Returns to Angel Investors in Groups

November 2007

Robert Wiltbank, Ph.D.
Willamette University
Wiltbank@willamette.edu

Warren Boeker, Ph.D.
University of Washington
WBoeker@u.washington.edu

Financial assistance and support received
from the Ewing Marion Kauffman Foundation
and Angel Capital Education Foundation.
The views expressed are those of the authors.
We owe a tremendous debt of gratitude
to the angel group directors and angel
investors who generously shared
their experiences.

Seven percent of the exits achieved returns of more than ten times the money invested.

summary

Entrepreneurs and investors regularly wonder what the returns are in angel investing. The completion of this research project provides robust data on this subject that has never before been available.

Our findings in this study are based on the largest data set of accredited angel investors collected to date, with information on exits from 539 angels. These investors have experienced 1,137 "exits" (acquisitions or Initial Public Offerings that provided positive returns, or firm closures that led to negative returns) from their venture investments during the last two decades, with most exits occurring since 2004.

Analysis of the data revealed important details of the investment outcomes for angel investors connected to angel organizations:

- The average return of angel investments in this study is 2.6 times the investment in 3.5 years—approximately 27 percent Internal Rate of Return (IRR). This average return compares favorably with the IRRs of other types of private equity investment.
- The distribution of returns for this type of investment is quite varied. Like venture capital, "average return" may not describe the performance of most angels in the study. The analysis identified a wide range of performance for the investment exits in the study:
    - Fifty-two percent of all of the exits returned less than the capital the angel had invested in the venture.
    - Seven percent of the exits achieved returns of more than ten times the money invested, accounting for 75 percent of the total investment dollar returns.

We also evaluated three factors that appear to impact these angel investors' outcomes:

1. **Due diligence time:** More hours of due diligence positively relates to greater returns.
2. **Experience:** An angel investor's expertise in the industry of the venture in which they invest also is related to greater returns.
3. **Participation:** Angel investors that interacted with their portfolio companies at least a couple of times per month by mentoring, coaching, providing leads, and/or monitoring performance experienced greater returns.

One factor—angel or venture capital investors making follow-on investments in their portfolio companies—is related to lower performance, although additional research may be needed to better understand these results and the factors that affect them.

The angel investments reported in the study were in early-stage companies, generally in seed or start-up ventures. Forty-five percent of the companies that received financing from angels had no revenues when they received the angel investment.

This study also provides interesting statistics (detailed in the appendices) on the investors who belong to angel groups and the size, stage, and industries of the ventures that received funding.

It should be noted that the data and analysis in the report refer only to angel investors who are connected to angel organizations and not to all angel investors, as the differences between group and non-group investors are simply unknown empirically at this time.

background

Capital is a critical component of new venture creation. It comes in many forms: the sale of a car, a second mortgage or home equity loan, severance pay, credit cards, family, and—sometimes—from early-stage investors commonly known as angel investors.

Experts estimate that angels invest billions of dollars in thousands of new ventures every year, and they frequently are the first outside, arms-length investors that entrepreneurs trying to build their businesses engage. Understanding the strategies, tactics, and experiences of angels is critical because early-stage companies are far more likely to secure angel investment than to secure financing from formal venture capitalists. During the last ten years, formal venture capitalists invested less than 2 percent of total venture capital dollars in seed-stage companies.

Among angel investors, an important trend is the emergence of angel groups, in which individual investors team up to consider investment opportunities, share opinions and expertise about investments, pool their capital, and negotiate investments. Angel groups have increased in number by 67 percent since 1999, and the Angel Capital Education Foundation (ACEF) estimates that about ten thousand accredited investors now belong to 265 groups that play a critical role in the deal flow in their communities. In spite of this role, we still know little about how the practices of these group efforts impact the investment outcomes of angel investors.

Experts estimate that angels invest billions of dollars in thousands of new ventures every year.

methodology

This year-long study surveyed only group-affiliated North American angel investors to understand their pre- and post-investment strategies and the returns they earned from exited and closed investments between 1990 and 2007. The resulting data are the largest set of angel investor exits compiled thus far; and also are unique in that all of the participants are accredited under the Security and Exchange Commission's (SEC's) standards, which require a net worth of at least $1 million, annual salary of $200,000 for the last three years, or $300,000 salary between the angel and his or her spouse.

Collection of data about angel investors is complicated because there are no legal reporting requirements for such investors, other than their tax returns. We chose to work through angel groups, which enabled relatively efficient access to angel investors, but this does mean that generalization of these findings should focus exclusively on angel investors who operate as members of groups.

