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**Understanding Angel Investing in India – An Exploratory Study
based on Publicly Available Data**

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Abstract

Informal equity investing, of which angel investing is an important, if not perhaps the most important, constituent, has been around for a very long time in India. It has been gaining momentum in the past decade thanks to a number of factors, including that of the emergence of angel networks. However, the field of informal equity investing is relatively under-researched in India except for Rajan (2012). This paper attempts to improve the current understanding of the field in three ways. First, it endeavours to map out the investment activity that has been undertaken by a variety of angels, including some of the more prominent angel networks in India, and outline their approach to investing, examine their approaches in comparison to that of individual or other types of angels, to see if there are any distinctions. Second, it attempts to gather investment level data to draw a profile of their investment focus. Third, it profiles the kinds of investors who are active through the various angel networks. This paper is entirely based on information available in the public domain. Thus yet another purpose of this paper is to explore the extent to which information is available in the public domain, having recognized that this field of activity is as yet relatively un-regulated except in the case of those pools of investment capital that are regulated by the SEBI (Alternative Investment Funds) Regulation, 2012³, as amended. The paper is organised as follows. The first section reviews relevant research. The second section discusses the source of data and our approach to analysis. The third section presents our findings. The fourth section discusses the findings and points to potential for future research.

Keywords: Informal Equity Investing, Angel Networks in India, Institutional Venture Capital

Understanding Angel Investing in India – An Exploratory Study based on Publicly Available Data^{1,2}

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Informal equity investing, of which angel investing is an important, if not perhaps the most important, constituent, has been around for a very long time in India. It has been gaining momentum in the past decade thanks to a number of factors, including that of the emergence of angel networks. However, the field of informal equity investing is relatively under-researched in India except for Rajan (2012). This paper attempts to improve the current understanding of the field in three ways. First, it endeavours to map out the investment activity that has been undertaken by a variety of angels, including some of the more prominent angel networks in India, and outline their approach to investing, examine their approaches in comparison to that of individual or other types of angels, to see if there are any distinctions. Second, it attempts to gather investment level data to draw a profile of their investment focus. Third, it profiles the kinds of investors who are active through the various angel networks. This paper is entirely based on information available in the public domain. Thus yet another purpose of this paper is to explore the extent to which information is available in the public domain, having recognized that this field of activity is as yet relatively un-regulated except in the case of those pools of investment capital that are regulated by the SEBI (Alternative Investment Funds) Regulation, 2012³, as amended.

The paper is organised as follows. The first section reviews relevant research. The second section discusses the source of data and our approach to analysis. The third section presents our findings. The fourth section discusses the findings and points to potential for future research. The fifth section concludes.

1.0 Who are Angels

Standard text books on entrepreneurship such as (Sahlman et al (1999) and Timmons and Spinelli (2008) recognize angels as the first source of external financing once funding from founders, family and friends,

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³This is in addition to other extant regulations that govern the purchase and sale of equity shares in Indian companies by Indian as well as overseas investors.

often known as three Fs, has been exhausted. Sohl (2002) estimates that in the USA around 300,000 to 350,000 angels invest about US \$ 30 billion each year into about fifty thousand start-ups. There is a further suggestion that the angel market in the USA may be stabilizing at that level.

Shane (2009) defines an angel as “a person who provides capital, in the form of debt or equity, from his own funds to a private business owned and operated by someone else who is neither a friend nor a family member”. Further, an informal investor is defined as one who invests in businesses owned by someone else, including friends and members of family, unlike an angel. Macht and Robinson (2009) define angels as “private wealthy individuals who investment their money and experience in small, unquoted, entrepreneurial ventures.” Others such as Laszlo et al (2007) have tried to classify angels based on family connection and relationship or the absence of the same. Research on angels across various countries suggests that while the profile of angels varies a great deal across countries, they are generally high networth individuals who as suggested in Freear et al (2002) invest in entrepreneurial ventures as part of an overall portfolio. While by and large angels have traditionally been known to remain anonymous as pointed out in Benjamin and Margulis (2000), more recent trends are that angels work with venture capitalists as reported in Harrison and Mason (), Sohl (1999) and Kosztapulosz () and many other sources. The other important recent trend is that angel investing is becoming global as pointed out in Sohl (1999) and that angels are increasingly becoming part of angel portals as noted in Sohl and Sommer (2002). The heterogeneity of angels as a class of investors is suggested by the sheer number of classifications that has been attempted by researchers and practitioners.⁴

Shane (2009) proposes the following motivations behind angel investing: (i) to make money (ii) to get involved with private companies (iii) to learn new things (iv) as a hobby job (v) to find a job (vi) to help the community. Van Osnabrugge and Robinson (2000b) note that the pros of raising capital from angels are that they add value, are geographically dispersed, are more permissive investors, seek smaller deals in start-up and early stage situations across all sectors although they have a preference for high tech firms.

While examining the literature on angel investing it is important to note a few salient features of the available literature. Most of the research has been of an empirical nature. There has been very little theoretical attempt to explain the investment preferences or approaches of angels in their own right or in terms of how they differ from other private or public market investors.⁵ A notable exception to this is Osnabrugge (2000a). The second important feature is that the empirical research has been fraught with the problem of sampling, which has been noted in Wetzel (1983), Freear et al (2002), Harrison and Mason

⁴Evanson (1998) provides five classifications, Benjamin and Margulis (1996) classifies angels into nine categories and Gaston (1989) classifies them into ten categories [Source: Van Osnabrugge and Robinson (2000).]

⁵This is in sharp contrast to the investment activities of venture capital investors, a review of which can be found in Da Rin et al (2011).

(1992), Harrison and Mason (1994), Sorheim and Landstrom (2000), Colin and Harrison (2002) and Landstrom (1993). Finally, while the research has a high level of generalizability, given the importance of institutional structure of a country on angel investment activity it is useful to note what Harrison and Mason (1992) point out: “Although evidence from North American can provide some guidance on these matters, it would be foolhardy in view of the different entrepreneurial traditions, fiscal regimes, regulatory environments, strengths of the domestic formal venture capital and IPO markets and wealth distributions to assume that UK informal investors necessarily exhibit similar characteristics, motivations and investment behavior... .” A similar view has been expressed in Prowse (1998). This context-specificity of the investment activity is one of the features that persuades to study this phenomenon in the Indian context.

The Angel Investment Market

Sorheim and Landstrom (2000) note that several country studies point out that shortage of institutional venture capital has been seen to hinder the emergence of start-ups. Entrepreneurs have found it challenging to seek out prospective investors because angels have a strong preference for anonymity as noted by nearly all accounts of angel investing. This leads to early mortality of large numbers of startups, a phenomenon that has also been described as the Valley of Death in (). Colin and Mason (1992) propose that while this could be countered by the view that an unfulfilled demand for capital exists among small and growing ventures because of a realistic assessment of relevant risks, costs and rewards by the providers of capital the existence of imperfections such as information and transaction costs and the frictions to flow of capital due to stated strong preferences to invest in certain regions or sectors and limited competition point to a possible case of potential market failure which can be addressed by informal equity investors.

Mason and Harrison (2002), offer an alternate explanation for the mismatch between demand and supply of funds in the angel market. They find that there is a supply overhang of capital because the ratio of potential informal investors to actual informal investors is three to one. Thus the problem appears to be one of finding investment-worthy enterprises. They go on to suggest that consequently investors and entrepreneurs drop off the informal capital market. A similar phenomenon is reported from North America as that of the growing percentage of “latent angels” who are waiting to make investments in Sohl (2002). FOR A (2006) notes that 80% of OECD countries face shortage in early stage equity. The study notes that factors affecting the supply of early stage capital are risk aversion, investment preferences, need for anonymity, profiles of the investor, development of funds, prospects for returns, capacity for managing investments, regulatory framework and investment policies. Factors affecting demand are lack of investment readiness, cultural reluctance and entrepreneurial policies.

