

## Is angel investing worth the effort? A study of Keiretsu Forum<sup>†</sup>

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This paper provides a case study of Keiretsu Forum, a Silicon Valley-based angel group. Computing an internal rate of return for the group's investments reveals that they generated higher returns than could have been obtained from the broader equity market as measured by popular index funds. Perhaps more important, this study also indicated that the processes developed by and regularly used by the angel group are effective at identifying potential failed deals but are not so restrictive as to bypass potential winners.

**Keywords:** angel investing; venture capital; early-stage investment; investment risk; returns

### 1. Introduction

One of the most difficult aspects of starting and growing a new enterprise is acquiring capital. Lack of funding can lead to cash flow problems, missed opportunities, and even the failure of the fledgling enterprise (Van Auken 2002). Funding for many new enterprises comes from a large, yet relatively unidentified, group called angel investors. Angels are the principal source of capital at the seed and startup stages of companies (Baty and Sommer 2002) and invest in significantly more businesses at this stage than do venture capital funds. Moreover, angels have three times more capital available to be invested than commitments made (Van Osnabrugge 1998). In spite of their importance, the dynamics of angel investing have received relatively little attention from researchers than the effect on economic growth should warrant.

This study is one of the few to examine the returns from angel investing and one of the first to investigate the dynamics of angel investing groups. The focus is on the returns from the investments made by a Silicon Valley-based angel group, Keiretsu Forum, and the processes used by the group to obtain those returns. Understanding the risks, returns, and dynamics of angel investing should encourage greater participation in the early-stage investing ecosystem and foster economic growth (Morrisette 2007).

### 2. The importance of angel investing

The term 'angel' comes from the theater in New York during the early twentieth century. Investors in Broadway shows would make high-risk investments to produce

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shows both to earn financial returns and to gain status in the community. Today, the term ‘angel’ usually refers to high-net-worth individuals who make investments of time and money to help startup companies through their initial stages of growth (Lange, Leleux, and Surlmont 2003). Entrepreneurs financed by angel investors develop and introduce new technologies, products, and services that lead to the creation of the majority of new jobs in the economy (Wetzel 1987). In turn, these innovations generate economic growth through cost reduction or additional production (Proimos and Murray 2006). Studies of the innovation process have found that in no case has the leader in a market led a radical innovation (Preston 2001). Most revolutionary breakthroughs have come from firms with fewer than 500 employees. Small companies are more effective in producing innovations that have high value and can create new markets or can change old ones (Baumol 2004). The performance of early-stage investment capital and the companies that they fund should therefore be a concern for entrepreneurs, investors, and public officials.

Investing in early-stage companies involves risk. Understanding the risk that angels incur and the returns they receive have historically posed problems for researchers. Angels may invest for non-economic reasons and so may not behave like rational investors in economic terms. Angels have also been hard to investigate because many make only single investments or invest infrequently. Many angels do not understand the returns from their investments. Understanding more about how angels invest, and the returns that they achieve is therefore one of the key priorities for research.

### 3. A theory of angel investing

Research on angel investing is based on two theoretical areas, entrepreneurship and equity investing (Wiltbank 2005). Equity investing, in turn, is based on a combination of financial theories. These areas include diversification and portfolio theory as developed by Markowitz, Tobin, Sharpe, and others (Markowitz 1952, 2005; Sharpe 1964; Tobin 1958). Agency theory (Jensen and Meckling 1976) helps guide not only investment decisions but also ownership criteria and incentives for entrepreneurs. Concepts concerning capital structure and liquidity have an impact on the amount of risk investors are willing to accept with the potential of earning higher returns.

The first theories about diversification in financial investments were developed by Markowitz in the early 1950s (Markowitz 1952). The heart of diversification theory is encapsulated by the saying about not putting all one’s eggs in a single basket (Markowitz 1999). Portfolio theory can be defined as a group of models that describe how investors make tradeoffs between risk and reward in constructing investment portfolios (Holton 2004). The basic idea behind Markowitz’s theory is that investors dislike risk and like return. Markowitz’s work formed the foundation for investors to understand how risk and reward are related.

