Angel Investors : Do They Clone or Contrast?

Niroopa Rani Annamalaisami [1]
Ramesh Kuruva [2]
Thillai Rajan Annamalai [3]

Abstract

This paper aimed to describe Indian angel investors to represent the emerging economies and identify the similarities and differences among the angel investors of emerging and developed economies by comparing six major angel markets worldwide. Indian data sample consisting of 732 transactions made by 405 angel investors from 2014 – 2018 were collected from the established data sources. Relevant data of other markets were taken from published journal articles and reports. We found that Indian angel investors are predominantly male, middle-aged, well-educated, and metro-cities residents. They preferred the pre-seed stage, technology sector, and closely located startups. Generally, they invested about $20,000 in an interval of one-and-half years and strongly preferred syndication. We also identified a significant heterogeneity between the angel investors in emerging and developed economies. Unlike emerging economies, the developed economies have comparatively older angels with more female presence and varied educational backgrounds. They make larger investments in lesser time intervals, about $28,200 in eight months. The widespread investors make long distanced investments in diversified sectors, thereby stimulating balanced growth, geographically and across sectors. This heterogeneity can be attributed to structural, economic, institutional, legal, and cultural differences between different economies. The definition describing the Indian angel investors, specifically reflecting the emerging economies and heterogeneity nature identified among the angel investors of different economies, is the key contribution of this paper. These findings would help entrepreneurs finetune their fundraising strategies and aid policymakers in promoting a robust startup ecosystem to facilitate angel investors' active participation and the resultant growth of entrepreneurship and the economy.

Keywords : **angel investment, angel investors, startups, emerging and developed economies**

JEL Classification Codes : G24, G32, M13

Paper Submission Date : April 15, 2021 ; Paper sent back for Revision : November 24, 2021 ; Paper Acceptance Date : December 10, 2021 ; Paper Published Online : January 15, 2022

Angel investors are a funding engine for early-stage enterprises (De Clercq et al., 2012) who act as a bridge between the incubation and venture funding stage, but they are highly invisible due to their confidential, fragmented, and private nature (Mason et al., 2013). Extant research described angel investors as well-educated, middle-aged, male, with considerable business experience as a founder or as an executive or

[1] *Doctoral Student,* Department of Management Studies, Indian Institute of Technology Madras, Chennai - 600 038, Tamil Nadu. (Email : ms16d001@smail.iitm.ac.in) ; ORCID iD : https://orcid.org/0000-0001-8977-7083
[2] *Doctoral Student (Corresponding Author),* Department of Management Studies, Indian Institute of Technology Madras, Chennai - 600 038, Tamil Nadu. (Email : Ramesh.kuruva1992@gmail.com)
ORCID iD : https://orcid.org/0000-0001-6885-4641
[3] *Professor,* Department of Management Studies, Indian Institute of Technology Madras, Chennai - 600 038, Tamil Nadu. (Email : thillair@iitm.ac.in)

DOI : https://doi.org/10.17010/ijf/2022/v16i1/159878

professional, often wealthy, invest their own money, willing to take risks, stimulated to develop new ventures, seek long-term commitment in investee companies, and have a vast network of contacts (Edelman et al., 2017). As it reflects the developed and emerging economies that are different from developed ones in terms of structural, economic, institutional, infrastructural, legal, cultural, and other aspects (Cumming & Zhang, 2016), emerging angel investors warrant an exclusive definition. The existing literature is void of such a specific definition to the best of our knowledge. Hence, we endeavor to address this gap by describing one of the fastest-growing angel markets in the world, that is, India. We aim to shed light on the angel investor's background and investment preferences.

We used a unique dataset of 732 investments made in India by 405 angel investors from 2014 – 2018 to analyze the Indian angel market. Our analysis found that Indian angel investors are predominantly male, with an average age of 43 years. They are well educated and are by and large domiciled in metropolitan cities. The average investment is around $20,000, and they mostly make syndicated investments in technology startups in the pre-seed stage. They strongly prefer to invest in geographically proximal ventures, and the duration between two investments is 18 months.

We also aim to compare the angel investors across the world by considering the angel markets of India, China (Asia), Argentina (South America), representing emerging economies, and Australia, USA (North America), and Europe representing developed economies. Our analysis reveals significant heterogeneity between the characteristics of angel investors in emerging and developed economies. Angel investors in developed countries are comparatively older, have a higher proportion of female angels, a higher investment size of around $28,200, and a lesser time interval between two investments, that is, about eight months. They make long distanced investments in diversified sectors and nascent/early-stage ventures. These findings will be helpful for the angel investors, entrepreneurs, policymakers, and the economy as a whole.

Literature Review

The literature on entrepreneurship is quite rich from the perspective of entrepreneurs and venture capitalists. But the academic interest in the field of angel investments is more recent, which might be partly due to the long-established and repeatedly founded fact that the angel market has an invisible, private, and fragmented component. The earlier studies described an angel investor as a person who provides capital to a private business owned and operated by someone else who is not a friend or family member (Shane, 2012). A middle-aged male with a high level of education, entrepreneurial experience, and an above-average income makes relatively smaller investments in a new business started by a stranger (Diaz-Moriana & O'Gorman, 2013). An individual investor invests his/her own money directly, makes his/her own (final) investment decisions, invests predominantly in seed or startup companies with no family relationships, invests with a medium to a long term set timeframe, and provides follow-up strategic support to entrepreneurs from investment to exit (Dibrova, 2015). Emerging angels are typically younger and invest smaller amounts than conventional angels (Nath, 2015). Though these definitions are more or less appropriate, the cultural and institutional differences in different economies warrant contextualization.

The information gap in the angel market impedes their active involvement in startups (Nath, 2010; Vennila & Santhiyavalli, 2016), badly on emerging economies' angel markets (Chaudhury et al., 2019). We could identify only 14 studies over the last 10 years on the Indian angel market, despite being the third-largest startup economy in the world. Hence, it is imperative to analyze and understand the Indian angel market in detail, which will give a better understanding of India and shed light on the angel investments' phenomenon of the emerging economies.

Moreover, most of the extant literature compared the status of angel investors of a country over different periods to measure the market's growth. For example, USA (Mitteness et al., 2012) and Singapore

(Wong & Abrams, 2017). They compared two different other countries to understand the countries' relative positions, for example, German with European angels (Helmut & Schillo, 2011); Argentina with USA, Europe (Pereiro, 2001); Scotland with the UK; and Australia (Mason et al., 2013) with USA (White & Dumay, 2018). It is worthy to note that most of these comparisons were between developed countries, and a comparison between emerging and developed economies' angel markets is not available.

The identified research gaps reflect the current nature of angel investors as a field of research, especially in emerging economies that are unexplored and have huge potential for future contributions. Hence, this study attempts to address these research gaps by analyzing the Indian angel investors in-depth and comparing the emerging economy's angel investors with the developed ones.