Researchers contacted 276 angel investor groups and asked their members to confidentially share their experiences as angel investors through an online questionnaire. Eighty-six angel groups participated. Thirteen percent of the members of those eighty-six groups, or 539 individual angel investors, responded. Although we would have preferred a higher response rate, it is consistent with many existing studies of formal venture capitalists. This survey approach has several methodological issues, including survivor bias (researchers received data only from people who continue to participate in angel investor groups, thus potentially missing data from angels who failed and left the groups) and self-selection bias (only people who have had positive experiences tend to share their numbers). We used information from seven of the eighty-six groups who responded at rates of 60 percent or more to evaluate the effects of any self-selection bias. If the self-selection bias were strong, we would expect the returns reported by high-response-rate groups to be significantly lower than the distribution from groups where few members self-selected to participate because the high-response-rate groups would capture more failed investments. We did not, however, find any significant differences in the distribution of returns between these high- and low-response-rate groups.

Our primary goal in this research was to identify the returns from investments made by angels affiliated with angel organizations. This is commonly assessed as the multiple of the sum of cash returned from a venture divided by the sum of capital invested in that venture by the angel investor (e.g., $500,000 returned on a $100,000 investment would be a 5X multiple). We gathered data from the angels on the amount of cash they originally invested in each venture, plus any follow-on investment(s), and the years in which they made those investments. Investors also identified the year and type of exit, along with the amount of cash they received back from the venture both during the investment period and at that exit event. These details form the basis of the multiples and rates of return reported in this study.

The exits detailed in this study are quite recent. Sixty-two percent of the exits or closures occurred after 2004, and only 8 percent of the exits occurred before 2000. Ninety percent of the initial investments occurred after 1994, and 65 percent were initiated after 1999.

Our primary goal in this research was to identify the returns from investments made by angels affiliated with angel organizations.

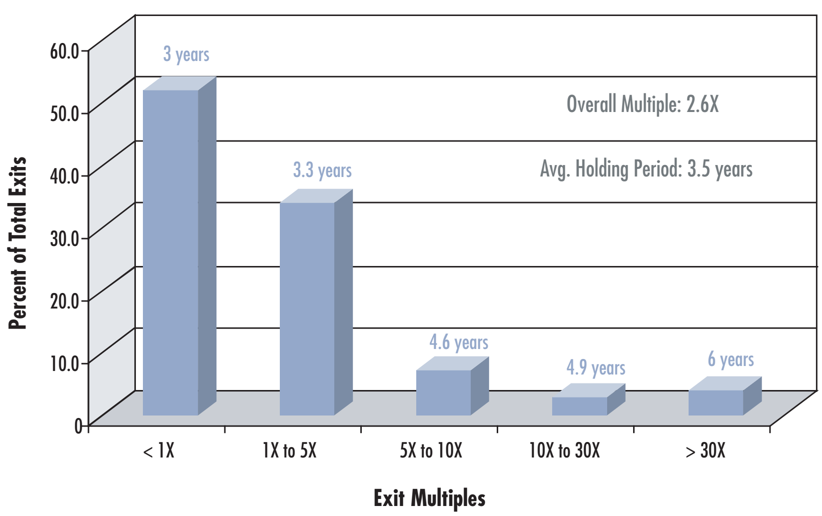
distribution of group-affiliated angel returns

While overall returns on group-affiliated angel investments average to a 2.6X return on investment after 3.5 years, the outcomes are not evenly distributed among the investors and ventures.

- Forty-eight percent of all the exits returned more than the capital the angel had invested.
- Seven percent of the exits achieved returns of more than 10X.
- While only 48 percent of venture exits had at least a 1X return, 61 percent of investors had an overall multiple of at least 1X, showing the advantage of making multiple investments (that is, maintaining a portfolio).
- Of course, this means that 52 percent of all venture exits are at a loss, and 39 percent of the angel investors in this study had portfolios of investment exits with a less than 1X multiple.

The accompanying chart details the distribution of returns across growing categories of multiples.

Distribution of Returns by Venture Investment



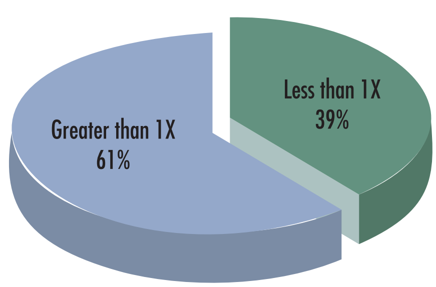
Sixty-one percent of angels in the study had portfolio returns that were greater than the capital they invested.