The concept that drives the questions raised in the current research is William Sharpe’s capital asset pricing model (CAPM) (Sharpe 1964). Sharpe built on the work of Markowitz to show how investment risk comprises different components that are influenced by different forces. Since the initial development of the model, the CAPM has become one of the guiding ideas for relating risk and return. The CAPM has two major ideas that should influence investment decisions. The first idea is that return from an asset should be proportional to the risk of holding that asset.

The second is that two types of risk exist relative to the asset, market or systematic risk and non-market or specific risk. Market risk is the movement in the price of an asset caused by the movement of the market as a whole. Specific risk is the risk that is specific to the asset. In the case of angel investing, this would be the risk associated with the startup venture succeeding or failing. CAPM suggests that the market does not reward investors for assuming specific risk and that specific risk can be eliminated through appropriate levels of diversification. A primary example of the CAPM in action is the various index stock funds that seek to track performance of broad stock market indices at very low overhead cost to the investors.

The application of the CAPM faces several issues when it is applied to early-stage investments. The CAPM and many other theories assume the existence of perfect information, highly liquid markets, and low or zero transaction costs (Sharpe 2007). In the markets for publicly traded securities, information is readily available and financial reporting is standardized. Information about the markets in which companies operate and the products those companies build and sell is also well known. Trades of publicly held securities can be made almost instantaneously with low brokerage fees. The basic assumptions of these financial theories are not valid for angel investing (Sohl 2003a, 2003b). Privately held securities are illiquid and markets for the securities may simply not exist. The nature of the investment in an early-stage company results in high transaction costs. Those costs come not only from the legal requirements of placing private securities but also from the time needed to source investments, perform due diligence, and negotiate valuations and deal structure.

According to the CAPM, angels would not be rational investors. By investing in an early-stage company, angels are betting on the success of that company (Andersson 2005). Betting on the success of that company is accepting non-systematic risk. The return on the investment in the startup is largely influenced by the performance of the startup. Given the nature of angel investing, one can question whether any angel could make enough investments to diversify away specific risk. In essence, angels violate the CAPM by incurring specific risk with the hope of earning above market returns. One purpose of the current study is to examine the returns angels receive from assuming that specific risk.

Agency theory forms another strand in the theoretical framework. Agency issues occur when the interests of the owners and those of the managers diverge (Jensen and Meckling 1976). Angels frequently rely on relationships with the entrepreneur rather than contracts and legal requirements to monitor the investments. Asymmetric flows of information, potential misrepresentation of markets or capabilities, and potential for unnecessary operational risk are areas where agency issues may arise in young enterprises (Kelly and Hay 2003). To monitor this risk, angels can assume roles that are more active and involved than the usual roles of investors in public companies. Investments are also structured so that the entrepreneur maintains a large stake in the enterprise (Wong 2002). The active involvement of angels and the alignment of incentives may contribute to their ability to make better investments over time.

Research on entrepreneurship is also an important part of the theoretical framework. In many cases, angels are entrepreneurs who have been successful and who want to continue to be involved in building new enterprises. They have both the wealth and the experience to help young businesses grow (Wright, Westhead, and Sohl 1998). Angels need to have an entrepreneurial profile to continue to be

successful in their investing. Being proactive, innovative, and willing to accept risk are characteristics of an entrepreneurial orientation that angels need to possess (Lindsay 2004). Entrepreneurial firms are the focus of the investments of business angels. These firms have a vision and desire for growth as well as desire for innovation, a tolerance for risk-taking, and the ability to change (Sohl 1999; Van Osnabrugge 2000). Relatively little traditional venture capital goes to seed stage companies, and banks rarely lend to companies with little or no revenue and assets (Aernoudt and Erikson 2002). Like entrepreneurs, angels seek out arbitrage situations in which imperfect information and market opportunities exist. These situations provide for potentially high returns (Andersson 2005).