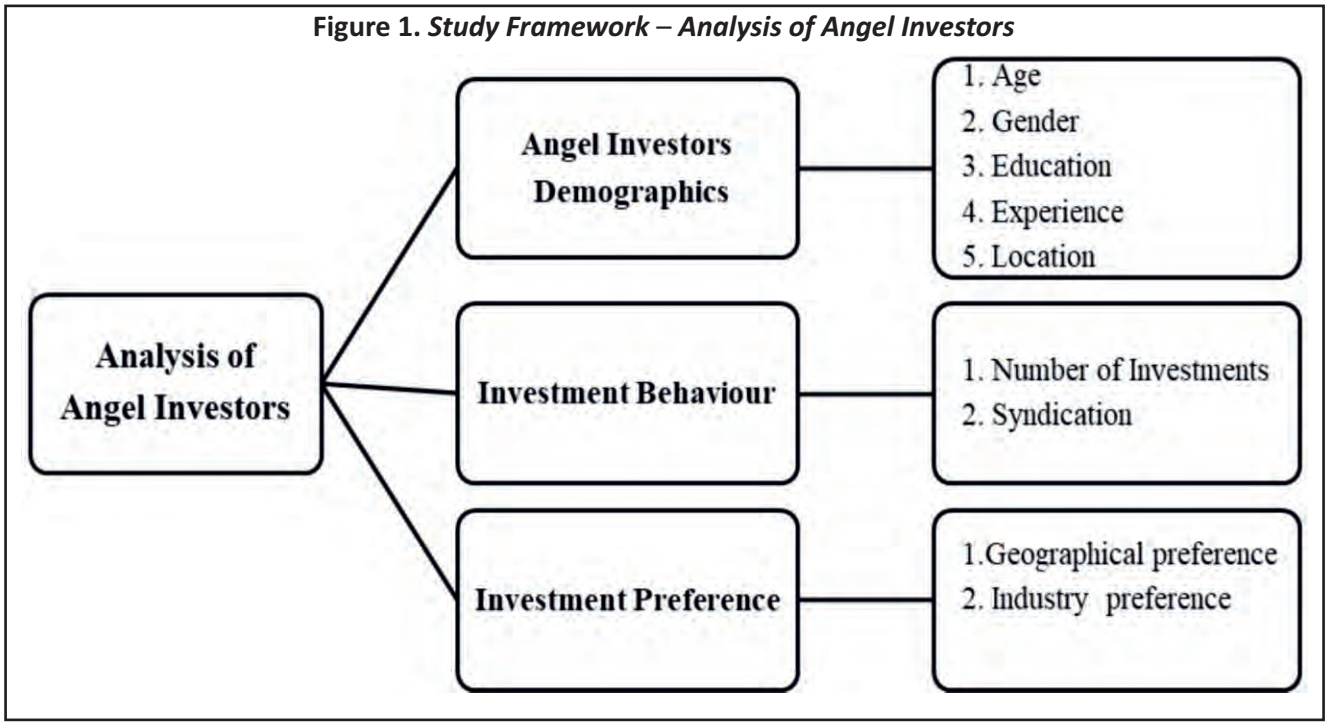
Research Methodology

Research Questions

This study aims to define the characteristics of Indian angel investors, understand the trajectory of angel investments in different countries, and compare the angels of emerging economies like India, China, and Argentina with the developed economies like the USA, Europe, and Australia. The angel investors across various economies were analyzed, assessed, and compared in three different verticals (Figure 1) as given below:

- Angel investors' demographics (age, gender, education, experience, and location).
- Investment behavior (number of investments and syndication).
- Investment preference (geographical and industry preferences).

Figure 1. ***Study Framework – Analysis of Angel Investors***



Data and Methodology

To analyze the Indian angel market, we used a unique dataset of 732 investments made by 405 angel investors from 2014 – 2018, collected from multiple sources, such as Venture Intelligence, VCCEdge, The Chennai Angels Keiretsu Forum, Dealcurry, and compiled the data. After sanitizing the compiled investment data, the personal details of angel investors were collected from professional networking sites like LinkedIn and added to make the dataset comprehensive. Such a personally curated dataset allows us to explain the nuances of the angel investor's background and preferences.

Further, we compared the angel investors in India with five other major angel markets worldwide, that is, China, Argentina, Australia, the USA, and Europe. The relevant data of the countries were taken from published journal articles and reports like China (Ding et al., 2014; Li et al., 2014; Xiao & Ritchie, 2011); Argentina (Ergo, 2011; Pereiro, 2001; Pradilla, 2012); Australia (Australian Government, 2020; White & Dumay, 2018); Europe (Collewaert & Manigart, 2016; Harrison et al., 2010; Harrison et al., 2015; Harrison, 2017; Mason et al., 2016, 2019; Mason & Harrison, 2011, 2015); and USA (Huang et al., 2017; Shane, 2009). These studies acted as the sources for the tables and figures of this study.

Analysis and Results

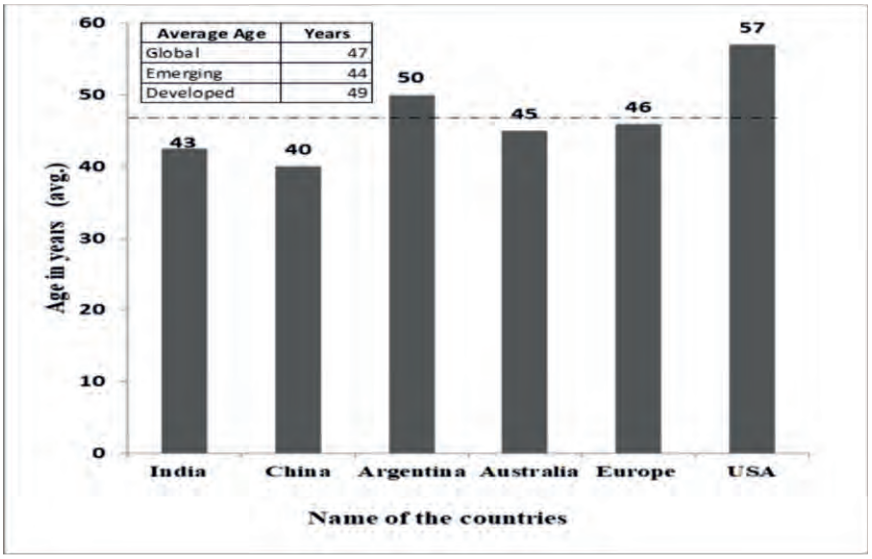
The results are presented and discussed along three verticals : (a) Angel investor's demographics, (b) investment behavior, and (c) investment preferences.

Angel Investors' Demographics

Are the Age of Angel Investors the Same in Different Parts of the World ?

While the global average age of angel investors was 47 years, the average age of angel investors in emerging and developed economies was 44 years and 49 years, respectively. The lesser age in emerging economies may be due

Figure 2. ***Average Age of Angel Investors***



to the more recent phenomenon of startup-type of entrepreneurship in these countries, which has younger venture founders than those in developed countries. Since most angel investors are successful venture founders themselves, the average age of angel investors in emerging countries is also lower.

Figure 2 shows the average age of angel investors in five countries and Europe. The average age of Chinese angels (40 years) followed by Indian angels (43 years) is lower than the remaining countries. The high average age of angels in the USA is probably a reflection of a mature startup ecosystem there. An implication of the lower average age of angel investors in India is that angel funding rounds are likely to be lower, and investment rounds are more likely to be syndicated. Entrepreneurs would have to consider this in their fundraising plans.

What Proportion of Angel Investors are Females?

The findings of existing studies reveal that although the participation of women in all economic spheres is increasing, they still lag when it comes to making investments (Kumar & Kumar, 2020). The investment preferences of male and female angel investors widely differ. For example, female angel investors are less likely to make high-value investments than their male counterparts (Wong & Abrams, 2016), and they are more inclined to make investments in social impact ventures (Huang et al., 2017). Thus, it can be seen that the gender of the angel investor is an important parameter that influences their investment decisions.