Lerner (1998) explains that venture capitalists are highly selective in committing funding to enterprises and confine themselves to certain geographies and industrial sectors. Further they prefer to invest larger sums of money in each company, leaving the market open for smaller investments in many industries and geographical regions.

Angels and Institutional Venture Capital (VC) Investors

Freear and Wetzel (1990) find that angels and VCs play complementary roles in financing new technology based firms in terms of the stage at which they invest and the size of the investments they make. Harrison and Mason () identifies and examines four different ways in which VCs and angels complement each other: (i) They financing different stages of development. Informal investors generate flow of well-developed deals for the VC industry while VCs provide follow on financing for angel funded deals. (ii) Co-investment (iii) Source of funds: Virgin angels, ie angels who have limited or no prior experience in direct equity investments may find it attractive to invest in VC funds. (iv) Deal referrals to each other.

However, there are many similarities and distinctions as summarized in the table below.

Differences between Angels and Venture Capitalists

Points of Distinction	Business Angels	Venture Capitalists
Personal	Entrepreneurs	Entrepreneurs
Firms Funded	Small, early stage	Large, mature*
Due Diligence done	Minimal	Extensive
Location of Investment	Of concern	Not important
Contract used	Simple	Comprehensive
Post investment engagement	Active, hands-on	Strategic
Exit	Of lesser concern	Highly important
Rate of Return	Of lesser concern	Highly important

The angel investment management process

The current level of understanding of the investment behaviour of angels has been neatly summarized in Freear et al (2002): “(D)espite all the good work that has been done we still do not know how the angel investing process works over time or whether it is the same for all industries or regions, let alone countries.” Prowse (1998) notes that angels are diverse in terms of their financial sophistication, entrepreneurial background, source of wealth and motivations for investing. Consequently the use of

governance mechanism varies a lot between more and less sophisticated angels. Wiltbank et al (2009) find that angels tend to adopt a non-predictive control based approach to investing, based on the principle of “affordable loss” as opposed to the predictive logic based on the principle of “expected value”. Osnabrugge (2000) arrives at somewhat similar conclusions and reports that the angel investor seems to adopt an incomplete contracts based approach to investment management and controls agency problems ex post. This may also be due to their poorer due diligence skills in contrast to VCs who as a financial intermediary needs to signal ex ante to their investors “responsible behavior” by way of their ability to generate and analyse superior information and through more robust contracts.

That said, the findings on post investment engagement of business angels have been mixed. Mason and Harrison (1996) find that angels’ involvement is strategic which requires more of business acumen rather than industry-specific experience. Macht and Robinson (2009) find from a study of nine angel funded companies that angel investments strengthen the balance sheet and add credibility, thus enabling the investee to raise debt funds. However the entrepreneurs in the study reported that many angels did not have any experience in the industries in which they operated.

Van Osnabrugge and Robinson (2000)⁶ identify the following stages in the investment process:



⁶The rest of this section is based largely on Van Osnabrugge and Robinson (2000).

Intermediaries such as referrers play an important part in facilitating early stage investments because early stage investors, both angels as well as VCs work with “poorly defined investment environments”.

Business angels probably work with deal flows of poorer quality and fewer deals because of their information and lead generation networks are not as good as that of venture capitalists. As a result, although angels are selective like venture capitalists their rate of acceptance is much higher than that of the latter. Various studies cite acceptance rates ranging from 6% to 22% to 60% -100% of investment opportunities examined by angels while there is greater consistency in 1%-2% acceptance rate reported in the case of venture capitalists. Angels seem to prefer deals that are referred by friends, business associates and lead investors in a syndicate whereas they trust less deals from attorneys, accountants and bankers and gatekeepers. The difference in acceptability between the two appears to be the proximity of the referee to the referrer, a trend similar to what has been observed in the world of venture capital. Specific investment preferences also help angels short list opportunities of interest more efficiently, even though angels do not tend to be as extremely focused on sectors of interest as their VC counterparts. Angels tend to invest mostly in early stage ventures as opposed to VCs. There appears to be some divergence across sectors on whether angels invest in sectors that they understand. But there seems to be evidence that angels do not carry out enough due diligence on the sector in which they are about to make an investment unlike their VC counterparts. Angels tend to rely on “gut feeling” and less on calculations of financial returns while making investment decisions unlike VC investors who lay emphasis on estimating expected returns. Finally, angels make their investment decisions almost independently whereas VC funds have a process and structure that governs their investment decision making. Many of the significant differences in the approach to investment decision making and management are attributed to the different kind of relationship between the investment managers in a VC fund and the investors in the fund whereas in the case of an angel network or in the case of individuals the angel is essentially committing his own funds. Negotiations with angels are believed to be less time consuming while VCs are believed to negotiate tougher contracts. Angels negotiate relatively simpler investment contracts with the funding being structured as equity. VCs on the contrary structure their investments mostly as convertible instruments and negotiate contracts that broadly address staging the committed capital and preserving the option to abandon, a compensation system directly linked to value creation and providing for a means to ensure that management distributes the investment proceeds. The differences in the terms of the contract are summarized in the table below:

Negotiation Differences	Business Angels	Venture Capitalists
Rigour of Negotiations	Informal	Formal
Length of negotiations	Short	Medium to long
Terms of Contract	Minimal	Extensive and detailed

Equity stake in venture	20%-30% average	20%-30% average
Exit provisions	Rare	Mandatory

Most Common Exit Routes for Angels from Investments that are not written off

Exit Route	Frequency Used (%)
Trade Sale of Acquisition	43.1
Sale of shares to other shareholders	26.4
Sale to third parties	16.7
Going Public (IPO)	12.6
Liquidation of Assets	1.3

Source: Mason and Harrison (1999)

In a 1999 survey Van Osnabrugge (1999) finds several critical differences between the criteria that they use in evaluating investment opportunities. These criteria vary considerably both at the level of the main broad category as well as that of specific categories.⁷

Angel Networks

It has been pointed out earlier that one of the key problems in the world of angel investing has been that of high search and information costs in terms of investors and entrepreneurs locating each other. This problem has been sought to be addressed through the formation of angel networks which essentially attempt to bring the entrepreneur and the investor together. Sohl (2002) notes that the number of angels participating in angel groups is increasing and that angel ports have emerged as the predominant mechanism for bringing together seekers of capital, namely entrepreneurs and providers of capital or investors. Mason and Harrison (2002) suggest that angels may become members of business angel networks to augment their networks or because they have smaller sums to invest or because they are based in remote locations. Van Osnabrugge and Robinson (2000) suggest that matching services enhance the efficiency of the informal equity market by improving visibility of investors and entrepreneurs to each other, improving deal flow and augmenting the availability of capital by enthrusing more angels to enter the informal equity market. They explain that angel syndicates are useful because (i) they help pool investments and thus help investors participate in larger deals (ii) diversify across multiple investments

⁷The main criteria ranked by the investors participating in the survey are People or Entrepreneur related, Market or product related, Financials used to screen for potential gains, financials for monitoring the operating firm and other miscellaneous attributes that are vital to a hands on role as well as relating to the business. Within these for example within the attributes relating to the entrepreneur are sub-attributes such as enthusiasm of the entrepreneur, trustworthiness, expertise, track record and investor's liking for the entrepreneur upon meeting him.