The paper seeks answers to two questions. First, how do returns from angel investing differ from those that could be obtained from investing in a broadly diversified index fund? Second, what processes do angel groups utilize that may make them more effective at screening and selecting potential investments than early-stage investors in general?

The first research question examines one of the central issues in angel investing. According to financial theory risk and return should be proportional. More specially, **CAPM holds that the market does not compensate investors for assuming non-systematic risk (Sharpe 1964). However, angel investors assume non-systematic risk in the hope of earning higher returns.** If angel investors cannot achieve higher returns than those that can be gained from investing in a lower risk, broad-based mutual fund, this suggests that **angels are investing for other reasons such as the desire to help entrepreneurs or other social functions that influence the investment decisions.** More fundamentally, if angels cannot get returns better than an index fund, why should they bother spending the time and the money investing in early-stage businesses?

The second research question asks whether angels and angel groups – even if they do not always make good investments – avoid making bad investments? Given the small number of investments that most angels make, a high degree of diversification to eliminate specific risk from the angel investments is not possible. If returns from angel investing match those of the broad market indices, can the procedures developed by angel groups help individual angels to avoid loss-making investments? Conversely, can the different backgrounds, knowledge and experience of angels in a group attract a diverse deal flow and assess those deals so that some diversification can be obtained if desired?

Angel groups are increasingly interacting with other groups in different geographies. This raises the question whether such collaboration can provide better deal flow for investors. The conventional wisdom states that angels only invest in companies in local geographies because of the difficulties of engaging with distant investee businesses. However, the communications and information management technologies that exist today enable this barrier to be overcome. The cooperation of angels in geographically dispersed groups might also lead to better control and communication mechanisms.

#### **4. Methodology**

The focus of this case study is on the investments that angels in Keiretsu Forum, based in Silicon Valley, have made in the period 2000–06. Focusing on the investment returns of an angel group overcomes the difficulties in capturing the

returns made by individual angels. The returns from investments are measured in terms of their internal rate of return (IRR). IRR is the discount rate that equates the present value of the expected or actual cash outflows with the present value of the inflows of cash (Kaplan 2003). IRR is widely accepted in the venture financing arena as a method for measuring the effectiveness of investments. The few existing studies of angel investment returns use IRR as a measurement of investment and portfolio return. The use of IRR provides the opportunity for comparison to other benchmarks (Aernoudt 2005; Mason and Harrison 2002; Wiltbank 2005; Wiltbank and Boeker 2007). The main difficulty in using IRR to track angel investments is that angels do not track IRR in a consistent manner, and many do not track return rates at all (Wiltbank 2005). Most of the data on investments and returns was in the possession of the management of the angel group. However, in some cases, the data on individual investments were missing or incomplete. In those cases, the data were obtained either from an angel who was involved in the investment or from the management of the company in which the investment was made.

The study compared the returns achieved by angel investors to widely used industry standard benchmarks, notably the Standard and Poor's 500 (SandP 500) and the NASDAQ Composite Index. The SandP 500 covers approximately 75% of the publicly traded equities in the United States and is weighted by market capitalization. Companies in the SandP 500 need to have a market capitalization of at least \$5 billion and more than 50% of the stock needs to be publicly available (Standard and Poor's 2007). The NASDAQ Composite Index measures all NASDAQ domestic and international common stocks traded on the NASDAQ exchange. The NASDAQ Composite Index contains over 3000 companies and covers many of the industries such as technology that are the focus of angel investing (NASDAQ 2007). Other benchmarks of market performance included mutual funds such as the Vanguard Index 500 and the Fidelity NASDAQ Composite Index Tracking Stock Fund. They represent opportunities for investors to buy an investment that mirrors the performance of those indexes (Fidelity Investments 2007; Vanguard 2007). Index funds such as these represent potential alternative investments that angels could make.