Of particular relevance to investors assessing the relative risk of angel investments, the skew demonstrated in the chart on page 3 is comparable to that of formal venture capital investing. The data show declining occurrences of higher returns, even though the categories expand in size (i.e., 1X to 5X is a more narrow category than 10X to 30X). The top 10 percent of exits account for 75 percent of the total cash returns in the sample.

The chart also shows that returns varied with the amount of time an investor held an investment. In line with the saying, "lemons ripen faster than plums," typically, the length of time investors held their investments increased with each level of positive return; analysis indicated that it is not unusual for group-affiliated angels with strong returns to hold their investments for more than ten years. While the average hold period was 3.5 years, exits with a less than 1X multiple took only three years to achieve that result. The average years to exit were 3, 3.3, 4.6, 4.9, and 6 years, demonstrating the importance of patience and non-liquidity in angel investing.

Returns to the portfolios of each of the 539 angel investors provide additional insight. While 52 percent of the exits resulted in a less than 1X multiple, the angel investors' portfolios brought that down to 39 percent of the angel investors who had an overall multiple of less than 1X. These small portfolios of early-stage investments significantly improved their prospects of overall positive multiples. The returns also are concentrated when looking at the outcomes from the angel investor perspective (rather than individual venture exit); the top 10 percent of angel investor performers earned 50 percent of the total capital returns in this sample. These distributions of returns show that making successful angel investments is challenging, but an investment approach across multiple companies can lead to attractive returns.

Overall Multiple by Angel Investor



strategic choices and the distribution of returns

In addition to this historical picture of group angel investor outcomes, some strategic questions also reveal useful patterns. For example, does the extent of due diligence matter in relation to the outcomes experienced? Does the extent of angel investor interaction with the venture relate to the outcomes? Is it more effective to put capital into follow-on investments in existing deals, or into a larger number of ventures? Patterns in the distribution of outcomes can shed some light on the relationships these choices have on group angel investor returns.

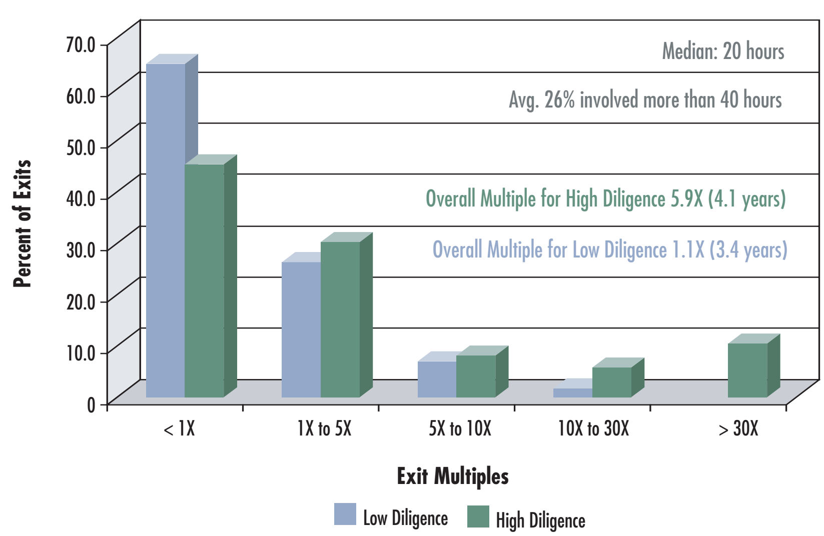
Due Diligence Time

To assess the role of due diligence, each respondent was asked how many hours of due diligence he or she performed for each investment. Angel investors reported the median length of due diligence prior to investing was twenty hours. Enough investors went far beyond the median that the mean (average) length of due diligence was sixty hours per investment. For comparison, formal venture capitalists may spend several months on due diligence, though the actual number of hours spent working on diligence for a single venture investment is less clear. It is worth noting that length of time may not be the only important factor in due diligence; future research may explore methods to assess the quality of due diligence rather than just the quantity.

Spending time on due diligence is significantly related to better outcomes. Simply splitting the sample between investors who spent less than the median twenty hours of due diligence and investors who spent more shows an overall multiple difference of 5.9X for those with high due diligence compared to only 1.1X for those with low due diligence. Sixty-five percent of the exits with below-median due diligence reported less than 1X returns, compared to 45 percent for the above-median group. The differences become more stark when comparing the top and bottom quartiles of time dedicated to due diligence. The exits where investors spent more than 40 hours doing due diligence (the top quartile) experienced a 7.1X multiple.

