

## DO BUSINESS ANGELS LEARN (OR ARE THEY BORN THAT WAY)?

Ellen Farrell, Saint Mary's University, CANADA

### ABSTRACT

In this study, two major perspectives contrast the knowledge that angels bring to their informal investments and the knowledge that they learn as they conduct repeated investments. The *prior information theory* and the *theory of learning-by-doing* complement one another to provide well-rounded insights about angels' knowledge. A novel dataset permits the review of habitual angels' first and fourth investments, as well as a review of novices' first investments and habituals' first investments. Findings indicate that angels who go on to become habitual angels bring better investment practices to their first investment than novices do, however, habitual angels' ability to learn-by-doing is not significant. Educational interventions are necessary to help improve angels' abilities to learn in order to improve performance because more fully informed angels have profound impacts on the size of the angel/entrepreneur marketplace.

### INTRODUCTION

The antecedents and results of business angel activity are gaining interest as the magnitude of business angels' importance to the capital community grows, particularly in relation to estimates that indicate informal venture capital is many times the size of formal venture capital. Most recently, Sorheim (2005) pursued the value-added potential of habitual angels' financial acumen in a qualitative case study analysis, Wiltbank (2005) pursued their use of formal venture capital practices and performance, and Farrell (2005) investigated appraisal qualities that differentiate them from novices and that characterize successful exits.

Lightly scratching the surface of interest in habitual angel activity produces speculation that habitual angels learn from their previous investments and that they acquire an improved ability to assess and select investment opportunities as investment frequency increases. There are anecdotes of entrepreneurs who seek habitual angels because it is assumed the angels have improved insight due to their experience. A complementary conjecture posits that habitual angels are better equipped when they begin informal private equity investing because of a knowledge base or set of skills that differentiates them from novice angels or other investors. The latter mindset suggests habitual angels are better at what they do from the outset and they are therefore pre-disposed to making numerous (and successful) private equity investments.

These two central theories form the focus of this paper. The paper proceeds as follows. The next section defines and discusses the importance of the well-informed angel to the capital marketplace. How the angel becomes well-informed, their ability to learn, is central to the following discussion. Thus, the next section explores the perspective of learning-by-doing, a theory which stresses the accumulation of knowledge -- and subsequent improved performance -- by conducting a series of events which we refer to as experience. Following that, a complementary perspective suggests that prior information is the basis upon which some actors make risky decisions (such as angel investing) where others may decline the

opportunity. The paper makes propositions about angels ability to learn or use of prior information on the basis of the two theories. The methodology is summarized and the novelty of the dataset discussed. The results review the findings of the two perspectives. The paper concludes with a discussion of the implications of the findings, the limitations of the research, and the potential for future study.

### VAUE OF WELL-INFORMED ANGELS

Informational economics stresses the importance of equal information between buyers and sellers in order to have fully functioning, large marketplaces. This is because marketplaces characterized by uninformed buyers have a tendency to shrink (Akerlof, 1970). This phenomenon occurs because buyers, who are uninformed about the quality of the sellers in the marketplace, only offer average prices if they cannot assess the quality of the sellers. As a consequence, high quality sellers withdraw from the marketplace because buyers are offering only average quality prices. As high quality sellers withdraw, the overall quality of the marketplace declines and a downward spiral begins.

With respect to the angel/entrepreneur marketplace, the presence of uninformed angels may result in the overall decline in the size of the marketplace. If angels do not know (prior information), or do not learn (learning-by-doing), how to assess the quality of the entrepreneurial sellers, they will offer only average prices. Offers of average prices will cause the best entrepreneurs to withdraw from the market because entrepreneurs think business angels are demanding too much equity for their investments. As the best entrepreneurs withdraw from the marketplace, the overall quality of investment opportunities declines. Angels complain about the quality of the opportunities and entrepreneurs and entrepreneurs complain about angels. The marketplace shrinks. On the other hand, when angels are informed and know how to assess opportunities and deals, good entrepreneurs are coaxed back to the marketplace. Informed angels are those who know, or learn, how to assess the quality and value of the entrepreneurs and their respective opportunities. Akerlof's (1970) theory of the functioning of the marketplace suggests that informed angels, whether they acquire their learning or have prior information, can cause an increase in the size of the early-stage informal venture capital marketplace.