Table 1 of this study shows that the global angel market is a male-dominated one with 85% male angels, which is commensurate with the findings of existing studies (Lahti, 2011; Nath, 2015; Tenca et al., 2018). It is seen that while both emerging (89%) and developed (82%) economies have predominant male participation, a higher female angel investor's participation is noticed in China (emerging) and the USA (developed). A better sex ratio and women entrepreneurship index, in the case of the USA and the startups' boom and the swift growth in high net-worth individuals in China, are the probable reasons for better female participation.

It is also noticed that India, followed by Argentina, has lesser female angel participation. The probable causes might be the presence of a lesser number of female entrepreneurs; a larger proportion of angel investments are made in the male-dominated technology sector; favorable societal norms and privileges are given to the males in the patriarchal society; and men are more confident than women (Barber & Odean, 2001) as per behavior finance theory. Although the angel market is gradually expected to move towards gender equality, it might take a long time before a tangible shift is witnessed in emerging economies.

Table 1. ***Gender of the Angel Investors***

	Emerging Economies			Developed Economies			
Particulars	**India**	**China**	**Argentina**	**Australia**	**Europe**	**USA**	**Global Average**
(1a) Male angels	98%	77%	92%	85%	89%	71%	**85%**
(1b) Female angels	2%	23%	8%	15%	11%	29%	**15%**
Average - Emerging & Developed Economies		**Male = 89%** **Female = 11%**			**Male = 82%** **Female = 18%**		
(2) Sex Ratio (Population)	1.08	1.06	0.98	1.01	0.99	0.97	
(3) Women Entrepreneurship Index Ranking, 2015	70	48	55	2	3	1	

Note. This table describes the Gender diversity in (1) angel population, (2) total population, and (3) Women Entrepreneurship Index Ranking, 2015 (published by The Global Entrepreneurship Development Institute, Washington DC) across different economies.

The implication of lower participation of female angel investors in emerging economies (except China) is the underutilization of potential capital from female angels. We hypothesize that developing more quality women entrepreneurs will enhance female angel investors' participation. To make this happen, there is a need to develop a simple, transparent, and conducive environment that allows more women angel investors to participate, and the policymakers have to consider this. Further, the entrepreneurs have to explore and approach female angel investors with the appropriate business proposals.

Angel Investors: How Well-Educated Are They?

Existing studies witnessed education as a factor that influences the investment decisions of angel investors at different levels (Tenca et al., 2018). Adhana (2020) stated that education has a moderate effect on the investment decisions of angel investors. In contrast, it was found that the learning process mostly happens outside the universities through experiential learning from others. This section attempts to assess the level of education of angel investors across different economies.

Confirming the extant studies, the current study finds that the angel investors are highly educated globally, that is, 40% are undergraduates, and 46% are post-graduates/professionals. Interestingly, the angel investors of emerging economies comparatively possess more education than developed ones. With this, we hypothesize that the opaque and nascent phenomenon of the angel markets of emerging economies is hindering the participation of not-so-educated investors. As the majority of the adult population in emerging economies are not graduates (for example, only 6.70% of the Indian population are graduates and above, as per the Indian Census Report 2001), the lower percentage of non-so-educated angel investors are in emerging economies. This indicates the availability of untapped and underutilization of potential capital. Further, it also sheds light on a lesser level of awareness about entrepreneurship and the angel market for the people outside the startup community in emerging economies. The policymakers have to consider this to develop a strong startup ecosystem.

Table 2 shows that most angel investors are post-graduates/professionals in India and the USA. This fact, combined with the lower average age of angel investors in India, assumes many angels are in the beginning stage of their careers. The implication is that the angel funding rounds are likely to be lower and more syndicated.

Table 2. ***Educational Background of the Angel Investors***

	Emerging Economies			Developed Economies			
Angel Investors	**India**	**China**	**Argentina**	**Australia**	**Europe**	**USA**	**Global Average**
(1a) Post Graduates and Professionals (%)	71%	58%	20%	12%	40%	73%	**46%**
(1b) Graduates (%)	28%	40%	60%	42%	45%	24%	**40%**
(1c) Others (%)	1%	2%	20%	46%	15%	3%	**15%**
Average (Emerging & Developed Economies)	**PG and higher = 50% UG and above = 92%**			**PG and higher = 42% UG and above = 79%**			
(2) Studied Business Management (%)	60%	na	na	na	na	57%	**59%**
(3) Studied at Premier Educational Institutions (%)	83%	na	na	na	na	na	**n.a**

Note. This table describes the (1) Educational level (PG and higher, graduates and others), (2) Special education - studied business management, and (3) Quality of education - studied in premier educational institutions of angel investors across different economies.

Entrepreneurs would have to consider this in their fundraising plans. The higher percentage of highly educated angel investors in the USA (Huang et al., 2017) is probably a reflection of a cent percent literacy rate and a higher percentage of college enrollment rate. The lower education level of Australian angels (54%) is probably because of two distinct groups of angel investors, i.e., elderly angels with lesser qualifications and younger angels with degrees or professional careers.

A major pitfall in making degree-based education comparisons is overlooking the quality of education. King et al. (2016) found that the CEOs who graduated from premier institutions (which acts as a proxy for better education) grasped grander performances. Hence, this current study introduces graduation from premier educational institutions as a quality dimension for education. Table 2 shows that 83% of the Indian angel investors studied either in premier Indian educational institutions like IITs, IIMs, or at overseas institutions. Further, the majority of the angel investors in the USA (57%) and India (60%) possessed business management education. The higher proportion of angels from premier educational institutions denotes the enhanced ability of people educated at premier institutions to receive and assess the signals from an entrepreneurial market better than others.

Further, such exposure provides confidence, the right attitude, analytical skills, and management ability and, in turn, more positive perceived behavior controls investing in the angel investment sector. This calls for the Government's attention to establish an ample number of quality educational institutions across the country to promote entrepreneurship. Further, entrepreneurs can also consider these insights to target more appropriate angels by analyzing their backgrounds.

Is it True That Angel Investors Prefer to Stay in Tier-1 Cities?

Existing literature on the angel market indicates that the business angel market is not equally spread across locations and results in an unequal distribution of the angel market (Harrison et al., 2010).

The current analysis results shown in Table 3 reveal that globally, 64% of the angel investors lived in tier1/metropolitan cities. There was a difference in the domicile of the angel investors belonging to emerging and developed economies. While the concentration of angel investors is more visible in emerging economies (77%), they are relatively dispersed in developed economies. A severe imbalance is seen in India, where 93% of the angel investors were living in metropolitan cities, which probably reflects the nascent level of the startup ecosystem, inadequate infrastructure and connectivity, sparse number of business venture supporting institutions (technical education, incubation centers), and deficient exposure on entrepreneurship market to the people outside the startup community. Further, globalization has discriminatory effects on the cities of a nation, wherein the wining cities, usually large, metro, tier 1 cities, do benefit significantly, and the losers are either left out without any benefits or have adverse effects. This study confirms this discriminatory effect with a heavy concentration of Indian angel investors (93%) and startups (95%) in large metropolitan cities. As many angel investors are

Table 3. ***Location of Angel Investors***

Domicile of	**Emerging Economies**			**Developed Economies**			
Angel Investors	**India**	**China**	**Argentina**	**Australia**	**Europe**	**USA**	**Global Average**
Metro Cities	93%	78%	61%	68%	50%	34%	**64%**
Non-Metro Cities	7%	22%	39%	32%	50%	66%	**36%**
Average *(Emerging & Developed Economies)*	**Metro = 77%** **Non-Metro = 23%**			**Metro = 51%** **Non-Metro = 49%**			

Note. This table describes the proportion of angel investors living in metropolitan and non-metropolitan cities across different economies.

successful venture founders, the concentration of startups in metropolitan cities leads to the concentration of angel investors. This skewed concentration raises geographical imbalance in the startups' ecosystem (Annamalai & Deshmukh, 2011). However, in developed countries, the concentrated venture capital investments in political, financial, and technical clusters (Annamalai & Deshmukh, 2018) acts as a force driving business angels to flourish in the peripheral regions and cater to the needs of the early-stage startups.