The second part of the study focused on the investment process that angels and angel groups use to assess its impact on the returns that angels achieved by eliminating bad investments and accepting good investments. The potential for making investment errors might be expected to be reduced through the collective mindshare of the group. Equally, it might be anticipated that the collective intelligence of the group's members would enable more effective investment decisions to be made. Members of Keiretsu Forum provided information concerning the investment process and the procedures used by the members to make investments. Other information on the process and sample forms used in deal screening and due diligence came from the group's website. Additional insight into the process was obtained by participating in the deal screening, member meetings, due diligence, and deal term negotiating sessions. The data were collected by conducting observations as a participant to gather field notes.

## 5. Keiretsu Forum

Keiretsu Forum claims to be the world's largest angel investor network. The term *keiretsu* is Japanese in origin and describes a group of companies working together

with interlocking relationships and wide reach and influence. This angel group adopted the name to convey the similar idea of people and companies working together to provide financing and resources in order to increase the chances of success for startups. In early 2008, Keiretsu Forum had approximately 750 members in 16 chapters throughout the world ranging from its origins in the Silicon Valley area to Southern California, the Pacific Northwest, Denver and internationally in Beijing, Barcelona, and London. Since the founding of the group in 2000, angels in Keiretsu have invested over \$180 million in 200 companies. Keiretsu Forum also has a strong social component and supports a charitable foundation (Keiretsu Forum 2008).

Keiretsu Forum differs from other Silicon Valley angel groups in that investments made by members of the group are not only in technology companies but also in consumer products, health care, life sciences, real estate, and other areas. Keiretsu is also different in that it represents a network of angel groups now spread over North America, Asia, and Europe. Each chapter is limited to 150 members. According to the angel group management, this network enables access to more capital than typical angel investments and deals syndicated across chapters are not unusual occurrences. Besides more capital, the network of chapters also provides access to resources through the members' personal networks. Deal flow for members can also originate from geographies outside the members' local area. The network of chapters also provides additional industry-specific knowledge and collaboration between members (Keiretsu Forum 2008). Investments typically range from \$250,000 to \$2 million. However, several investments were over \$2 million, including a few in the \$8 million to \$10 million range and the highest investment was over \$11 million. Individual investments range from \$25,000 to \$200,000. Members collaborate on sourcing deals, performing initial screenings, due diligence, and negotiation of deal terms. Over 30% of the investments made by Keiretsu members have come from members in different chapters and geographies. The larger deals tend to be those that were sourced from multiple geographies. Members make individual investments, and the group does not invest as a fund or create separate legal entities such as a limited liability company (LLC) as investment vehicles (Keiretsu Forum 2008).

The process used by Keiretsu Forum members to analyze potential deals and to make investments is well structured and operates on a monthly cycle. Approximately 100–200 companies apply to present to Keiretsu Forum chapters each month. Figure 1 provides a graphical description of the investment process.

Entrepreneurs seeking funding from Keiretsu Forum chapters first complete an application that is downloaded from the group website ([www.keiretsuforum.com](http://www.keiretsuforum.com)). The application provides summary information about the company, its markets and products, management team, boards of directors, and advisors, financials, and potential exit strategies. Completed applications are referred to members of a committee for initial screening. Committees are organized by subject area. Committees in April 2008 included Software, Health Care and Life Sciences, Real Estate, Telecommunications, Media and Entertainment, Automation and Instrumentation, Food and Beverage, Social Investing, and Energy (Keiretsu Forum, 2008). Two to four members of the appropriate committee meet with the applying entrepreneur via a teleconference with the goal of completing the pre-screening checklist. Results from the pre-screening are tabulated by the angel group staff, and the top 8 to 10 candidates then move to the deal screening phase.