The presence of informed buyers is the central concept in the downward-, or upward-spiral of the industry. This begs the question of how an informed angel becomes informed, in other words, how do angels learn? Are they informed when they enter the marketplace, or do they learn during the process of a number of investment events. Learning from repeated investment events would be expected to reduce adverse selection and moral hazard over subsequent investment events whereas an *a priori* knowledge would suggest that business angels could have favourable results at the outset. Teasing out the relationships to these questions is the purpose of the next two sections of the paper.

### LEARNING BY ACCUMULATING EXPERIENCES

The definition and criteria for an "experienced angel" is still a matter of debate. Over the past 15 years they have been called entrepreneurial, serial, deal makers, and multi-investing angels. More recently, Sorheim & Landstrom (2003) refer to high-activity angels as "traders" or "pure" business angels' depending on their level of competence. Farrell (2005) argues that the primary distinction should be defined by those who invest, compared to those *re-invest*. Thus, her distinction rests upon those who invest once (novices), and those who *re-invest* (habituals). This study adopts the "novice/habitual" terminology familiar from the entrepreneurship literature (Westhead & Wright, 1998).

Studies of habitual angels have not thoroughly investigated learning which requires systematic analysis of subsequent events generally acquired via longitudinal data. However, personal interviews lead researchers to believe that there is a steep learning curve associated with angel investing (Van Osnabrugge, 1998). Cross sectional data attributes learning as the cause when serial angels' actions tend towards those of formal venture capitalists such as preferences for co-investing and investing in sectors where they have experience (Van Osnabrugge, 1998). The concept of the learning curve indicates that performance advantages accrue with repetition (Besanko, Dranove, Shanley, & Schaefer, 2004), and that individuals accumulate experience and knowledge with re-investment, thus improving their results.

The accumulation of a volume of experiences is associated with the perspective of learning-by-doing which is a dominant theory of learning in the entrepreneurial literature (Cope, 2005). This implies that the learning process is action oriented and that more frequent 'doers' are better than less frequent 'doers.' The importance of investigating frequent experiences is underwritten by the expectation that experience gained from previous ventures leads to reduced risk for future investments (Carter, 1999) and that lessons learned in previous situations ultimately improve future situations.

Formal venture capitalists' – who are experienced by definition -- perceive their learning to be positively related to their investees' performance (De Clercq & Sapienza 2005) although there is still no consensus on their valued-added (performance improvement) role (Arthurs & Busenitz, 2006). Thus, the better the investee performs, the more the venture capitalist perceives they themselves learn. This may be because positive outcomes ("home runs") are more rare than investment opportunities that incur losses, so a home run offers venture capitalists an opportunity to experience and learn from the relatively more infrequent event. The positive outcomes may be similar to non-linear and non-routinized critical learning events that precipitate higher-level learning rather than routinized, ordinary daily events (Deakins & Freel, 1998). Interestingly, trust, which has been associated with private equity investments, is negatively correlated with venture capitalists' perceptions of learning (De Clercq & Sapienza 2005). If trust discourages "penetrating discussions and information exchange" (p. 528), venture capitalists perceive that they learn less. Given that formal venture capitalists are overwhelming characterized by the cognitive heuristic of overconfidence (Zacharakis & Shepherd, 2001), these findings may not seem surprising.

Whereas formal venture capitalists do not perceive themselves to learn from unsuccessful investees, entrepreneurs cite failure as a critical dimension in learning (Cardon & McGrath, 1999). Individuals' attributions about the source of the failure can materially affect whether or not they can re-motivate themselves following a failure. Some entrepreneurs suffer a helpless reaction to failure whereas others attempt to develop a mastery reaction in an effort to develop their competence that establishes opportunities for learning. Pre-entrepreneurs who attribute their failure to effort, rather than ability, develop an attitude of mastery in order to overcome their failure and learn from subsequent events.