Angel investors reported the median length of due diligence prior to investing was twenty hours.

The Impact of Time in Due Diligence

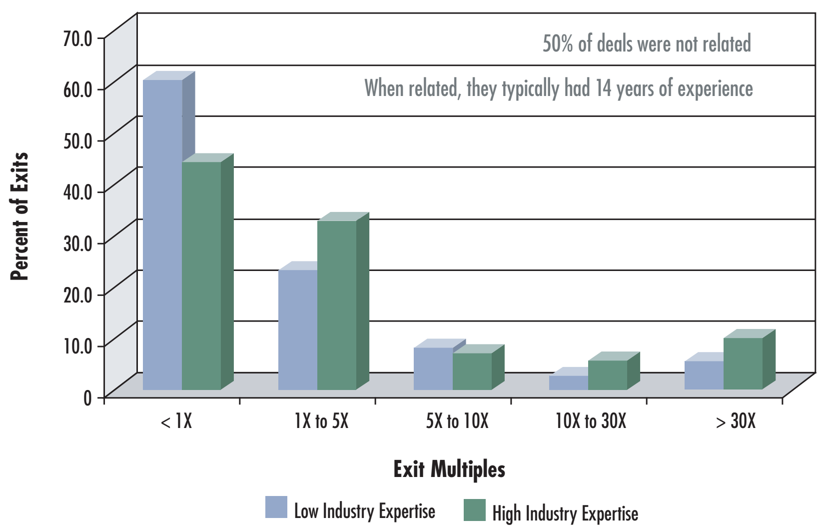


Industry Expertise

A choice facing angel groups is the extent to which they will invest within or beyond the areas of industry expertise of their member angels. Focusing investments in a single industry or on a particular product may simplify their due diligence work and lead to more insightful evaluation of the factors critical to the venture's success, as well as provide opportunities for connecting that venture to new talent and opportunities. However, geography or business conditions may not bring deal flow to the group that allows it to capitalize on its talent or experience. Angel investors may have more opportunities to invest outside, rather than inside, their areas of expertise.

Investors reported their years of experience in the industry of each venture in which they invested. The study indicates that half of the investments made were unrelated to investors' industry experience. When ventures were related to an angel's expertise, the angel typically had fourteen years of relevant experience. Analysis indicates that expertise had a material impact on angel investors' earned returns. Investment multiples were twice as high for investments in ventures connected to investors' industry expertise.

Relationship to Industry Expertise



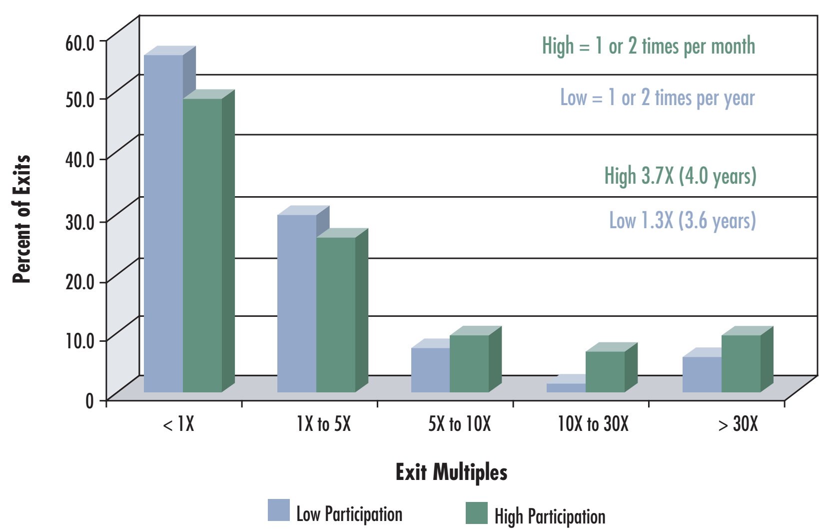
Participation (Interaction with Portfolio Companies)

After an angel makes an investment, his or her participation in the venture—through mentoring, coaching, financial monitoring, and making connections—is significantly related to that venture's outcomes. This study measured the frequency of post-investment participation for each investment on a scale from daily through weekly, monthly, quarterly, annually, or rarely/never.