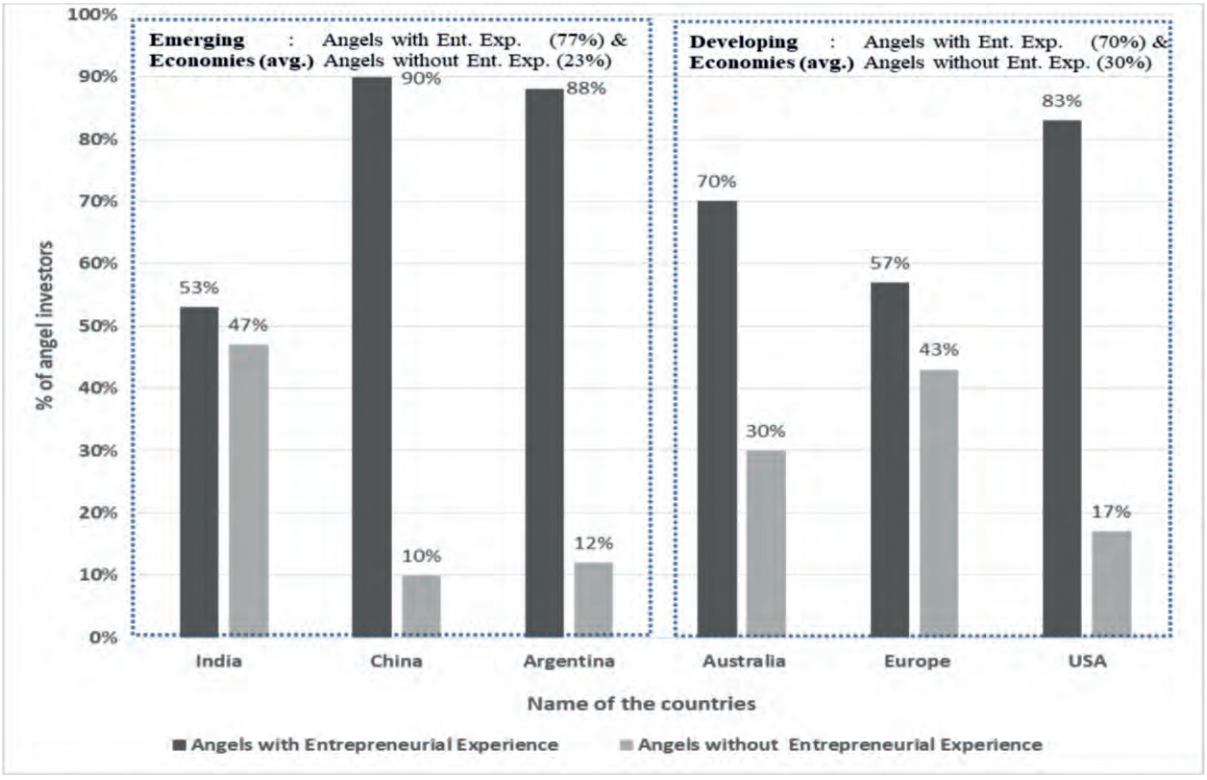
The imbalance witnessed in emerging economies provides three crucial insights to the stakeholders. First, the entrepreneurs should explore and approach the potential angel investors living outside metro cities to tap the unexploited resources available. Second, the angel community has to come together in a structured manner to provide robust support in terms of knowledge, confidence, and opportunities to the angel investors. Third, policymakers have to develop policies that promote the balanced growth of the startup ecosystem.

Are Angel Investors Often Retired Entrepreneurs?

It is found that prior entrepreneurial experience of the business angels makes them more capable of assessing business risks (Usha & Kharvi, 2019).

Figure 3 shows the entrepreneurial experience of the angels in five countries and Europe. Globally, about three-fourth of the angels are with entrepreneurial experience. This proportion varies as 77% and 70% in emerging and developed economies, respectively. Despite being the third-largest startup ecosystem, India has fewer angel investors with entrepreneurial experience (i.e., 53%). This lesser percentage is probably attributed to the more nascent phenomenon of the startup market in India. The higher mortality rate of the startups, that is, about 25% of

Figure 3. ***Entrepreneurial Experience of Angel Investors***



the startups failed within the first 2 years of inception (NASSCOM, 2017), and the resultant loss to the founders also hurdles the entrepreneurs to fund the new ventures actively. The developed countries like the USA and emerging countries like China and Argentina have a higher proportion of angels with entrepreneurial experience (above 80%). The growth of more successful startups and resultant cashed-out entrepreneurs due to the conducive entrepreneurial environment prevailing in these economies might favor the higher proportion of entrepreneur angel investors. This phenomenon supports the findings of Huang et al. (2017) that it is not only that angels who create entrepreneurs, but entrepreneurs do also create angels.