(iii) draw upon the benefits of the network in terms of shared contacts, due diligence and (iv) allocate a part of their investible funds for follow-on investment.

Doubts have also been raised about the efficacy of these services. Prowse (1998) notes that anonymous matching services may not meet the requirements of angels who emphasise previous knowledge of the entrepreneur. Mason and Harrison (2002) build a case for redesigning the then extant business angel networks on the following grounds: Conventional business angel networks are unlikely to persuade reluctant investors to enter the market or lifestyle entrepreneurs to raise capital from angels. They make a case for “second generation” networks which will educate the marketplace, provide independent technology due diligence services and raise the level of awareness and capability for less experienced angel investors. They propose that the state must fund the cost of these networks as form of support to the sustain the early stage equity marketplace. Van Osnabrugge and Robinson (2000) warn that with the proliferation of angel networks and syndicates may mean “ the emergence of less independent-minded angels as well as the benefits of more consultation” and that matching services cannot provide the same quality of information for decision making as that provided by personal and business contacts.

Angel Investment in India

Angel investing even as per the definition in Shane (2009) has been practiced for a long time in India. These were essentially investments made by wealthy members of industrial families who did partly out of a desire to help members of their community or other friends or acquaintances who wished to start-up their own enterprise. However, only with the advent of a class of investors who were not part of a traditional industrial family, who were first generation entrepreneurs who had cashed out and more recently wealthy corporate executives who turned to angel investing as a part of their personal asset allocation exercise did angel investment as we know in its current form gather momentum.

The angel investment activity in India has to be viewed in the broad context of demand for and supply of early stage capital in India. The demand for early stage capital may be viewed in the light of the positive outlook that has been presented in the Planning Commission (2012). The Task Force estimates that in the ten years following the report around US \$ 700 mn of angel investments will be required. This in turn seems to be linked to their estimate of the potential to create 2500 enterprises from 10,000 startups that will need to be created for which an estimated capital infusion of US \$ 55 bn, made up of half of debt and equity is estimated to be required. The report identifies a broad range of sub-sectors which are expected to throw up investment opportunities. These will emanate from the key sectors of manufacturing and allied services, technology, healthcare and related services, education, luxury and personal care services and infrastructure. The report assumes significance because it lays to down the initial blue print for a

national level institution that would play a role of development and oversight of channelizing funds to the entrepreneurial ecosystem.

There are several ways to analyse the supply of funds for early stage equity investing in India, given the numerous sources from which these funds emanate, apart from the standard institutional sources such as investment funds. For example, entrepreneurs who have cashed out an important source of early stage equity capital. Family Offices of wealthy industrialists are another source. Since our interest is in individuals who participate we examine the most likely superset of sources of funds of which such investors are likely to be a part: High Networth Individuals. CapGemini (2013a) reports that the number of High Networth Individuals (HNIs)⁸ increased from 123000 in 2007 to 153,000 in 2012, although not monotonically. Their wealth increased from US\$ 437 billion to US\$ 589 billion during the period, again not monotonically. Kotak and Crisil (2012) estimate that the number of ultra high networth Indian households, defined as households with wealth of Rs 25 crore or more, at 81,000 representing wealth of Rs 65 trillion as of 2011-12. They expect these numbers to increase to 281000 households and Rs 318 trillion by 2016-17 respectively. Karvy (2013) estimates that the total holding of financial assets of individual Indians is Rs 109,86,166 crores of which 24% was in direct equities and Rs 32,000 crores was in alternatives representing including Rs 4117 crores was in private equity funds. Since marketing of private equity funds is restricted by regulation to high networth individuals it is reasonable to infer the entire allocation to private equity came from HNIs. All the reports suggest that during the 2011-13 period HNI's exhibited risk aversion in their asset allocation strategy, with a great focus on preservation of wealth than the pursuit of extraordinary returns.

While each of these reports looks at a different facet of the HNI universe and work with different approaches and bases to their analyses taken together the picture that emerges is one of (i) a high level of wealth that can support more risk-tolerant investment choices (ii) low level of allocation to asset classes such as private equity or early stage equity as at present and (iii) once they increase their allocations to unlisted equity, the volumes that are required as per the report of the planning commission may not be completely out of reach.

Angel Networks in India⁹

A large number of angel networks have come into existence in the past decade. Some of them appear to be better organized and / or better known while many of them seem to prefer to operate discreetly. Their operational structure again varies a lot. The ones that appear to be more visible are the Indian

⁸The report defines as HNI as anyone with an investible wealth of US \$ 1 mn or more, excluding primary residence, collectibles and consumables.

⁹This section draws upon Sabarinathan (2014).

Angel Network, Mumbai Angels, The Chennai Angels, Hyderabad Angels, Global Super Angels Forum and the Harvard Business School Alumni Angels Forum. Of these the websites of the first four offer a fair amount of material on their mission and functioning. The first two also top the list of investors in the investment data available in the VI database.

Table 1 below presents the membership strength of the four networks and summarizes the academic profile of the members. While the table brings suggests a high degree of variation in the number of members in each network, there appears to be a fair degree of homogeneity in the educational profile of membership of the four networks. Membership in each of these networks is by invitation only. The websites do not spell out clearly the criteria for membership. Given the homogeneity in the educational background it is reasonable to speculate the similarity in educational backgrounds is a result of the self-selection of the group. The reasons for the variation in the membership strength may be worth understanding better. Is it a result of more active efforts at recruiting members? Is it related to the presence of individuals with wealth with a proclivity to make angel type investments with the background that would be acceptable to these networks? Is it because of the perception of availability of investment opportunities, among those who are inclined to make angel investments, in comparison to competing investment alternatives? Finally, is it a result of the different responses to the larger investment climate?

Table I

Educational Background of the Members of Four Principal Angel Networks in India

	IAN	Mumb	Hyd	Chennai	Total
No of Members	244	194	56	35	529
Graduates	226	164	45	32	467
PGs	193	125			318
PhDs	9	1	2	0	12
Engg / Sc edu	155	63	29	18	265
Arts / Comm	65	83	7	10	165
Biz Edu	144	98	20	20	282
Foreign	124	106	33	13	276
Graduates	93%	85%	80%	91%	88%
PGs	79%	64%	0%	0%	60%
PhDs	4%	1%	4%	0%	2%
Engg / Sc edu	64%	32%	52%	51%	50%
Arts / Comm	27%	43%	13%	29%	31%
Biz Edu	59%	51%	36%	57%	53%
Foreign	51%	55%	59%	37%	52%

Note: Percentages have been worked out the number of people in each category of educational background for each network (or the total) by the number of members in the network (or total number of angel members across all networks.)

A table comparing the key features of the four networks is in Table 2 below. The table indicates a remarkable degree of similarity in the top-level features of their approach to sourcing and management of investments. However as Table 3 below indicates there is variation in the number of investments that each of these networks has managed to consummate.

2.0 Data

We look at data on deals funded by angels. A note on how the data was sourced and processed is presented in this section.

Data on the angel and VC industries are hard to come by, given their unregulated nature. Of the various elements of data, funding amounts, entry and exit valuations and rates of return are the most difficult to come by. Funding and valuation details may be available in some instances; but the reliability of those data is suspect and validation is nearly impossible. Complex deal and financing structures add to the difficulty in arriving at reliable estimates of these numbers. Private data sources such as Venture Economics and DataOne are not available in India either. In the case of angel investments the problem of availability of data is further exacerbated by the secrecy that angels operate in.