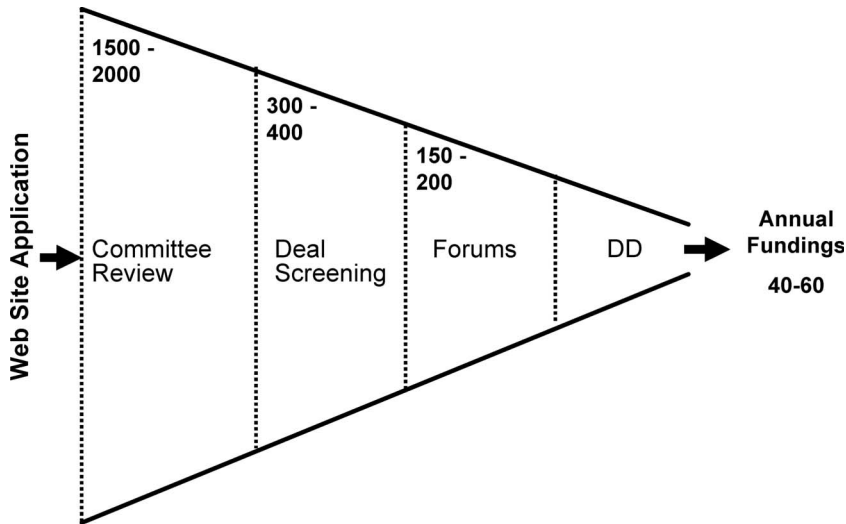


Figure 1. Keiretsu Forum investment process. Note: From Keiretsu Forum overview presentation, March 2008. Reprinted with permission.

In the deal screening phase, entrepreneurs meet face-to-face with approximately 20 members of the angel group that form an ad hoc deal screening committee for that particular month. During this meeting, the entrepreneurs have 15 minutes to present. Each session typically comprises a seven- to eight-minute presentation followed by a question and answer session. Given the time limitation, entrepreneurs are recommended to limit themselves to no more than 10 PowerPoint slides. After the entrepreneurs have given their presentations, the screening committee selects four or five companies to present to the entire chapter the following week.

Each chapter meeting in the four chapters surrounding Silicon Valley has an attendance of 70 to 150 people, comprising angel group members, other accredited investors, entrepreneurs, venture capitalists, and guests. Entrepreneurs present their potential investment opportunity in 20 minutes, equally divided between formal presentation and a question and answer session. After all entrepreneurs have presented, they leave the meeting and the group discusses the possibilities of each investment. The comments from the group are recorded and supplied to the entrepreneurs after the meeting. After the discussion, a list is circulated for attendees who are potentially interested in making an investment to express their interest.

From the interest list, a team is formed to perform due diligence. The due diligence team is specific to each investment and no standing due diligence committees exist. Angels on the due diligence team form sub-teams to analyze the investment from different perspectives. For example, angels with expertise in a specific technology may conduct due diligence on the technical aspects of an investment while the finance experts look at the company financials, deal structure, and other financial aspects. The due diligence process follows a structure developed and modified through experience. The results of the due diligence are then uploaded and stored on the Keiretsu Forum website where they can be accessed by all members.

At the end of due diligence, deal terms are negotiated between the angel group and the entrepreneur. Deals may take a variety of forms ranging from equity to convertible notes to loans. The structure of the deal varies depending on the amount raised, the stage of the company, and the potential need for additional investment at some later time. The last factor has an impact on deal structure because investors at this stage may prefer some form of convertible note that sets the valuation of the deal at a later date. This is often done to protect the investment of the angels. Keiretsu Forum members negotiate terms as a group. Term sheets and deal parameters are standardized across the group. However, investments are made as individuals with each angel making their own independent decision whether to invest and how much to invest.

While the process used by Keiretsu Forum members has the advantage of allowing flexibility in investment decisions and the potential for reducing transaction costs, the group loses its identity with the target company after the investment is made. Keiretsu Forum acts as a facilitator in the investing process but does not invest as a group. It is only the individual members of the group who invest in any particular business who have any post-investment involvement. This facet of the group structure has limited the ability of the group to track the results of investments in the past.