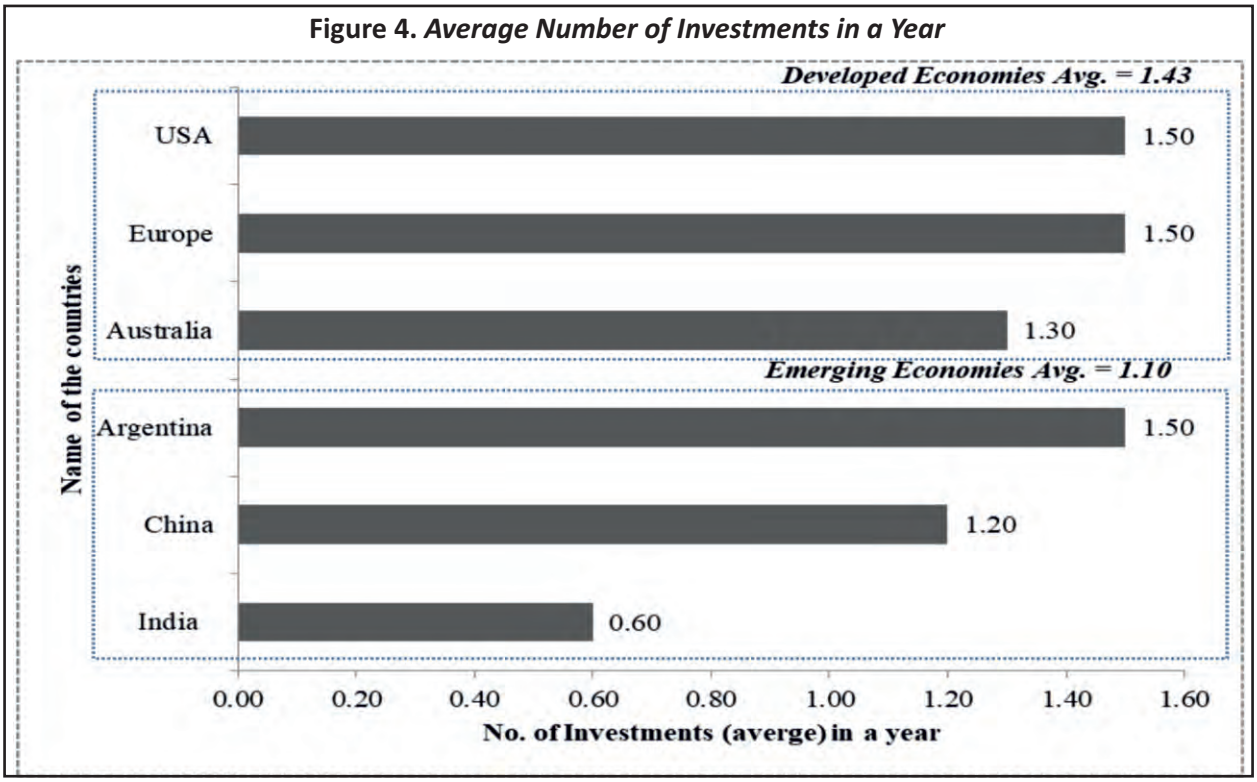
Investment Behavior

This section discusses the investment behavior with the number of investments and level of syndication as the indicators.

How Many Times Does an Angel Investor Invest in a Year?

The average number of investments per annum differentiates the investors into serial or non-serial investors (Edelman et al., 2017). Previous studies have shown that an angel investor, on average, makes one or two transactions per year (McKaskill, 2009). This study analyzes the number of investments by angel investors across different economies and finds that, on average, an angel investor made 1.27 investments per annum globally. Further, as expected, the emerging economy's angels made a lesser number (1.10) of investments than the developed economy's (1.43) angel investors. While the number of investments made by an Indian angel investor

Figure 4. ***Average Number of Investments in a Year***



in a year was shallow, i.e., less than one, Chinese angels made 1.20 investments in a year, which is almost double that of Indian angels (Figure 4).

On the demand side, the characteristics of market, industry, product differentiation and innovation, adequate number of quality deals, quality entrepreneurs (Harrison et al., 2016) influence the investors to invest. Further, on the supply side, the number of angel investors in the market, conducive and attractive investment environment (on the supply side) are the potential determinants of the number of investments of the angel investors. Accordingly, decisive factors on both the demand and supply side facilitate that the developed countries have a higher number (1.43) of investments per annum per investor. The lesser number of investments in India can be attributed to multiple reasons such as shortage of quality deals due to a higher number of 'imitation business models,' lack of India-specific innovative models, and low volume deals due to the nascent stage of the Indian entrepreneurship market. The lesser number of investments by the angel investors of India is more likely to imply a higher requirement for syndication. Further, this metric might induce and allow angel investors to indulge in venture activities more frequently. Hence, the entrepreneurs have to consider this in their fundraising strategy.

Standalone Investors vs. Syndication

Angel investors make investments in a standalone as well as syndicated manner. Syndication is considered an attractive risk reduction strategy to manage market imperfections and asymmetric information risks. Further, the equity gap created by venture capitalists at the early stage equity market (as they shift their focus to later-stage ventures) forces angel investors to fill the gap with larger deal sizes and syndicated investments (OECD, 2011; Tripathi, 2015). The supply side also urges angel's associations and syndication to be more visible in the investment market and increasingly act like venture capital firms in terms of larger deal size, follow-on investments, etc. (Mason et al., 2013). Of late, the angel investors are more interested in investing as part of more organized and managed groups with co-investors rather than on their own (Mason et al., 2019).

Table 4 shows that angel investors prefer syndication (77%) to fund startups worldwide. This shows that syndication is a widely accepted investment strategy by the majority of the angel investors for its advantages such as risk-sharing, diversified portfolio ventures, reduced cost of due diligence, a repository of investor's capital, knowledge, skills, contacts, and experience, etc. It is also seen that the inclination for syndication is high in emerging economies (82%) compared to the developed economies (73%).

China (emerging) and Europe (developed) have a higher percentage of standalone investments, which might be due to high net-worth individuals with more entrepreneurial skills. This apart, the higher average number of co-investors in India (5.43) probably reflects a large number of risk-averse micro-emerging investors, smaller deal size, and immature level of the investment market in India.

Table 4. ***Standalone vs. Syndicated Investments***

	Emerging Economies			Developed Economies			
Investment Type	**India**	**China**	**Argentina**	**Australia**	**Europe**	**USA**	**Global Average**
Standalone Investments	17%	25%	12%	15%	20%	47%	**23%**
Syndicate Investments	83%	75%	88%	85%	80%	53%	**77%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Average		**18%**			**27%**		
		82%			**73%**		

Note. This table describes the manner of investments by angel investors across different economies.

Given the importance and trend of syndication, there is a need for clear and transparent policy measures to stimulate the syndication that will benefit the angel investors and startups and the overall economy.

What are the Investment Preferences of Angel Investors?

In this section, we analyze the investment preferences of angel investors in terms of proximity to the investment and industrial sector of startups across different economies.

Proximity Bias in Investors' Portfolio Choice

The findings of existing studies have shown that most angel investors prefer to make investments close to their homes (Harrison et al., 2010). However, few studies found that larger investments of angel investors are long distanced investments (Cowling et al., 2021). Thus, the proximity of investment (distance between the angel investor and investee venture) is an essential factor influencing angel investment decisions.

Table 5 reveals that well-developed countries with better infrastructure and connectivity, like USA, have more long-distanced investments (77%). China's angel market seems to be more mature in emerging economies to attract distanced investments. Interestingly, dual preference patterns are seen in India. While about 47% of the investments are local, that is, within 50 miles from residence, about 45% of the investments are long-distanced investments, that is, more than 300 miles from home.

The preference of angel investors to make local investments can be attributed to their inclination to control agency and information asymmetry cost. At the same time, the probable reasons for long distanced investments can be seen from two different angles. First, the angels' perspectives list out the reasons like non-availability of adequate deal flows in the local area, concentrated growth of startups in distant metropolitan cities, and user-friendly technology growth. Second, the entrepreneur's perspective tells that in addition to the influence of technology, the inadequate supply of capital in metro cities, where startups are concentrated, forces them to source the funds from far distanced angels. The implication of geographical preference of angel investors in India is expected to be on the quantum of funding and choice of syndication. Hence, the entrepreneurs would have to consider this in their fundraising plans.

Are the Angel Investors Sector-Agnostic?

The industrial sector of the startups is another factor that influences the investment decisions of an angel investor.

Table 5. ***The Proximity of Angel Investments***

	Emerging Economies			Developed Economies			
Proximity of Investments	**India**	**China**	**Argentina**	**Australia**	**Europe**	**USA**	**Global Average**
Less than 300 miles	55%	48%	68%	53%	59%	23%	**51%**
Above 300 miles	45%	52%	32%	47%	41%	77%	**49%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Average (Emerging & Developed Economies)	**< 300 miles = 57%** **> = 300 miles = 43%**			**< 300 miles = 45%** **> = 300 miles = 55%**			

Note. This table describes the distance (in miles) between the angel investors and the investee ventures across different economies.