Given the paucity of data and the reliability of the data that is available we have set ourselves very modest research ambitions. The purpose of this exercise is to merely get a top level view of the angel investment landscape. To the extent that data is available on angels and their investments in the public domain in a reasonably organized fashion we try to ask some basic questions about the angel investors and their investments based on the deal and investor related information are available.

In addition to the disclaimers that have been made above about the data it is also important to note that the sample available from these sources may not be representative and be subject to numerous biases. Yet we feel persuaded to make a start with this data to develop a picture to start with, however tentative such a picture may be. Our intent, among others, is to develop a set of pointers to further work on the basis of this exploratory work.

The angel investment transactions reported in the Venture Intelligence database is our starting point for this study.¹⁰ To this we add data from two sources: (i) Investment data from the websites of the four angel networks and data on the background of the members of the respective network and (ii) Data on the educational and professional backgrounds of the members from their respective Linked in Profiles.

¹⁰While details of individual angel transactions can be viewed online the VI database does not allow an export of these details into a spreadsheet file, unlike what is available on their other databases on private equity and venture capital. Hence these were procured as a spreadsheet file from VI directly.

Table 2

Comparison of the Four Angel Networks Analysed in this Paper¹¹

Attribute	Indian Angel Network	Mumbai Angels	The Chennai Angels	Hyderabad Angels
Commencement Year	2006	2006	2007	2010
Membership – Process	Nomination by Member	Invitation & Sponsorship by a Member	Invitation & Sponsorship by a Member	
Membership - Profile	Entrepreneurs and corporate executives from India and overseas	Executives, entrepreneurs and high networth individuals	Anyone who can invest in seed and start-up companies	Not spelt out explicitly on website. Entrepreneurs and corporate executives as seen from profiles on website
Membership Types	Institutional and Individual	Institutional and Individual	Institutional and Individual	Institutional and Individual
Preferred Investment Stage	"Startup or early stage with a potential to scale"	"Seed and early stage companies"	"Early stage investment with some nexus to South India"	"Seed and early stage"
Deal Entry into System	Sponsorship as well as direct	Direct submission	Direct submission	Direct submission
Deal Evaluation Process	Due diligence and terms negotiation by lead angel	Due diligence and terms negotiation by lead angel	Due diligence and terms negotiation by lead angel	Due diligence and terms negotiation by lead angel
Deal Size	USD 400K to 600K with a maximum of USD 1 mn	Rs 50 lakhs - Rs 200 lakhs	Rs 50 lakhs - Rs 300 lakhs	25 lakh to 200 lakhs
Time to Close Deal	30 days to decline and 45 days to accept a deal after presenting to the angels' monthly meeting	States explicitly its reluctance to mention a time frame	4 to 6 months "from start to finish" - website does not explain what start and finish mean	60 days after shortlisting by secretariat for presentation to angels
Support on Website	Comprehensive enough for engaging with the network, also has a basic knowledge repository	Comprehensive for the purpose of engaging with the network	Comprehensive for the purpose of engaging with the network	Comprehensive for the purpose of engaging with the network
Sectors of Interest	All sectors - "preference for" IT/ITES, Telecom, Mobile VAS, Gaming and Animation, Internet / Web, Media & Entertainment, Education Technology, Healthcare, Manufacturing, Alternative Energy, Clean Technology, Cloud Computing, Retail	"Industry Agnostic"	Not mentioned	Not mentioned

¹¹ Based entirely on data available on the websites of the respective network, accessed by the author on January 3, 2014.

The VI database provides the following fields in its database.

1. Name of Investee
2. Sector
3. Sub sector / Business description
4. Date of first investment
5. Multiple Angel rounds (Y/N)?
6. Follow on VC funding
7. Exited (Y/N)?
8. City
9. Region
10. Website details
11. Additional Information
12. Links

The details provided in the last two fields vary a great deal from company to company whereas the data in the first ten fields are standard and their nature can be gleaned from the names of the fields.

For the picture that we are trying to develop we need the information in fields 1 to 4 and fields 7 to 9.

Wherever we find that there are multiple transactions reported for a given company – an unusual occurrence – we treat them as distinct transactions if they are separated by at least three months in time, else we combine them into a single transaction.

Where we have doubts about any of the fields such as date of first investment, location, investor or sector we search for the company on Google as well as the angel network's database where applicable. If we are unable to resolve the doubt or the inconsistency we drop the transaction from the database. We dropped eleven such transactions from the database.¹² Similarly we added to the VI list of transactions, data on transactions reported on the websites of angel networks which were not captured by VI. We added four such transactions. We end up with a net of 320 transactions, starting with 329 listings from the file that VI sent us. There were several transactions reported on the websites of the networks for which we could

¹²Most of the information that we obtained for validating the VI data were obtained through Google searches. Common sources that the Google searches led us to are www.vccircle.com; www.yourstory.in; www.netxbigwhat.com; www.crunchbase.com; www.iamwire.com; www.dealcurry.com and online versions of Economic Times and Business Standard.

not find a record on the VI database. While we have added these transactions to the number of investments that we report as having been consummated by the networks, we have omitted them from the rest of the analysis since we could not find even the limited data on those companies that we need for our analysis.

We also modified the sub-sector / business categorization to suit our analysis. Our goal was not to lose a sense of the diversity of the investment portfolio. At the same time we wanted to enjoy the benefit of aggregation when we carried out the analysis. Based on the description of the business given in VI, supplemented with web searches on Google where required, all 320 investments have been reclassified into the following sub-sectors: Agribusiness, Other IT&ITES, Cleantech, Communication Tech, Consultancy, eCommerce, Education, Enterprise Software, Financial Services, Food and Beverages, Healthcare, IT Products, IT Services, Manufacturing, Media and Entertainment, Mobile VAS / Related, Online Services, Other IT&ITES, Other Services, Others, Restaurants, Telecom, Social Ventures and Textiles.¹³

We use the city as an indicator of the geography rather than the region. Increasingly entrepreneurship seems to benefit from agglomeration effects at the level of the city than of the state or a region. While state administration can make a positive or negative difference to the entrepreneurship climate, the factors relating to the city seem to have a more dominant effect of individual entrepreneurs on where to start up.

We are interested in finding out how many angel funded companies achieved to raise funding from VC investors, for reasons explained in the analysis of the data. We proceed to answer this question as follows. The VI database on VC transactions is our source of information on VC funding activity in India. From this list we identify those companies that appear in the angel funding list that also appear in the VC funding list. We find that the common set of companies consists of two sets of transactions: Angel funded companies that raised capital subsequent (three months or more later) to their angel funding and angel funded companies that raised VC funding more or less at the same time (in less than three months) as they raised angel funding. We are interested in the former category because our goal is to identify those angel funded companies that raised VC funding after they had some time to deliver performance after they raised angel funding. Wherever a company has raised multiple rounds of VC funding we take the first round that was completed at least three months after the angel funding was completed. Further every company that raised VC funding as one single occurrence of successful mobilization of VC funding by an angel funded company. As with other instances of VI data we use

¹³It may be apparent that neither VI nor we follow any international classification code or convention. Classification of investments is an area that would need improvement in any further work in this area.

Google searches to remove many of the errors and inconsistencies in the data that we find in the VI database. To the extent that we are unable to find references in other public sources we drop the company from our analysis. We use the cleaned up data to carry out the analysis relating to mobilization of VC funding.

We are also interested in finding out the number of angel investments that managed to achieve an exit. We use the data available in VI for this purpose.

3.0 Analysis of Data

The number of deals done by the four major networks and the total number of deals funded, all yearwise, as per data on the Venture Intelligence (VI) database is presented in Table 1 below.