However, the entrepreneurship literature cites mixed evidence regarding the value of previous experience because repeated assessments fail to produce clear evidence that habitual entrepreneurs' businesses perform better than those of novices (Westhead & Wright, 1998) Previous experiences may not improve performance between one entrepreneurial venture and the next (Sitkin, 1992) may be explained by entrepreneurs who bring assets, but also liabilities, from previous ventures. Assets might include managerial, technical, financial and marketing skills and expertise useful from one business to the next. Liabilities, however, may include an inclination to treat new situations with previously learned methods that are no longer appropriate given changed circumstances (Starr & Bygrave, 1991).

Recent performance studies about business angels have used formal venture capital investing practices (largely unsuccessfully) to identify angel practices that are predictive of performance (Wiltbank, 2005). However, there is little information to guide us as to how angels learn, other than they often have entrepreneurial backgrounds and a dominant perspective of entrepreneurs is that they learn-by-doing (Minniti & Bygrave 2001). Though the evidence from the venture capital and entrepreneurship literatures, the theory of learning-by-doing suggests that if business angels repeatedly invest, they learn and their performance improves.

*Proposition 1: Angels learn by doing.*

*Hypothesis 1: Habitual angels' performance improves with subsequent investment experiences.*

## INVESTING WITH PRIOR INFORMATION

An alternative (but not mutually exclusive) perspective is that business angels come to the private equity investment arena with a better investment acumen and understanding of business because of significant entrepreneurial (Minniti & Bygrave), business or investment backgrounds. Entrepreneurial backgrounds provide useful experience, insights and knowledge prior to the outset of their investment careers. Norton and Moore (2002) advance a re-characterization of entrepreneurial behaviours from risky to informed by underscoring the asymmetry of two individuals evaluating the same project or opportunity when one has prior information and the other does not. They theorize that the apparent risks assumed by some individuals are actually informed decisions based on prior information.

In the private equity investment arena, this theory suggests that angels with prior information are more likely to make risky investments. Habitual angels have been observed to make investments in their own industries which are realms where they would be expected have prior information (Van Osnabrugge, 1998). From the outset, habitual angels may differ from novices in the amount of prior investment information they possess. The presence of prior information makes them more or less likely to be informed investors.

*Proposition 2: Angels with prior information demonstrate improved performance.*

*Hypothesis 2: Habitual angels demonstrate informed investment practices more than novice angels.*

## METHODOLOGY AND MEASURES

In the first stage of the research design, a random sample from the known population of newly incorporated firms in Atlantic Canada produced 1,059 respondents from a combination of telephone and postal surveys. The intent was to identify firms that had business angels in their capital structure. In the second stage of the research design, detailed surveys were sent to the directors of all 432 of the firms that indicated their firm had employed angel capital. A response rate of 28.7 percent was achieved (124 responses) and 34.6 percent of the respondents were angels (43). The specific merit of this methodology is that the number of incorporations is a known population allowing for true representativeness in the random selection process. Due to space economy, a detailed description of the methodology can be found in Farrell (2005). The highlights are presented in Table 1.

Detailed information was sought about their first four investments (not their most recent investments) so that changes in behaviour or outcomes that might indicate learning could be observed. Though this is not a longitudinal study, the information about each

investment is presented in the order in which they took place from the first investment on. Thus, these two features are two novel contributions of this dataset. The dataset produced by this protocol addresses two key issues regarding the nature of learning and how angels become informed. Firstly, learning theorists point out that in order for experience to turn into learning, reflection is necessary (Daudelin, 1996) and that years may be necessary to fully learn from a previous failure (McGrath, 1999). Capturing information indicative of learning requires scholars to investigate events that took place years ago and to follow current events into the future. Secondly, the data collection allows for the comparison of novice and habitual angels' first investments. Comparing novices first to habituals' most recent investment produces a lop-side, partial comparison at best (Rosa, Carter, & Hamilton, 1996).