## **6. Investment returns**

### **6.1. Data analysis**

The data collection process attempted to use all available data from the angel group investments. Investments made in 2007 or later were excluded from the returns survey. An initial sampling of the 2007 and 2008 investments indicated that the length of time that had passed since the initial investment was not sufficient for an external event to occur in order to drive a valuation change. Some data were excluded because incomplete. Since Keiretsu does not invest as a group, there was no motivation for the management of the portfolio companies to report financials or changes in the company to the angel group. Over time, management changes and attrition in the angel group caused the connection between the angel group and the company to be broken. These data, less than 4% of the portfolio companies, were excluded from the IRR calculations.

Early-stage investments are represented by securities that are not publicly traded, and no pricing for the securities is readily available. To track the changes in the value of the angel investments, external events that caused a change in the valuation were used. This method of determining the value of an investment is consistent with the International Private Equity and Venture Capital Valuation Guidelines as developed and propagated by the International Private Equity and Venture Capital Valuation Board (International Private Equity and Venture Capital Valuation Board [IPEVCVB], 2006). An exit, such as an initial public offering (IPO), merger, or acquisition, provides an external event that provides a new value for the investment. Similarly, an investment in a startup company through a later investment provides a market validation. In the event that a company ceases operation, this external event causes the value of the company to be zero. In these cases, the event changes the value of the investment, but the change cannot be realized by the investor because of the illiquid nature of the underlying security. In the absence of any external events, the value of the investment was recorded as no change.

To compute IRR for the investments, four pieces of information were required. The date of the initial investment and the date of the subsequent change provided the time span of the investment, and the amount invested and the new value provided the absolute returns. From these four data points, IRR for the individual investments was computed. For example, an initial investment of \$100,000 made on 1 January 2003, that returns \$400,000 on 1 January 2008, would have a return of four times the initial investment. The IRR is approximately 32% or as usually stated, the investment returned 32% per year for five years. In a few cases, the exact date of the investment could not be discerned. Dates approximating the investment period were used with the effect of potentially understating the IRR on that investment.

Investments were grouped by the year in which the investment was made, sometimes referred to as the vintage year. Grouping investments by year was done to form a basis for comparison to an external benchmark. All the cash flows from those groups were combined into a single cash flow stream. From this cash flow stream, an IRR for the year was computed. Several reasons guide this approach. The first is an assumption that an investor has multiple choices as to the timing and amount of those investments. For the purposes of the current study, the hypothetical investor is making a number of investments and is interested in the total return from the resulting portfolio. The returns are staggered with different amounts and different dates making a simple average of returns meaningless. IRR serves the function of providing annualized rates of return (Johnstone 2008). An example may help clarify this situation. The previous IRR example yielded an IRR of approximately 32%. If a second investment of \$50,000 is made on 1 July 2003, and returns \$150,000 on 1 January 2006, the IRR is approximately 55%. A simple arithmetic average provides a result of 43% but provides an invalid answer because of the different time periods of the investments. Combining the cash flows from the two investments provides a more realistic estimate of 37% by considering the timing of the cash flows.

The IRRs for the SandP 500 and the NASDAQ Composite – two publicly traded index funds that were used as benchmarks – were computed using the differences in share prices. The cutoff date for returns was selected as 31 March 2008, because of the timing of the research.

## 6.2. Investment results

Using the approach described previously, over 120 investments in approximately 100 companies were analyzed. Table 1 provides the IRR on investments made in years 2000 through 2006. As noted above, investments made in 2007 or later were excluded

Table 1. Internal rate of return of Keiretsu Forum investments.

Year	IRR
2000	-2.01%
2001	17.25%
2002	13.28%
2003	8.49%
2004	16.99%
2005	12.25%
2006	20.13%

from the analysis based on the assumption that too little time had passed between the time of the investment and the time of the analysis to realize significant changes in the investments.