Respondents reported meeting with each venture a couple of times per month (between weekly and monthly) on average. Angel investors reported their primary activities included mentoring/coaching, strategic consultation, and monitoring financial information.

In the data collected for this study, angel investors who interacted with the venture a couple of times per month experienced an overall multiple of 3.7X in four years. In contrast, investors who participated a couple of times per year experienced overall multiples of only 1.3X in 3.6 years. This relationship does not necessarily mean that participation beyond a couple of times per month would be better. Rather, as frequency increases, the quality and types of participation become more important than the frequency of participation.

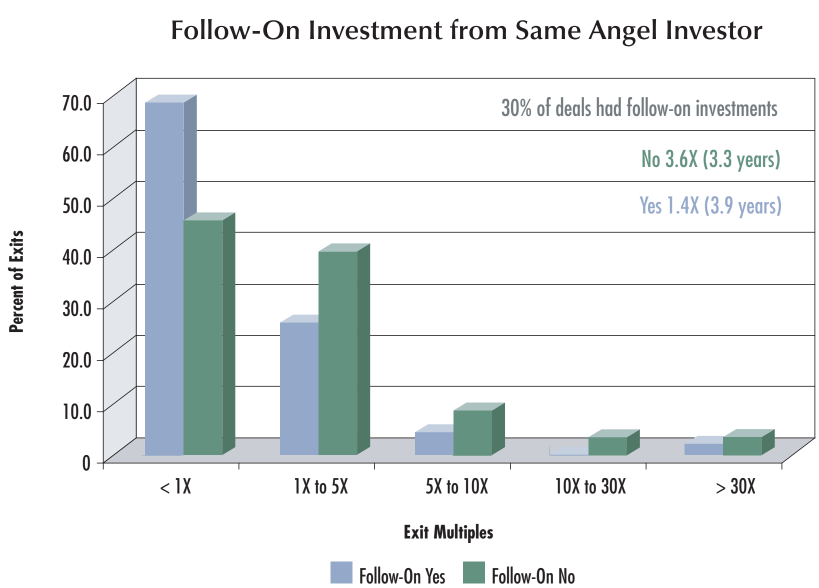
The Impact of Participation



Follow-on Investment

In this sample, angel investors made follow-on investment in 29 percent of the ventures from which they exited. Follow-on investments were related to lower returns. This is not a measure of whether any follow-on investment was made, just whether the same angel investor made a follow-on investment in the venture. Of course, the choice to not invest again to help keep a struggling venture going can immediately lead to its demise.

If the choice is to let a firm close or to follow-on with more capital, sometimes the follow-on investment still can be a good choice. To that point, the overall multiple for ventures that did receive a follow-on investment from the same angel investor is still positive, at 1.4X, but is lower than the 3.6X for those that did not take a follow-on investment. It is risky to make follow-on investments, however. In this sample, 68 percent of the exits that took follow-on investments resulted in a loss of capital.

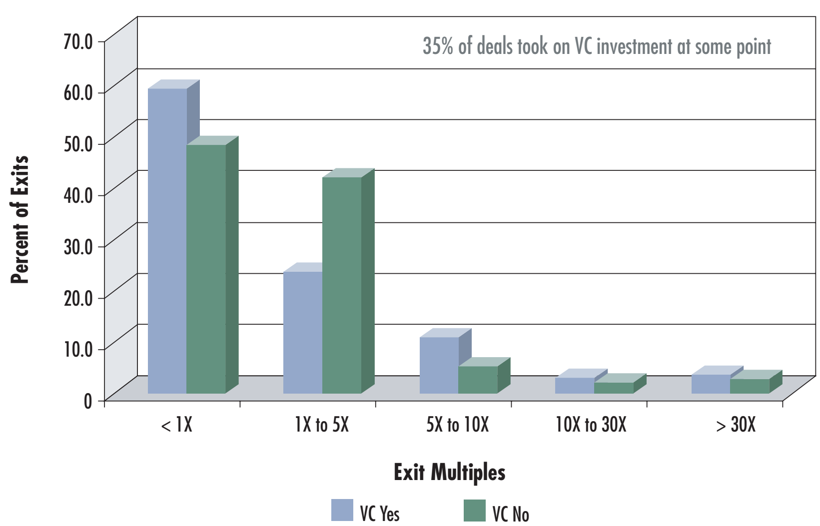


Formal Venture Capital Involvement

Angel investors and entrepreneurs make choices about whether and how to involve formal venture capitalists in a venture. Strategic choices about how fast to grow, how to finance that growth, and when to exit the business are tied up in the decision to involve VCs. In this sample, a relatively large 35 percent of the ventures took on venture capital investment at some point after the investment by the angel investor. This, of course, begs the question of how VC-backed ventures in which the angels were involved performed relative to their ventures where VCs did not invest.