It is important to flag one important limitation here. A meaningful analysis of any portfolio should ideally be in terms of the market value of the portfolio invested in individual securities. Our analysis is constrained on two dimensions. First, we do not have market values of the invested securities because of the unlisted nature of these investments. More importantly, we do not have even the cost of these investments since investors as well as entrepreneurs are reluctant to disclose the funding committed to individual investments. So we work with the number of investments made in each sector. While this does not give a good sense of the value or wealth at risk in the portfolios built by the angels, it at least indicates the sectors and regions to which their capital has been flowing. It should also be able to indicate if there is an excessive build-up of investment positions in any one sector. We pursue this line of analysis, albeit with its numerous limitations, due to the useful insights gained from a similar analysis in the case of the hard disk drive industry referred to earlier.

It may be seen from the table below that angel investing has been building up since 1999. It seems to have started gathering momentum since 2006, around the time the two major angel networks, namely, IAN and Mumbai Angels were set up. However, given that the data we have is limited to what is available with VI, it is possible that the reported pickup is because of greater public visibility to the deals funded by the networks. That does not mean that a larger number of investments were not taking place prior to the emergence of these networks. This is further corroborated by the large fraction accounted for deals funded by the network, of the total number of deals, in each of the years. Except for 2012, the number of deals seems to be hovering around the mean number of 37 deals with a standard deviation of 24 (CV = 63%) with the high activity level in 2012 and a mean of 31 investments and SD of 14

investments (CV = 44%), if the data for 2012 were to be excluded.¹⁴ IAN trails behind Mumbai Angels by 12 deals thanks to fewer deals funded in 2009, 2010 and 2011.

Table 3

Yearwise Distribution of Angel Investments

	All Angels	IAN	MA	TCA	HA	Total 4 Networks	4 Networks / Total Angels
1999	1	0	0	0	0	0	0%
2000	3	0	0	0	0	0	0%
2004	4	0	0	0	0	0	0%
2005	11	0	0	0	0	0	0%
2006	21	6	1	0	0	7	33%
2007	13	1	2	1	0	4	31%
2008	22	7	9	0	0	16	73%
2009	28	3	6	3	0	12	43%
2010	34	3	12	1	0	16	47%
2011	49	4	9	1	1	15	31%
2012	87	13	14	4	3	34	39%
2013	47	14	10	3	3	30	64%
Total	320	51	63	13	7	140	44%

Note: No angel investments are recorded in the VI database for the years 2001, 2002 and 2003.

The geographical distribution of investments is presented in Table 4 below. There is a clear concentration of investments in a few cities as one might expect: Bangalore, Mumbai, NCR, Chennai, Pune and Hyderabad. The other cities have hardly any meaningful number of investments. However the more interesting picture that emerges is that except in the case of The Chennai Angels, the other three angel networks seem to be willing to invest outside their geography of residence. Of these only IAN is the national network. Mumbai Angels is at best a western India focused network. The network appears to have been making investments in Bangalore, ahead of its opening of the Bangalore office two years back. This development is interesting is because it questions the commonly held belief that angels prefer to invest within their areas of residence / work so as to be able to interact with their investees more frequently. Overseas investments come from two sources: Investors who join an Indian syndicate in investing in a company with Indian and overseas operations and the Indian Angel Network spreading its wings outside. The business case for the latter is not clear since there does not appear to be a natural fit between enterprises domiciled primarily outside India and an angel network that is largely based in India,

¹⁴Given the short history of angel history investment that is available it is not clear if 2012 were to be treated as an exceptional year and therefore excluded from the calculation of the mean and the standard deviation. Hence we present both the values to indicate to the extent to which 2012 affects the measures of central tendency.

especially in locations where informal equity markets are well developed as in North America. From a developmental as well as emerging market perspective, the IAN spreading to Sri Lanka is understandable; but the view that the Indian market has still a lot more to offer does raise this question of whether there is a compelling need to go to these overseas markets at this stage.

Table 4

Spatial Distribution of Angel Investments

City / Location	All Angels	IAN	Mumbai	TCA	HA
Ahmedabad	4	1	1		0
Bangalore	87	11	20	1	3
Chandigarh	2	1			0
Chennai	30	2	2	9	0
Coimbatore	1				
Guntur	1				
Hyderabad	17		3	1	3
Jaipur	2		1		0
Kharagpur	2				
Kolkata	3		1		0
Mumbai	73	10	22	1	1
Nagpur		1			0
National Capital Region	53	14	7		0
Other Overseas	3	2			
Panaji	1				
Pune	26	3	6	1	0
Sri Lanka	2	5			0
USA	13	2			0
Total	320	45	63	13	7

IAN: Indian Angel Network, Mumbai: Mumbai Angels, TCA: The Chennai Angels and HA: Hyderabad Angels

The sectorwise distribution of deals is presented in Table 5a to 5d below. The purpose of this analysis is to see if there is a pattern in terms of investments flowing into specific sectors over time and if so which sectors these are. Such preferences for specific sectors have been documented in the VC industry in the USA. Even in the public markets Wurgler (2000) considers such re-allocation of capital from one industry to another is considered to be a feature of allocative efficiency of well-functioning markets. However, in the IPO markets such preferences are seen as anomalies and referred to as “hot markets” (Ritter (1980)). The difference between whether it is a sign of allocative efficiency or it is a case of herding behavior by investors depends on what the picture for the industry as a whole suggests. Thus for example were it to be a case of excess capacity creation in an industry where even the demand outlook is

unfolding slowly, it would perhaps be an instance of investors bandwagoning without reckoning the overall odds of their investee doing well.

If we were to focus on the period when there was an increase in the activity, ie year 2006 onwards, we see that the deals showed a relatively higher concentration in education, enterprise software, mobiles VAS, ecommerce and online services.

Several explanations are great candidates for explaining these sectoral preferences of angel investors. The simplest could be in terms of investors herding into sectors that were the flavour of the season, displaying a high risk tolerance in the process. The second could be that these sectors did indeed have enough potential for a large number of the funded enterprises to do well given the nascent structure of the industry. The third explanation is that angels were building these companies for feeding them further downstream in the food chain to VC investors in the hope of getting quick and profitable exits. The fourth reason could be an overhang of capital without enough quality deals and the few deals that were there being all from the sectors in which the angels invested. Accepting or rejecting each of the explanations requires more data than we have in this paper.

Table 5-c provides a different slicing of the investment preferences of angels across the years. It shows that some of the sectors have caught the fancy of investors more recently while some of the sectors such as BPO enterprises were popular in the earlier years of the decade, certain others such as restaurants, clean tech, education and e-commerce are more recent. Here again, online services seem to have been a more recent fancy.

The important question of whether investors were being prescient about these sectors or they were displaying a lemming-like risk appetite would become evident only when the deals are eventually harvested. Roach (2010) notes that VC investors are known to work with high levels of idiosyncratic risks and the high rates of return are sought to be explained as compensation for this idiosyncratic risk. While this is considered acceptable behavior at the level of the individual portfolio, at the level of the industry, excessive exposure of a whole section of the capital market to a single sector or industry could have undesirable consequences in the medium to long term, leading to potential market failures. Such consequences have been documented in Sahlman (1985) as part of the discussion on the Winchester disk drive industry referred to earlier, and further afield in the case of the e-commerce exposure during the boom in technology stocks and subsequently in the prevalence of poor quality loan assets used to fund private equity transactions in the Continent exposure by London based banks (FSA (2006)) and in the presence of “toxic” mortgage assets in hedge funds during the financial crisis of 2008. The data from Tables 4a to 4c provide enough reason for the angel investment industry to take a step back and look at

the aggregate portfolio of the industry. It also reinforces the case for greater effort and cooperation in data collection among angel investors so that warning bells can be sounded well in time.

