .031), hence providing support to H2. However, no significant effect of control, entrepreneurial experience, nor sector is observed. Our results thus do not support H3: prior entrepreneurial experience and a strong control orientation do not appear to be related to growth. One possible explanation is that cognitive proximity between entrepreneurs and business angels in terms of knowledge base and cognitive process is not by itself a sufficient condition for growth. In fact, according to Spender (1994: 362), “the intention to grow is a necessary aspect” of the theory of the growth of the firm. However not all entrepreneurs necessarily feature an intention to grow.

Our final hypothesis positively relates business angels’ post deal involvement and growth. In order to test it, we selected the 45 cases in which the respondent was the “referent” business angel19 and we introduced the 6-item measure of post deal involvement as an additional covariate in the ordinal logistic regression model. The significant and positive effect of post deal involvement (B = 1.175; p = .044) provides support to H4.

Conclusion

Our study yields several interesting results concerning the growth of angel-backed ventures. We propose a theoretical model of co-investment and growth, which prominently features cognitive and behavioral variables to explain under what conditions business-angels co-invest simultaneously with professional venture funds and how such co-investment and other behavioral aspects of angel investing relate to growth.

We test the model on original data gained from the first extensive survey of its kind in the Rhône-Alpes region in France. The overall results confirm three out of four hypotheses. (1) Simultaneous co-investment is significantly influenced by business-angels featuring highly predictive cognitive process. This supports the idea that angels who score high on prediction bear some cognitive proximity with professional venture capitalists. For that reason, they are apt to translate entrepreneurial intuition of strong growth prospects into financial language, which is exploitable in the quasi-rational decision-making procedures of formal venture funds. (2) Of all angel-backed ventures, those where business angels and professional venture capitalists invest simultaneously produce the strongest growth rates. This confirms the complementarity of different investor-types in the market for entrepreneurial finance. The specific role played by business angels in supporting growth is most likely cognitive. Lacking the necessary financial resources to loosen the budget constraint of the strongest growth projects by themselves, angels can play

19. In charge of monitoring the investment for the network.
the role of a credible interpreter of promising opportunities to attract professional venture funds under uncertain conditions. (3) Beyond their initial impact on the decision to co-invest, certain angels also have a lasting influence on growth dynamics through their active post-deal involvement. We were not able, however, to show that the sharing of certain characteristics with entrepreneurs (control orientation, entrepreneurial experience, same sector experience) makes angels invest in the ventures with the strongest growth.

Our study makes several contributions to the literature. The first contribution is descriptive. To our knowledge, we conducted the first rigorous large-sample survey on business angels in France, allowing for a better appreciation of the universality or the contingency of certain demographic, cognitive and behavioral traits presented in the existing literature as being typical for business angels. Our own data confirm most of the characteristics found in prior studies in the US and the UK, but show a significant difference concerning the average size of funds invested, which appears to be much smaller in France than in an Anglo-Saxon setting.

The second contribution is conceptual, in that we propose a model of co-investment and growth essentially based on cognitive and behavioral arguments, which are hence assumed to play a central role in the market for entrepreneurial finance. Third, our tests confirm the empirical relevance of this model. Whereas existing research reports the complementarities between business angels and venture capitalists (Harrison and Mason, 2000), our study shows that simultaneous co-investment by these two investor categories is actually associated with higher growth rates. We also show that there is a positive relationship between post-deal business angels involvement and venture growth. Our study thus helps make progress to better understand the main sources of growth in a multi-investor scenario.

Acknowledgement

The authors thank Stéphane Jaumier for his valuable research assistance in the conception and administration of the survey questionnaire. They also thank the Grenoble Angels network for their support as well as all the responding angels.

References


COWLING M., BATES P., JAGGER N., MURRAY G. (2008), Study of the impact of Enterprise Investment Scheme (EIS) and Venture Capital Trusts (VCT) on company performance, Institute for Employment Studies, HM Revenue & Customs Research Report 44.


KNIGHT F. (1921), Risk, Uncertainty, and Profit, Boston, Houghton Mifflin.