A practical approach was adopted in attempting to derive measures that might be indicative of learning and performance improvement. At a theoretical level, business angels' ability to learn would be measured as the probability of adverse selection or moral hazard declines over a number of subsequent events. At a more practical level, learning may be measured by movements towards professionalizing their deal generation, value-added, monitoring and performance characteristics. It is postulated that they have learned if their actions become more professional and their ability to select investments and investees improves by way of improved performance. Three qualities highlight basic elements of informal investing that the discipline would agree are useful investment qualities: deal generation, follow-on or staging of commitments, and the value-added role of informal investors. Ultimate exit and performance results demonstrate the angels' improved abilities to select investments.

#### Deal Generation

Deal flow is a key quality to mitigate information asymmetries since it allows an angel to minimize their informational disadvantage by investing in businesses in which they have acquired experience or knowledge (Riding, Cin, Duxbury, Haines, & Safrata, 1993). Angel networks tout deal flow as a major benefit for their membership. Four measures are used to embody deal generation: the number of proposals reviewed, the total different method of deal generation engaged in, the amount of passive deal flow, and the amount of pro-active deal flow.

Deal generation is measured by the number of proposals reviewed in the year that the investment was made. Scope is a measure of the total number of deal generation methods used by an angel (from a list of 17). Passive deal generation refers to the considerable attention devoted to passive methods that angels use to find potential deals -- informants, business colleagues, acquaintances, friends and other types of referrers. Very little research attention is devoted to the pro-active methods which angels might engage. Passive and pro-active are indexes created from the list of 17 possible deal generation methods.

#### Follow-on/Staging

Follow-on finance is recognized as an important element of early-stage financing as young firms often need additional resources to enable their plans. Experienced angels are aware of this. Staging represents an understanding that the funds can be advanced as information about the firms' prospects is revealed. The knowledge to either stage, or provide for follow-on funds, is considered an important element that angels (Mason & Harrison, 1996) may learn given experience.

The angels' initial investment amounts are presented as a means of comparison for the amount of follow-on investments made by angels. The totals (computed by the author) are also presented.

## Value-Added/Governance

Angels' value-added contributions to investees are widely praised, and entrepreneurs are advised to seek specifically those who may be of best value to their firm or industry (Sorheim, 2003). Contributions by way of contacts, suppliers, customers, strategic advice, financing are intended to improve an investee's performance (Sorheim, 2005). Furthermore, the time angels spend with an investee may be viewed as an informal method of governance as well.

In this study, the proportion of angels' work weeks devoted to the investment is presented. This is complemented by the number of hours per week angels estimate they spent with the entrepreneur, or in board meetings. A similar value for the time spent at the company's location is also presented in hours per week. These measures also include the percentage of investees that are still in business.

## Performance

The ultimate outcome of repeated experiences and learning should be an improved selection of investment projects and entrepreneurs -- as a result of reduced adverse selection or possible moral hazard -- and culminating in improved performance. IRRs and multiples (calculated by the author) were used to assess performance. The previous measure's assessment of the firms' current business activity may be viewed as a performance measure as well.

## RESULTS

Of the 129 respondents to the detailed postal survey, 43 respondents were business angels. Twenty-three percent (23.3%) of the angels had made four or more informal investments. The oldest first investment dates back to 1978 and the oldest fourth investment dates to 1985. The median age category was 45 – 54. A total of nine angels provided significant detail about their first four investments providing opportunities to review in detail the changes that their experience has caused in their investment characteristics and their performance -- indicative of learning. Five angels were one-time novices who indicated they had no intention of re-investing. This group provides the comparison group for habituals' first investments.