Overall, the multiples for the ventures that took on formal venture capital were not significantly higher than for those that had no investment from venture capital firms. There was, however, a marked difference in the distribution of their returns. As shown in the chart below, those exits where VC investment occurred had a more extreme distribution, with more failures and larger exits than those where VCs were not involved. The latter tended to fail less but have more exits in the 1X to 5X category.

Venture Capital Involvement



conclusion

This research represents the largest empirical study of the investment returns to angel investing, and sets a benchmark on returns and performance factors for angel investors connected to angel groups.

As a group, the risk taken by these angels is rewarded with overall returns—2.6X in 3.5 years—that are fairly attractive. This research also indicates that angel investors may positively influence their rates of return by making wise decisions about due diligence, avoiding ventures in unfamiliar industries, follow-on investments, and productively participating in the ventures post-investment. We hope that additional research into the specifics of due diligence and participation, as well as the factors that lead to better follow-on investment and more effective connections to formal venture capital will continue to refine the understanding and the practice of angel investing.

While angels' average multiples compare favorably with other equity investments, the range of outcomes demonstrates that angel investing is a risky undertaking. As with other forms of equity investment, relatively few ventures earn very large returns. In any particular venture, an angel investor is more likely to lose than to make money, and a significant portion of the angel investors in this sample experienced a return less than 1X.

While clearly not for the faint of heart, this research suggests that angel investing can be done well in the pursuit of legitimate financial returns.

appendix

appendix

Characteristics of Investors in Angel Groups

The typical group-affiliated angel investor has been investing for just over nine years on average, and has made slightly more than one investment per year. The results reported above are based only on those investments from which the investor has exited (those that have closed, been acquired, or entered the public markets). Most investors continue making new investments and have open investments at the time of this study.

This sample of group-affiliated angel investors consisted of 86 percent male participants who were, on average, fifty-seven years old. Ninety-nine percent of them hold college degrees; more than half hold graduate degrees.

Entrepreneurial experience is the norm among the investors in this sample. On average, they have operated as entrepreneurs for more than fourteen years and founded nearly three ventures in that time. Twenty-two percent of the investors in this sample had never worked in a large corporation.

Investment Characteristics

Timing of Angel Investment: The information collected in this study allows for analysis of the details of angel investments. One topic of interest is the level of development of the ventures in which angel investors will invest. This research found that these group angel investors made very early-stage investments:

- Thirty-four percent of the deals were done when the venture was in the seed stage, and 41 percent in the start-up stage. Angel investors reported conducting 18 percent of the deals in early-growth stage. Later-stage opportunities made up only 7 percent of the investments.
- Stage also can be viewed from the perspective of whether a venture is pre- or post-revenues prior to investment. In this sample, 45 percent of the ventures had no revenue at the time these group angel investors made their investments, and the median revenue for all of the ventures at the time of the angel investment was only $125,000. By any standard or definition, these angel investors are engaged in very early-stage investments, significantly earlier than formal venture capitalists typically invest.

Investment Sizes: Each individual investor's median investment was $50,000, and the mean investment was $191,000, per venture. This includes all follow-on investment plus the initial investment, though follow-on investing was relatively rare in this sample. These angel investors put additional money into the same venture in only 29 percent of their investments.

Industries: The industries of the investments in this sample reflect venture investing in broad terms. The numbers here represent the percentage of total exits in this sample. As in traditional venture capital, software is the lead component, followed by health care and biotech investments. Given the overlap with other venture investing, it appears that industry differences are not a major factor in the returns found in this sample.

Industry of Investments

19%	Software
18%	Health/Biotech
16%	Business Products & Services
15%	Consumer Products & Services
12%	Hardware
12%	Other
7%	Media/Entertainment

Ewing Marion
KAUFFMAN
Foundation

ANGEL CAPITAL
EDUCATION FOUNDATION

EWING MARION KAUFFMAN FOUNDATION
4801 ROCKHILL ROAD
KANSAS CITY, MISSOURI 64110
816-932-1000
www.kauffman.org

ANGEL CAPITAL EDUCATION FOUNDATION
Founded by KAUFFMAN
8527 BLUEJACKET ST
LENEXA, KS 66214
913-894-4700
angelcapitalassociation.org

110700 JP