Table 6. ***Sectors of Angel Investments***

	Emerging Economies				Developed Economies				Global
Sector of Investments	**India**	**China**	**Argentina**	**Average**	**Australia**	**Europe**	**USA**	**Average**	**Average**
Information & Technology	42%	59%	55%	52%	33%	21%	20%	**25%**	**38%**
Health Care	10%	2%	3%	5%	12%	16%	23%	**17%**	**11%**
Consumer	33%	14%	18%	22%	10%	14%	22%	**15%**	**19%**
Goods & Services									
Industrials	8%	1%	7%	5%	10%	7%	6%	**8%**	**6%**
Others	7%	24%	17%	**16%**	35%	41%	29%	**35%**	**26%**
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Note. This table shows the angel investors' investments in various sectors across different economies.

Although angel investors are making investments in diversified industrial sectors (Table 6), concentration in the technology sector is witnessed in emerging countries, that is, China, India, and Argentina. The developed economies' angel investors are making diverse investments across all industrial sectors.

A high concentration of angel investments in the technology sector is witnessed in the emerging economies. The probable reasons are : (a) availability of more number deals as a result of automation, dot.com boom, (b) high education of angel investors enables them to understand/assess the technology deals quickly, (c) prolonged growth expected from technology deals – as most of the tech companies are disrupting the existing industry and thereby result in superior products/services, significant market share, huge revenue stream, etc., (d) relatively low capital investments, high-profit margins, resulting in higher potential return on equity, and (e) anticipated 'big payoff' in the beginning stage and 'certain payoff' in the later stage.

The diversified investment pattern in developed economies probably reflects the availability of adequate and reliable opportunities across all sectors due to market maturity.

Discussion

The available literature on angel markets reflects the developed nations for a long time. The angel markets in the emerging economies were inadequately studied. Studies comparing the angel markets of both developed and emerging economies are not seen. Hence, this paper attempts to detail the angel investors in India, the third-largest startup economy in the world. Further, we compare the angel investors from six major economies to understand the differences in the trajectory of angel investments in different economies. Interestingly, this study covers all continents (except Africa) of the world to give a holistic view of angel investors worldwide.

This study makes many contributions to the literature of angel investors. First, an attempt is made to verify the validity of the erstwhile definition of 'angel investor.' For this, the characteristics of the angel investors are analyzed in detail. The findings reveal that the average age of global angel investors is 47 years. There is a difference in the average age of emerging economies (44 years) and the developed economies (49 years). While the Chinese angels (40 years) followed by Indian angels (43 years) are younger, the USA angels are the eldest ones with an average age of 57 years. This shows that the nascent phenomenon of emerging economies is less likely to attract elderly investors to participate in the investment markets perceived as risky.

The findings on gender disclose that the angel market is a highly male-dominant one with 85% male participation. This supports the 'behavioral finance theory.' That is, men are more overconfident than women in financial decisions (Barber & Odean, 2001). The gender bias is quite severe in emerging economies, with just 11%

female angels. Though China is converging with developed economies with better (23%) female angels, India and Argentina warrant special dedicated efforts to bring the female angels on board. The independence of women in terms of socioeconomic status, education, and career choice and the conduciveness of the startup ecosystem in terms of market maturity, transparency, legal policies, systems, and procedures play a vital role in enabling women to be active angel investors.

An overview of the global angel's education shows that 86% of the angels were undergraduates and above. However, the emerging economies mark a high percentage of educated angels (92%) than the developed economies (79%). This shows that the emerging markets are a little closer and more complex than the developed economies, which hinders the not-so-educated, but potential investors from participating easily. Further, the analysis on the 'quality dimension of education' (educated from premier educational institutions as a proxy) reveals that 83% of Indian angels studied at premier institutions like IITs, IIMs, Harvard, Oxford, etc. Besides, it is found that 59% of the angel investors studied business management. This brings out the importance of quality educational institutions to provide business skills to the students. Hence, countries that thrive on developing entrepreneurship have to put forth more efforts to develop more educational institutions teaching entrepreneurship.

The findings on the entrepreneurial experience of angel investors denote that about three-fourth of global angels have experience founding and managing a venture. This highlights the interconnectivity between entrepreneurship and angel investors. In the matured market, the USA, which accommodates several enterprises, entrepreneurs (% of the adult population) have a higher proportion of angels with entrepreneurship. This finding supports Ajzen's theory of planned behavior, that is, the experience of being an entrepreneur enhances the 'perceived behavior control' positively towards investment decisions.

The evidence on a geographical variable, 'domicile city type of angel investor,' shows that emerging economies' investors are highly concentrated in metro cities (77%) as against the developed economies' angels who live in a widespread manner. An intense level of concentration in metropolitan cities (93%) seen in India may probably be attributed to the discriminatory effect of globalization. This finding can be explained from the lens of 'social capital theory.' The theory states that an individual's ability to recognize opportunities is largely related to his/her ability to access private information in social networks. Thus, the social capital developed among the investors in the urbanized area enhances the opportunity discovery process and the perceived reduction of information asymmetries. The social influence and normative pressure of angel investors on their peers might also be a reason for the concentration of angel investors in large cities (Thakur & Srivastava, 2013). On the other hand, better infrastructure, connectivity, equal distribution of quality educational institutions, number of incubation centers and supporting services, etc., in non-metro areas of developed economies result in the balanced presence of angel investors. Further, the implication of imbalance seen in gender, education, and location is that a significant portion of potential angel funding is likely to remain untapped and unexploited.

Secondly, the analysis of the 'investment behavior' of angel investors reveals that, on an average, each global angel investor is making 1.27 times of investment in a year, which is in congruence with extant literature (Edelman et al., 2017). However, the emerging economies' investors make fewer investments (1.10 p.a) compared to developed economies' angels (1.43 p.a). Indian angels are making the least number of investments, that is, an average of 0.60 investments in a year. The sluggish performance of the angels may be due to the lack of an adequate number of quality deals, low level of innovation, and maturity of the markets.

Globally, angel investors are interested in making 'syndicated investments' (77%) than 'standalone investments' (23%). The inclination for syndication is heavier in emerging economies (82%) than the developed economies (73%). The syndication is being used as a risk reduction strategy to control information asymmetries by the investors. The inclination to become visible in the investment market, make large size deal investments, fill the equity gap created by the venture capitalists at the early stage equity market are the few more reasons for

enhanced syndication of angel investors. Given the importance and trend of syndication, there is a need to develop policy measures to stimulate the syndication and enhance the range of operations, which will benefit the angel investors, startups, and the overall economy. Thirdly, the 'investment preferences' of the global angels are analyzed with metrics such as (a) geographical and (b) industry preferences.

The comparison shows that, except USA, most angel investors belonging to other economies invested within the proximity of 300 miles. The high level of infrastructure, connectivity, internet facilities, rapid modernization, urbanization, and automation, etc., help the developed country's angels to make long-distance investments. China's angel market sounds more mature among emerging economies as about half of the angels invested beyond 300 miles. India and Argentina angels are more similar and do invest locally. Overall, 51% of the angels have a geographic preference of investing within a proximity of 300 miles. The agency theory can explain this pattern. The theory states that the conflict of interest and agency cost arises due to the separation of ownership from control, different risk preferences, information asymmetry, and moral hazards. This can be controlled with close monitoring, robust ownership control, managerial ownership, independent board members, and various committees (Panda & Leepsa, 2017). Angels make local investments as they want to closely monitor investee startups as a post-investment risk reduction strategy.

Further, the study finds that although 47% of Indian angels make local investments (within 50 miles of residence), another 45% make long distanced investments (above 300 miles). The dense concentration of startups in five or six Indian urban cities and non-availability of quality deals from local/nearby non-urban areas force the angels to invest in startups located in the distanced area. This aspect of clustering indicates an imbalance in the startup ecosystem and warrants policymakers' attention to create an enabling environment.