These returns represent a hypothetical portfolio consisting of Keiretsu Forum investments made in the years 2000 through 2006. The returns include investments returned to investors through initial public offerings, mergers, acquisitions, and other exits as well as unrealized returns from new valuation events such as later stage investments that either increased or decreased the value of the original investments. Included in the results are also any closures or bankruptcies where the value of the original investments was written down to zero. These returns are hypothetical since no single investor participated in all these investments.

Table 2 compares these investment returns with those that could have been obtained in the major market indexes. Two widely available index funds were used as proxies for the market indexes. The Vanguard SandP Index 500 Fund (VFINX) was used as a proxy for the SandP 500 index and the PowerShares QQQ fund (QQQQ) was used as a proxy for the NASDAQ Composite 100 index. The returns for the mutual funds assume that an investment was made on 1 January of each year and the investment was redeemed on 31 March 2008. To provide a comparison that more closely matches the kinds of investments one finds in the SandP 500 and the NASDAQ, the Keiretsu Forum returns without the real estate investments included are also provided.

Initial observations show that Keiretsu Forum angels would have outpaced the SandP 500 in five of the seven years and the NASDAQ Composite in six of the seven years under study. Some additional analysis of the individual investments indicates that the highest IRR obtained was 300% with the lowest as  $-100\%$ , a shutdown in which the investor lost the entire investment.

The Sharpe Ratio is used to assess how attractive an asset or a portfolio of assets could be, given the risk involved in holding the portfolio (Sharpe 2007). A Sharpe Ratio greater than 1 is generally considered to be an indication of an effective risk premium (Fulks 2001). Computing the Sharpe Ratio for the hypothetical Keiretsu Forum portfolio yields a result of 1.26. Removing the real estate deals from the portfolio yields a Sharpe Ratio of 0.78. By comparison the Sharpe Ratio for the same period on the SandP 500 and the NASDAQ Composite using the proxies previously described are  $-0.13$  and  $-0.12$  respectively.

While the comparisons between a hypothetical portfolio and the market indices are interesting, some additional analysis provides more useful and actionable information. As indicated earlier, two types of investing errors are possible. The first

Table 2. Comparison of Keiretsu Forum returns to major market indices.

	Keiretsu Forum	Keiretsu Forum – no real estate	SandP 500 (VFINX)	NASDAQ (QQQQ)
2000	$-2.01\%$	$-2.01\%$	$0.61\%$	$-8.77\%$
2001	$17.25\%$	$15.23\%$	$2.37\%$	$-3.51\%$
2002	$13.28\%$	$6.80\%$	$4.42\%$	$2.19\%$
2003	$8.49\%$	$4.82\%$	$10.17\%$	$12.34\%$
2004	$16.99\%$	$15.72\%$	$7.03\%$	$5.13\%$
2005	$12.25\%$	$8.52\%$	$6.05\%$	$3.54\%$
2006	$20.13\%$	$32.38\%$	$5.47\%$	$4.36\%$

error is the possibility that the angel declined to invest in a company and the company later provided unusually high returns. A second type of error is defined as a company in which angels invested and the investment was inappropriate because the company subsequently went out of business or entered bankruptcy. This would cause the investment to be written off and the angels would lose their investment.

The failure rate of new business has been estimated to range from 24% to 34% after two years, approximately 50% after four years, and approximately 60% after six years (Headd 2003). The overall closure rate in the Keiretsu portfolio for the period 2000–06 is approximately 20%. The failure rate of Keiretsu companies is lower than the overall failure rates for startups in general. These results indicate that the screening processes and due diligence are effective in reducing the number of potentially bad investments. Since not all angels participated in all the Keiretsu deals, the lower failure rate shows that a Keiretsu member has a better chance at not investing in a potential failure than those investments made in general.