### Learning-by-Doing Hypothesis

The learning-by-doing hypothesis (Hypothesis 1) is tested by comparing habituals' first and fourth investments. This analysis employs related samples analyses so the data take into consideration the differing perspectives of the same angel at different points in time. Therefore, only angels who provided answers to the same question in both time periods are included in the results. Most of the variables are metric so non-parametric Wilcoxon tests of related samples were used to compare the measures. One variable is dichotomous and its frequencies were assessed using McNemar tests. The left panel of Table 2 highlights the results of these investors' experiences.

In comparing habituals' deal generation characteristics, the first investments' proposal review increases from a mean of 3.44 per year to a fourth-investment mean of 18.38 per year in the year that the investment was made. This apparently large increase is actually due to one investor who changed their habits significantly. The medians for the first and fourth investments respectively are 3 and 4 investment proposals. For this sample, habituals' total number of different deal search methods (scope) decreased slightly from their first (4.75) to their fourth investment (4.25). This may be due to a decrease in passive deal flow methods

(from 61.43 to 58.57). Pro-active deal search methods increase slightly from the first to the fourth investment by persistent habituals (39.38 to 41.12).

Business angels in this sample made much larger initial investments for the first investment (\$148,778) than for their fourth investments (\$87,143). Fewer than half of investors made follow-on investments and that proportion did not increase by the fourth investment. The proportion of shares adopted by habitual angels on their first investment (43.96%) are larger than for their fourth investment (34.44%). However, on a dollar per share basis, their earlier investments are more expensive (\$4,019/share) than their later investments (\$3,401/share).

The value-added function of the business angel is a quality that ought to be sought by entrepreneurs. These business angels devoted 9.22 percent of their work week to their first investments which increased to 14.00 percent of their work week by their fourth investments. The number of hours per week spent in conversation with the entrepreneur or acting on behalf of the board barely changed from the first to the fourth investment (2.87 hours per week to 2.75 hours per week). In this sample, the number of hours spent at the companies' locations declined (from 2.14 hours per week to 1.00 hours per week). Of the first investments made by persistent habituals, 30 percent of the firms are still in business. Sixty percent (60%) of their fourth investments are still in business.

Lastly, regarding the learning-by-doing hypothesis, 40 percent of habituals exited economically from their first investment and 30 percent exited economically from their fourth investments. The average age of first investments was 16.7 years whereas the average age of fourth investments was nine years. Exiting non-economically meant an investment had gone bankrupt, closed, was living dead, or was aged more than 10 years. Multiples of 3.58 and .90 were calculated for the first and fourth investments. A much smaller number of investments showed positive IRRs because the time value on their money had made their returns negative.

In sum, it is noteworthy that, regardless of the direction of the movement in the variables demonstrated in these results, none of the results is significant. Many of the means move in the directions that would be expected for gaining knowledge about investing, however, none of them are significant. At this point, one may be inclined to dismiss the results on the basis that the detailed results for the fourth investments include only a few investors. However, the similar analysis was conducted with the first and third investments (which doubled the numbers in some cases), and likewise none of the effects of repeated experience were significant for that analysis as well.

#### Prior Information Hypothesis

The prior information hypothesis (Hypothesis 2) suggested that some angels become habituals because they come to the investment arena with better information. This was tested by investigating the same measure of novices (who made an informal investment once and who indicated no intention to re-invest) alongside habituals' first investments. This attempts to differentiate how their prior information may differ at the outset of their informal equity investments. Unlike the previous analyses, this is a cross sectional analysis of two independent groups. Most analyses are conducted using non-parametric Mann-Whitney U tests. The data for the prior information hypothesis are presented on the right panel of Table 2. For space economy, the results of the first investments of the habituals are not repeated.

With regards to deal generation, novices reviewed fewer proposals (1.17) than habitual angels did on their first investment (3.44). The overall numbers of different deal search behaviours reflect this (1.5) compared to habituals' deal search for prospective investees (4.75). This is undoubtedly due to novices complete disinclination to engage in any pro-active methods of deal generation (index of 0.00), a significant result. Novices' passive

deal generation (such as solicitations from entrepreneurs) (index of 40.00) are still lower overall than that of habitual angels' (index of 63.33).