Globally, the top-ranked industrial sector preferred by angel investors is the 'technology sector.' While this preference is extreme in emerging economies (52% in the technology sector), the developed economies have well-diverse investments across various industrial sectors (25% in technology, 17% in healthcare, etc.). The high concentration of angel investments in the technology sector may be attributed to the reasons such as the availability of a higher number of deals in the IT sector; perception of the IT sector as an understandable and less complicated sector by the angels (due to their education and experience than other investors) and expected prolonged growth and higher profit margin.

Conclusion

To sum up, our findings suggest that :

(1) Indian angel investors are predominantly male, with an average age of 43 years. They are well educated and are by and large domiciled in metropolitan cities. The average investment is around $20,000, and they mostly make syndicated investments in technology startups in the pre-seed stage. They strongly prefer to invest in geographically proximal ventures, and the duration between two investments is 18 months.

(2) Angel investors in developed countries are comparatively older and have an average age of 49 years. The proportion of female angels is comparatively higher. The average investment is $28,200, and the duration between two investments is about eight months. Their investments are more diverse, include varied industrial sectors, comprise more early-stage investments, and are in startups that are further away from the domicile.

(3) There is significant heterogeneity between the characteristics of angel investors in emerging and developed economies, which can be attributed to the structural, economic, institutional, legal, and cultural differences that exist between different economies further, and it is also found that while Indian angels are more alike emerging economies, China started converging to developed economies. The prolonged better performance of developed

countries resulted in enhanced quality of the angel market with improved female participation, more entrepreneur angels, larger deal size, and widespread presence of angel investors.

Theoretical Implications

This study contributes to the body of knowledge of angel investments by conducting a detailed characterization of the angel investors and their investment preferences. The comparison of angel investors from India and other major economies helps to understand the differences in the trajectory of angel investments in different countries. The assessment of the quality of education of angel investors is a unique and pioneer contribution of this study.

Managerial Implications

The insights of this study will be helpful to the entrepreneurs to fine-tune their fundraising plans by focusing on more appropriate angel investors, including untapped potential angel investors. The policymakers might use these insights to promote a balanced and robust startup ecosystem that facilitates all probable stakeholders' active participation and the resultant positive economic growth.

Limitations of the Study and Scope for Future Research

This study is subject to a few limitations. First, the personal data of the angel investors like age, education, and domicile were taken from professional social networks like LinkedIn. This is because of the lack of a professional database like GEM in India. Second, the time period of the data related to the economies considered for comparison is not precisely the same. Collecting updated information on all the countries under study was a significant challenge. Future research based on the data collected from the primary sources through interviews and questionnaires and/or authenticated comprehensive databases can validate the findings of this study.

Authors' Contribution

Niroopa Rani Annamalaisami conceptualized the paper, conducted the analysis, and drafted the paper. All three authors discussed the results and implications. Ramesh Kuruva added supplementary points to the manuscript. Prof. Thillai Rajan Annamalai commented on the manuscript at all stages.

Conflict of Interest

The authors certify that they have no affiliations with or involvement in any organization or entity with any financial interest or non-financial interest in the subject matter or materials discussed in this manuscript.

Funding Acknowledgment

The authors received no financial support for the research, authorship, and/or for the publication of this article.

References

Adhana, D. (2020). Startup ecosystem in India: A study with focus on entrepreneurship and university business incubators. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3702510

Annamalai, T. R., & Deshmukh, A. (2011). Venture capital and private equity in India: An analysis of investments and exits. *Journal of Indian Business Research, 3*(1), 6–21.https://doi.org/10.1108/17554191111112442

Annamalai, T. R., & Deshmukh, A. (2018). India venture capital and private equity report 2018. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1579189

Australian Government. (2020). *Australia's gender equality scorecard*. https://www.wgea.gov.au/sites/default/files/documents/2019-20%20Gender%20Equality%20Scorecard_FINAL.pdf

Barber, B. M., & Odean, T. (2001). Boys will be boys: Gender, overconfidence, and common stock investment. *The Quarterly Journal of Economics, 116*(1), 261–292. https://doi.org/10.1162/003355301556400

Chaudhury, S. K., Panigrahi, A., & Gaur, M. (2019). An empirical study of sources of early-stage start-up funding for innovative startup firms: A study of five states of India. *Indian Journal of Finance, 13*(9), 48–57. https://doi.org/10.17010/ijf/2019/v13i9/147099

Collewaert, V., & Manigart, S. (2016). Valuation of angel-backed companies: The role of investor human capital. *Journal of Small Business Management, 54*(1), 356 – 372. https://doi.org/10.1111/jsbm.12150

Cowling, M., Brown, R., & Lee, N. (2021). The geography of business angel investments in the UK: Does local bias (still) matter? *Environment and Planning A: Economy and Space, 53*(5), 1180–1200. https://doi.org/10.1177/0308518X20984484

Cumming, D. J., & Zhang, M. (2016). *Angel investors around the world*. https://doi.org/10.2139/ssrn.2716312

De Clercq, D., Meuleman, M., & Wright, M. (2012). A cross-country investigation of micro-angel investment activity: The roles of new business opportunities and institutions. *International Business Review, 21*(2), 117 – 129. https://doi.org/10.1016/j.ibusrev.2011.02.001

Diaz-Moriana, V., & O'Gorman, C. (2013). Informal investors and the informal venture capital market in Ireland. *Journal of Asian Scientific Research, 3*(6), 630–643. https://archive.aessweb.com/index.php/5003/article/view/3518

Dibrova, A. (2015). Business angel investments: Risks and opportunities. *Procedia – Social and Behavioral Sciences, 207,* 280 – 289. https://doi.org/10.1016/j.sbspro.2015.10.097

Ding, Z., Sun, S. L., & Au, K. (2014). Angel investors' selection criteria: A comparative institutional perspective. *Asia Pacific Journal of Management, 31*(3), 705 – 731. https://doi.org/10.1007/s10490-014-9374-z

Edelman, L. F., Manolova, T. S., & Brush, C. G. (2017). Angel investing : A literature review. *Foundations and Trends in Entrepreneurship, 13*(4 – 5), 265 – 439. https://doi.org/10.1561/0300000051

Ergo, L. (2011). Angel investment outlook in Argentina. *Altamirano Blog*. January 26. http://www.altamirano.org/startups-2/the-angel-investments-outlook-in-argentina/

Harrison, R. T. (2017). The internationalization of business angel investment activity: A review and research agenda. *Venture Capital: An International Journal of Entrepreneurial Finance, 19*(1–2), 119–127. https://doi.org/10.1080/13691066.2016.1260111

Harrison, R. T., Botelho, T., & Mason, C. M. (2016). Patient capital in entrepreneurial finance : A reassessment of the role of business angel investors. *Socio-Economic Review, 14*(4), 669–689. https://doi.org/10.1093/ser/mww024

Harrison, R. T., Mason, C., & Smith, D. (2015). Heuristics, learning and the business angel investment decision-making process. *Entrepreneurship & Regional Development, 27*(9–10), 527–554. https://doi.org/10.1080/08985626.2015.1066875

Harrison, R., Mason, C., & Robson, P. (2010). Determinants of long-distance investing by business angels in the UK. *Entrepreneurship and Regional Development, 22*(2), 113–137. https://doi.org/10.1080/08985620802545928

Helmut, K. E., & Schillo, M. (2011). *Business angels in Germany – EIF's initiative to support the non institutional financing market* (No. 2011/11). European Investment Fund (EIF). https://www.econstor.eu/handle/10419/176641

Huang, L., Wu, A., Lee, M. J., Bao, J., Hudson, M., & Bolle, E. (2017). *The American angel: The first in-depth report on the demographics and investing activity of individual American angel investors* (Report). Overland Park, KS, November 2017.