Table 5-d provides the sectoral distribution of investments made by the angel networks. We examine this pattern to see if there angel networks have a distinct investment preference as compared to the other angel investors.

Table 5a

Yearwise X Sub-sectorwise distribution of investments by all angels

	1999	2000	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Agribusiness						1			1	1		1	4
BPO		1	2	1	1		1	1	1		1		9
Cleantech					1				1	1	2	3	8
Communication Tech			1						1		3	1	6
Consultancy					1					1	1		3
E Commerce										1	4	10	15
Education							3	3	4	3	3	1	17
Enterprise Software					4	1	2	5	7	4	7	4	34
Financial Services							1	1	3	1			6
Food and Beverages					1			1			2		4
Healthcare				1				1	2		5	3	12
IT Products				1				5		2	6	1	15
IT Services		1			1	3	2	3		2			12
Manufacturing				1			1				1	3	6
Media and Entertainment					2	1		1			1		5
Mobile VAS / Related			1		4	2	1	2	2	9	3	3	27
Online Services	1			4	6	3	7	3	11	19	37	12	103
Other IT and ITES		1				1	3				3	1	9
Other Services				2			1	1		3	2	3	12
Others											2		2
Restaurants						1			1	2	3		7
Telecom				1									1
Social Ventures											1		1
Textiles								1				1	2
Total	1	3	4	11	21	13	22	28	34	49	87	47	320

Table 5-b

% analysis of yearwise x sub-sectorwise distribution of investments by all angels

	1999	2000	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Agribusiness	0%	0%	0%	0%	0%	8%	0%	0%	3%	2%	0%	2%
BPO	0%	33%	50%	9%	5%	0%	5%	4%	3%	0%	1%	0%
Cleantech	0%	0%	0%	0%	5%	0%	0%	0%	3%	2%	2%	6%
Communication Tech	0%	0%	25%	0%	0%	0%	0%	0%	3%	0%	3%	2%
Consultancy	0%	0%	0%	0%	5%	0%	0%	0%	0%	2%	1%	0%
E Commerce	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	5%	21%
Education	0%	0%	0%	0%	0%	0%	14%	11%	12%	6%	3%	2%
Enterprise Software	0%	0%	0%	0%	19%	8%	9%	18%	21%	8%	8%	9%
Financial Services	0%	0%	0%	0%	0%	0%	5%	4%	9%	2%	0%	0%
Food and Beverages	0%	0%	0%	0%	5%	0%	0%	4%	0%	0%	2%	0%
Healthcare	0%	0%	0%	9%	0%	0%	0%	4%	6%	0%	6%	6%
IT Products	0%	0%	0%	9%	0%	0%	0%	18%	0%	4%	7%	2%
IT Services	0%	33%	0%	0%	5%	23%	9%	11%	0%	4%	0%	0%
Manufacturing	0%	0%	0%	9%	0%	0%	5%	0%	0%	0%	1%	6%
Media & Entertainment	0%	0%	0%	0%	10%	8%	0%	4%	0%	0%	1%	0%
Mobile VAS/Related	0%	0%	25%	0%	19%	15%	5%	7%	6%	18%	3%	6%
Online Services	100%	0%	0%	36%	29%	23%	32%	11%	32%	39%	43%	26%
Other IT and ITES	0%	33%	0%	0%	0%	8%	14%	0%	0%	0%	3%	2%
Other Services	0%	0%	0%	18%	0%	0%	5%	4%	0%	6%	2%	6%
Others	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	2%	0%
Restaurants	0%	0%	0%	0%	0%	8%	0%	0%	3%	4%	3%	0%
Telecom	0%	0%	0%	9%	0%	0%	0%	0%	0%	0%	0%	0%
Social Ventures	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	1%	0%
Textiles	0%	0%	0%	0%	0%	0%	0%	4%	0%	0%	0%	2%
Total	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Total No of Deals	1	3	4	11	21	13	22	28	34	49	87	47

Table 5-c

Distribution of Investment in a Given Sectors across various years

	1999	2000	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	Total
Agribusiness	0%	0%	0%	0%	0%	25%	0%	0%	25%	25%	0%	25%	100%
BPO	0%	11%	22%	11%	11%	0%	11%	11%	11%	0%	11%	0%	100%
Cleantech	0%	0%	0%	0%	13%	0%	0%	0%	13%	13%	25%	38%	100%
Communication Tech	0%	0%	17%	0%	0%	0%	0%	0%	17%	0%	50%	17%	100%
Consultancy	0%	0%	0%	0%	33%	0%	0%	0%	0%	33%	33%	0%	100%
E Commerce	0%	0%	0%	0%	0%	0%	0%	0%	0%	7%	27%	67%	100%
Education	0%	0%	0%	0%	0%	0%	18%	18%	24%	18%	18%	6%	100%
Enterprise Software	0%	0%	0%	0%	12%	3%	6%	15%	21%	12%	21%	12%	100%
Financial Services	0%	0%	0%	0%	0%	0%	17%	17%	50%	17%	0%	0%	100%
Food and Beverages	0%	0%	0%	0%	25%	0%	0%	25%	0%	0%	50%	0%	100%
Healthcare	0%	0%	0%	8%	0%	0%	0%	8%	17%	0%	42%	25%	100%
IT Products	0%	0%	0%	7%	0%	0%	0%	33%	0%	13%	40%	7%	100%
IT Services	0%	8%	0%	0%	8%	25%	17%	25%	0%	17%	0%	0%	100%
Manufacturing	0%	0%	0%	17%	0%	0%	17%	0%	0%	0%	17%	50%	100%
Media & Entertainment	0%	0%	0%	0%	40%	20%	0%	20%	0%	0%	20%	0%	100%
Mobile VAS/Related	0%	0%	4%	0%	15%	7%	4%	7%	7%	33%	11%	11%	100%
Online Services	1%	0%	0%	4%	6%	3%	7%	3%	11%	18%	36%	12%	100%
Other IT and ITES	0%	11%	0%	0%	0%	11%	33%	0%	0%	0%	33%	11%	100%
Other Services	0%	0%	0%	17%	0%	0%	8%	8%	0%	25%	17%	25%	100%
Others	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
Restaurants	0%	0%	0%	0%	0%	14%	0%	0%	14%	29%	43%	0%	100%
Telecom	0%	0%	0%	100%	0%	0%	0%	0%	0%	0%	0%	0%	100%
Social Ventures	0%	0%	0%	0%	0%	0%	0%	0%	0%	0%	100%	0%	100%
Textiles	0%	0%	0%	0%	0%	0%	0%	50%	0%	0%	0%	50%	100%

Table 5–d

Sectoral distribution of investments made by angel networks and non-network angels