In this sample, novices' initial investments were smaller (\$30,500) than their habitual colleagues (\$148,778) as was their application of follow-on (or staging) (\$3,750 compared to \$83,667). Novices took significantly fewer shares (12.13) compared to habituais (43.96). Novices' paid less per share (\$2,638/share) than habituais' (\$4,019/share) (calculations not shown) which may be attributed to higher valuations of the firms invested in by habituais.

In this sample, one-time novice angels spent three percent of their work week on their informal investments whereas habituais spent 9.22 percent of their work week. The amount of time novices spent with the entrepreneur or acting on behalf of the board was about half (1.52 hours/week) of that of habituais' (2.87 hours/week). Novices spent no time at the firms' location whereas habituais spent 2.60 hours/week, a finding that is weakly significant. Sixty percent of novices' firms were still in business at the time of the survey whereas habituais only had 30 percent of their firms still in business. The mean age of the novices' firms (4.8 years) is much younger than those of the habituais .

The two novice angels who had an economic exit had a mean multiple of .18. These multiples translated into negative results given the time value of money when IRRs were calculated. Habituais were more likely to be successful on their first investments with four economic exits returning a mean multiple of 3.58 times and one IRR of 200 percent.

The foregoing results for the prior information hypothesis (Hypothesis 2) suggest many indications in the expected directions. Habituais have prior information, about deal flow, value-added and monitoring roles, and pricing issues at the time of their first investments. A small number of variables were significant, or were weakly significant below the .10 level – a signal for further investigation in exploratory studies. Investment valuations attested by the shares assumed ( $p = .030$ ) warrants further attention since negotiations over valuations are often deal breakers. The pro-active deal flow generated by habituais' first investments ( $p = .058$ ) suggests that habitual angels come to their first investment with prior information about the necessity to search for information rather than awaiting their arrival on ones' desk. The indifference that one-time novices have regarding providing support (or monitoring activities) by way of spending time at the investees' locales ( $p = .079$ ) may be a result of novices' limited capacity to assist at the work space, or a lack of understanding that such an activity is useful from a monitoring and governance perspective.

## DISCUSSION AND IMPLICATIONS

This exploratory study investigates learning as it is reported by habitual angels (and suspected by scholars) which focuses on the improved performance possible with numerous experiences. Observations related to learning are undertaken by reviewing the related samples investments of persistent habitual angels' first and fourth investments. This is contrasted with an information-based theory of prior information which suggests that some agents engage in risky behaviours because they hold prior information which others do not. The prior information theory is tested by comparing investments of one-time novices with the first investments of persistent habitual angels and sets up a comparison for understanding the information that each group possessed when they came to make their first private equity investment. The sample was randomly derived from a known population. The number of persistent habituais and one-time novices is small, but very good response rates permit the use of statistical inference.

The sample shows that the investment characteristics of persistent angels' repeated investments move in directions that are generally accepted as learning. However, none of the



results related to learning-by-doing demonstrate any significant changes. The samples' advances by experience do not demonstrate substantial movement. It appears that if the data could be extrapolated out to more investments than four, improvements demonstrated in the sample would continue to improve. However, very few angels make five or more informal venture capital investments. Angels say the learning curve is steep (Van Osnabrugge, 1998), but possibly it is so steep that when angels are learning, they are never far enough along so as to be ahead of their next investment. Thus, the rate of learning may never surpass the angels' investment next investment event.

This finding has implications for the kinds of information derived from numerous private equity investment experiences. If the information is very specific -- though an angel has learned a lot -- it may not be the kind of information which is valuable to a subsequent investment experience. On the other hand, if the angel invests in a similar industry, product or technology, the highly specific information may be useful in subsequent investment experiences.