An analysis was also performed on the companies that successfully passed the deal screening process, made presentations, and perhaps entered due diligence to examine the ability of the Keiretsu process to not pass on eventual winners. In the period 2000–07, approximately 22% of the Keiretsu funded companies had a successful exit in terms of an IPO, acquisition, merger, or similar liquidity event. Less than 5% of the companies that passed through the Keiretsu process that did not receive funding had similar liquidity events. While it could be said that not receiving funding from Keiretsu could cause a self-fulfilling prophecy to occur, the presence of over a dozen other angel groups in Silicon Valley would suggest that an entrepreneur with a promising business proposal should have been able to attract funding. Thus, it appears that the Keiretsu investment process with its established deal screening procedures, regularly scheduled presentations, a commonly understood due diligence process, and standard term negotiation, has been effective in identifying potentially bad investments but not at the cost of missing potential successes because of overly restrictive investment criteria.

## **7. Conclusion**

Analysis of the activities of Keiretsu Forum shows that the process and returns are inexorably linked. Given the increased risk associated with angel investing, a corresponding level of return should be present. Constructing a theoretical portfolio from the investments made by Keiretsu Forum members in the period 2000 through 2006 showed that the possibility of higher returns exists. In the period from 2000 through 2006, the theoretical Keiretsu Forum portfolio outperformed the SandP in five of the seven years and NASDAQ index funds in six of the seven years. Using the Sharpe Ratio to measure risk premium, the Keiretsu portfolio returns provided a risk premium higher than the index funds as well. These returns and the accompanying risk premium as indicated by the Sharpe Ratio generate a theoretical rather than actual case since no one angel has invested in every Keiretsu investment.

The Keiretsu Forum research confirms several existing ideas about angel investing and points the way to new trends. Keiretsu members, like many other angels, do participate for both economic and non-economic reasons. Besides the expectation of higher than market returns, Keiretsu angels participate in the charitable and social aspects of the group. Where Keiretsu breaks from accepted wisdom centers on geography. Unlike other angels or groups of angels, the network

of groups, now international, has the potential to increase the availability of capital, to increase the amount of information in deal sourcing and screening, and to decrease transaction costs.

Perhaps the most significant finding is the validation of the Keiretsu Forum investing process. The number of companies that have failed after being funded by Keiretsu members is more than half what one would expect. At the same time, the number of companies not funded by the members of the group that had achieved successful exits was one-quarter of the rate of companies receiving funding. What potential and existing angels and entrepreneurs can learn from this study is that the formalized processes used by angel groups creates better information flow as a result of working together to source deals, perform due diligence and create the best terms for investors and entrepreneurs. Moreover, by using Internet collaboration tools these individuals need not be in the same locality or even the same continent.

This study invites several areas for further investigation. Comparing the performance of Keiretsu Forum against the performance of other angel groups would answer the question 'Are some approaches to investing better than others?' and may provide insight to the effectiveness of the Keiretsu Forum processes. A second question would involve the size and scope of Keiretsu Forum relative to other angels. Formally testing the performance of Keiretsu Forum angels against angels who operate primarily alone or in small, close-knit groups may provide insight into the investing process, especially in the ability to collect and process information concerning investment decisions. Silicon Valley is perceived by some as having an ecosystem that is unique. Performing a similar study on groups in other geographies might indicate the influence of location on investment returns. Interestingly enough, as Keiretsu Forum becomes a global network and deals from other geographies begin to mature, Keiretsu Forum itself may be the source of such information.

Angels are not the only groups making investments in early-stage companies. Benchmarking the performance of angel groups against early-stage venture funds will indicate whether these different approaches to investing provide different returns, if any differences exist. Conventional wisdom holds that angel groups have neither the overheads of a venture capital firm nor the mandate to continually invest. Do these attributes or any other functional or structural attributes lead to a difference in returns? Research also shows that some angels invest for reasons other than financial returns. Venture firms, in theory, do not share the same motivations. Does the presence of these non-financial motives have an impact on the return of the angel investors?

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