	IAN	Mumbai	Hyderabad	TCA	Network Total	Non Network Total	Total	Ntwrk %	NonNtwrk%
Agribusiness	1	2			3	1	4	3%	0%
BPO		1			1	8	9	1%	4%
Cleantech	1				1	7	8	1%	3%
Communication Tech		2			2	4	6	2%	2%
Consultancy	1		1		2	1	3	2%	0%
Education		5			5	12	17	5%	6%
E Commerce	3	2	1	1	7	8	15	6%	4%
Enterprise Software	6	7	1		14	20	34	13%	9%
Financial Services	1				1	5	6	1%	2%
Food&Beverage				1	1	3	4	1%	1%
Healthcare / Pharma	2	1	2		5	7	12	5%	3%
IT Products	1	3		1	5	10	15	5%	5%
IT Services	3	1	1		5	7	12	5%	3%
Manufacturing	1	1		1	3	3	6	3%	1%
Media and Entertainment	1			1	2	3	5	2%	1%
Mobile VAS	4	8		1	13	14	27	12%	7%
Online Services	14	8	2	4	28	75	103	26%	36%
Other IT & ITES	1	2			3	6	9	3%	3%
Other Services	1	4			5	7	12	5%	3%
Others					0	2	2	0%	1%
Restaurants	1				1	6	7	1%	3%
Social Ventures					0	1	1	0%	0%
Telecom					0	1	1	0%	0%
Textile and Apparel		2			2	0	2	2%	0%
Total	42	49	8	10	109	211	320	100%	100%

The picture that emerges from the table is that IAN's investments are distributed across a larger number of sectors even though it has fewer numbers. It is worth knowing whether this diversity is due to their national presence and / or due to the broader composition of membership is something worth knowing. But IAN has at the same time a high concentration of investments in Online Services at 37% of all investments. Mumbai Angels on the contrary has invested in fewer sub-sectors in comparison to IAN. It also has a lower concentration in any one sector than IAN. For example, it has only 22% of its investments in Online Services, the highest single exposure it has in any one sub-sector. At the same time it has a higher exposure to a few other sub-sectors such as Mobile VAS, Education and Enterprise

Software. The investment pattern that emerges is somewhat similar to that of a venture capital portfolio which makes concentrated bets across a select set of sub-sectors, as opposed to spreading its portfolio thinly across a large number of investments (an approach that has sometimes been referred to as a “spray and pray” approach) or at the other extreme invest the entire portfolio in one or two subsectors. The Chennai and Hyderabad portfolios are too small and recent to hint at any meaningful inferences or explanations. However, it is interesting to note that the Chennai portfolio is distributed across a larger number of sub-sectors. This again is possible due to the diversity of the existing industrial base / economic activity in and around Chennai.

Venture capital mobilization by angel funded enterprises

Angels are seen as the first source of capital after founders, family and friends. But successful firms need to look beyond angels to meet their growth funding needs. In well developed financial typically such funding is provided by venture capital investors. Investment by venture investors could be seen as a sign of early, even if tentative, success for two reasons. Professional venture fund managers are believed to represent money that on average is capable of identifying companies with extraordinary potential for growth and profitability. Second, as investors who are independent of the angel investors their investment is seen as an independent validation of the quality of the investment made by the angel investor.¹⁵

Table 6-a below summarises the follow funding of angel funded companies by VC funds reported in the VI database.

¹⁵A second criterion is ideally required to establish that the venture investor’s funding is a validation of the quality of the angel investment: The investment by the venture investor has to be at a higher valuation than the price paid by the investor. We do not have valuation data and so that does constitute a limitation to the tenability of our findings. However, we argue that the mere fact that the venture investor is willing to commit funding to the angel’s investee is evidence of the fact that an arm’s length investor sees value in the enterprise in question, even if the venture investor were to be of the opinion that the investors in the previous round of funding had overvalued the company.

Table 6-a

VC funding of angel funded companies

	IAN [1]	Mumbai [2]	Chennai [3]	Hyderabad [4]	All Angels [5]
No of deals funded by VC	10	11	0	1	59
Exits	1	3	0	0	7
Mean Days	636	574	0	396	600
SD of Days taken	379	326	0	-	487
Coefficient of Variance	60%	57%			81%
% of deals funded by Network / Col [5]	17%	19%	0%	2%	
% of exits by Network / Col [5]	14%	43%	-	-	

Of the 230 funding transactions reported by VI, 59 companies (18%) raised follow-on funding from venture capital investors. These do not include companies that were part of a co-investment transaction between VCs and angels. Thus VCs may be considered to have invested in these transactions based on new information they received from the performance of the companies after they received angel funding. This fraction compares with 19.2% of the companies funded by IAN that received VC funding and 17% in the case of Mumbai Angels. On average IAN funded companies seem to have a higher likelihood of raising VC financing than an enterprise funded by Mumbai Angels. 38 companies outside the IAN and Mumbai portfolios received VC funding out of a total of 154 enterprises, showing that an average of 25% of companies outside the two network received VC financing.

It took the average angel funded company, across all 59 cases of VC funding, 600 days to raise VC funding. Although this average stands between the average of IAN and Mumbai angels, the lower CV of the two angels seems to suggest that those companies funded by networks which raised VC funding seem to have had a more uniform experience in raising VC.¹⁶ It is possible that this is the result of a more streamlined approach that angel networks practice in helping their investees raise subsequent rounds of funding.

However, all of these data have to be interpreted with caution since the differences are small and the sample sizes are not large enough to permit robust generalizations.

¹⁶The average time taken by companies that were funded by angels outside IAN and Mumbai is 615 days with a standard deviation of 553 days suggesting a CV of 90%. This is in line with the relative experience we point out above.

The likelihood of VC funding is a function of the performance history of the enterprise in question and the attractiveness of the relevant sub-sectors. Ceteris paribus, a company that has a longer operating history is more likely to receive funding from VCs. So also ceteris paribus companies in a sub-sector that is popular with VC investors is likely to receive VC funding.

We present in Table 6-b the time taken to raise VC by companies that are of different vintages in terms of year of angel funding. It may be seen from the table that the average time taken each year shows that more recent investments by angels have taken less time to raise VC funding. In a sense it could be argued that this is bound to be so since enterprises that were funded by angels more recently have been around for less time by definition and so they took less time to raise capital. The more interesting point though is that these companies appear more likely to raise VC funding. This could be due to two reasons. First, as angels gain more experience in investing for financial gain they learn to anticipate better the preference of VC investors. Second, the more recent investments of angels could be in sectors that attract VC investors better. This could simply be co-incidence though. The improving investment capabilities of angels also means that they are more adept at identifying good quality investment opportunities which in turn find fancy with VC investors.

Table 6-b

Time taken to raise VC funding by vintage of investment

Year	No of deals funded by VC	No of deals in the year	% deals funded by VC	Days taken		
				Mean	SD	CV
1999		1				
2000	1	3	33%	2862	0	0%
2004	2	4	50%	1212	0	0%
2005	4	11	36%	551	236	43%
2006	7	21	33%	828	754	91%
2007	2	13	15%	1004	775	77%
2008	6	22	27%	536	451	84%
2009	4	28	14%	571	287	50%
2010	7	34	21%	351	148	42%
2011	12	49	24%	528	189	36%
2012	14	87	16%	414	131	32%
2013	0	47	0%	0	0	
Total	59	320				

The sectorwise distribution of those angel companies that raised VC funding are presented in Table 5-c below.

Table 6-c

Sectorwise Distribution of Companies that Raised VC Funding

SubSector	Nos	% to total
Cleantech	1	2%
Communications Tech	1	2%
Education	3	5%
Enterprise Software	7	12%
Financial Services	1	2%
Food & Beverages	1	2%
Healthcare	3	5%
IT Products	4	7%
Media & Entertainment	1	2%
Mobile VAS / Related	10	17%
Online Services	22	37%
Other IT & ITES	4	7%
Other Services	1	2%
Total	59	100%

The sector-wise distribution of the companies that raised VC indicates that more than 60% of the companies were from online services, mobile / VAS related and certain types of enterprise software companies that got angel funded during the three years preceding 2013. Given the dominance of certain types of sub-sectors in the list of VC funded companies it would appear that angel investors funded companies in sectors that VCs would find attractive. That makes it at least hard to prove that the recent success of getting VCs to fund angel funded companies may not have had entirely to do with the growing ability of angels to identify high quality enterprises, although that may have well been the case too.