King, T., Srivastav, A., & Williams, J. (2016). What's in an education? Implications of CEO education for bank performance. *Journal of Corporate Finance, 37*, 287–308. https://doi.org/10.1016/j.jcorpfin.2016.01.003

Kumar, P., & Kumar, S. (2020). Factors restricting investment decision of women investors in the Indian stock market : An empirical investigation. *Indian Journal of Research in Capital Markets, 7*(2–3), 53 – 65. https://doi.org/10.17010/ijrcm/2020/v7i2-3/154513

Lahti, T. (2011). Categorization of angel investments: An explorative analysis of risk reduction strategies in Finland. *Venture Capital, 13*(1), 49–74. https://doi.org/10.1080/13691066.2010.543322

Li, Y., Jiang, S., Long, D., Tang, H., & Wu, J. (2014). An exploratory study of business angels in China: A research note. *Venture Capital, 16*(1), 69 – 83. https://doi.org/10.1080/13691066.2013.833370

Mason, C. M., & Harrison, R. T. (2011). *Annual report on the business angel market in the United Kingdom: 2009/2010*. http://strathprints.strath.ac.uk/28061/

Mason, C. M., & Harrison, R. T. (2015). Business angel investment activity in the financial crisis: UK evidence and policy implications. *Environment and Planning C: Government and Policy, 33*(1), 43–60. https://doi.org/10.1068/c12324b

Mason, C., Botelho, T., & Harrison, R. (2013). *The transformation of the business angel market: Evidence from Scotland.* https://www.gla.ac.uk/media/Media_302219_smxx.pdf

Mason, C., Botelho, T., & Harrison, R. (2016). The transformation of the business angel market: Empirical evidence and research implications. *Venture Capital, 18*(4), 321–344. https://doi.org/10.1080/13691066.2016.1229470

Mason, C., Botelho, T., & Harrison, R. (2019). The changing nature of angel investing: Some research implications. *Venture Capital, 21*(2–3), 177–194. https://doi.org/10.1080/13691066.2019.1612921

McKaskill, T. (2009). *An introduction to angel investing: A guide to investing in early stage entrepreneurial ventures*. Breakthrough Publications Melbourne. https://doi.org/10.1177/026624268400300114

Mitteness, C. R., Baucus, M. S., & Sudek, R. (2012). Horse vs. jockey? How stage of funding process and industry experience affect the evaluations of angel investors. *Venture Capital, 14*(4), 241–267.https://doi.org/10.1080/13691066.2012.689474

NASSCOM. (2017). *Indian start-up ecosystem - Traversing the maturity cycle*. https://nasscom.in/knowledge-center/publications/indian-start-ecosystem-%E2%80%93-traversing-maturity-cycle-edition-2017

Nath, C. K. (2010). Business angel investment in unorganized environment. *SCMS Journal of Indian Management, 7*(4), 93–103. https://www.scms.edu.in/uploads/journal/SCMS%20Journal%20October-December%202010.pdf

Nath, D. (2015). A new breed of emerging angel investors : Experiences from India. *Proceedings of Annual Tokyo Business Research Conference* in Tokyo, Japan, 2015, November, 1–9. https://www.mdi.ac.in/pdf/research/2015_-_16.pdf

OECD. (2011). *Financing high-growth firm: The role of angel investors*. https://doi.org/10.1787/9789264118782-en

Panda, B., & Leepsa, N. M. (2017). Agency theory: Review of theory and evidence on problems and perspectives. *Indian Journal of Corporate Governance, 10*(1), 74 – 95. https://doi.org/10.1177/0974686217701467

Pereiro, L. E. (2001). Tango and cash: Entrepreneurial finance and venture capital in Argentina? *Venture Capital, 3*(4), 291–308. https://doi.org/10.1080/13691060110036256

Pradilla, M. (2012). Entrepreneurship in Argentina. In, E. R. Brenes & J. Haar (eds), *The future of entrepreneurship in Latin America. International Political Economy Series.* Palgrave Macmillan, London. https://doi.org/10.1057/9781137003324_2

Shane, S. (2009). *Fool's gold: The truth behind angel investing in America* (O. USA (ed.), 1st ed.). https://econpapers.repec.org/bookchap/oxpobooks/9780195331080.htm

Shane, S. (2012). The importance of angel investing in financing the growth of entrepreneurial ventures. *The Quarterly Journal of Finance, 02*(02), 1250009. https://doi.org/10.1142/S2010139212500097

Tenca, F., Croce, A., & Ughetto, E. (2018). Business angels research in entrepreneurial finance: A literature review and a research agenda. *Journal of Economic Surveys, 32*(5), 1384–1413. https://doi.org/10.1111/joes.12224

Thakur, R., & Srivastava, M. (2013). Customer usage intention of mobile commerce in India: An empirical study. *Journal of Indian Business Research, 5*(1), 52–72. https://doi.org/10.1108/17554191311303385

Tripathi, S. (2015). Syndication of VCPE investments: Evidence from the Indian infrastructure sector. *Indian Journal of Finance, 9*(7), 32 – 42. https://doi.org/10.17010/ijf/2015/v9i7/72352

Usha, J. C., & Kharvi, A. (2019). Empirical study on value drivers of angel backed start-up companies in Bangalore. *AMC Indian Journal of Entrepreneurship, 2*(2), 46–55. https://doi.org/10.17010/amcije/2019/v2i2/145364

Vennila, D., & Santhiyavalli, G. (2016). Performance of all public sector banks with reference to micro and small enterprises sector credit. *Indian Journal of Research in Capital Markets, 3*(2), 31–41. http://indianjournalofcapitalmarkets.com/index.php/ijrcm/article/view/102595

White, B.A., & Dumay, J. (2018). The angel investment decision: Insights from Australian business angels. *Accounting & Finance, 60*(3), 3133–3162. https://doi.org/10.1111/acfi.12427

Wong, P. K., & Abrams, D. (2016). Singapore. In, J. Y. Lo (ed.), *Angel financing in Asia Pacific* (pp. 207–226). Emerald Group Publishing Limited, Bingley. https://doi.org/10.1108/978-1-78635-128-920161019

Xiao, L., & Ritchie, B. (2011). Informal investor investing and networks in China: An exploratory study. *The Journal of Private Equity, 14*(3), 72–85. https://doi.org/10.3905/jpe.2011.14.3.072

About the Authors

Niroopa Rani Annamalaisami, ACMA, ACS, MBA, PGDBM is an Additional Director, Treasuries and Accounts in the Finance Department of Government of Tamil Nadu and a PhD Research Scholar at the Department of Management Studies at IIT Madras, Chennai.

Ramesh Kuruva is a CEO, YNOS, a startup for the Indian entrepreneurial ecosystem, and a PhD Research Scholar at the Department of Management Studies, IIT Madras, Chennai.

Thillai Rajan Annamalai is the Professor in the Department of Management Studies at IIT Madras and Associate, Mossavar Rahmani Centre for Business and Government, Harvard Kennedy School, Harvard University. His research interests include venture capital, private equity, infrastructure, and corporate finance.