It is also possible that less specific information may be more useful for angels who are learning how to select and manage investment portfolios and their respective investees. Less specific information may related to the need to generate deals, appraise them, add value and monitor their investments in order to promote improved performance. It is important to know and understand the types of information that are necessary to promote successes because the current study shows that there are movements in these directions but they are not significant and the resulting expected improvement in investee performance is not apparent.

The prior information hypothesis results also has implications for the market of business angel capital. The differences in investment characteristics that are brought to first investments, rather than by repeated experiences, suggests that novices differ from habitual angels at the outset of their investment careers indicating some support for the prior information hypothesis. It is a heartening indicator that first-time habitual angels have significantly (and weakly significantly) better information upon entering their first investment. The increased amount of pro-active search and use of a variety of deal generation methods improves habitual angels' performance compared to novices. The higher price they pay per share may indicate their first ventures are more valuable with possible greater potential for success though this would be a fruitful area for further research. Furthermore, habituals' contributions to value-added, or efforts to reduce moral hazard concerns, by spending more time at the investees' locations have merit if performance is the desired result, keeping in mind that performance for the business angel almost always implies performance for the entrepreneur. Overall, this research indicates that habituals come to the investment arena with greater prior information (at least about investment practices) than do novices, but that the rate of learning by successive experiences is not enough to expect marketplace changes as angels struggle to achieve improved performance.

This has implications for policy-makers and entrepreneurs who are interested in the size of the marketplace for informal venture capital. As was outlined in the second section, when angels are better informed, or find a way to acquire information in ways that are not just via repeated experiences, angels' success rates will improve thus improving the overall size of the angel/entrepreneur marketplace. This downward spiral associated with poorly-informed angels is an eventuality that governments would want to avoid since the segment of the capital marketplace provided by business angels is the segment that is often assisted by government intervention.

These observations also have implications for the development of educational efforts aimed at business angels since prior information and repeated experiences are not enough to promote improved performance. Information required to promote learning effective enough to make the marketplace assessments noted by Akerlof's (1970) model can also be derived by

information acquired via outside interventions such as formal or informal educational situations.

As a policy priority, governments want to improve the ability of angels knowledge and capacity to learn about assessing entrepreneurial endeavours so that the size of the supply demand/ angel entrepreneur/ finance investee can increase in size. Whereas previous policy efforts have been devoted to making entrepreneurs “investor-ready,” it may be time to focus on educational efforts for business angels.

Longitudinal designs facilitate the ability to clarify relationships regarding learning and shed light on the acquisition, transfer and application of knowledge by one firm (De Clercq & Sapienza 2005) or individual. Although this study is not longitudinal, the nature of the data collection permits related samples analysis, and cross sectional analysis comparing first investments to first investments, thus attempting to correct for a number of issues addressed by previous studies. Future research could improve upon this study by increasing the sample size and conducting longitudinal research on angels’ investments as they occur. Given a sufficient period of time, comparisons could be made of the changes in their information regarding qualities and characteristics related to learning. There are a large number of theoretical perspectives on learning to be explored.

CONTACT: Ellen Farrell, Sobey School of Business, Saint Mary’s University, Halifax, NS, Canada, 902 420 5693; 902 420 5119; [ellen.farrell@smu.ca](mailto:ellen.farrell@smu.ca)

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Table 1 – Sample Design and Response Results

		Number	Percent	Sub-Set Percent
<b>Stage One</b> 1998 Telephone Survey 2000 Telephone Survey 2000 Postal Survey	Population Size	40,489		
	Sample Size	2,894	100.0	
	Non-respondents	1,805	62.4	
	Respondents:	1,059	37.6	100.0
	Firms with Angels	161		15.2
Firms Without Angels	898		84.7	
<b>Stage Two</b> 2001 Postal Survey	Sample Size – (directors of 161 firms with angels from three tiers of Stage One (48+82+31))	442	100	
	Non Respondents	317	71.7	
	Respondents:	125	28.3	100.0
	Angels	43		34.4
	Non-angels	82		65.6