4.0 Conclusions

The number of deals funded since 1999 shows a growth in the investment activity of angels, with a sharp increase in the number of investments coinciding with the commencement of business by angel networks. Angels' investment activities have been focused typically on the new high growth sectors such as online services, e-commerce, IT products and services, education and healthcare. In general there is a total absence of the manufacturing sector. From a policy perspective the investment preferences of angels do

not appear to be in line with the outlook presented in the report of the planning commission even though the economy itself is far more broad-based both in terms of demand as well as capability for meeting the demand through manufactured goods. So also apart from develop IP of the kind of products and applications none of the companies in the database seems to be involved in development of deep, industry defining technologies, further reinforcing the common lament: When / will the next Microsoft, Google or Facebook come from India? Companies funded by angels have had a reasonable track record in raising VC funding. This is a cause for comfort because it indicates that the early stage equity investment food chain appears to work as it would be expected to. One point of concern would be the low rate of exits, a problem that has been plaguing the VC industry in India too. Another point of concern is the high degree of exposure that angels have to two or three high risk sub-sectors such as online services and e-commerce. There does not appear to be much of a difference between the investment preferences of angel networks and that of non-network investors. Their ability to attract VC funding for their investment companies as well as success in exiting from investments appear to be similar. All of these conclusions are based on a relatively small number of transactions, which possibly have a bias because of which the likelihood of better reporting of transactions consummated by angel networks. Nonetheless, the results provide interesting directions for further research into how angels source and evaluate their deals, the types of contracts they write, the role that angels play in the post financing stage and finally of course the returns that they achieve on their investments.

Bibliography

CapGemini and RBC Wealth Management (2013), 2013, Asia Pacific Wealth Report

Financial Services Authority (2006): Private Equity: A Discussion of Risk and Regulatory Engagement, Discussion Paper 06/06 of the Financial Services Authority of UK, available at http://www.fsa.gov.uk/pubs/discussion/dp06_06.pdf

FOR A (2006), Capital Markets and Informal Equity Investments, Framework paper discussed at Meeting of the International Consortium on Entrepreneurship on October 12-13, 2006 (FOR A is Ministry of Economics and Business Affairs' Centre for Economic and Business Research)

Freear, John, Jeffrey E Sohl, and William Wetzel, (2002), "Angles on Angels: Financing technology based ventures – a historical perspective", *Venture Capital*, Vol 4(4), pp 275-287

Freear John and William E Wetzel (1990), Who Bankrolls High-Tech Entrepreneurs?, *Journal of Business Venturing*, Vol 5, pp 77-89

Harrison, Richard, T., and Colin M Mason (1992), International Perspectives on the Supply of Informal Venture Capital, *Journal of Business Venturing*, Vol 7, pp 459-475

Harrison, Richard T., and Colin M Mason, "Venture Capital Market Complementarities: The links between business angels and venture capital funds in the United Kingdom, *Venture Capital*, Vol 2(3), pp 223-242

Karvy Wealth Management (2013), "Karvy India Wealth Management Report", Report on Wealth Management Industry

KotakMahindra Bank Limited and Crisil (2012), "Top of the Pyramid India: Decoding the Ultra HNI", Report on Wealth Management.

Kosztopulosz, Andrasz, "informal Venture Capital in Hungary", Unpublished Paper, Faculty of Economics and Business and Administration, University of Szeged

Landstrom, Hans (1993), Informal Risk Capital in Sweden, *Journal of Business Venturing*, 8, 525-540

Lerner, Joshua (1998), "Angel" Financing and Public Policy: An Overview, *Journal of Banking and Finance*, Vol 22, pp 773-783

Macht A., Stephanie and John Robinson, (2009), Do Business Angels Benefit Their Investee Companies?, *International Journal of Entrepreneurial Behaviour and Research*, Vol 15, No. 2, pp 187-208

Mason, Colin M and Richard T Harrison, (2000), The Size of the Informal Venture Capital in the United Kingdom, *Small Business Economics*, Vol 15, pp 137-148

Mason, Colin M and Richard T Harrison (2002), Barriers to investment in the informal venture capital sector", *Entrepreneurship and Regional Development*, 14:3, 271-287

Murray, G.C. (1999), "Early-stage venture capital funds, scale economies and public support", *Venture Capital*, Vol 1 (4), pp 351-384

- Macht A., Stephanie and John Robinson, (2009), Do Business Angels Benefit Their Investee Companies?, *International Journal of Entrepreneurial Behaviour and Research*, Vol 15, No. 2, pp 187-208
- Osnabrugge, Mark Van, (2000a), A comparison of business angel and venture capitalist investment procedures: An agency theory -based analysis, *Venture Capital*, Vol 2, No 2, pp 91-109
- Van Osnabrugge, Mark and Robert J Robinson (2000), *Angel Investing: Matching Startup Funds with Startup Companies--The Guide for Entrepreneurs and Individual Investors*, Jossey Bass Business and Management Series, John Wiley and Sons
- Prowse, Stephen (1998), Angel Investors and the market for angel investments, *Journal of Banking and Finance*, Vol 22, pp 785-792
- Roach, Geoff (2010), Is angel investing worth the effort? A study of Keiretsu Forum”, *Venture Capital* 12(2), pp 153-166
- Ritter, Jay, R. (1980) “The ‘hot issue’ market of 1980.” *Journal of Business*, Vol 32, pp 215-240.
- Sahlman, William, Howard Stevenson, Michael Roberts and Amar Bhidé, *The Entrepreneurial Venture*, Harvard Business Review Press, 1999
- Sahlman, William and Howard Stevenson (1985), Capital Market Myopia, *Journal of Business Venturing* 1(1), pp 7-30
- Shane, Scott A., (2009), *Fool’s Gold? The Truth Behind Angel Investing in America*, Oxford University Press, New York, NY. p-14
- Sohl, Jeffrey (2002), The Private Equity Market Gyration: What has been learned?, *Venture Capital*, 4(4), pp 267-274
- Sohl Jeffrey, E., and Bruce Sommer (2006), Angel investing: changing strategies during volatile times, *Journal of Entrepreneurial Finance and Business Ventures*, Vol. 11, No. 2, pp. 27-47.
- Sorheim, Roger and Hans Landstrom, (2000), *Informal Investors in Norway – A Categorisation and Policy Implications*, Paper prepared for the 2000 Babson College-Kauffman Foundation Entrepreneurship Research Conference, June 8-10, 2000
- Sohl, Jeffrey, E., (1999): The early stage equity market in the USA, *Venture Capital*, 1(2), pp 101-120
- Timmons, Jeffrey and Stephen Spinelli (2008) *New Venture Creation: Entrepreneurship for the 21st Century*, 8th ed, Mc Graw-Hill / Irwin
- Wilson, Heather I.M., (1995), Are the Business Angels of Today the Venture Capitalists of Yesterday?, *The Journal of High Technology Management Research*, Vol 6, No 1, pp 145-156
- Wiltbank, Robert, Stuart Read, Nicholas Dew, Saras Saraswathy (2009), “Prediction and Control Under uncertainty: Outcomes in angel investing”, *Journal of Business Venturing*, Vol 24 () 116-133
- Wurgler, Jeffrey (2000), “Financial Markets and the Allocation of Capital.” *Journal of Financial Economics*, Vol 58, pp 187-214.